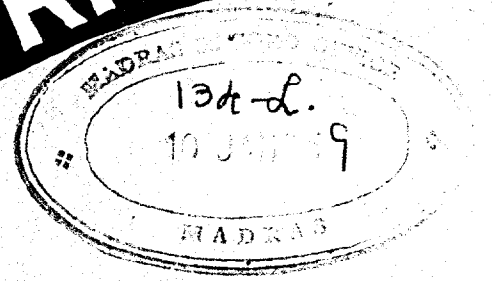


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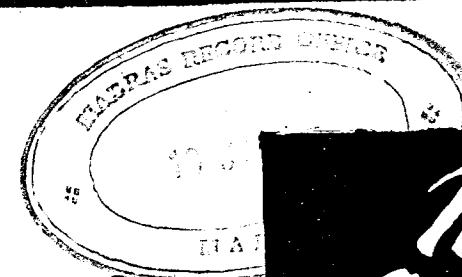
The Governor, Sri Bishnuram Medhi, inaugurated the midday meals scheme for poor children in aided schools in Madras on 22nd November 1958 at the M. Ct. Muthiah Chettiar Boys' School. Srimathi Lourdhammal Simon, Minister for Local Administration distributed food packets to the children.



Mrs. Verghese distributed prizes to the mothers of best babies at the Baby show conducted at Ashok Vihar on 19th November 1958 in connection with the children's week. The first prize went to a four month old baby who weighed 15 pounds.



Prize winning proud mothers with bonnie babies.



"We Seek to Serve
and Not to Compete"

Madras Information

IN THIS ISSUE

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This month's cover :



Maiden at her Toilet—
Tenkasi Temple.

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request.

Know Your District:

Tirunelveli

Tirunelveli district lies between 8° and 9° 30' of the northern latitude and 77° 10' and 78° 25' of the eastern longitude. It is one of the southernmost district of the Madras State. Cape Comorin in the United State of Travancore and Cochin is five miles from the southernmost point of Tirunelveli district. The district is flanked by the Gulf of Mannar on the east and the south, by the State of Kerala on the west and the Ramanathapuram district on the north. The villages of Anjengo and Thangasseri originally attached to this district were recently transferred to the

The Courtallam Falls.

State of Kerala. The district has nine taluks as shown below:—

Taluks.	Area of taluk. SQ. MILES.	Headquarters of the taluk.
Sankaranayinarkoil	635	Sankaranayinarkoil.
Tirunelveli ..	325	Tirunelveli.
Ambasamudram ..	498	Ambasamudram.
Tenkasi ..	403	Tenkasi.
Nanguneri ..	705	Nanguneri.
Kovilpatti ..	1,086	Kovilpatti.
Srivaikuntam ..	362	Srivaikuntam.
Tiruchendur ..	323	Tiruchendur.
Shencottah ..	76	Shencottah.
Total ..	4,413	

Physical Characteristics.

The Western Ghats run from north to south all along the western boundary of the district up to Aralvoimoli, about 10 miles north of the south-western corner of the district. They lie on the western portion of Sankaranayinarkoil and Tenkasi taluks, the western and southern portions of Ambasamudram taluk and the western portion of Nanguneri taluk. A gap in the mountains just to the west of Tenkasi called the Aryankavu Pass allows communications by road and rail into Kerala. The height of the Ghats which usually ranges from 3,000 feet to 5,000 feet with peaks shooting up to 6,000 feet diminishes considerably at the Aryankavu Pass. The Ghats break up near Aralvoimoli about 10 miles from Cape Comorin on the borders of Nanguneri taluk. There is a range of detached low hills in Srivaikuntam taluk called the Vallanadu hills with the highest peak 1,082 feet above mean sea level. The country east of the ghats is a plain sloping towards the sea relieved here and there by small isolated hillocks locally known as 'Pothais' and the Vallanadu hills. A faintly perceptible ridge of uneven height runs east from Uthumalai in Tenkasi taluk up to Gangaikondan in Tirunelveli taluk forming the water shed between the river Tambraparni and its chief tributary, the Chittar. In the east coast taluks of Tiruchendur, Srivaikuntam and Nanguneri there are hillocks of sand called Theris. Close to these Theris there are vast expanses of water called 'Tharuvais'. There are also backwaters near the sea coast in Tiruchendur taluk.

The district can broadly be divided into (1) the hilly regions on the west comprising the ghat area, (2) the river valleys, (3) the upland plains between each river valley, (4) the wide plains of black cotton soil in the north-eastern part of the district and (5) the coastal sandy area in the east and south.

Rivers.

There are a number of rivers in Tirunelveli district and almost all of them rise in the Western Ghats. The chief river is the Tambraparni about 75 miles long having its source in the Agasthiyar Peria Podigai in

the Western Ghats. It has numerous tributaries in the Ghats such as the Peyar, Pambar, Ullar, Kariyar and Servayar in Ambasamudram taluk. The river has been dammed in Ambasamudram taluk at Papanasam for regulating the supply of water for irrigation and for generation of electricity. At the foot of the hills in Ambasamudram taluk it is joined by the river Manimuthar. Further down, the river Gadana rising in the Sivasailam hills in Ambasamudram taluk and flowing north of the Tambraparni joins the Tambraparni at Tirupudaimarudur in Ambasamudram taluk. The Gadana is fed by the Ramanadhi and the Jambunadhi flowing from the hills to the west of Kadayam in Ambasamudram taluk. The river Tambraparni flows through Ambasamudram, Tirunelveli, Srivaikuntam and Tiruchendur taluks and enters the sea at Punnakayal in Tiruchendur taluk. The river Chittar rising in the Courtallam hills is fed by the Karupanadhi, the "Five-falls" river and the Aludakanyar in Tenkasi taluk. It flows through Tenkasi and Tirunelveli taluks and joins the Tambraparni at Sivalaperi in Tirunelveli taluk. The length of the Chittar is 40 miles. River Korayar drains the southern part of Ambasamudram taluk and flows into the Kannadian channel taking off from the Tambraparni.

The rivers in Nanguneri taluk are the Pachiar, the Karumaniar, the Kilamanimuthar, the Nambiar and the Hanumanadhi. The Pachiar rises in the Vellimalai slopes of the Western Ghats, and flowing through Nanguneri taluk joins finally the Palayam channel in Tirunelveli taluk. The Nambiar rises in the Mahendragiri slopes of the Western Ghats and falls into the sea. Its tributaries are the Tamarayar, the Kombayar and the Kodamadiyar. The Hanumanadhi rises in the limits of Kerala and flowing through the Nanguneri taluk reaches the sea some five miles east of the district boundary.

In Sankaranayinarkoil taluk, there are a few small rivers. They are the Vadamalayar, the Kotamalayar, Nikshepanadhi, Kakanadhi and the Palayar. They join the Vaippar flowing from Ramanathapuram district through Kovilpatti taluk. The Malattar and the Uppodai are drainage courses in Kovilpatti taluk.

Forests.

The forests in the district occupy an area of 522.8 square miles out of which the private forests containing plantations occupy an area of 16.1 square miles, while the rest is reserved forest managed by the Government Forest Department. The reserved forests consist of scrub jungle in some places. In other places deciduous species, high grass, etah, semi-evergreen and evergreen shola occur. The plantations in the forests in Nanguneri taluk consist of teak and coffee. The plantations in Ambasamudram taluk consist of cardamom, tea, cinchona, tapioca and fruit gardens. The private forests in Tenkasi taluk contain cardamom plantations and fruit gardens. The private forest in Sankaranayinarkoil taluk contains cardamom plantations. Trees in the reserve forests are felled for charecoal and firewood by rotation arranged by the Forest Department.

Climate and Rainfall.

Most of the rainfall is had during the north-east monsoon. Ambasamudram, Nanguneri, Shencottah and Tenkasi taluks get some showers during the south-west monsoon also from over the Ghats. The weather is hottest during April and May. It cools down gradually from June. November to February are the cool months. From July to September Nanguneri, Ambasamudram, Shencottah and Tenkasi taluks get the cool breeze of the south-west monsoon through the passes in the Ghats. Courtallam situated 3½ miles from Tenkasi gets the benefit of this season on account of its proximity to the Aryankavu Pass.

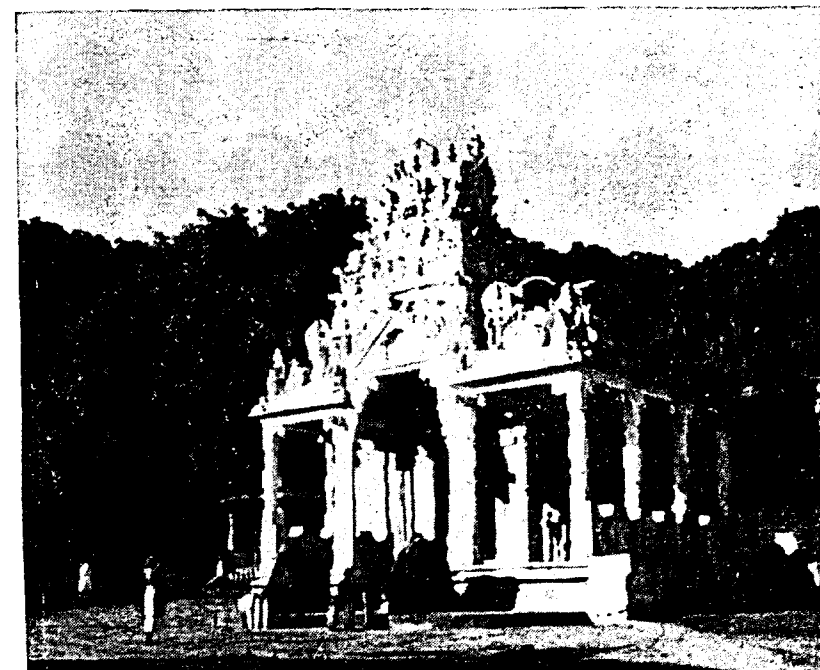
Soils.

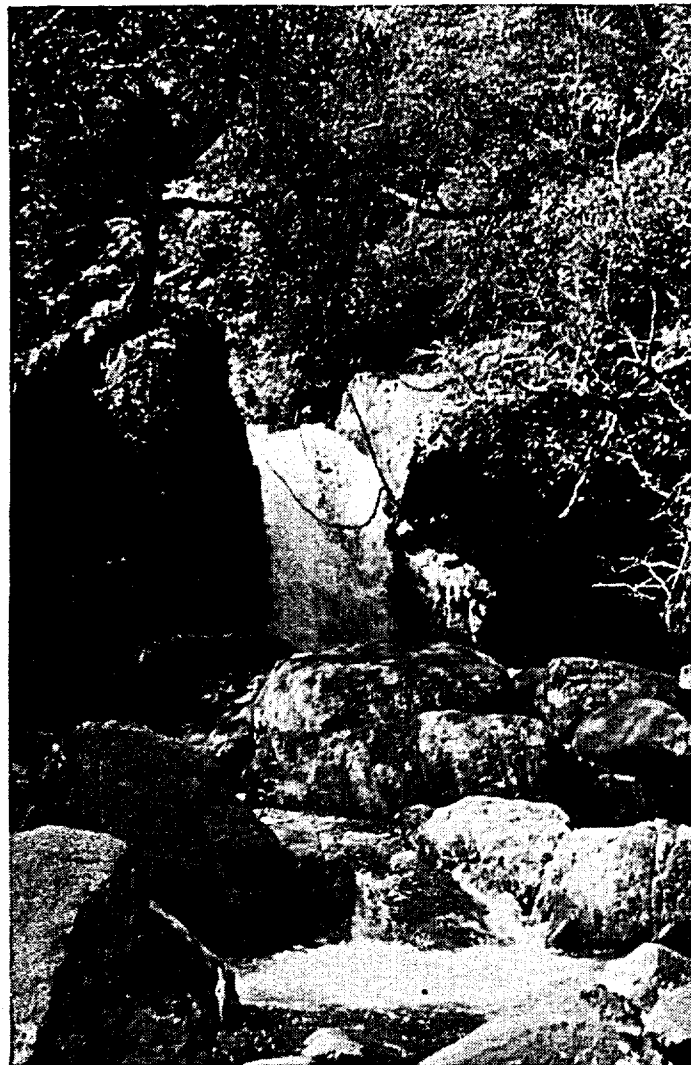
Along the foot of the Ghats there is a belt of 10 to 20 miles width of light loam and sandy soil and along the coast 3 to 15 miles width of sand. These two widen and fill the whole country south of the Tambraparni. North of the Tambraparni there are wide areas of undulating sandy soils and north and north-east of this lie broad level plains of rich black cotton soils.

The northern half of the district consists of black loam and the southern half red loam or sand with a strip of black loam in the valley of the Tambraparni. The black soil is of high value compared to red. The black soil of the river valley overlies a stiff yellow clay or Mar. Red soils in the higher reaches are poor, but along the river streams and with irrigation facilities they are good. On the south-east coast between the Tambraparni valley and mouth of the Nambiar is a tract of land about 40 miles long known as the Palmyra forest. The soil here is a deep loose red loam with surface sand with its depth varying from a few inches in well-protected areas to about 20 feet in other places.

Kovilpatti and portions of Sankaranayinarkoil and Srivaikuntam taluks come under the large belt of the

Sri Courtallanathar Temple at Courtallam





The Omagundam Falls at Papanasam.

black cotton plain of the north-eastern part of the district. In other areas red soil predominates.

Irrigation and Drainage Facilities and Liability to Famine.

The cultivation season created by the north-east monsoon, i.e., from October to January, is called the Pishanam season, that created by the south-west monsoon (June to September) is called the Kar season.

The district is mainly irrigated by the rivers rising in the Western Ghats through channels taking off from them above anicuts thrown across them. Irrigation is done direct from the channels or from tanks which they feed. Chains of tanks receive supply one after the other or direct from the channels. There are numerous rain-fed tanks in the upland areas. In Tiruchendur taluk, wells in 'Taruvai' areas called 'Theri springs' in which the water level keeps up to the water level in the Taruvais, are used for irrigation. There are also wells in the uplands irrigating limited areas. A special feature in Tenkasi taluk is the extensive raising of

cholan crop on the dry lands adjoining the Ghats during the south-west monsoon with the aid of summer rains and light showers escaping through the Aryankavu Pass. The chief source of irrigation in the district is the river Tambraparni commanding an area of 87,900 acres. There are 8 anicuts across the river Tambraparni besides 2 dams above Papanasam where water is stored and released by regulators for generation of electricity and for irrigation. The river irrigates large areas in Ambasamudram, Tirunelveli, Srivaikuntam and Tiruchendur taluks.

The Kodaimelaligiyan, the Nediunni and the Kannadian anicuts serve Ambasamudram taluk.

The Kodayan channel taking off from the Ariyanayagipuram anicut, the Palayam channel from the Palavur anicut and the Tirunelveli channel taking off from the Suthamalli anicut serve Tirunelveli taluk.

The Marudur Melakal and Keelakal (channels) taking off from the Marudur anicut and the south main and north main channels taking off from the Srivaikuntam anicut serve Srivaikuntam taluk.

The Marudur Melakal and Srivaikuntam south main channel irrigate Tiruchendur taluk.

Ambasamudram taluk is also served by the Manimuthar, the Gadana river and the Varahanadhi. A scheme to construct a dam across the Manimuthar, a tributary of the Tambraparni, is under investigation. The Chittar river, the most important of the tributaries of the Tambraparni, irrigates some considerable area in the Tenkasi taluk, and a smaller area in the Tirunelveli taluk.

Nanguneri taluk is served by the Pachaiar, the Nambiar, the Kilamanimuthar, the Hanumanadhi and the Karumaniar. The Pachaiar in its lower reaches also serves a part of Tirunelveli taluk. Karumaniar also serves a portion in Tiruchendur taluk.

Sankaranayinarkoil taluk is served by the rivers Vadamaliar, Kottamaliar, Nikshepanadhi, Kakanadhi and the Palayar.

In the deltaic areas, the Tambraparni, with a perennial flow, assures regular supply for the areas served by it. The Chittar in Tenkasi taluk gives an assured supply in its upper reaches. The other rivers and streams mentioned also have a fair supply by reason of their having their sources in the Western Ghats. The upland areas of the district in all taluks depend only on the numerous rainfed tanks for irrigation of crops and these tanks in turn depend upon the rainfall in their catchment area. Whenever the rains are not adequate and are not timely the crops in the upland areas fail. But such failures do not occur on a large scale. The district can be said to be free from famine on the whole.

Area cultivated with Food and Commercial Crops.

The food crops grown in the district are paddy, cholam, cumbu, ragi, korra, varaghu and samai. The pulses are greengram, redgram, blackgram, bengalgram and horsegram. The commercial crops are groundnut, gingelly, cotton, tobacco, chillies and sugarcane.

The largest extent of paddy cultivation is in Ambasamudram taluk. Cholan is cultivated widely in Tenkasi and Sankaranayinarkoil taluks, and cumbu in Kovilpatti, Sankaranayinarkoil and Srivaikuntam taluks. Blackgram is cultivated in a considerable area in Tenkasi taluk. Cotton is very widely cultivated in Kovilpatti taluk.

The particulars of area cultivated with food crops, pulses and commercial crops in the various taluks in 1948-49 which was the most recent normal year for the district.

Communications.

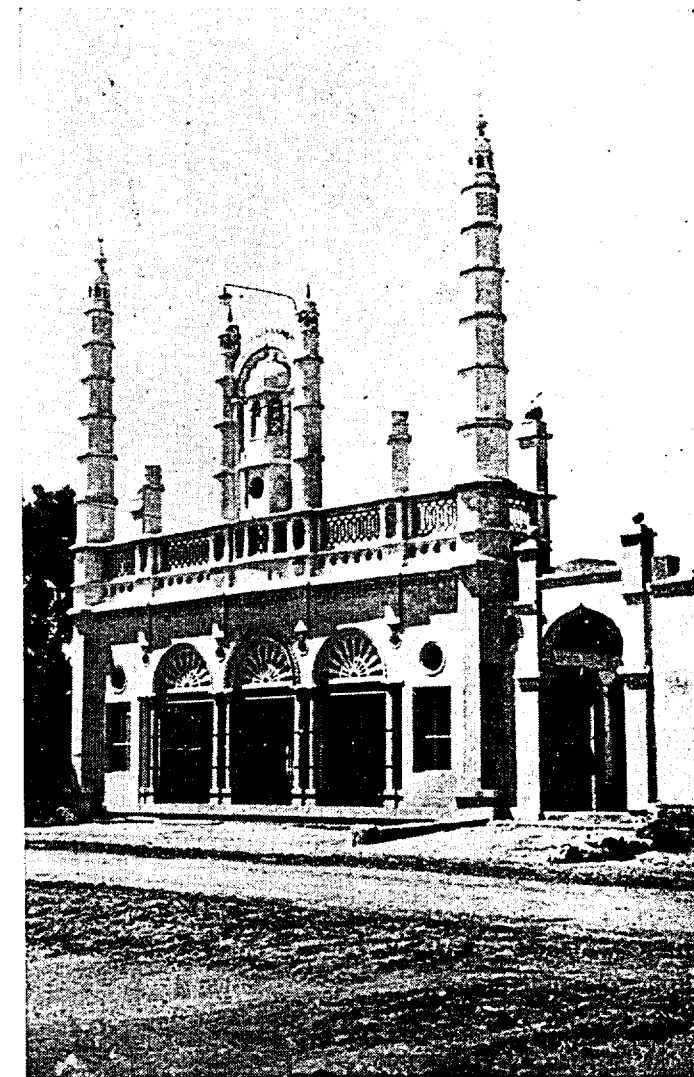
Roads.—There are 1,537 miles of roads in the district. Of this 9 miles are Public Works Department roads and 157 miles municipal roads. The roads maintained by the Highways Department are in good condition. The other roads suffer long periods of disrepair. Except in Tirunelveli and Ambasamudram taluks, road communications to rural parts are inadequate.

Railways.—The district is served by 188¾ miles of metre-gauge line of the Southern Railway. The main line runs from Madurai to Tuticorin traversing Kovilpatti and Srivaikuntam taluks. A branch line taking off at Maniyachi on the main line proceeds via Tirunelveli up to Shencotah and beyond into Kerala traversing Tirunelveli, Ambasamudram and Tenkasi taluks. There is a branch line from Tirunelveli Junction to Tiruchendur passing via Srivaikuntam and Tiruchendur taluks. A chord line branching off from Tenkasi connects with the main line at Virudhunagar Junction traversing Sankaranayinarkoil taluk of this district. The district headquarters, all the divisional headquarters and all the taluk headquarters, except Nanguneri, are served by railway. Nanguneri is however served by a passenger, parcel and goods out agency from Tirunelveli Junction. There are also parcels and goods out agencies for Tisayanvilai and Vadakkuvalliyur in Nanguneri taluk from Tirunelveli Junction and for Kulasekharapattinam and Udangudi in Tiruchendur taluk from Tiruchendur.

Post and Telegraphs.—There is one departmental telegraph office in the district. The district is provided with two head post and telegraph offices, 49 sub-post and telegraph offices, 14 non-combined sub-post offices, and 427 branch post offices.

Population.

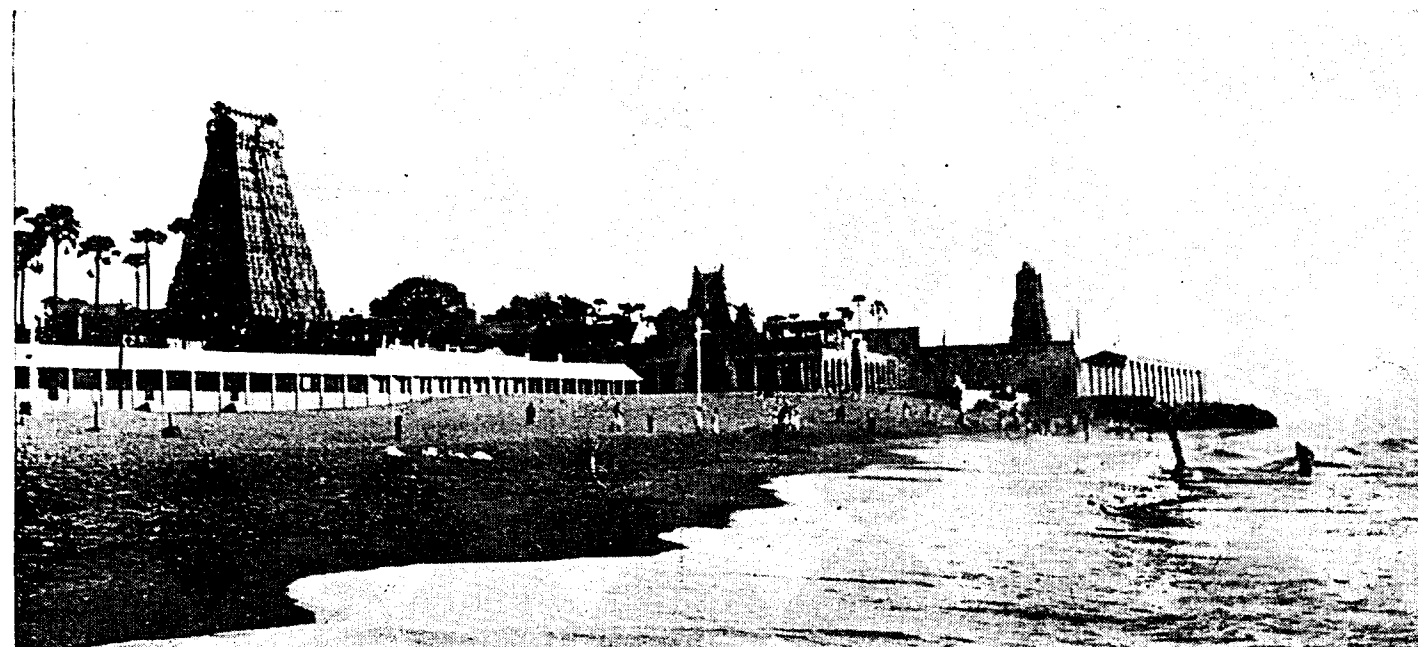
The population in this district according to the 1957 census was 2,506,275. The population has shown an increase of 9.3 per cent during the decade as against 9.7 during the previous decade. Ambasamudram, Tirunelveli and Srivaikuntam taluks cover the best part of the fertile Tambraparni delta. The increases of 13.3 per cent, 14.3 per cent and 16.3 per cent, respectively, in these taluks are therefore fully to be expected. The two poor dry taluks of Nanguneri and Tiruchendur have shown only the moderate increases of 7.7 per cent and 7.9 per cent, respectively. These taluks also have suffered, from the recent failure of the north-east monsoon for a number of years in succession, and there has been migration of the labouring classes



The Mosque at Vasudevanallur.

to fertile portions in the Tambraparni delta for employment. These taluks contain vast barren blocks and sandy tracts unfit for cultivation.

Tenkasi taluk has good dry lands and a considerable extent of irrigated land close to the Courtallam hills. It is not surprising therefore that this taluk has had an increase of 14 per cent. Sankaranayinarkoil and Kovilpatti are also dry taluks, but while the former has shown an increase of 12.1 per cent, the latter has shown an actual decrease to the extent of 4.5 per cent. The decrease in Kovilpatti is due to the fact that it suffered badly from the adverse seasonal conditions referred to above during the latter part of the decade, and there has been considerable emigration of labourers to the Tambraparni delta in the district, as well as to Tanjore district and to tea and coffee estates in Madurai and the Nilgiris districts. Sankaranayinarkoil taluk has fared far better because it has had a better rainfall than Kovilpatti, and has a larger extent of



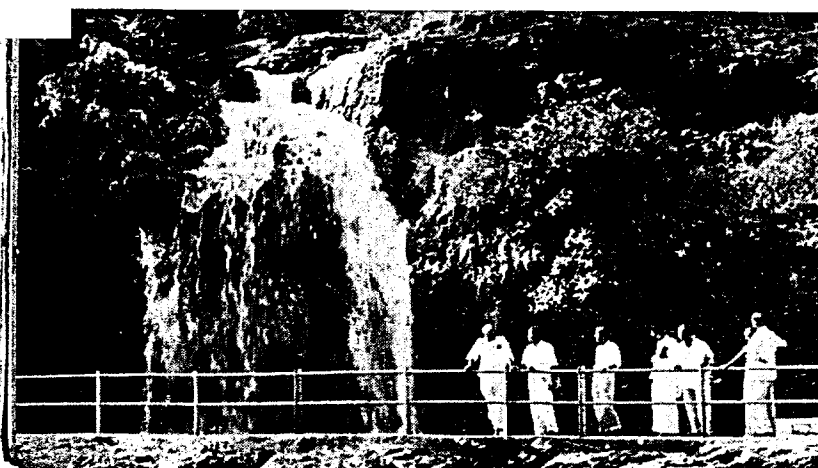
The Sri Subramaniaswami Temple at Tiruchendur.

wet lands (42,609 acres as against 8,492 acres in Kovilpatti) under tanks which do not ordinarily fail, thanks to the supply from the small rivers and streams flowing down from the Western Ghats.

Vital Statistics.

The average birth rate of 34.3 per mille during the decade was higher than that for the State (31.7). The annual birth rates covered about the average except in 1942. The average death rate was 23.7 per mille as compared with 21.2 for the State. On account of the very severe epidemic of cholera causing 12,492 deaths, the death rate in 1943 increased to 32.9 per mille. The death rates thereafter declined till 1949 and showed an increase in 1950. The average death rate (0.8 per mille) from cholera was higher than that (0.6) for the State, and it was about normal in the case of dysentery and diarrhoea, and respiratory diseases. The mortality rates from fevers and smallpox were below the normal

The Papanasam Falls.



for the State. The district was free from plague during the decade. The average maternal mortality rate was 9.4 per 1,000 child births as against 8.1 for the State.

The infant mortality rates recorded reveal a decline during the latter half of the decade.

Medical Relief.

There are 16 hospitals and 36 dispensaries in the district. Seven of them are Government hospitals with 293 beds, two municipal hospitals with 18 beds, three local fund hospitals with 30 beds and four mission hospitals. There are two Government, 23 local fund, four municipal and six rural dispensaries. The Government Hospital at Vannarpet in Palayamecottai with 60 beds is a women and children hospital. The Mission Hospital at Dhonavur is also now confined to the treatment of women and children. The Municipal Hospital at Palayamecottai with six beds is used only for maternity cases. There are X-ray facilities in the Government hospitals at Palayamecottai and Tuticorin. At Tuticorin there is a leprosarium run by the Roman Catholic Mission with 43 beds. There is a women and child-welfare centre run by the Red Cross Organization at Palayamecottai.

Industries.

Cottage, small-scale and large-scale—(i) Cottage and small-scale industries.—The particulars of the important cottage and small-scale industries of the district in each taluk and the approximate number of persons employed in them are given in Annexure IV.

(ii) Large-scale industries.—There are no large-scale industries in Sankaranayinarkoil, Tenkasi and Nanguneri taluks and salt manufacture is the only important large-scale industry in Tiruchendur taluk.

Items of General Importance.

Tirunelveli is the seat of the Collector and the District Judge.

There are four municipalities in the district. They are Tirunelveli, Tuticorin, Palayamecottai and Melapalayam. There is a veterinary hospital at Tirunelveli. There is an Agricultural Rice Research Station at Ambasamudram and an Agricultural Cotton Research Station at Kovilpatti. There is a Borstal School for adolescent offenders at Palayamecottai.

Sea-fishing is carried on along the entire coast.

The Papanasam Hydro-Thermal Electric Scheme provides electricity for the southern districts supplementing the Mettur and Pykara Grid.

Tuticorin is a sea-port. Ships are anchored a few miles off the coast. There is a sea route to Ceylon from Tuticorin with a regular steamer service. Articles of trade of the southern districts pass through this port.

Courtallam, 3½ miles from Tenkasi, is a health resort attracting a large number of visitors during the south-west monsoon from June to September. The bath in the waterfalls of the Chittar river at Courtallam is invigorating.

The Subramanya Swami temple at Tiruchendur and the temple at Sankaranayinarkoil are sacred to the Hindus. Pilgrims visit them in large numbers from all over South India.

The Tamil poet, Sri Subramanya Bharati, spent most of his life at Ettaiyapuram where a Bharati Mandapam has been raised in his memory.

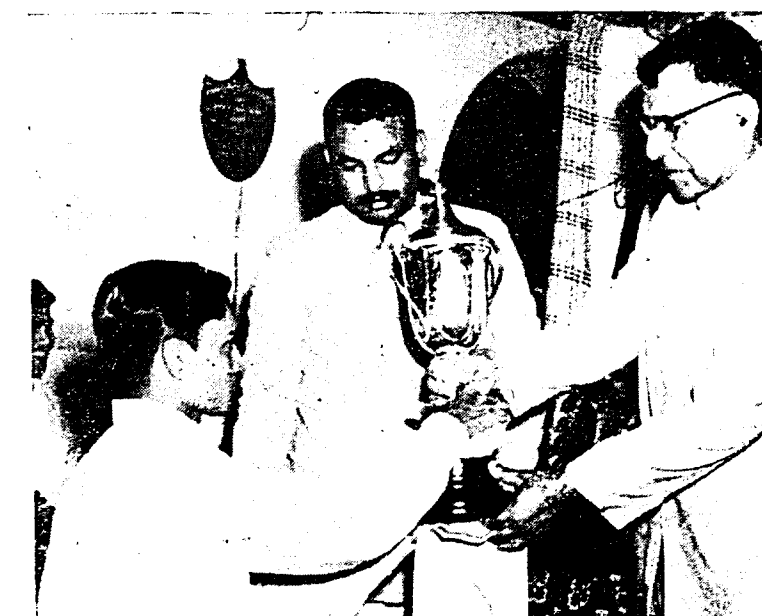
The Prime Minister's Birthday was celebrated on 23rd November 1958 at the P.S. High School, Madras. Sri Harekrishna Mehtab, Chief Minister of Orissa, who presided, is seen giving the prize to the winner of the Oratorical contest.



Monsieur Malrau, the French Minister without portfolio, in the course of his tour of India paid a visit to Madurai where he was entertained to a Bharathanatyam performance by Kumari Kalai Arasi, daughter of Sri W. P. A. Chandrasekaran, M.L.A. The French Minister is seen signing autograph for Kumari Kalai Arasi.

The large-scale industries carried on in the other taluks are specified below:—

Name of taluk.	Nature of industry.	Number of establishments.	Number of persons employed.
(1)	(2)	(3)	(4)
Kovilpatti ..	Cotton ginning and baling.	28	1,143
	Cotton spinning and weaving.	2	1,865
Tirunelveli ..	Match making ..	8	686
	Printing and Publishing.	17	351
Srivaikuntam ..	Cement factory ..	1	419
	Motor workshop ..	19	586
	Cotton ginning and baling.	7	349
Ambasamudram.	Dhall mills ..	15	148
	Salt factories ..	6	243
	Cotton Spinning mill.	1	4,093
	Beedi factory ..	7	313
	Cigar works ..	5	199
	Cotton Spinning mill (1)	2	6,501
	Cotton Spinning and weaving (1)		





The Chief Minister addressing the gathering at the inaugural function.

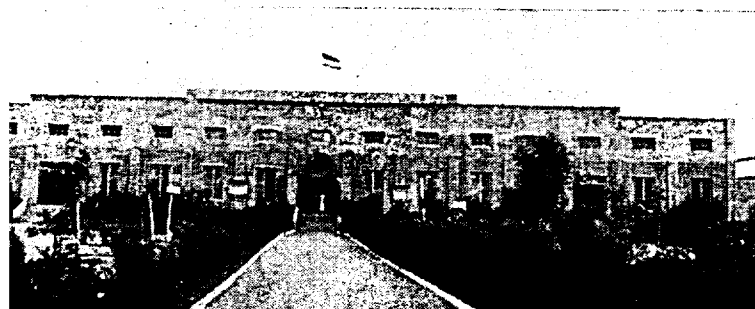
Co-operative Spinning Mills at Tirunelveli

First Venture in Madras State

A steady and adequate supply of yarn of standard quality and counts at reasonable prices to the weavers has always been an acute problem in the handloom industry. Yarn accounts for nearly 60 per cent of the cost of handloom cloth.

At present there was no scarcity of supply of yarn. But there were years when yarn rationed to the

The Co-operative Spinning Mills at Tirunelveli



weavers. So proposals to start Co-operative Spinning Mills was sponsored by the Madras State Handloom Weavers' Co-operative Society.

The South India Co-operative Spinning Mills was started in May 1952. The Madras State Handloom Weavers' Co-operative Society contributed Rs. 15 lakhs towards the share capital.

Negotiations were also started for the purchase of the land and partly constructed buildings owned by the Murugan Textiles, at Pettai, Tirunelveli. It was finally decided in October 1955 to purchase their land, buildings and materials for Rs. 3,60,000 and to apply at the same time for the acquisition of the land and buildings under the Land Acquisition Act. The land and buildings were taken possession of in 1956, and orders were placed for the required machinery after obtaining necessary import licences.

By the end of 1957, the main buildings of the mills were completed and the bulk of the machinery was received and erected. The award under the Land Acquisition Act was also received. The management expected to start production of yarn with 4,000 spindles in January 1958 out of the 16,000 spindles planned for, but the acute shortage of electricity and the consequent ban on connecting new industrial loads stood in the way of the early starting of the mills. It was not until July 1958 when the supply position of electricity improved that the mill could go into production with 8,000 spindles. It has completed the erection of the remaining 8,000 spindles and they are ready to go into production as soon as the additional loads of electric supply applied for is sanctioned.

Area of Operations.

The membership in the mill is open only to the Madras State Handloom Weavers' Co-operative Society, the Primary Weavers' Co-operative Societies situated within its area of operation and the Government of Madras. The authorized share capital is Rs. 60 lakhs made up of 60,000 shares of Rs. 100 each. The paid-up share capital of the mill is Rs. 41,86,700 contributed by the Madras State Handloom Weavers' Co-operative Society, Limited, Rs. 15,15,000; Primary Weavers' Co-operative Societies, Rs. 16,71,700 and the Government of Madras, Rs. 10,00,000.

This includes the share capital of Rs. 1,05,600 contributed by the Weavers' Co-operative Societies in Malabar and South Kanara, now merged with Kerala and Mysore States. This sum would be transferred to the co-operative spinning mills which might be started in these States. Rs. 98,000 has already been transferred to the Cannanore Co-operative Spinning Mills.

Management.

The management vests in the Board of Directors, consisting of the following nine members: the President of the Madras State Handloom Weavers' Co-operative Society, Limited (Chairman); four Directors elected by the Board of Management of the Madras State Handloom Weavers' Co-operative Society from among the Directors representing the Primaries; the Registrar of Co-operative Societies (ex-officio); the Director of Handlooms (ex-officio); one Director nominated by the Madras Government from among persons connected with the spinning industry; one co-opted by the Board of Directors with reference to the needs of the Mills and the Handloom Industry.

The day-to-day administration of the Mills is being carried on by a General Manager of the rank of a Deputy Registrar of Co-operative Societies whose services have been lent by the Government for three years from May 1956 on foreign service terms.

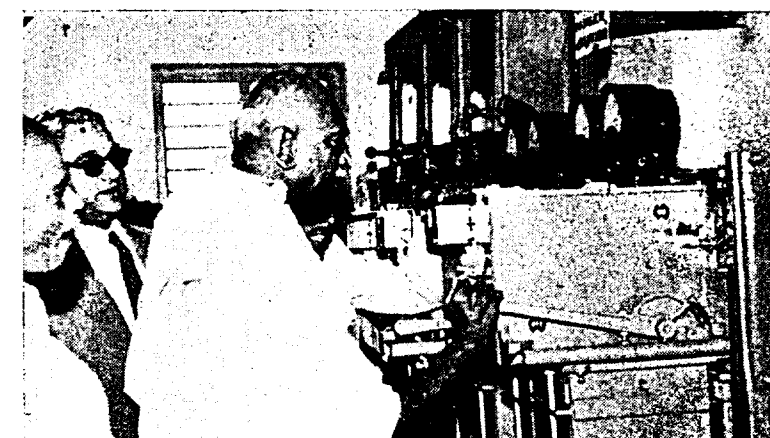
The total estimated capital expenditure of the Mills will be as follows: lands and buildings including electric installation and humidification, Rs. 13.36 lakhs; and machinery including motors, freight, import duty, clearing charges, erection, etc., Rs. 34.58 lakhs.

The Mill has started production of yarn with effect from July 14, 1958. It is running 8,000 spindles now and remaining 8,000 spindles will go into production immediately on receipt of the sanction for the increased load of electric supply applied for. The cotton required is purchased mainly through the Co-operative Marketing Societies in Tirunelveli district and the produce is delivered to the Madras State Handloom Weavers' Co-operative Society, Limited. The Mill has produced so far up to November 15, 1958, 1,069 bales of 20s yarn and despatched them to the several units of the State Society under its instructions. The overall capacity of the Mills with its 16,000 spindles running two shifts is 750 bales of yarn of 20s per month.

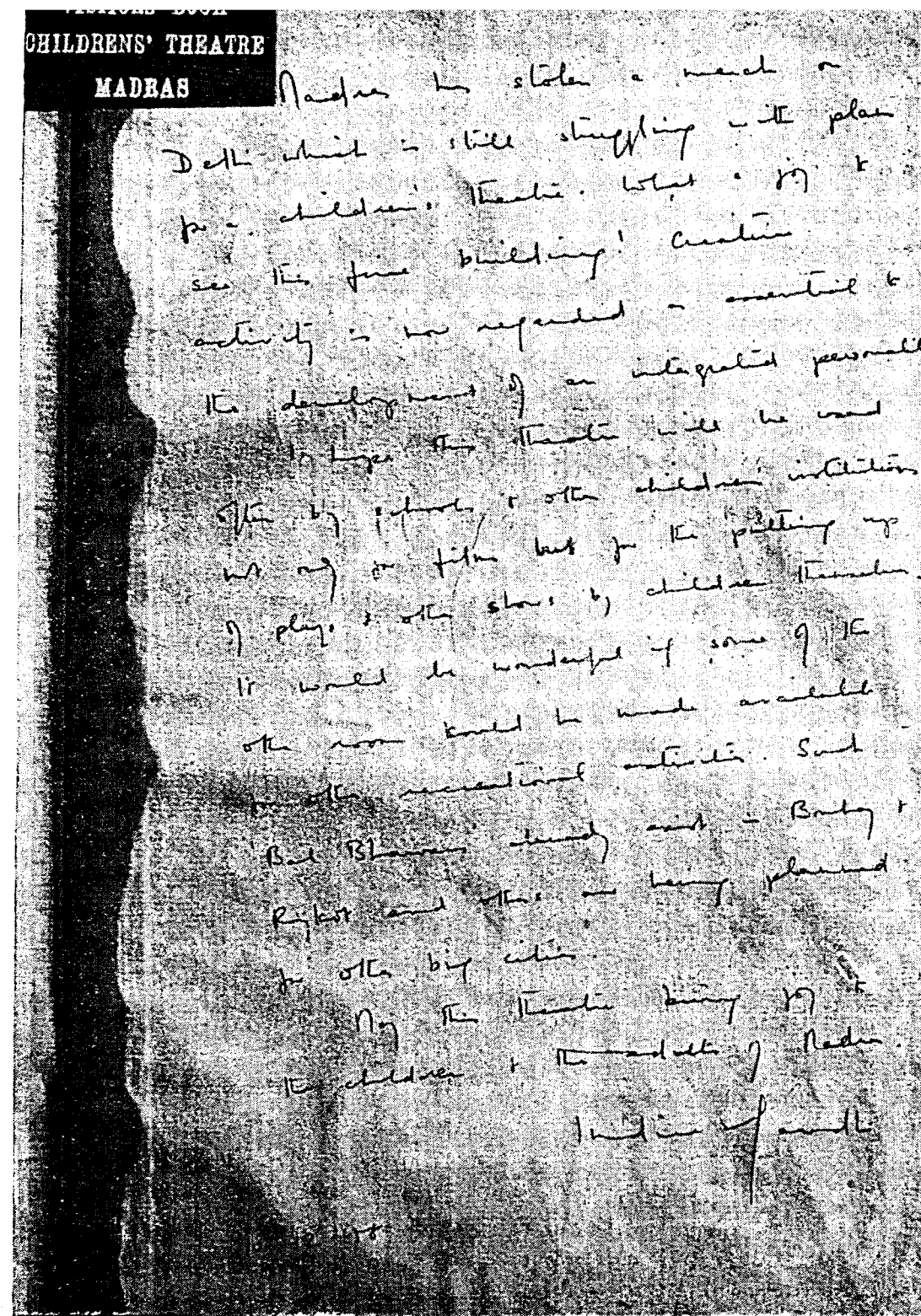
Besides the share capital of Rs. 41,86,700 collected from weavers' co-operative societies and contributed by the State Government the mill has built up a Reserve Fund of Rs. 1,45,742 and a Replacement Fund of Rs. 70,266 which have been utilised for meeting capital expenditure. It has also applied to the State Government for additional financial aid of Rs. 5 lakhs either by way of shares or long-term loan. The Madras State Co-operative Bank has sanctioned a Cash Credit accommodation of Rs. 10 lakhs towards working capital.

The long cherished hope of the handloom weavers in the co-operative fold has been realised in the starting of this mill and it is hoped that with their co-operation and support and the continued assistance of the Government and the All-India Handloom Board, the mill will grow from strength to strength and spread its usefulness to the handloom weavers in an ever-increasing measure.

The Chief Minister switched on the Machinery at the Mills



A Page
from the
Visitors' Book
of the
Children's
Theatre



Srimathi Indra Gandhi, after a visit to the Children's Theatre, Madras, on 10th December 1958, has recorded the following as her impression in the Visitors' Book of the Theatre:—

"Madras has stolen a march on Delhi which is still struggling with plans for a children's theatre. What a joy to see this fine building! Creative activity is now regarded as essential to the development of an integrated personality.

I hope this theatre will be used often by schools and other children's institutions, not only for films but for the putting up of plays and other shows by children themselves. It would be wonderful if some of the other rooms could be made available for other recreational activities. Such 'Bal Bhavans' already exist in Bombay and Rajkot and others are being planned for other big cities.

May this theatre bring joy to the children and the adults of Madras."

The Sculptural wealth of Tirunelveli District

Tirunelveli District is famous for its temples of Lord Siva. Temples of Lord Vishnu are also found here and there in this district. A combined temple for Lord Siva and Lord Vishnu is located at Sankaranayinar Koil, a phenomenon found nowhere else.

There are temples big and small; old and new; in towns and in villages; in forests, on hills and along river banks; and there are 2,000 of them. Most of them are antique and they are believed to have been built in the time of the Pandya Kings of Madura.

Sri Nelayappar Temple, Tirunelveli

The Nelayappar Temple at Tirunelveli has a short Gopuram. Adjoining it is the temple of Sri Kanthi-

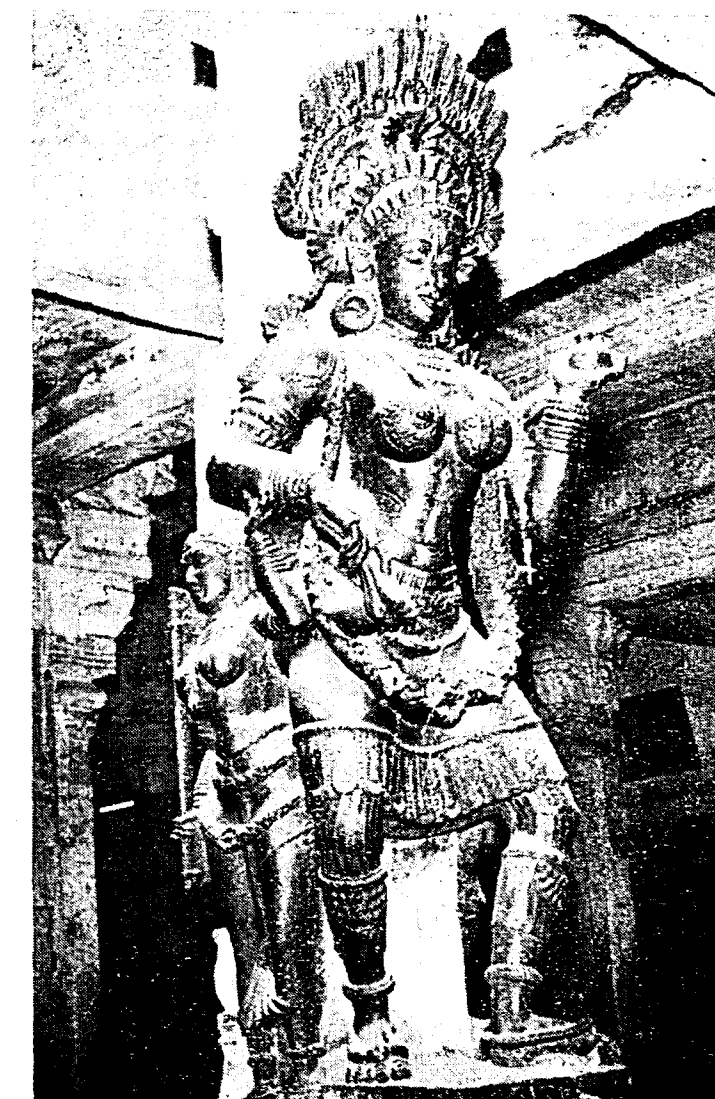
mathi Amman with a separate entrance. The tower of Kanthimathi Amman temple was built in the year 1626 and that of the Nelayappar Temple was constructed 20 years earlier. There are 96 pillars in the *Oonjal mantapam* (the hall of the swing).

The *Thirukkalyana Mantapam* has got a thousand pillars and the *Panguni Uthirai Sengol* festival is celebrated here. The halls in front of the two temples contain some of the most beautiful wood carvings. Usually these carvings are found only on the temple cars.

Sculptures of warriors, musicians and others are found in plenty in the Nelayappar temple. The pillars in the main hall are made up of a cluster of small



Alli and Arjuna in the Sri Nelayappar Temple.



Annapurani in the Sri Nelayappar Temple at Tirunelveli.



A Dancer in the Krishnapuram Temple.



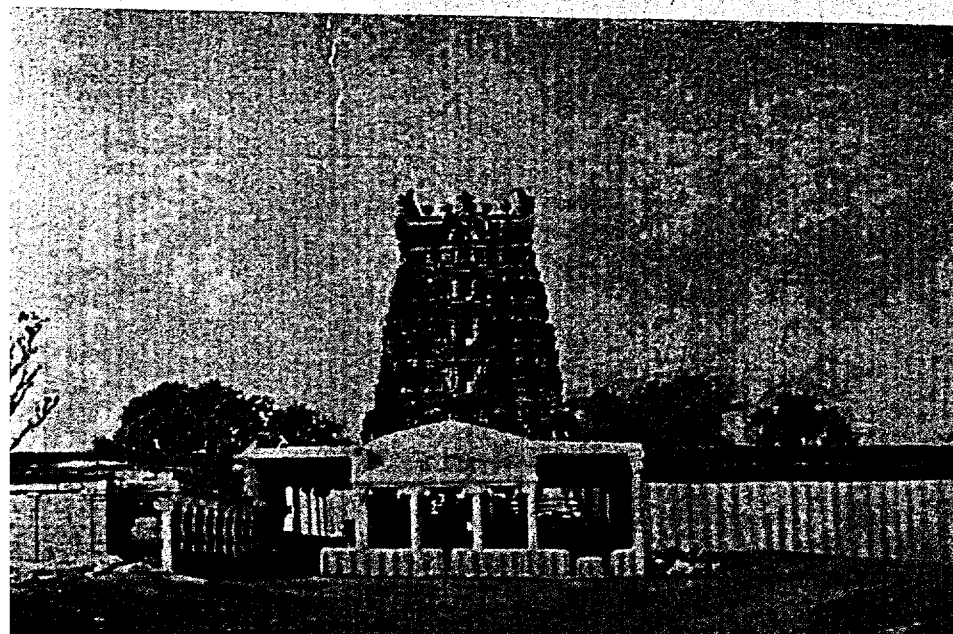
Bathi Devi in the Krishnapuram Temple.

pillars hewn from a single stone. If these stones are struck they produce different musical notes.

Sri Venkatachalapathi Temple, Krishnapuram

This temple is situated at Krishnapuram, about six miles from Palayamkottai on the road to Tiruchendur

in the Tirunelveli District. This temple is a treasure house of rare sculpture, handiworks of sculptors of Vizianagaram, brought specially for this purpose by the then Pandya King Sri Krishnappa Nayakkar. This temple attracts a large number of connoisseurs of art year in year out.



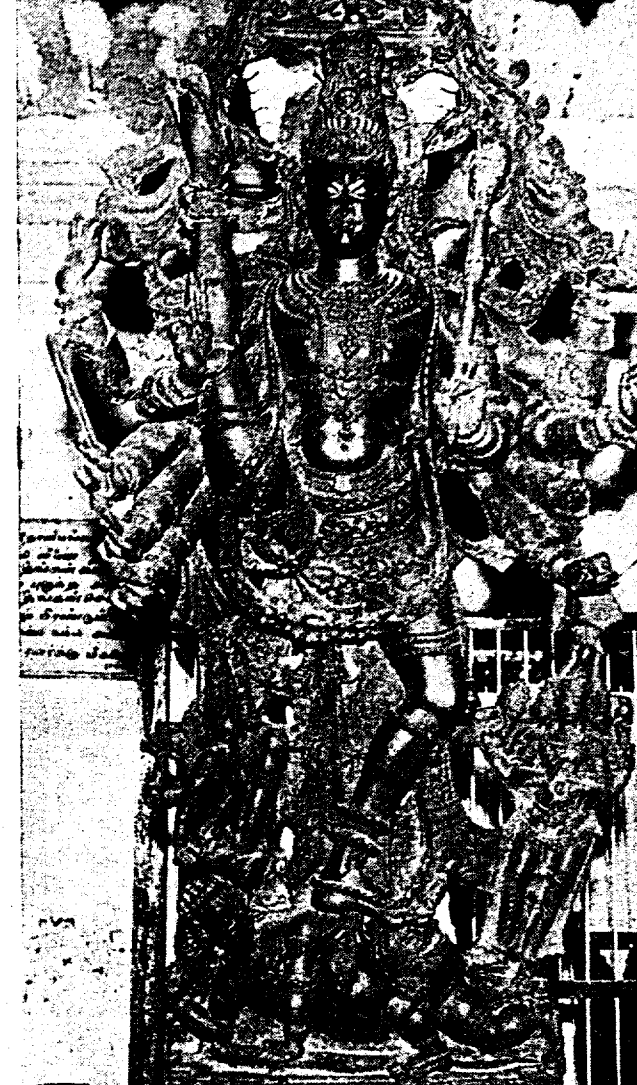
The Temple at Krishnapuram.



Sculpture of a Maiden in the Tenkasi Temple.

Sri Kasiviswanathaswamy Temple at Tenkasi.

Urthuvu Thindaram in the Tenkasi Temple.



Sri Kasiviswanatha Temple, Tenkasi

This 500-year old temple at Tenkasi has a tower which was damaged 150 years ago by fire. Even now the tower stands split in the middle on top. There are some exquisite pieces of sculpture in this temple. The one on the cover page of this magazine and the one on the facing page are noted for their beauty and intricate handiwork.





The new hostel.

New Block for Veterinary College Hostel

Sri C. Subramaniam, Minister for Education, declaring open the Building.



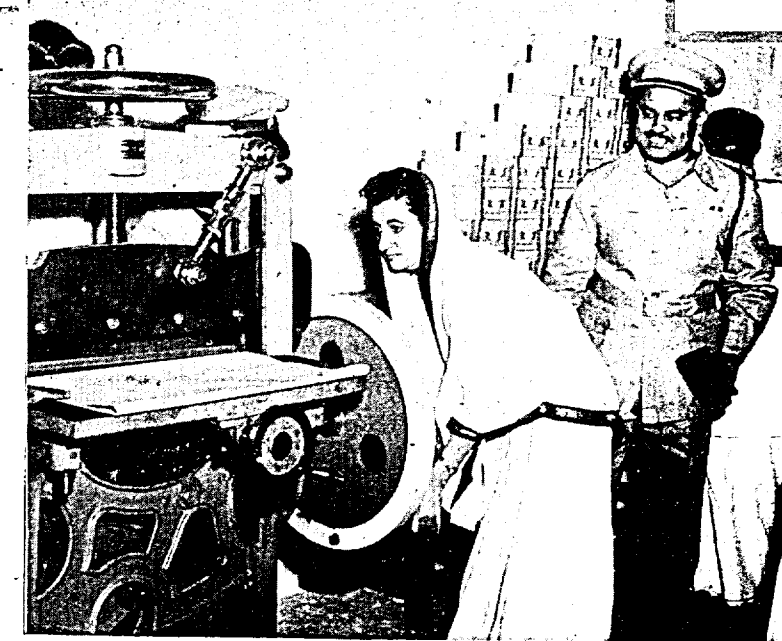
The Extension Block for the Veterinary College Hostel was declared open on 10th December 1958 by the Finance Minister Sri C. Subramaniam. Sri M. Bhaktavatsalam, Minister for Agriculture, presided over the function.

It will be interesting to trace the growth of this hostel from its beginning. The first batch of six residential students was housed in the Dohin Hall of the College premises. It was in 1905. In 1914 there were 47 students in the hostel. In 1931 the main hostel building consisting of two blocks were completed. One hundred and twenty could be accommodated in it. In 1948 an annexe was built and 30 more could be accommodated in it.

The new building has been built at a cost of Rs. 7 lakhs. It can accommodate 250 students in its 101 double rooms and 48 single rooms. In addition, there are 8 guest rooms too.

Srimathi Indira Gandhi, inaugurated the Envelope-making Scheme at the Policemen's Families Welfare Centre at Kilpauk on 9th December 1958, by operating the paper cutting machine while Sri P. Paramaguru, Deputy Commissioner of Police, looks on.

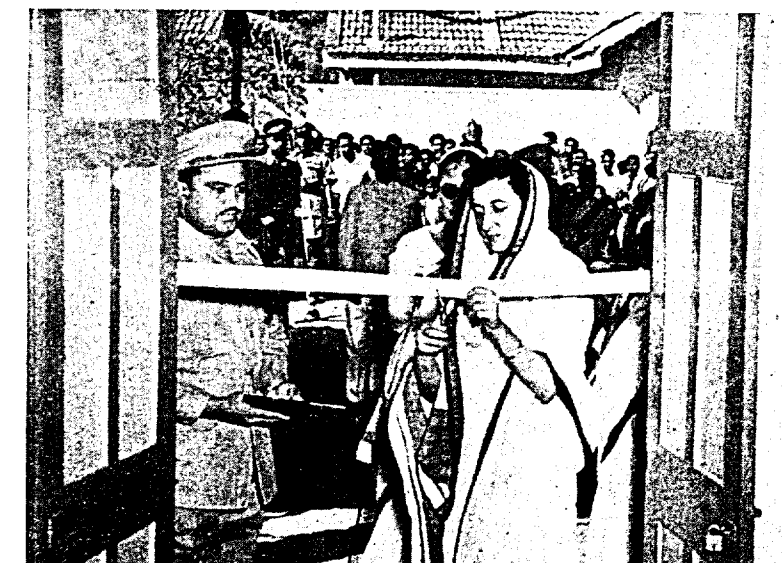
WELFARE OF POLICEMEN'S FAMILIES



Srimathi Indira Gandhi watching the members of the centre making envelopes.



Srimathi Indira Gandhi declared open the Welfare Centre at the Kilpauk Police Lines on 9th December 1958.



Prevent That Fire!

SRI U. NARAYANA, District Fire Officer, Madras

The value of the truth in the old proverb "prevention is better than cure" is being increasingly realised more and more day by day. Inasmuch as it is well accepted that most fires are caused mainly through carelessness and indifference resulting in disaster and destruction it is but quite in the fitness of things that more and more attention should be paid to the aspect of prevention of fires. It is, therefore, sought through the celebration of a fire prevention week to make our people conscious of the very serious consequences of carelessness and indifference on their part and vividly demonstrate to them the potential danger in such carelessness or negligence. It is also sought to impress that negligence and indifference might not only cause incalculable harm to the person so negligent and his property but also endanger or destroy the lives and properties of others who might in no way have been responsible for such negligence.

With the rapid industrialization of our country and the progress achieved through our Five-Year Plans fire risks have also considerably increased. It is absolutely essential that every citizen should develop a civic sense of fire prevention so that the progress achieved year after year may not be retarded through fire losses; for, fire losses are a national loss. In Madras State alone, the losses due to fire accidents every year approximate nearly forty lakhs of rupees! This may appear to be unbelievable but is, nonetheless, true.

There has been a continuing trend in recent years towards greater fire prevention work. The science of

fire-fighting is no longer considered a mere problem of getting to a fire-spot in a hurry and dumping as many tons of water on the fire until the flames stop looming up. With new industrial methods and chemical processes daily multiplying hazards in cities all over the country, the fire services have to build upon the growing knowledge of how to prevent fires and guard against potential trouble. In fact, in the United States of America, many of their departments send their fire service equipment and man-power for house-to-house fire inspection during normally quiet day-time periods. While one fireman stays with the equipments listening in for any radio alarms of fire, his colleagues go from door to door looking for potential fire-breeders, thus carrying on a constant public education programme. In certain towns in Scotland, old people are given free fire extinguishers for their homes by the Town Councils to help reduce burning accidents, and certain necessitous families are loaned fire-guards where there are children under 12 or elderly or handicapped persons. This interest in fire-prevention is not very surprising when we remember that the annual fire losses in Scotland approximate nearly £40 million every year while there is an annual damage to the tune of about 1,250 million dollars by fires in the United States of America. Apart from this, 11,300 Americans were killed by fire last year; of these, 6,400 were burnt in their own homes! In England last year fire damages approximated £30 million; 63 large fires alone destroyed more than £16 million worth of the country's industrial wealth; and it is reported that by far the majority had totally inadequate fire protection arrangements!

Fire has always been a dangerous enemy. It must be remembered that fire is not only a destroyer of property but is also a killer. In World War II, it accounted for more deaths than any other weapon. It carries with it in peace as well as in war that appalling potential killer—panic. It is the cheapest and the most effective weapon of war that can be produced. Defence against fire is not however, a war-time necessity. As I have already said, the damages and deaths due to fires reach appalling figures.

Every owner of property, whether private or commercial, takes out insurance policies to cover fire-risks. Every citizen is compelled to some extent to maintain reasonable standards of sanitation in his every day life. Many thousands of rupees are spent annually on means of reducing the casualties on the public roads. But, from the point of view of the State, no pressure is brought to bear on the individual to make fire prevention compulsory. The medical profession studies disease with a view to preventing its incidence and does

not merely accept it and then attempt a cure. Certainly then, even with fire, prevention is better than cure. It may be argued that we are sufficiently regimented and controlled already without adding restrictions on our right to do as we like, but it should be remembered that fire usually harms others besides the owner of the property in which it starts. It would, therefore, be practical and sound commonsense to insist that in all buildings for which construction licences are issued adequate steps must be taken for fire prevention. It is just as important to prevent material losses by fire, with the inevitable loss of life which accompanies it, as it is to ensure hygienic conditions. If adequate fire protection is provided in every building, there can be little doubt that the consequent reduction in the number of fires of all kinds would be most marked and the annual material and economic loss from this cause considerably reduced.

It must be clear that the best protection against major fire disasters would be the dispersion of our growing industries, but in this country if industries already established could be moved from the areas in which they have grown up for such economic reasons as climate, water or coal, quite apart from the frightful cost involved, it would need years and years of work, not only in actual construction but also in re-housing the working population in areas near the site of the new factories. Although future planning may take the need for distribution of industries into consideration, the removal of existing industries is impracticable. Apart from this, every factory built away from an industrial area means a reduction in the amount of arable land available and this would make us less self-supporting than we are already. This fact, that we are not adequately self-supporting in either food or raw materials means that we are bound to have large industries near our ports and elsewhere. We have, therefore, to accept the congestion in our towns and cities, but need not and indeed should not, accept with any complacency the inadequate steps taken to deal with the menace of fire.

Is there a need for more local laws to reduce fire risks? Is it necessary to introduce local fire prevention legislation in addition to the existing provisions in the Madras City and Districts Municipal Act, the Madras District Boards Act, the Madras Village Panchayats Act and the Places of Public Resorts Act? The time is certainly appropriate to consider this question closely and to ask oneself whether, and if so, to what extent, such legislation is desirable. The present legislation dealing with fire prevention is, it must be admitted, incomplete and in many respects anomalous. It would unquestionably be of great help to the administrators of law if the present legislation could be incorporated into one Fire Prevention Act. It would also immensely help in obtaining reasonably uniform national standards if the Fire Authorities were made responsible for the administration of such an Act. In the United States of America where fire prevention legislation is comprehensive, the scope of fire legislation is limited to that which is considered reasonable; the general public interest is balanced against the interest of the individual wherever there may be a conflict of interest and particularly where fire protection in the public interest

may call for expenditure beyond what the individual may consider essential in his own interest. Even in Japan anti-fire regulations are laid down; their Building Standard Act attaches particular importance to fire protection of buildings. Their city-centres are designated as semi-fire-limit-zones where the use of unprotected wood is entirely prohibited. Apart from this fire-protection-zones are designated in the central parts of their six largest cities where wooden buildings are prohibited and only ferro-concrete or other fire-proof buildings are permitted. There is thus a steady growth in the building of fire-resisting dwellings in Japan and if the present trend continues Japan is bound to lose its reputation of high inflammability in the same way as London which is to-day fire-resistant, with many magnificent fire-proof buildings, three centuries after the prohibition of timber buildings following the Great Fire of London in 1666!

After all, what does fire protection in an ordinary home cost? In a cost analysis covering an average home in England it is found that the cost for services provided in respect of Hot and Cold water installation works out to sh. 3 and 4 d., per square foot, sanitary fittings sh. 1 and 4 d., heating and ventilation sh. 3 and 2 d., gas installation sh. 1, electrical installation sh. 1 and 11¼ d., and fire fighting equipment only ¾ d.! The fire-fighting equipment at the home under review consisted of adequate equipments. When figures are presented in this way, the very small relative cost of fire-safety can be clearly seen.

The following facts may interest you: In the last decade more than 100,000 persons were killed and many more burned or disfigured in the United States of America by fire; each year there are 600,000 building fires; every day there are about 850 home fires, 34 deaths by fire, 88 factory fires, 9 church fires, 8 school fires and 4 hospital fires—every day! Year by year, the incidence of fire takes an ever-increasing toll of the

(Continued on page 29)

Sri M. Bhaktavatsalam, Home Minister, inaugurating the Fire Prevention Week and Opening the Exhibition in Madras City on 1st November 1958.



Dr. U. Krishna Rao, Speaker, Legislative Assembly, addressing a meeting during the Fire Prevention Week Celebrations in Madras on 3rd November 1958.





(1) *The Chief Minister inaugurated an Industrial Training Centre at Tiruchendur*



4) . . . a Social Welfare Centre at Brahmadesam

(7) *Visited the Kodaimadi Forest*



(2) . . . distributed Pattas to Harijans at Ocheranmahadevi



(5) . . . laid the Foundation Stone for new block of school building at Mudaliar

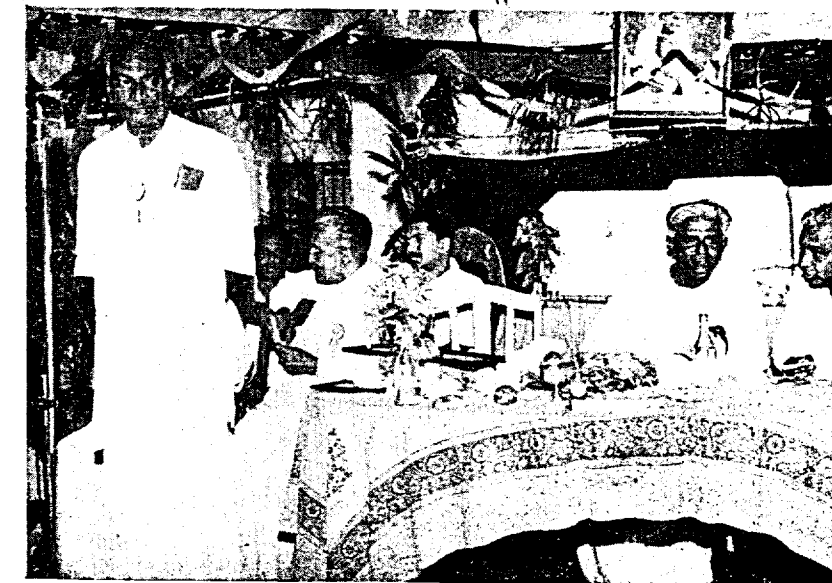
(8) . . . the Power-house at Papanasam and



21



(3) . . . inaugurated the Chintamaniperi Co-operative Tenants Farming Society



(6) . . . and addressed the Beedi Workers' Conference at Pavor.

(9) . . . looking with interest some of the articles produced at the Social Welfare Centre at Brahmadesam.



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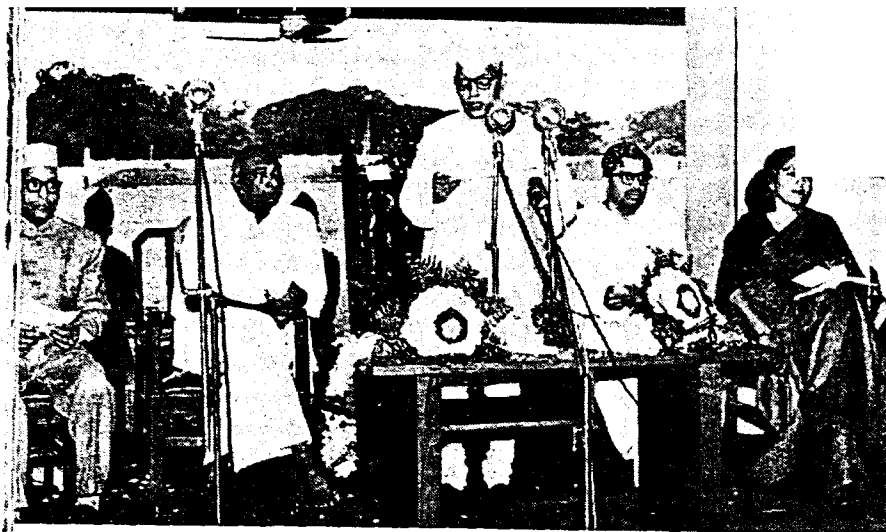
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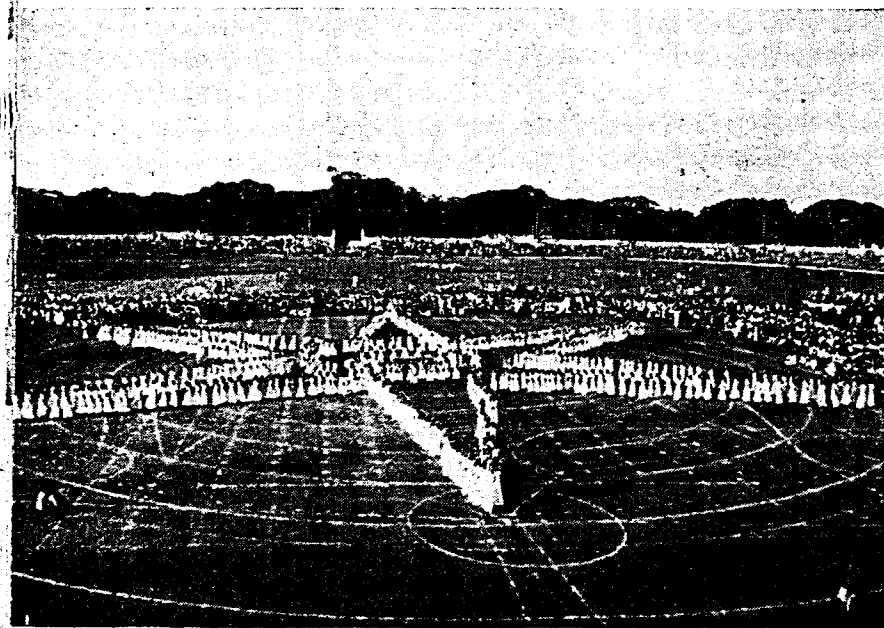
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The Governor, Shri Bishnuram Medhi, inaugurated the Children's Week at the Corporation Stadium on 14th November 1958. Photo shows the Chief Minister, the Ministers for Finance and Revenue and the Mayor at the Function.

CELEBRATION OF THE IN THE

One of the items in the pageant.

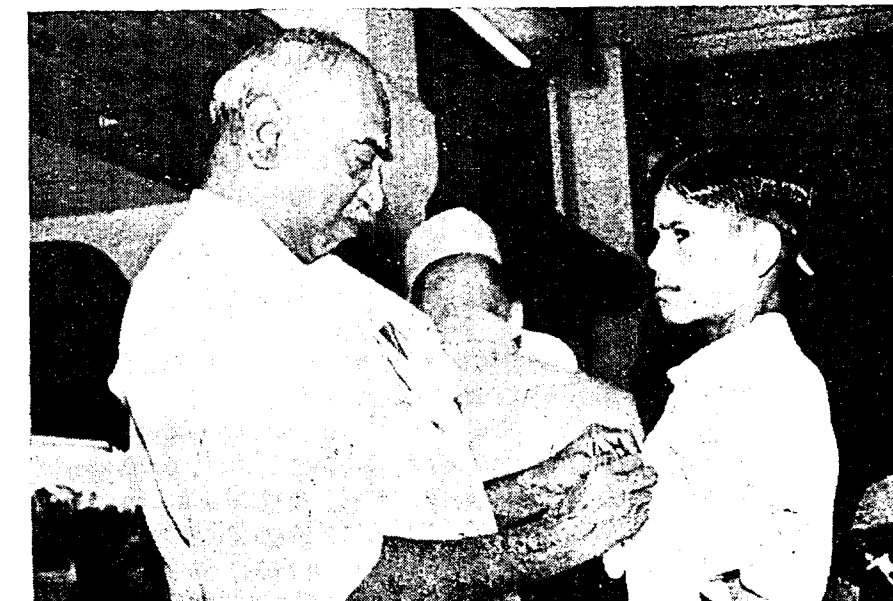
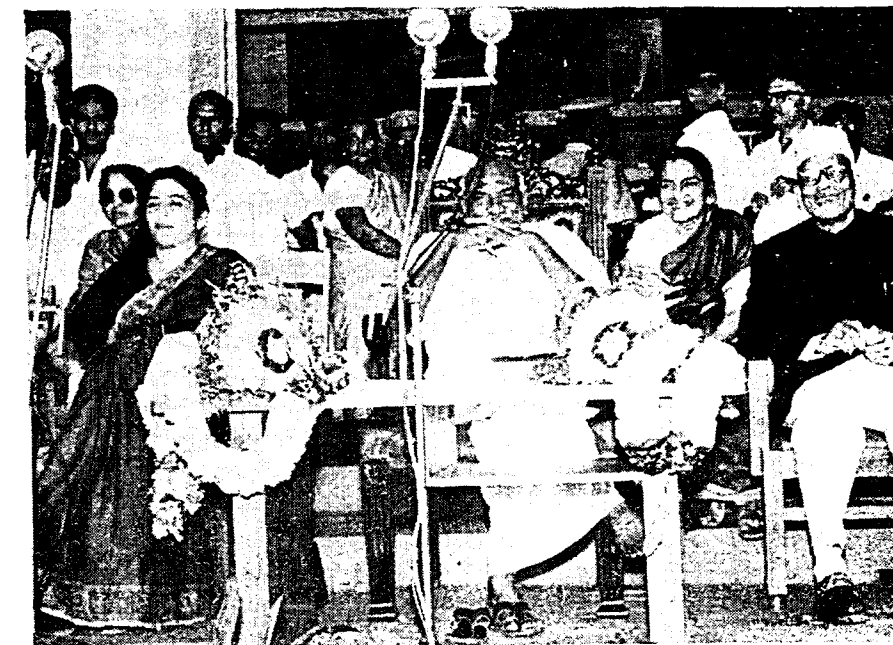


Sri Satyanarayana, aged 11, of the Board High School, Poonamallee was awarded the National award for Heroism at the function in the Stadium on 14th November 1958, by the Chief Minister.

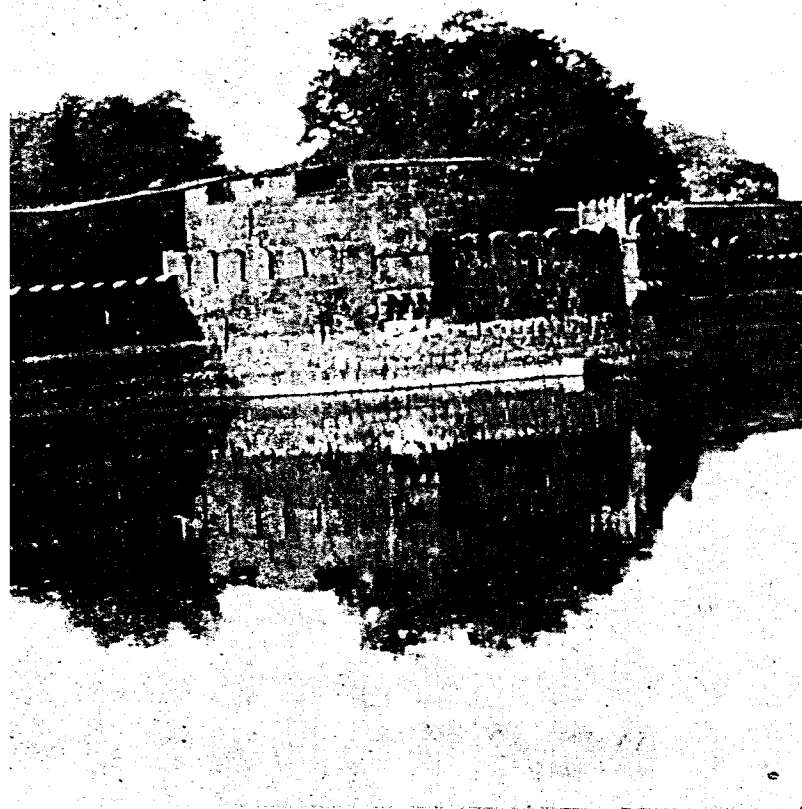
The Governor entertained 500 children from various orphanages in the City to a tea party on 11th November 1958 at Raj Bavan, Guindy. The Governor is seen being greeted by the children.

CHILDREN'S WEEK CITY

The Chief Minister, Sri K. Kamaraj, reviewed the Children's Parade and pageant at the Corporation Stadium on November 16th. Photo shows the Chief Minister, Minister for Revenue and the Mayor watching the pageant with interest.



Sri C. Murugayyan of the Government Junior Certified School, Tanjore, was also awarded the National award for Heroism.



Fish Production in Fort Moat in Vellore Town

SRI P. I. CHACKO
AND
SRI D. SUNDARARAJAN,
Department of Fisheries

The moat around the Fort at Vellore.

Introduction.

The Fort moat in Vellore Town, North Arcot district, is being utilized for fish culture by the State Fisheries Department since 1919. The primary objects are (1) rearing of suitable mosquito larvicial fishes to prevent breeding of mosquitoes and (2) production of table fishes for supply to the inhabitants of the town. Both these objects have been achieved successfully; and consequently the local authorities have recently decided to place the moat under the full control of the Fisheries Department.

Exploitation of fishery.

Since recent years fish cultural operations in the moat have been intensified to such an extent that the fishery is now being exploited daily by about 150 fishermen who are permitted to capture fish from this waterspread on taking a nominal licence from the Department at the following rates:—

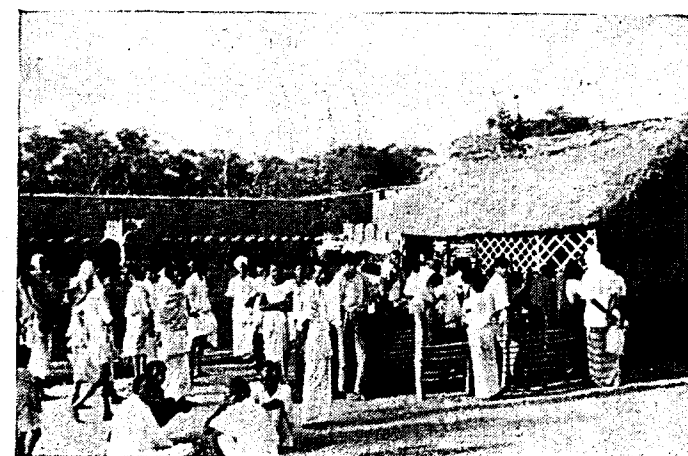
Kind of tackle.	Licence fee	
	per month.	per year.
	RS. NP.	RS. NP.
Cast net	1 00	10 00
Gill net	2 00	20 00
Drag net	3 00	30 00
Katch valai	0 50	5 00
Rod and line with one hook.	0 50	5 00
English rod and line with reels.	0 50	5 00

The licensees have to share their catches with the Department by giving two-thirds by weight in the case of varieties like the major indigenous carps, mirror carp, gourami, chanos, mullets, tarpon, large

murrels and eels, and 50 per cent in the case of pearl-spot, goby, small murrels, catfishes, feather-backs and small carps. Size-limits for certain species are also prescribed from time to time to ensure their growth and thriving.

Fish production.

In the year, April 1957 to March 1958, a total quantity of 22,931 lb. of fish were captured from the two sections of the moat having a waterspread area of 15 acres. The rate of production is thus about 1,528.7 lb. per acre of water. The revenue realized by the Department by sale of its share of the catches is Rs. 6,977.76 nP. besides obtaining Rs. 122.50 nP. towards licence fees and Rs. 880 towards lease of right



The market at the Fort.

Part of the catch.

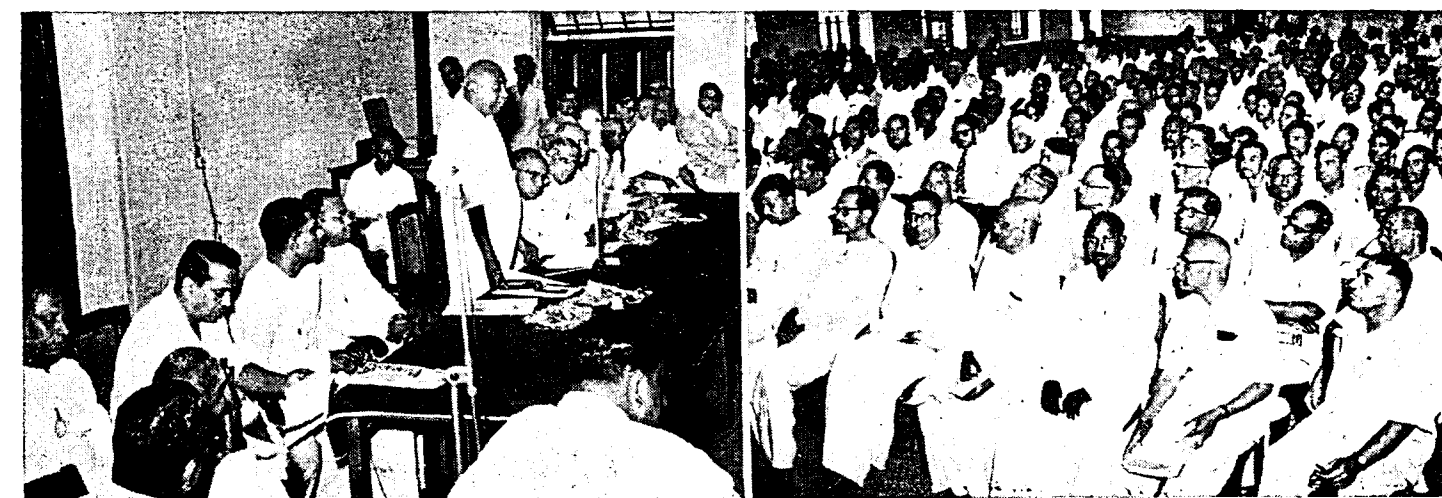


for cutting grass growing along the dry margins. The constant presence of algal blooms is responsible for the satisfactory growth of fishes stocked in the moat; and the milk-fish (chanos), a saltwater species acclimatizable to freshwater, contributes to a large portion of the fishery. Specimens of catla weighing 11 lb. and of mirror carp weighing 13-17 lb. have also been obtained. The Bengal carps, mrigal and rohu, have attained 20 and 21 inches in size and 4½ and 6½ lb. in weight respectively. The fish production during the previous year are: 1952-53—15,535 lb.;

1953-54—27,037 lb.; 1954-55—12,807 lb.; 1955-56—16,561 lb. and 1956-57—11,985 lb.

Practical results.

This is an example of profitable utilization of an old and neglected fort moat for production of protein-food for supply to the people of inland areas, for giving employment and fair earnings to inland fishermen, and for biological control of mosquito breeding.



The first conference of the representatives of Co-operative Agricultural Banks in the State was inaugurated on 16th November 1958 at Pachayappa's College by the Chief Minister, Sri K. Kamaraj.



In connection with the Children's Week, a play festival was conducted by the Madras Branch of the All-India Child Welfare Council at the Children's theatre. The prize for expert presentation of National anthem went to the Sri Sankaralinga Nadar School. The Minister for Home is seen presenting the prize.

PLAY FESTIVAL IN THE CITY

The Prize for the best play went to the Presidency Girls' High School.



The Prize Play.



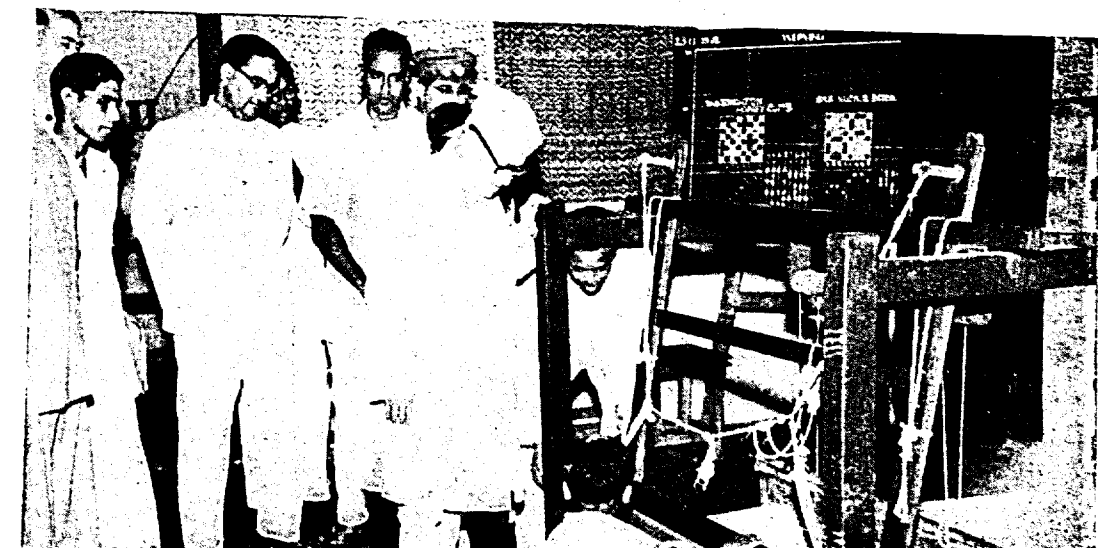
The Governor, Sri Bishnuram Medhi, was given a reception by the Municipal Council of Chingleput during his tour of the district. The Governor is seen receiving the garland from Mrs. Vedachalam, the Chairman.

THE GOVERNOR AT CHINGLEPUT

The Governor paid a visit to the Leprosy Research Station at Thirumani, in the course of his tour of the Chingleput district.



The Governor at the Certified School for Boys at Chingleput.



Progress of Plan Schemes

The State Development Committee which met in the Cabinet Room, Secretariat, on 9th December 1958, with Sri K. Kamaraj, Chief Minister presiding, reviewed the progress of the Second Five-Year Plan Schemes in the State for the quarter ended 30th September 1958 and gave a broad indications of the allotments likely to be made for the next financial year under each head of development. All the Ministers of the Cabinet except Sri R. Venkataraman who is abroad, attended the meeting.

The Chief Engineer (Irrigation) indicated at the meeting that the Vidur Reservoir Project is likely to be completed by March 1959 while Kattalai and Pullambadi Canal Schemes may be completed by July 1959. It was elicited that excavations in connection with the Neyyar II Stage Scheme in Kanyakumari district are fast progressing. The levels of the canals in Madras State and Kerala State have been decided upon in close collaboration between the engineers of two States and it was said that there was co-ordination between the officials of the two States even in reference to the pace of excavation of the canals on both sides. The Chief Engineer was told that the required funds could be made available in connection with the Parambikulam Reservoir Project during the next year. The Committee was informed that work to the tune of rupees one crore could be carried out on this project during 1959-60. The Committee made close enquiries as to the utilisation of irrigation facilities under the major and medium irrigation projects. By the end of the current year a total area of about 237,000 acres will be thrown open for irrigation under the Second Five-Year Plan Schemes, it was reported. Only in the case of Sathanur Project Ayacut, it was found that there was a slight resistance on the part of the ryots in utilising the waters for new irrigation. This resistance, it was reported, was due to the fact that the new ayacut calls for levelling of ground and such other initial expenditure. The feasibility of advancing loans or such other assistance is to be examined. It was then suggested that a special development team may be employed for the expansion of agriculture under this project. In general terms the Committee suggested that everything possible should be done to fully utilise the irrigation potential created. The Committee was informed that by the end of 1958-59 a sum of about Rs. 8.14 crores would have been spent on irrigation projects in this State, out of a total provision of Rs. 12.33 crores for the five-year period.

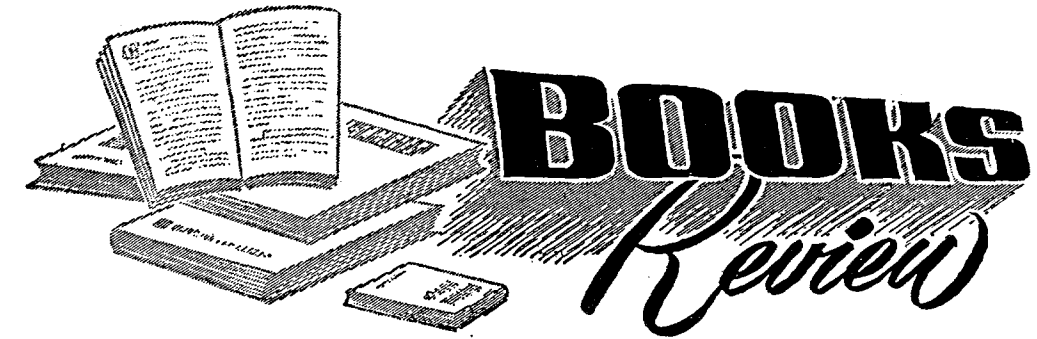
While reviewing the progress of Community Development Schemes, the Committee noted with satisfaction that people's contribution in terms of money value for the prosecution of these schemes during the quarter ended 30th September 1958 in respect of 110 blocks came to Rs. 15.47 lakhs. The Rural Development Projects Department showed considerable improvement in the matter of construction of latrines in the villages and the State Development Committee indicated that in

future the pattern of these latrines may be such as to facilitate the use of nightsoil as compost. In general terms, the Committee suggested that preparation of nightsoil compost should be undertaken at the village level. In the construction of village drains also, the progress during the quarter was impressive and the Committee directed that in future village drains should be undertaken only after preparation of a master plan for the entire village. The Committee also urged a closer co-ordination between the block staff and the department concerned in the matters of poultry development and livestock improvement schemes in the block development areas. The Committee was of the view that the village Housing Project has not made sufficient headway in the State and recommended that the objectives of the scheme be explained in proper terms in villages. The Committee came across some schemes of road development which have been stagnating mainly because the Municipalities concerned have not paid their contribution; the Committee therefore required the departments to examine the feasibility of bringing forward a Bill empowering the Government to carry out such essential works for which municipal contribution is obligatory under existing laws, and later recover the money from the municipalities concerned. While examining the Khadi Development Schemes in the State, the Committee was informed that under the Government Khadi Schemes alone about 110,000 spinners and 3,000 weavers were employed. The Committee was informed that 4,000 spinners were working on Ambar Charkas in the State at present.

The Committee noted that the various schemes of the Industries Department were progressing satisfactorily. As a matter of fact the sale of the products of the various schemes has assumed the proportions of a problem. The emporium opened in the City was reported to be doing brisk business in the products, to the tune of about Rs. 500 per day. The Committee felt that the Railways, Army and other purchasing agencies of the Government of India should be approached to allocate a portion of their contracts for the industrial units of the State.

The midday meals schemes in the elementary schools was found to be gaining in popularity and it was elicited that at present there are 10,750 midday meals centres in the State. The Education Department indicated that expenditure on this scheme on Government account alone would come to Rs. 60 lakhs next year. In view of the difficult employment situation among persons educated up to the school final standard, the Committee called upon the Industries Department to increase the intake in the various industrial schools. The present intake appears to be around 10,000 per year, and the department was asked to increase the potential so that 12,000 students could be taken in.

The Committee also suggested that more importance should be given next year for the science subjects in the secondary schools.



* CAREER PAMPHLETS

"Even before the announcement of examination results the youth of the country passing out of schools is faced with the problem of choosing a suitable career. Employment opportunities in clerical occupations being extremely few, when related to the demand, information regarding courses of training leading to gainful employment will prove useful. This pamphlet presents information which has been collected by the Occupational Information Unit of the Directorate-General of Resettlement and Employment. If it serves to check even a fraction of the school-leavers from drifting aimlessly towards infructuous degree courses in Arts subjects, its purpose would be fulfilled. More detailed information regarding particular courses suggested in this pamphlet can be obtained from the authorities concerned. The nearest Employment Exchange may also be able to assist in the matter."

With the above preface the Government of India has introduced one of several valuable pamphlets entitled *Guide to Careers* popularly known as *Career Pamphlets*. Each of these pamphlets deals with an occupation and gives comprehensive information about that particular occupation. Of topical interest is the fact that priority has been given to the shortage categories of occupations.

Each pamphlet begins with a general description of the occupation dealt with. It then discusses the personal qualities and the qualification required for the job facilities available and expenses involved, for training where necessary. Each pamphlet furnishes information on opportunities for specialization and advanced training, employment outlook, salaries offered for trained personnel and prospects for advancement. They also contain directions as to the authorities to be contacted for further information.

The emphasis in vocational guidance to-day is on assisting individuals in their efforts to choose occupations, or to prepare themselves for entrance into them for a successful career. Due to a peculiar characteristic of the youth in general, most of the young men

* **GUIDE TO CAREERS**—Career pamphlets published by the Directorate-General of Resettlement and Employment, Ministry of Labour, Government of India, New Delhi (copies available at all the Employment Exchanges; price 6 naye Paise each).

leaving school to-day are hesitant to admit their inability to choose their own future without any advice. On the other hand, they react favourably to being assisted in gathering information and in choosing their vocations largely on their own efforts.

Vocational guidance in India is a difficult undertaking since, among other things, it deals with a rapidly-changing country. Several occupations exist to-day, each varying more or less in its requirements for entrance and for success from all others. But information on the various careers open to the youth of the country has been notably lacking in the past. The need for such information cannot be over-emphasized and the publication of these pamphlets by the Government of India has provided an answer to an important aspect of the dilemma confronting and school-leavers would certainly go a long way in providing the much needed information to make for their future life, realistic plans which are in consonance with the employment opportunities available in the country.

The need is also growing recently for educational institutions to assist students in choosing suitable occupations, a step that helps to make education effective in social life. These pamphlets would be a valuable collection of reference material in the libraries of every institution.

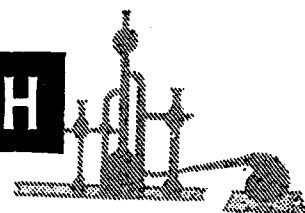
To the individual who is embarking on new careers these pamphlets obtainable at the Employment Offices at six naye Paise each would be of immeasurable value.

THE STENOGRAPHERS' GUILD SOUVENIR 1958.

The Stenographers' Guild has brought out a pleasant souvenir by way of focussing attention on its record of work. Messages from Ministers and men of public affairs highlighting the endeavours of the Guild in popularising the art of the Stenographer, find a prominent place in the souvenir. Rightly the article of Peter Pitman, the great-grandson of the shorthand pioneer Sir Isaac Pitman, is given pride of place in the articles section. It is followed by articles by other shorthand practitioners who have made good. The emphasis is on speed and there is much wholesome advice on how it can be achieved with efficiency. Stress is also laid on the need to develop accuracy of expression and precision so that vernacular stenography may progress on sound lines. On the whole, this souvenir contains informative and enlightening fare.



ON THE MARCH



India Builds its First 2-Seater Trainer Glider

The fabrication of a 2-seater trainer glider, called TS-2, by the Technical Centre of the Directorate-General of Civil Aviation constitutes a landmark in the development of aeronautical research in India. The TS-2 is the first 2-seater glider of its kind to be designed and constructed in India.

Another distinctive feature of this glider is that it has been constructed largely from indigenous materials. The spruce for the structure comes from the forests of Kulu. The plywood sheets of rosewood and white cedar for the wings and fuselage come from South India. The fabric for covering the wing and control surfaces comes from the looms of a Delhi cloth-mill. The only imported parts are the flight instruments, control cables and a few other gadgets.

In the designing of some of the important features of the TS-2, the major consideration has been its suitability for the atmospheric conditions peculiar to India.

The feasibility of manufacturing within the country low-cost gliders from locally obtained materials is bound to be of great help in popularising gliding as a sports activity in the country. Preceding the TS-2, the technical centre has already developed a series of glider and sailplane prototypes. Six single-seater gliders developed at the Centre are at present in use at various gliding stations in the country.

Braille paper to be made in India

Success is reported in a series of laboratory trials conducted at Forest Research Institute at Dehra Dun to discover suitable indigenous raw material for the manufacture of braille paper in India. A process has been developed for the manufacture of this special type of paper from blue gum, which grows in abundance in the Nilgiri hills of South India.

India's entire requirement of braille paper, used for printing books and journals for the blind, is met by imports. The present consumption of braille paper in India is about three tons per year. Bulk of it is consumed by the Central Braille Press at Dehra Dun set up by the Ministry of Education.

Since the printing on this type of paper is carried out by embossing the characters of the alphabets, the paper has to possess certain special characteristics such as smooth surface and high tensile strength so that the dots and points produced as a result of embossing can withstand prolonged usage.

The paper produced at the Dehra Dun Institute conforms to those requirements. Printing tests on the samples of paper manufacture from blue gum carried out at the Central Braille Press have shown that all of them are suitable for braille printing. Arrangements are shortly to be made for large-scale manufacture of this paper.

Manufacture of Glass Toys—a New Small Scale Industry

From West Bengal has come news of the birth of a new and promising small-scale industry. This is the manufacture of glass toys, particularly bird figures, in which various firms and small-scale industrial organizations in the State are getting interested. These toys and figures are very attractive and are likely to fetch a good market. The cost of production is low, and the industry does not require much capital investment. Moreover, when fully established, the industry will provide bright opportunities for employment of women and other moderately skilled labour.

The main difficulty in the development of this industry is the non-availability of trained workmen. The Regional Small Industries Service Institute at Calcutta has taken steps to remove this difficulty.

Experiments on the blowing of glass figures have been successfully conducted at the ceramics vans and laboratories of this Institute. A table blower who was given training is now able to make fairly good toys. Arrangements are under way to provide training to more people. With the availability of more trained people, it is hoped, this industry would be firmly established within a short period.

(Continued from page 17)

world's productive resources and proves a serious impediment to commercial and industrial activity and progress. Alarming as these fire-loss figures are in themselves, they grossly underestimate the true nature of the needless waste inflicted by fire, because the total cost extends far beyond the direct losses incurred to property, valuable equipments and vital materials. Halted production, interruption of business, disrupted distribution and unfulfilled contracts create a sequence of events in which indirect losses must be included in any proper assessment of the total loss involved. Appreciation of the full gravity of this loss potential should serve to illustrate the great responsibility that besets all those who are concerned with the protection of industrial premises, commercial undertakings, public buildings and the safety of the employees. It should,

in no small manner, emphasize the urgent need for the adoption of greater fire prevention and fire protection measures, if fire disasters are to be curtailed and the national loss they cause restricted to a minimum.

State Transport—October 1958

City Branch.—The fleet strength as on 31st October 1958 was 462. An average number of 340 buses plied every day and carried 11,377,774 passengers. A total of 1,170,933 miles was covered and Rs. 14,43,942 were collected.

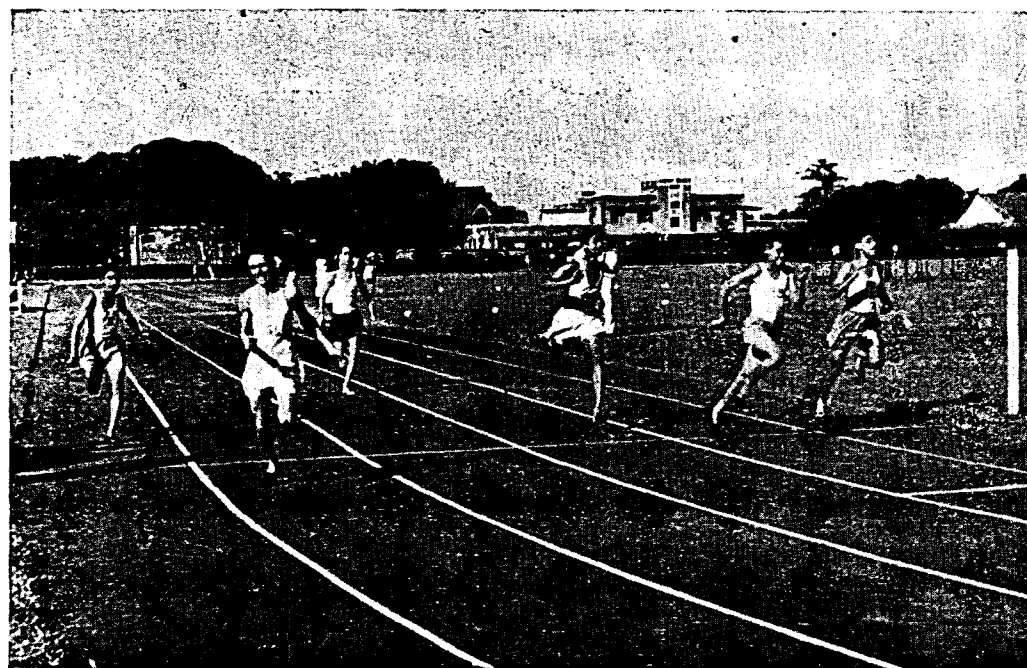
Kanyakumari Branch.—The fleet strength was 92 and 59 buses were put on the roads. 889,878 passengers were carried and Rs. 2,51,765.75 were collected. Specials brought in Rs. 1,043.29.



The 13th meeting of the State Soil Conversation Board was held on 1st December 1958 at the Secretariat, Sri M. Bhaktavatsalam, Minister for Agriculture, presided.

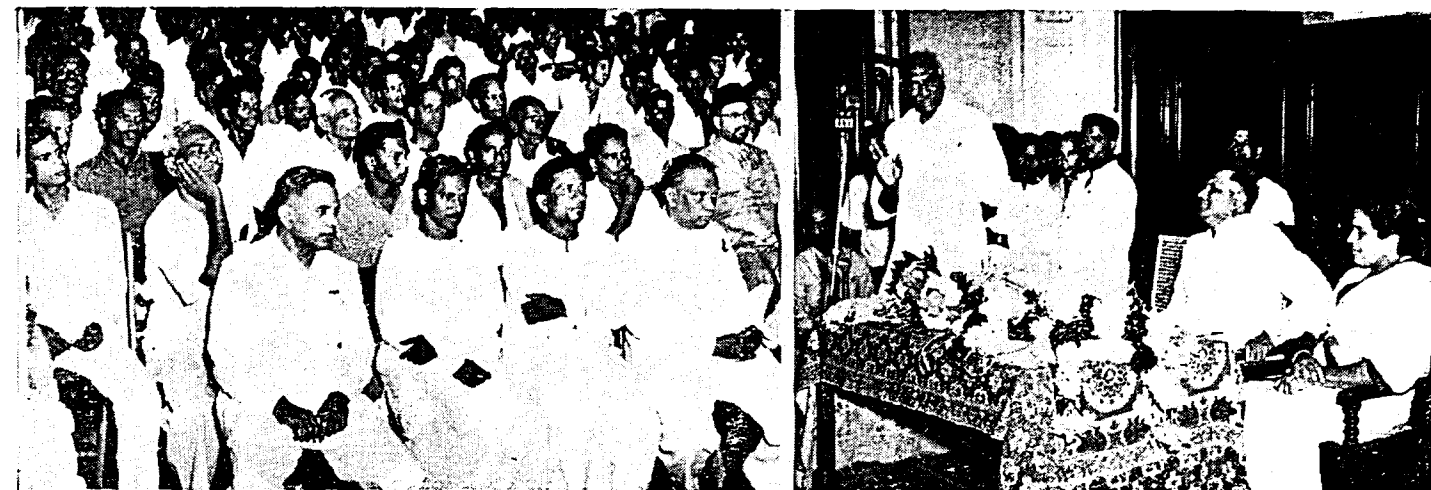


The prize winners receiving the prize from the Governor.



The 400 metres race in progress.

The Territorial Army Day was celebrated on 15th November 1958, Sri C. Subramaniam, Minister for Education, presiding. Photo shows the display of army manoeuvres.



The "Fishermen Co-operative Day" was inaugurated on 14th November 1958 at the courtyard of the Rajaji Hall by the Chief Minister, Sri K. Kamaraj, while Srimathi Lourdhammil Simon, Minister for Fisheries, presided.

Extension of Employees State Insurance Scheme to four more Centres

The Government have decided to extend the benefit provisions of the Employees' State Insurance Scheme to Udumalpet, Tiruppur, Salem and Mettur from November 30, 1958, to cover about 20,000 workers in nearly 100 factories.

In all these centres, full-fledged dispensaries have been set up. In Salem and Mettur, mobile medical vans have been provided, in addition, to cater to the needs of the insured, residing in outlying villages. In the Government Hospitals at Tiruppur, Udumalpet and Mettur and in the Government Headquarters Hospital, Salem, beds have been provided exclusively for insured patients.

Arrangements have been made with the Perundurai T.B. Sanatorium for in-patient treatment of insured persons suffering from the disease.

The Scheme will be formally inaugurated by the Home Minister at Salem and Mettur on November 30 and by the Finance Minister at Udumalpet and Tiruppur on December 2, 1958.

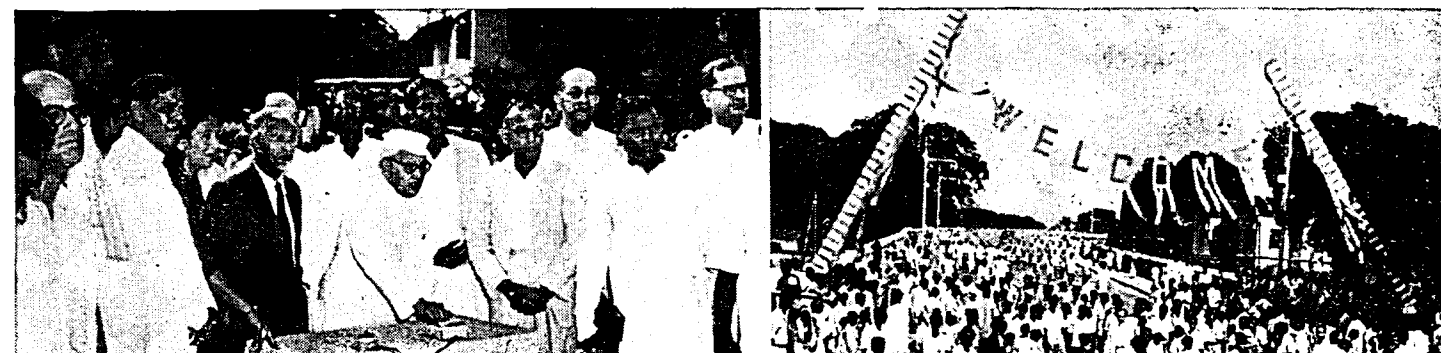
Under the Scheme the workers are entitled to medical aid in the State Insurance Dispensaries. Hospital treatment and domiciliary visits by the doctors will also be given whenever necessary. All medicines including costly drugs and special diagnosis and treatment such as X-rays, blood test, etc., are to be provided, whenever necessary. All the above medical facilities will be provided free of any charge to insured persons.

The cash benefits available to workers include benefit in case of (a) sickness, (b) maternity, (c) disablement and (d) death due to employment injury (for dependants). The daily rates of cash benefit works out at about 55 per cent of the average daily earnings of a worker.

For payment of cash benefits, the Employees' State Insurance Corporation have set up local offices at Salem and Tiruppur and sub-local offices at Mettur and Udumalpet.

At present the Scheme is in force in Coimbatore, Madras City including Vandalur and Ennore, Madurai, Ambasamudram and Tuticorin and covers about 150,000 workers.

The newly constructed over-bridge on the MacNicols Road was declared open on 26th November 1958 by the Governor Sri Bishnuram Medhi. The photo on right shows the cross beams going up as the Governor presses a button and the people walking on the bridge.



Fisheries on the March

Production and consumption of Fish in the State in 1957-58

DR. P. I. CHACKO, Fisheries Marketing Officer.

With its coastline of 620 miles and about 4 lakhs acres of inland waters, the Madras State has considerable scope for the development of the fishing industry. There are 2.40 lakhs of marine and 1 lakh of inland fisherfolk in the State, besides several traders and financiers depending on this industry. The Fisheries Department has a comprehensive programme for the development of the fishing industry based on a policy of survey and expansion of fishing areas, initiation and co-ordination of research, conservation and judicious exploitation, provision of efficient and modern crafts and gear, organisation of the fish trade on proper lines and improvement in the socio-economic condition of the fishermen. Besides, seventeen approved schemes are being implemented at a total cost of Rs. 95.14 lakhs for the Second Plan Period.

Sea Fisheries Development.

For increased production of sea fisheries efforts have been directed towards increasing the supply of fishery requisites such as boats, timber, yarn for nets, floats, fishing hooks, sail cloth, etc., to the fisherman at concessional rates and also towards the mechanisation of the fishing operations. While increased supply of fishery requisites has helped in keeping up the production by indigenous methods, the introduction of mechanised fishing has definitely increased the catches, the average increase per mechanised boat being two to three times than a catamaran. The department has therefore launched programmes for mechanisation of indigenous crafts, and introduction of improved designs of fishing boats. The F.A.O. Naval Architects working in the State have designed the Pablo boats and so far 42 such boats have been constructed and given to co-operatives and groups of fishermen on hire-purchase system together with the required sets of nylon nets and twine. New types of surf-landing mechanised craft are also being developed and are undergoing trials for replacing the conventional catamarans. A departmental boat-building yard is also being set up near Madras. With the help of a F.A.O. Fisheries Engineer exploratory fishing with different types of powered vessels and modern gear has resulted in the location of new fishing grounds in the inshore and offshore waters. To enable the fishermen to undertake mechanised fishing sixty fishermen candidates are being trained every year at two Training Centres at Nagapattinam and Tuticorin. Two F.A.O. Fishing Harbour Specialists have made a survey of the coast and have

prepared plans for establishment of fishing harbours at Madras, Cuddalore and Nagapattinam. The construction of an ice plant with capacity for a daily output of 5 tons and with storage facilities for 15 tons is progressing at Tuticorin. To facilitate quick transport of fish from important consuming centres without spoilage and thus to enable the fishermen to obtain better returns to their efforts the Department has been running nine motor vans by levying very nominal hire from the fishermen co-operatives. Besides, four vans and nine three-wheeler lambrettas have also been given under hire-purchase system. The existing fish markets are being improved and new markets are constructed for proper display and sale of fish to the public, by granting subsidies to local bodies. Nineteen fish-curing yards are maintained by the department for supply of good quality salt to fish curers at subsidised rates. Fish meal plants are being set up at Nagapattinam, Tuticorin and Kanyakumari for profitably utilising surplus catches.

Inland Fisheries Development.

There is progressive increase in production of fish from inland waters with increased utilisation of suitable water-areas for fish culture. On an average about 3 crores of spawn, fry and fingerlings of economic species are collected every year from natural spawning and nursery areas and from departmental fish farms and stocked in public waters to the maximum possible extent and their fisheries are rationally exploited. Development of fisheries in the reservoirs constructed in connection with river valley projects, offers large scope for additional production. The Mettur Dam Reservoir in Salem district, Poondi Reservoir in Chingleput district and Veeranam Reservoir in South Arcot direct have already been developed as productive fisheries. Similar work is being initiated in other reservoirs like Bhavanisagar, Amaravatisagar, Sathanur Reservoir, Krishnagiri Reservoir and Manimuthar Reservoir. With a view to encourage private enterprises in fish culture, the department maintains about seventy rural fishery demonstration centres to educate the public in piscicultural techniques and to induce them to take to fish rearing. There are also immense possibilities to develop brackish-water fish culture in estuaries and backwaters: and therefore the fisheries of Adyar and Vellar rivers are rationally exploited through a

system of licencing. A large model brackish-water fish farm is also being constructed near Adyar. Fishery legislation have also been enacted and enforced to the extent possible for protecting inland fisheries against destructive practices. Pollution of rivers by factory effluents is also prohibited to prevent large-scale mortality of natural fish stocks.

Aids to the fishing community.

The fisherman are the providers of a needed addition to our supply of food and are therefore assisted by the department to play their due share for increasing fish-production and distribution through the co-operative movement which is gaining popularity among them. So far 172 fishermen co-operative societies and five district co-operative federations have been organized. Through these co-operatives the fishermen have so far been given 6.5 lakhs rupees as long-term loans, medium-term loans and subsidy towards credit facilities for the elimination of middlemen, purchase of domestic as well as production requirements, construction of curing sheds, godowns and markets and for marketing of their produce.

Statistics of production.

In 1956-57 fish production in the State was 98,600 tons consisting of 60,000 tons of sea fishes and 38,600 tons of inland fishes. In 1957-58, the production increased to 107,300 tons, consisting of 67,000 tons of sea fishes and 40,300 tons of inland fishes. The percentage of increase was thus 11.66 in marine fisheries, 4.40 in inland fisheries and 8.80 in over-all production.

The Chief varieties of Sea fish catches during the year were as follows:—

	TONS.
Ribbon fishes	12,060
Catfishes	6,030
Mulletts	4,020
White-baits	3,350
Seer	2,680
Sardines	2,680
Sharks	2,680
Bigjawed Jumper	2,600
Jewfishes	2,010
Skates and rays	2,000
Prawns	1,880
Mackerels	1,340
Pomfrets	1,300
Tunnies	1,200
Flying fish	1,200
Bekti	1,150

	TONS.
Anchovies	1,100
Sabro fish	1,050
Hilsa	1,000
Thread-fins	1,000
Silver-bellies	250
Other miscellaneous varieties	14,420
	67,000

The kinds of fishes that constituted the inland catches were:—

	TONS.
Carp	14,500
Catfishes	8,000
Murrels	4,800
Prawns	3,200
Mulletts	2,000
Eels	800
Hilsa	400
Other miscellaneous varieties	6,600
	40,300

Exports and imports.

Of 67,000 tons of sea fishes landed during the year, 26,600 tons were consumed in fresh condition in the Madras State itself and 400 tons of fresh fish were exported to other States like Andhra, Kerala and Mysore. The remaining 40,000 tons were cured and of these 21,140, 2,000 and 16,860 tons of cured fish were consumed in Madras State, exported to other States and exported to Ceylon respectively. The inland fish catches of 40,300 tons were mostly (40,060 tons) consumed in Madras State itself and only 240 tons were exported to other States. The import of marine and inland fish from Andhra, Kerala and Mysore States to Madras State was 2,500 and 10 tons respectively.

Per capita consumption.

Accounting for exports and imports, the quantity of fish that was available for consumption in Madras State was 90,310 tons. Sixty per cent of the thirty million population of the State consumed fish and the per capita consumption of fish was 11.3 lb. There was definite increase over the per capita consumption of 10.5 lb. in 1956-57. The All-India average is only 3.9 lb. According to experts the present level of fish production in the State has to be trebled to meet the minimum nutritional requirements of the fish-eating population of the State.

Deterrents to increased production.

The fishing industry differs from agriculture in that whereas agriculture can measure the availability of its resources, the fishing industry cannot—or at least cannot in the present state of our knowledge. Yet it is clear that more areas could be brought under exploitation and that even areas fished at present could be brought to yield more. But an increase is not possible at a rate commensurate with the expansion of nutritional demands due to a number of deterrents applying in varying degree in different fishery situations. The foremost of these in our State is that the incentive to produce and sell more is restrained by the low level at which the fishermen's need for food, shelter and clothing are satisfied. The fishermen's ambition is frustrated by lack of financial resources or of profitable outlets. It is well-known that fish production per unit effort in this State is low on account of the limitations of the fishing craft and gear employed

and only seasonal activity in most places. No improvement can be possible with the present state of illiteracy, backward condition, poverty and indebtedness of the fishermen as a community which is also conservative and superstitious. The average fisherman depends on the middleman for supply of production as well as domestic requirements and has often to pledge his catch in advance. He has, therefore, to sell his catch cheaply and become almost enslaved to the middleman, who often owns the fishing craft and tackle. The fishing hamlets (kuppams) are isolated and not connected with public roads and therefore lack proper housing, drinking water, medical, maternity and child welfare facilities. The rehabilitation of the fishing community is thus confronted with several administrative and social problems of considerable magnitude. The Fisheries Department in collaboration with other departments is doing its utmost to improve the weakness in the economic background of the fishing industry of this State.

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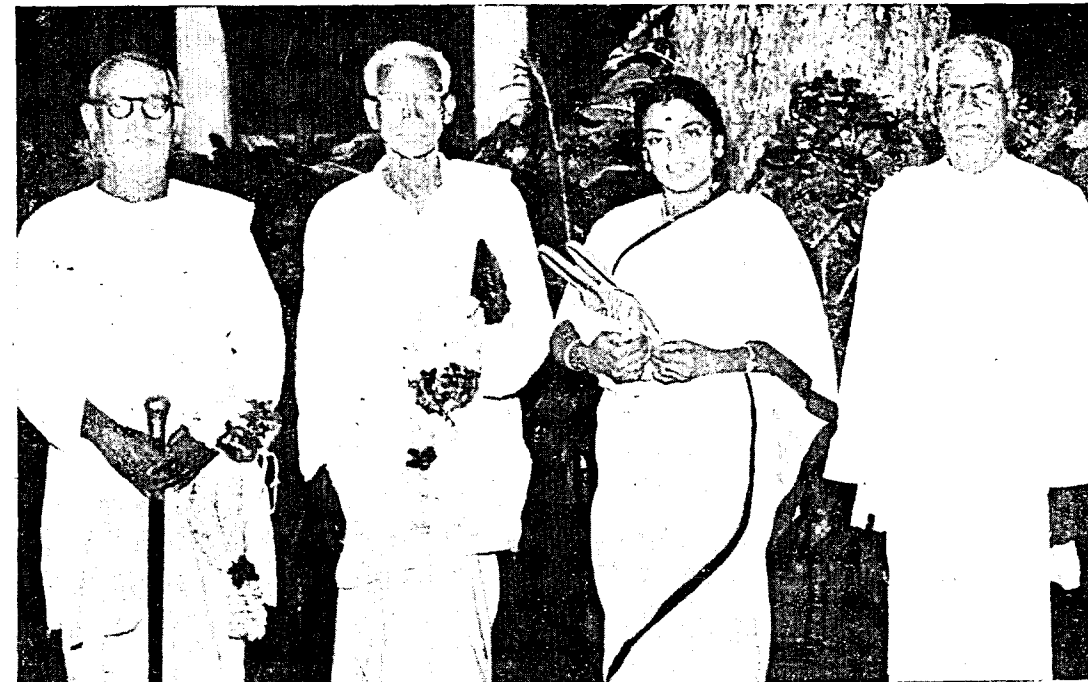
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MADURAI (SOUTH INDIA)

Telegrams : "HARVEY"



Tools and other implements were distributed by the Chief Minister, to Harijans at Rajaji Hall. The Chief Minister is seen distributing the tools to one of the recipients.



Sarva Sri Sivasubramaniam, Velayudhapani and Vinayagasundaram and Srimathi Saraswathi Pandurangam, eminent Social Workers who worked for the uplift of Harijans were awarded prizes by the Chief Minister on the same day.



The photograph shows the Chief Minister viewing some of the Sewing Machines that were distributed.

Public Holidays, 1959

The Government have declared that, in addition to 'Sundays', the following days shall be public holidays in Madras State in the year 1959:—

New Year's Day ..	Thursday, 1st January 1959.
Bhogi	Tuesday, 13th January 1959.
Pongal	Wednesday, 14th January 1959.
Mattu Pongal ..	Thursday, 15th January 1959.
Republic Day ..	Monday, 26th January 1959.
Mahasivarathri ..	Saturday, 7th March 1959.
Good Friday ..	Friday, 27th March 1959.
Telugu New Year's Day.	Thursday, 9th April 1959.
Ramzan	Friday, 10th April 1959.
Tamil New Year's Day.	Tuesday, 14th April 1959.
Bakrid	Wednesday, 17th June 1959.
Half-yearly closing of Bank Accounts.	Tuesday, 30th June 1959.
Muharram	Friday, 17th July 1959.
Independence Day.	Saturday, 15th August 1959.
Avani Avittam ..	Tuesday, 18th August 1959.
Sri Jayanthi ..	Thursday, 27th August 1959.
Meeladi-Nabi ..	Wednesday, 16th September 1959.
Mahatma Gandhiji's birth day.	Friday, 2nd October 1959.
Ayudha Pooja ..	{ Friday, 9th October 1959. Saturday, 10th October 1959.
Deepavali	{ Friday, 30th October 1959. Saturday, 31st October 1959.
Christmas	Friday, 25th December 1959.
Annual closing of Bank Accounts.	Thursday, 31st December 1959.

The Government have further directed that the Government offices under the control of the Government of Madras will be closed on all the above public holidays, except the 30th June and the 31st December 1959. All Penultimate Saturdays except the Penultimate Saturdays in the months of January and October 1959, shall also be observed as holidays for Government offices.

Relaxation of Palar Basin Rules valid till October 1959

The Government have directed that the relaxation of the Palar Basin Rules be continued till 5th October 1959. The Palar Basin Rules were framed in the year 1931, as it was felt that the Palar system was over-burdened with the irrigation of an area far beyond its capacity. The Government therefore issued orders to the effect that no new irrigation works should be constructed in the Palar Basin and no extension of existing works should be undertaken with the object of increasing the amount of water impounded or drawn off by them. They also directed that no dry lands in the Palar Basin should be transferred to and registered as wet and that no single-crop wet land should be registered as double-crop wet nor the charge for the second crop of any wet land be compounded in that area. These are called the Palar Basin Rules. Since then the Government have been relaxing these rules in the light of prevailing supply position in the Palar Basin. The last relaxation was given in October 1957.

Tenements for Industrial workers at Rajapalayam

The Government have approved the proposal of the Rajapalayam Industrial Workers' Co-operative Housing Society, Limited, Rajapalayam, for the construction of 188 tenements (100 single-storeyed one-roomed tenements and 88 double-roomed single-storeyed tenements) at Rajapalayam at an estimated cost of Rs. 7.13 lakhs.

The Society has been given a loan of Rs. 4,34,720. The loan amount will be paid in three instalments according to the stage of progress, while the subsidy will be given in two instalments, the first instalment to coincide with the last instalment of the loan and the second instalment after the acceptance of the final audited accounts. The loan amount is repayable in 25 annual instalments.

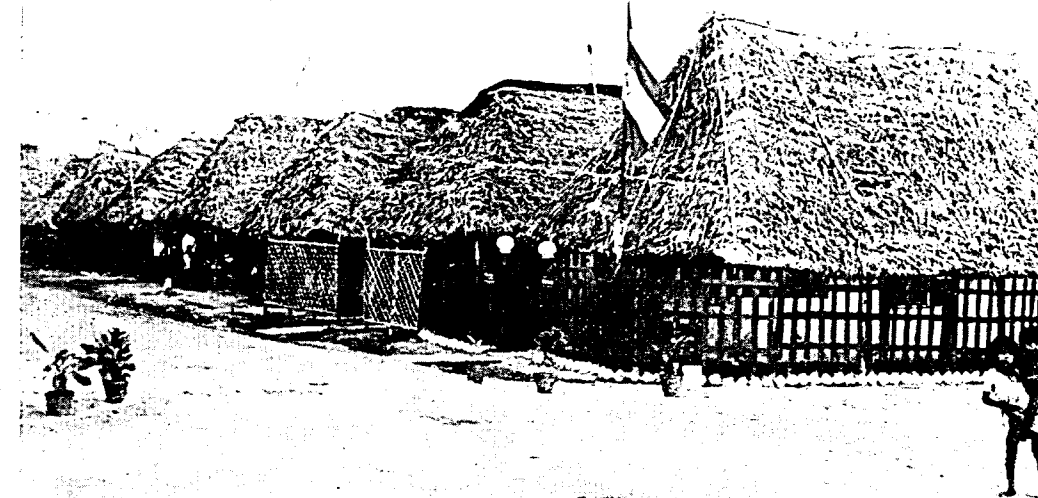
Chief Minister Kamaraj laid the foundation stone for the C.I.D. quarters at Raja Annamalaipuram, Mylapore, on December 11, 1958. Home Minister Bhaktavatsalam presided.



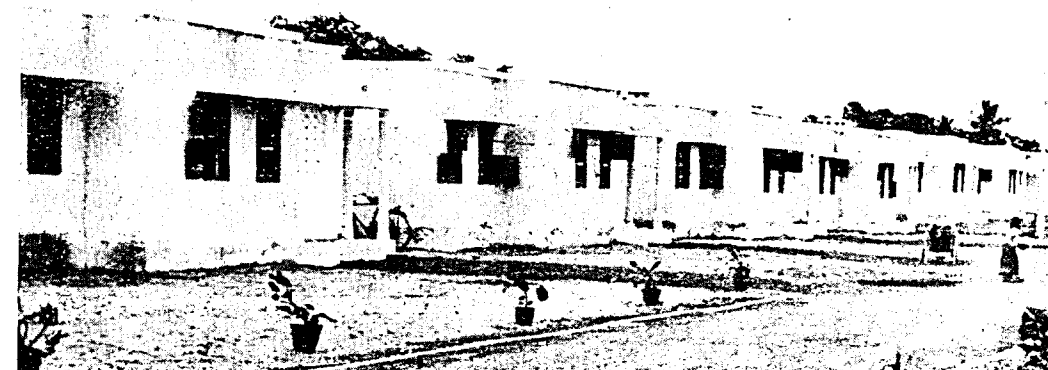
The Chief Minister addressing the gathering at the inaugural function.



The low-income group housing scheme was also inaugurated on the same day by the Chief Minister. The photo shows a group of the newly constructed houses.



Under the Government of India Scheme for the improvement of slums during the Second Plan, this colony was inaugurated on 15th November 1958 at Puliyoorn near Kodambakkam by the Chief Minister.



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Greatest Happiness for the Greatest Number

SRI K. KAMARAJ,
Chief Minister.

There is a saying "God created the village and man made the town". Being greatly absorbed in his own creation, man began to neglect God's creation. What were once paradise on earth became deserted and somnolent backwaters of a great civilization. And so man began to escape from the village. In such an atmosphere poverty became accentuated by the fact that the poor began to oppress the poorer, and caste consciousness reigned supreme leading to factions and petty squabbles.

The fact that India could not make any headway unless the villages were transformed, was recognized and repeated by every statesman and economist who dealt with the problem of India. The result was the launching of the Community Development Programme in 1952. Even before anybody thought of it, this State launched with the blessing of Mahatma Gandhi a programme for the development of the community in 1946 itself in the shape of Firka Development. This was continued until 1953 when this work was amalgamated with Community Development.

Now there is a reawakening in the minds of men and they are turning their attention to the villages once more. Development of the Community is the call of the day and this is being taken up by the people with new vigour and enthusiasm. This transformation of the social and economic life of the community is to be brought about by arousing and stimulating their basic desire to have a happier life and processing the development of the area through people's own democratic and co-operative organizations, the Government coming in only with technical advice, supplies, credit and such other assistance as may be required. The operation of the programme through the people's organizations automatically strengthens the foundations of democracy on which our Constitution stands. It aims at making the villager understand his own position in this democratic set up and contribute his mite in

the release and utilization of social energy, and to fuse together once again his co-beings into a state of dynamic society with abundant vitality. There are at present 176 Community Development Blocks in this State with 9,300 villages in their fold. About 57 per cent of the rural population are now covered by these blocks. Now when one sees them, the first questions one is apt to ask will be "Have these villages really benefited by the Community Development Programme? Have the men in the villages found a better way of living?" It is not only the number of roads laid, wells dug, houses and schools built, or other amenities provided that should be the yardstick of the villager's prosperity but whether with all these amenities the man has been able to earn more and has the will and drive to earn more or whether he gradually extricates himself from the grip of poverty to allow his mind to think of the luxuries of life. This will be a proof that this man has, by helping the community, helped himself. This is the essence of Community Development. Not just looking to the Government to do everything for the people, but taking the initiative from the Government and working for the improvement of the Community in general and for the well being of the individual in particular is Community Development in action.

The Government is doing every thing towards this end. It provides funds, talents, and every possible aid for the development of the Community. It is up to the people to make the best possible use of them. They have to take full advantage of this to better the Community and better their lot. When every man and woman realizes this and begins to act, then the village will really become once more the creation of God. That day is not far off. And in its wake will come prosperity and happiness and plenty. Community Development will then be complete. For it has been said, "That action is best which procures the greatest happiness for the greatest number".

The Administrator in a Welfare State

SRI M. RUTHNASWAMY.

According to Sir Josiah Stamp, a great administrator in public as in private business, the State in England experienced a revolution in ideals when, as a result of the Liberal Party coming into power in 1906, the Government "developed from policeman and regulator to doctor and social reformer". In India, this happened long before that date. Even before the Crown assumed responsibility for the Government of India from the East India Company, the State had been "doctor and social reformer". Social reform enforced by Government dates from East India Company days. Sati and Infanticide were legislated against from those days. And in the period of the Government by the Crown, the State as landlord has tried to provide irrigation, roads and wells. A Provincial Civil Medical Service had been established as early as 1838 in Bengal. In 1880 the Civil Medical Service was established in all the provinces. A separate Sanitary Health Department was established in 1904. Village Sanitation Acts were passed in 1865. The first schools in India under the British were established early in the nineteenth century at a time when the Government had no schools of its own in England. And from the first decade of this century Agricultural, Industries, Co-operative Departments have been established to promote the economic progress of the people.

With the coming of freedom and independence has come the laudable desire actively and rapidly to promote the economic and social progress of the country. Welfare and progress have begun to be planned. The new State of Planning and Welfare requires a new kind of administrator. English students of administration like Professor Robson and Sir Earnest Barker think that the civil servant of today in England is a "new kind of man primarily and essentially concerned with the discharge of social and economic functions". As administration no longer limits itself to regulating service "controlling the conduct of individuals" but performs "service functions" doing something for the people in transport, education, health and housing, the administrator has to be the kind of man who will render service rather than perform functions. He has, as Lord Stamp advises, to promote energetic and far reaching projects based on plans—which requirement "demands a more constructive type, one who sees possibilities and opportunities rather than difficulties and dangers, who is capable of aggressive actions rather than passive obedience, the following of precedent and the refusal of risks". Professor Barker suggests the administrator of the modern State requires to be "in real contact

with the various worlds of the social universe especially the business and the labour world which his work will so closely affect". Other questions are asked about the administrator of the new State. Does he possess the faculty of looking objectively at problems? Does he have the knack of getting things done? Can he modify his own programme in view of the larger picture of the Plan? Can he pass on credit to others? Can he subordinate the hundred per cent success of his own part to the success of the whole? Is he a good Committee man? Has he an emotional and human sense or is he dry and routine-ridden? Can he extract achievement from and through compromise?

The task of the administrator in the future much more in the past, says Lord Stamp, will be to secure the maximum social net product out of any policy or programme of his Government. Two classes of administrators, he advises, are cleverly marked out as unsuitable at once for this purpose—

(1) the forceful, push and go business man of a single management type, accustomed to pursuing his goal and achieving it in a competitive world; and

(2) the exactly trained civil servant, given to the analytical application of a legislative programme in a statute, co-operating with other departments similarly based, working to the elaboration of a complete static programme to be generally applicable by principle and precedent;

for the administration of a planned welfare State has to render services rather than produce goods, has to deal with men rather than with machines.

How is the new administrator to be obtained? He has to be produced. Nobody is a born administrator—he has to be trained for administration. He may be trained in the old way, by being put on the job straight away after selection and learn the hard way by making mistakes and getting them corrected through falls, bruises, slating about one's bad work and silence over good. But this old method involves waste of time and energy on the part of teachers as well as the taught. A Planned State cannot get on with this old "rule of thumb" method. Planning requires trained administrators. They must be trained after recruitment. The lower grades—the clerical and subordinate services—according to the experience of other countries like England had best be trained in the department itself

(Continued on page 26)

Introducing Tamil as Official Language of Madras

SRI S. VENKATESWARAN, I.C.S.,
Chairman, Official Language Act Implementation Committee.

Since India attained Independence, there has naturally been a growing public demand that official correspondence should be conducted in the regional language. Accordingly, the Government of Madras ordered—this was in 1948 before the creation of the Andhra State—that the scheme of conducting official correspondence in the regional language at the district level should be tried on an experimental basis in two districts, viz., East Godavari district for Telugu and Tiruchirappalli district for Tamil. This scheme was tried for some years, but did not make much progress, and remained an experiment and was continued as such from year to year. It was not sufficiently realised that it was essential for the success of such a scheme—

(1) that a standard glossary giving the Tamil equivalents of administrative terms in English should be prepared and supplied, and

(2) that an adequate number of Tamil typewriters and typists should also be provided.

In recent years after the creation of the Andhra State, there was naturally a strong public demand that Tamil should be official language of this State, and this led to the enactment, by the State Legislature, of the Madras Official Language Act, 1956. Under this Act, Tamil has been declared as the official language of Madras State, and the State Government has been empowered to regulate, by notification, the introduction of Tamil for official purposes, in practicable stages, in the various offices under the State Government. The change-over from English is to be effected as quickly as possible and English will be continued for official purposes only till the arrangements necessary for effecting the change-over can be completed.

The implementation of the Official Language Act requires very considerable and detailed planning, and the formulation of practicable programmes and their enforcement. The State Government have, therefore, appointed a High Level Committee, called the Official Language Act Implementation Committee, with a Member of the Board of Revenue as its Chairman, and four other members. This Committee has been functioning from January 1957. It has a Secretary and its small office has been located in the Office of the Board of Revenue, Chepauk, Madras. The Committee meets at least once every month to review the progress made and to settle all the details in connection with the implementation of the Act.

The Committee has also a Special Officer who tours all the districts and visits the offices in which Tamil

has been introduced as the language for official correspondence, for seeing the progress made and how the scheme has worked and to settle, on the spot, as far as possible, any difficulties experienced in noting and drafting in Tamil.

A Standard Glossary giving the Tamil equivalents for administrative terms in English which have been in common use in all departments, has been printed and supplied in adequate numbers to all offices in the State. This glossary was first prepared by the Madras Presidency Tamil Sangam, Tirunelveli, and subsequently finalised by a Committee set up by the Sangam with the approval of the Government. This was the first essential step to be taken for ensuring the successful introduction of Tamil as the language for official correspondence in the State and I take this opportunity of placing on record, on behalf of all persons interested in the implementation of the Official Language Act, our appreciation of this pioneer and arduous work undertaken by the Sangam in connection with the preparation of the glossary. The Committee has deliberately adopted a realistic approach in preparing this glossary: in respect of each administrative term in English, the glossary gives the equivalent which is already in general use or which will be easily understood, and it gives, at the same time, the equivalent in literary Tamil which is not familiar now and which can be adopted as the staff and officers gain experience and find it possible to write in more literary Tamil than they can handle now.

The Committee does not claim any perfection for the glossary, though it is the result of enormous and painstaking effort undertaken by a number of competent persons for over three years. But the glossary is adequate for the immediate use of the staff in the offices for noting and drafting in Tamil. The Committee has made it clear that any suggestion for improving the glossary from any person interested will be most welcome and receive the most careful consideration at the hands of the Committee. A glossary of this kind can be perfected only in course of time as the use of Tamil as the official language in Government offices makes progress. It is impossible to start with a perfect and universally acceptable glossary, and any attempt to do so would only result in delay in the introduction of the official language.

Many of our departments have to use not only general administrative terms but also technical terms peculiar to them. It is, therefore, necessary that each department should have its own supplementary glossary. Heads of Departments have accordingly been requested

to prepare and send a supplementary glossary relating to their departments for scrutiny and approval by the Committee. So far, supplementary glossaries have been received from eleven departments.

The basic consideration in the process of implementation of the Official Language Act is that the introduction of Tamil as the language for conducting official correspondence in any department should not result in any deterioration in the quality or pace of disposal of business in the department. The policy of the Government is that, subject to this basic consideration, Tamil should be introduced as the official language for correspondence in the various departments, as soon as the arrangements necessary for the introduction of the change-over can be completed.

The Government have accordingly decided that, to begin with, Tamil should be introduced as the official language only in offices below the level of Heads of Departments, that we should begin with offices (other than Courts) for which English typewriters have not been sanctioned and that other offices in the various departments should be taken up, in convenient batches, the order of preference being determined with reference to the extent to which the general public, particularly the ryots in villages, have to deal with them. The following departments have, on this basis, been selected as the first batch for the introduction of Tamil as the official language:—

- (a) Revenue Department (including Block Development Offices).
- (b) Public Works Department (Irrigation and Electricity).
- (c) Department of Agriculture.
- (d) Department of Animal Husbandry.
- (e) Hindu Religious and Charitable Endowments Department.
- (f) Education Department.
- (g) Local Boards.
- (h) Co-operative Department.
- (i) Village and Panchayat Courts.

All other Courts can be taken up only after the translation of the various Acts and after making sure that all legal points can be expressed with precision in Tamil.

Even after Tamil has been introduced as the official language, a complete change-over to Tamil cannot be achieved immediately in all offices. English will have to be retained for certain purposes, though the extent of the use of English will be reduced to the minimum and may be expected to decrease in course of time. For example, in Taluk offices, reports on suit notices and suits will have to be sent in English till translations of the Acts concerned have become available and the staff can deal with legal points in Tamil with the necessary precision.

The Government have accordingly authorized the Heads of Departments to allow their District Officers concerned to retain the use of English to the extent to which it is found unavoidable. But it has been made clear that, in the offices in which the Scheme has been

introduced, all communications or orders issued to the general public or to private individuals should be invariably in Tamil. As regards departmental correspondence, that is, correspondence with other offices of the same department or with other departments, the public are not directly concerned with it, and even such correspondence should be carried on in English only to the extent to which it is found unavoidable. The Heads of Departments have also been permitted to use their discretion in regard to noting in offices in English, particularly on matters on which the staff are unable to note in Tamil with sufficient quickness and precision. These indulgences will be withdrawn as the staff acquires experience in quick and precise noting and drafting in Tamil. In regard to quasi-judicial orders or appealable orders, the order may be in English, but the gist of it in Tamil should be communicated along with a copy in English if the party is entitled to a free copy of the order; if he is not so entitled, he may be left to apply separately for a certified copy of the order in English in the usual course.

In January 1958, Tamil was introduced as the official language in all offices for which English typewriters had not been supplied. There are 1,925 such offices in this State and the scheme has been working satisfactorily in them.

Tamil can be introduced in the other offices only after Tamil typewriters have been supplied and typists have been trained to use them.

A Tamil translation of the District Office Manual has been prepared by Sri M. Ananthanarayanan, I.C.S., and it will shortly be submitted to the Government. Special arrangements will be made for the printing and distribution of the translation to all offices in the State. It is expected that this translation will be of great help to the staff as it will serve as a model for noting and drafting in Tamil.

The supply of Tamil typewriters is one of the formidable problems to be faced in connection with the introduction of Tamil as the official language. The Committee found that the typewriters in Tamil could be made more efficient by using an improved key-board designed so as to secure that the most commonly used letters are in the front row, while the letters and symbols using infrequently are taken to the top row. After a great deal of experimentation and practical tests, a standard key-board for Tamil typewriters has been evolved by the Committee and approved by the Government and orders have been placed with two Typewriter firms for supply of typewriters with the standardized key-board. The first batch of 100 typewriters has already been received, and they will be used at the Government Training Institute in Madras which is to commence working on the 5th January 1959 for training 200 Government typists on the new key-board. The training will be for a period of four months. These 200 typists have been drafted from the Revenue, Agriculture and Public Works Departments, and after their training, they will go back to their offices and supplied with the new typewriters so that Tamil could be introduced in those offices.

(Continued on page 46)

Madras Tackles its Food Problem

SRI A. VENKATESAN, I.A.S.,
Director of Agriculture.

The problem of ensuring an adequate supply of foodgrains for its own people, is one of the axiomatic duties of every State. The special problem that confronts us in Madras is that, even to maintain the present level of consumption our production of foodgrains has to increase steadily at the rate of 1½ per cent every year, in order to provide for the steady increase in our population every year.

Now, successful crop production, as every one knows, depends on three main factors, namely, soil, seed and water. The foodgrains produced in the past nine years are given below for the area covered by the present Madras State. *

The figures make it clear that there has been a steady increase in rice production in Madras, over the past nine years, although the trend is not quite so clearcut in the case of other foodgrains like the millets. This has been due mainly to our sustained efforts in the Grow More Food Campaign. This campaign, under the driving necessity of improving our food supplies during the acute shortages during the Second World War, was directed towards (1) extending the area under cultivation of foodgrains and (2) increasing the acre yields by more intensive cultural methods.

The former was only a partial success, because there was really very little extra land in the State, that could be cultivated with profit. During the last 25 years, the cropped area in the present Madras State has ranged between 13½ and 15 million acres. This fluctuation is

governed more by seasonal factors than any real changes in the actual area that is cropped, because in seasons of drought, rainfed areas have to be left fallow. However, the areas that are cropped more than once per year, are steadily increasing as shown below, indicating the increasing tempo of agricultural production.

			Irrigated area (in million acres.)	Double-cropped area (in million acres). PER YEAR.
Five-year period ending—				
1	1935-36		4.5	1.93
2	1940-41		4.3	2.16
3	1945-46		4.8	2.33
4	1950-51		4.8	2.07
5	1955-56		5.0	2.47

It is a fact of great significance that in the course of the past 25 years some five lakhs more of acres are now being cropped more than once. This is due mainly to the increase in irrigable areas. But for the limitation of the irrigation resources of this State we could have attained still better results, in putting the land to more intensive use and thereby stepping up our food production still further.

* Year.	Rice.		Millets and other foodgrains.		Total foodgrains— Rice and Millets.
	Area.	Production.	Area.	Production.	
	ACRES.	TONS.	ACRES.	TONS.	TONS.
1949-50	4,769,000	1,791,460	4,854,000	1,255,540	3,047,000
1950-51	4,299,000	1,950,000	4,675,000	1,144,330	3,094,330
1951-52	4,420,000	2,095,000	5,333,000	1,368,970	3,463,970
1952-53	4,309,000	1,989,000	5,730,000	1,112,560	3,101,560
1953-54	5,143,000	2,539,000	6,608,000	1,568,280	4,107,280
1954-55	5,335,000	2,753,000	5,908,000	1,777,240	4,530,240
1955-56	5,456,000	2,955,000	5,573,000	1,466,980	4,421,980
1956-57	5,538,000	3,103,000	5,597,000	1,519,740	4,622,740
1957-58	5,606,000	3,134,000	5,575,000	1,524,720	4,658,720

NOTE.—The Statistics from 1950-51 for rice are according to Crop Cutting experiments. The figures from 1952-53 for cholam, cumbu and ragi included under "Millets" are also according to Crop Cutting experiments. All the other figures are according to the traditional method.

Seeds.

Coming to the next item, *seeds*, Madras has always been in the forefront in giving the highest priority to research and this had also paid ample dividends by way of high-yielding strains of superior quality.

In rice alone, we have now seventy-two superior strains, suitable for almost all the varied cropping conditions of the residuary State of Madras and these have now covered more than half the rice area of 56 lakhs acres in the State. Amongst these may be mentioned CO. 25 and CO. 26, as two outstanding strains evolved in 1948, which are not only resistant to the devastating disease known as the Paddy Blast, but are also very responsive to good manuring and are able to yield as much as 8,000 lb. per acre. CO. 25 has now covered over five lakhs of acres in Madras and is suitable for most of the districts as a Samba crop. Since then, two more blast-resistant paddy strains have recently been evolved for distribution; these have the additional advantage of being much shorter in duration than CO. 25 and CO. 26.

GEB. 24 is a fine quality rice of medium duration of 150 days, which yields an average outturn of 3,000 lb. per acre. It is in addition a cosmopolitan



A CO. 1 Papaya tree.

strain, which can thrive in many parts of India and even in some foreign countries. TKM. 6 is another fine quality rice, which stands as an outstanding achievement of the Rice Research Station at Tirurkuppam, in Chingleput district. It is also both high-yielding and cosmopolitan, with a short duration of 110 days. It can grow well in all seasons and has the additional advantage of seed dormancy to avoid the risk of grains germinating in the field, if the crop gets caught up in wet weather at harvest time. For the Tambraparni tract in the South of Madras, several superior strains are available, one of which is ASD 5, a medium-duration, cosmopolitan type which is very useful for late planting in the main crop season. This strain has covered 3½ lakhs of acres already. ASD. 8, 9 and 10 are three other strains evolved from the Ambasamudram Research Station and very recently in 1956 yet another strain, ASD. 11 has been released as suitable for both Tirunelveli and Madurai districts.

SR. 26 B is a successful introduction from Orissa, which is eminently suited for saline and brackish areas. Other successful introductions in paddy are the scented rices *Basumathi*, *Sugadas*, *Jeeraga Samba* and *Rascadam*.

The current work on rice is aimed at evolving new strains combining the maximum of desirable features, by way of resistance to drought or flooded areas, to fungus diseases like blast, strains which can thrive in varied types of saline soils, and also respond well to high levels of manuring without lodging, as the Japanese varieties are able to respond in Japan.

For poorer soils and semi-arid regions, millets like Cholan, Cumbu and Ragi are the best suited and these occupy an area of 50 lakhs of acres in the State of Madras. In Cholan, an outstanding achievement is the evolution, from hybridization and subsequent selection, of strain CO. 18. It combines a high grain yield of 6,200 lb. per acre (under irrigation), as against the normal yields of 2,000 lb. from local types and with its very short duration of 90 days, and its sweet and juicy stalks, it makes an ideal fodder for cattle. This strain has spread over two lakhs of acres already in Coimbatore, Madurai and Ramanathapuram districts. CO. 10 and CO. 11 are two other sweet and juicy-stalked fodder types that can yield up to 30,000 lb. of green fodder per acre. For North Arcot and Salem districts, the most suitable is the Talaivirichan Cholan strain TPT. 1, evolved from the Millets Station at Tirupattur.

Madras has been the pioneer in the exploitation of hybrid vigour using it successfully in the Cumbu crop, and three superior, high-yielding hybrids have been popularised, which yield 40 per cent more than the local types, under both rainfed and irrigated conditions. Cumbu CO. 65 is a short-duration type evolved at Coimbatore and suitable for both dry lands and garden lands in Ramanathapuram, Tiruchirappalli and Tanjore and parts of Chingleput.

In ragi, three strains are available, CO. 5 is suited for South Arcot, parts of Salem and Coimbatore, both under irrigated and rainfed conditions. CO. 6 is a



Paddy Breeding Station.

white-grained ragi which has a high protein content of 14 per cent as against 11 per cent in the brown-grained types. CO. 7 is a very short duration variety suited to South Arcot and Coimbatore for cultivation under irrigation. Amongst the lesser millets, Samai CO. 1 is an olive-brown grained strain, suitable for Coimbatore, Salem, Nilgiris and parts of Madurai.

If we assess the spread of these improved strains of the Agricultural Department, 41 per cent of the total rice area in Madras was covered by improved strains of the Department in 1953-54 which has increased to 54 per cent, by 1957-58. During the same five-year period, the area under improved strains of cholam, has increased from 14 to 41 per cent; of cumbu, from 44 to 61 per cent; of ragi from 19 to 63 per cent and of other millets from 6 to 21 per cent.

Under the Second Five-Year Plan, the spread of these improved strains of foodgrains is proceeding apace with increasing rapidity and by the end of 1960-61 it is expected that the 50 lakhs of acres under paddy for which improved strains are now available would be fully covered. There would then remain only 5 lakhs of acres under paddy for which improved strains are not yet available. The area under millets too, can be expected to record substantial improvement during this period.

Considering the fact that even in an adverse season, our gap between supply and demand of foodgrains in an year is only of the order of 8 lakhs tons, or about 17 per cent of our present level of production and also the fact that the improved strains evolved by the Agricultural Department are capable of producing at least 10 to 15 per cent more than the local varieties that they would eventually replace, it can be said with confidence that self-sufficiency is a definite possibility in Madras, even in lean years. In seasons when Nature smiles, we will have, as at present, actually a surplus of over two lakhs of foodgrains.

Manures and fertilisers.

Next to seed, an adequate and timely supply of manures and fertilisers is the most important requirement. Ten years ago, in 1948 this State utilized only

about 23,000 tons of ammonium sulphate. This rose to 48,000 tons by 1950-51 and in 1956-57 it was 1.20 lakhs tons. The offtake of this useful fertiliser can well go up to even two lakhs of tons, if it were not for the bottleneck of insufficient supplies. Alternative nitrogenous fertilisers like urea, calcium ammonium nitrate and ammonium sulphate nitrate are also in very short supply—though their consumption is increasing year by year. In this context, it should not be overlooked that fertilisers give the best results only when used in conjunction with green leaf manure, at the rate of at least 5,000 lb. per acre. In this aspect too, Madras can well claim to have shown the way to all the other States in India, as over 12 lakhs of acres have received green manures grown in the fields themselves, excluding other areas where green leaf cut from trees and shrubs were brought from elsewhere and applied to the fields.

The Japanese method.

The Japanese method of paddy cultivation, as modified for our Madras conditions, has given 7 per cent more of grain or 134 lb. of paddy per acre over the local improved methods recommended by the Agricultural Department, before the Japanese method was brought into vogue. The method recommended by the Department includes the use of fertilisers and improved seeds. The Japanese method involves the use of a few more additional items, such as using lower seed-rates, raised nursery beds, line planting and higher dosages of fertilisers. At present, the Japanese method has spread to about 11.6 lakhs of acres, i.e., about 20 per cent of the paddy area in Madras State. Since the increase in yields from the Japanese method is about 7 per cent over our local improved methods—our food deficit of 8-lakh tons—in lean years, can easily be bridged by first using improved seeds and then by adopting the Japanese method on every acre of paddy in this State.

Commercial crops.

In cotton, ten years ago, there was not even a single strain capable of spinning more than 25 counts. Today, *desi* cotton or *Karunganni* yields not less than 120 lb.



Cambodia Cotton Field.

lint per acre, while the American or Cambodia types yield 300 lb. lint and both are capable of a staple length of one inch and more, and spin 30's to 40's counts under mill conditions. For an industrial crop like cotton, it is imperative that the number of varieties handled by trade, is limited to a select few, so that uniformity might be ensured.

Between 1951 and 1957, cotton production in Madras has increased from 2.98 lakhs of bales to 3.77 lakhs, with a corresponding increase in area too, from 8.8 lakhs acres to 11.6 lakhs acres. Our production of long-staple cotton has increased nearly four-fold, from 36,113 bales in 1950-51 to 132,117 bales by 1955-56.

Sugarcane.

Within the past six years, there has been a remarkable increase, by nearly 50 per cent in the sugarcane area in our State. The total area is now 1.20 lakhs of acres. During the same period the average yields of sugarcane have also gone up, from 35.29 tons per acre in 1951-52 to 40.44 tons per acre in 1957-58, an increase of nearly 12.5 per cent. The main item of development work is the raising and planting of short crop seed material, for which a premium is given to growers in order to serve as an incentive. As a result of these steps, Madras is now in a leading position, both in area and in the yields obtained from sugarcane per acre.

In oilseeds, the improved high-yielding strains of groundnut, gingelly and castor are very popular with the farmers as they bring in a return of nearly two crores of rupees every year. It is programmed in the Plan to increase oilseeds production in Madras by 1.66 lakh tons. In horticulture, a concerted drive has been started to popularise proper methods of orchard maintenance, as Madras has perhaps the widest range of fruit varieties, with also off-season production of fruits in several kinds. Madras was the first to evolve some very choice mango hybrids, from controlled crosses combining superior fruit quality with high productivity.

In bananas, several superior varieties have been selected for garden land and perennial cultivation. An improved type of Papaya CO. 1, yielding fruits of very good quality has been evolved and popularised. The State has also the distinction of introducing the Criollo cacao, a high quality type of much industrial appeal and it is now being extended in suitable regions to develop a stable cacao industry in the country.

In the field of plant protection, the Agricultural Department can well claim to have made a major contribution towards the farmers' prosperity and in fact, there is a steady demand for pesticides and fungicides for controlling crop pests and diseases from all parts of Madras State.

Agricultural Extension, Education and Research.

All the foregoing achievements would not have been possible, but for the devoted efforts of an efficient band of competent workers who have the task of popularising the results obtained from research, and with the increasing tempo of improvement there is also an increasing need to have an adequate reserve of qualified personnel, both for research and for extension purposes. To meet this need the Agricultural College at Coimbatore has been strengthened and enlarged in scope, to train a larger number of (162) students every year. As a further step towards improving the quality of research, a new Post-Graduate Institute has also been started at Coimbatore in August 1958, for training candidates for the M.Sc. and Ph.D. degrees of the Madras University.

Agriculture has obviously a vital part to play in any Plan for the development of India as a strong and prosperous country and in this task the Madras Agricultural Department can not only look back with satisfaction on its achievements in the past, but can also look forward with confidence in playing an even more important role in the attainment of self-sufficiency in Madras State.



The Agricultural College Coimbatore.

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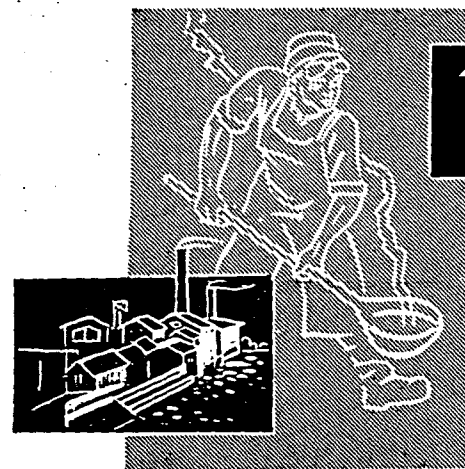
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THE INDUSTRY IN

MADRAS STATE

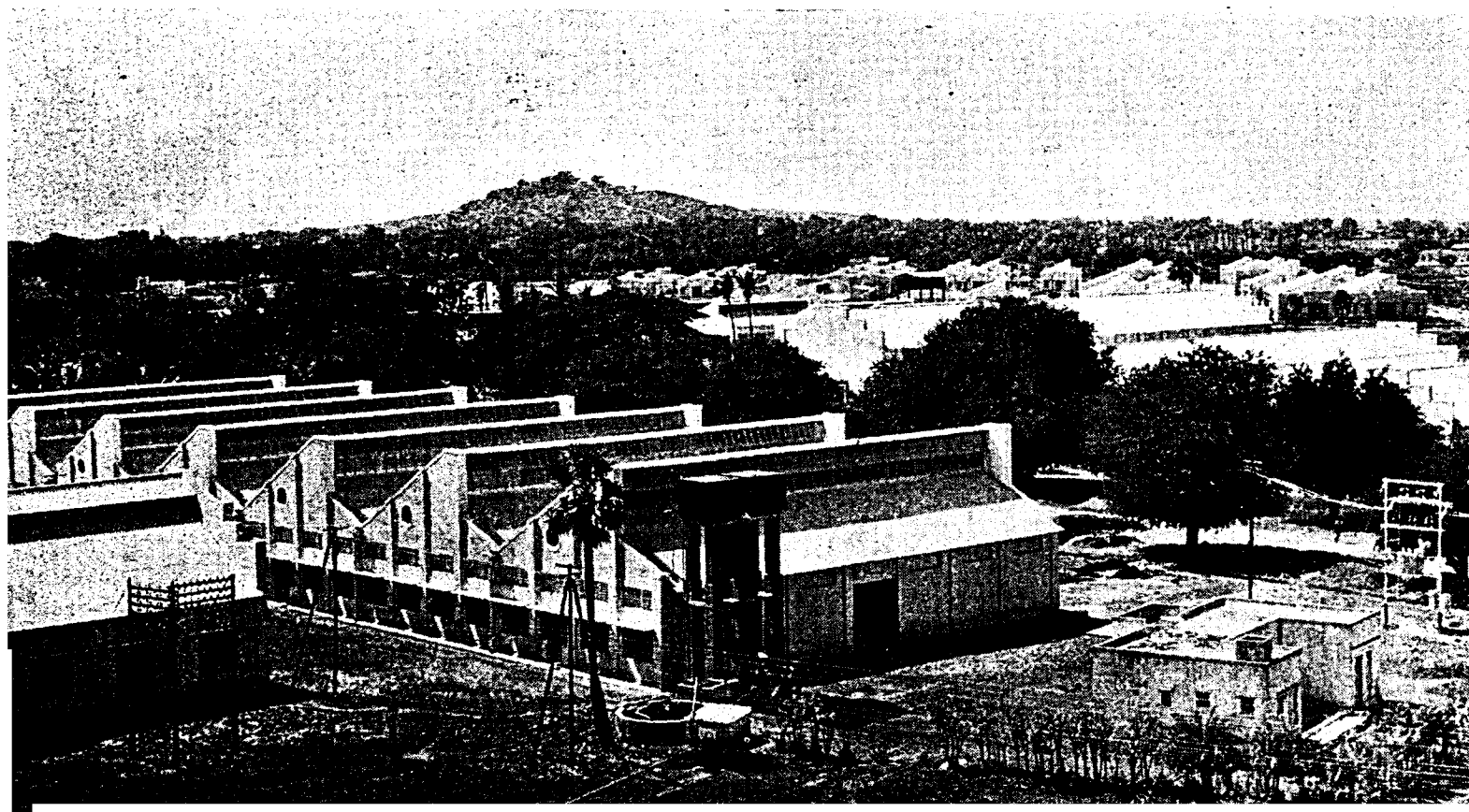
SRI T. K. PALANIAPPAN, I.A.S.,
Director of Industries and Commerce.

Till the beginning of 1955, the activities of the Industries Department were confined mostly to the maintenance of Commercial and other institutions already started, sinking of bore and tube wells for agricultural, industrial and drinking water supply purposes, the grant of loans under State Aid to Industries Act, Technical Education, Fisheries, Controlled Commodities and Sericulture. The development of industries was not also undertaken in any appreciable measure. The Polytechnics and the pumping and boring work were transferred to the Directorate of Technical Education and the Department of Agriculture in 1957 and 1958 respectively. A separate Directorate for Fisheries was formed in

1958. This Department is at present concentrating in the development of Industries, Heavy, Small Scale and Village, Handicrafts, Sericulture, Craftsmen Training and Industrial Co-operatives. The staff in the headquarters as well as in the districts has been strengthened. The Government have also given a fillip to the industrial development by constituting a State Industries Development Committee.

The State Aid to Industries Act as well as the rules thereunder have been suitably amended with a view to liberalise the provisions relating to the grant of loans and to minimise the delay in their grant. A sum of

An aerial view of the Industrial Estate at Guindy.



Lignite from Neiveli promises great impetus to the Industry in Madras.

Rs. 125.80 lakhs has been ear-marked for this purpose under the Second Five-Year Plan.

On the Research side, the Chemical Testing and Analytical Laboratory attached to this Department is doing valuable work in analysing samples of ores, minerals, foodstuffs, etc., and issuing test reports at nominal rates to private bodies and free of cost to Government Departments.

To tap the mineral resources of the State in general and to expedite the setting up of iron and steel plant and Aluminium plant in particular, a State Geological Branch, under an experienced Retired Superintending Geologist has been formed. This branch is functioning. Enquiries pertaining to mineral concessions under the relevant rules and mineral resources of the State are being attended to promptly.

Heavy Industries.

Neiveli lignite, Salem iron ore and bauxite will pave the way for rapid development of industrialisation in

this direction. One pig iron plant was switched into production in the private sector at Coimbatore. Four more plants are expected to be started. Thermal power plant and the fertilizer plant proposed to be started as subsidiary to Neiveli lignite, will go a long way to augment the power supply in the State and to agricultural production respectively. The tests of bauxite ores, in connection with the setting up of the Aluminium Plant, are being expedited. Ootacamund has been selected as an ideal place for the establishment of a photographic raw film factory and an infant milk food factory. Efforts are afoot to establish a Rayon Pulp factory near Bhavanisagar and a paper factory at Mettur utilising the bamboo wealth of the Bhavanisagar-Mettur region. A huge soda ash plant is being established in Tirunelveli district. A new cement factory at Ramanathapuram is expected to be started in the near future. Three co-operative sugar factories with Government share capital are expected to go into production in the middle of 1959.

Small Scale Industries.

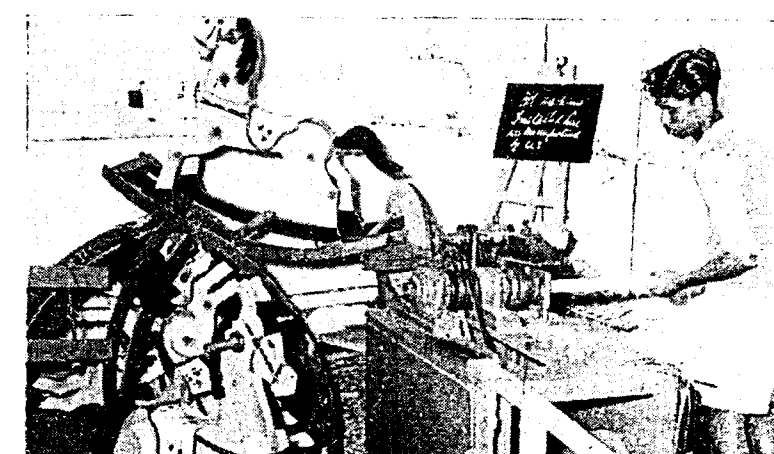
The development of small scale industries is an important factor of economy for the wide distribution of both economic activities and advantages. Without draining the internal resources, it will provide more employment opportunities. With this end in view, a number of model training, servicing and production centres, technical information section, servicing corporation for supply of raw materials and industrial estates for providing factory space have been started. The Industrial Estate at Guindy constructed at a cost of Rs. 70.03 lakhs has accommodated a number of small scale industries both under private and the public sector. Another estate at Virudhunagar is under construction at a cost of Rs. 28.49 lakhs. Also industrial colonies at Tirunelveli, Tiruchirappalli, Madurai, Tanjore and Marthandam are being set up.

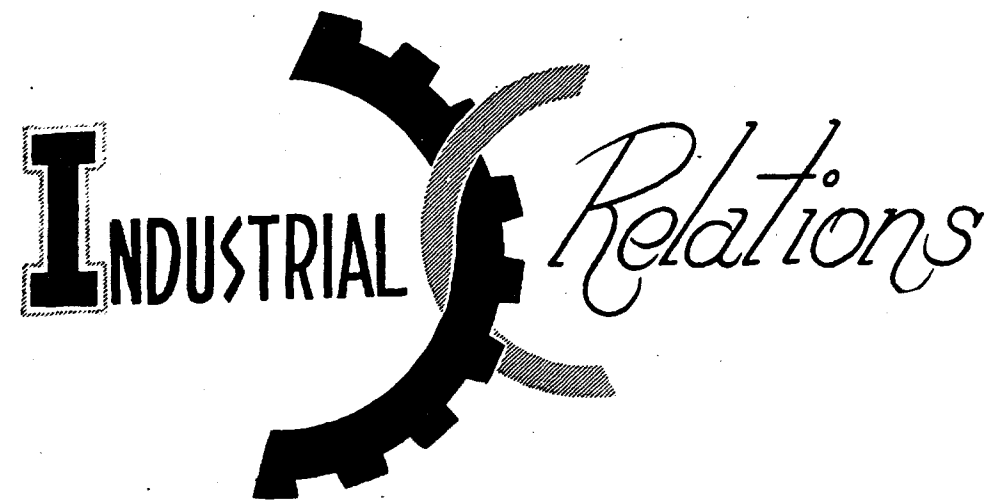
Village Industries.

Schemes for the development of village industries, utilising the raw materials and idle labour available in villages, are being implemented with a view to make the villages self-sufficient in regard to their daily requirements such as handpounded rice, oil, honey and pottery, etc.

(Continued on page 40)

Small Industrialists are given every aid and facilities to carry on the trade with profit.





INDUSTRIAL Relations

SRI V. BALASUNDRAM, I.A.S.,
Commissioner of Labour and Director of Employment

The settlement of industrial disputes and maintenance of industrial peace form the main functions of the Labour Department. The first progressive measure calculated to improve industrial relations between the employers and the workers with a view to maintaining industrial peace is contained in the Industrial Disputes Act, 1947. This Act has undergone a series of amendments in order to improve the machinery for the settlement of industrial disputes and to confer additional benefits on the workers. The amendment Acts of 1955, 1956 and 1957 have introduced more important changes in this Act. The Act now provides for the investigation and settlement of industrial disputes through the medium of Works Committees at the level of the factory, through conciliation by Labour Officers, through voluntary reference of disputes for arbitration, and through adjudication by a three tier system of adjudication machinery, viz., Labour Courts, Tribunals and National Tribunals. The other important provisions of the Act are the provisions for giving prior notice to workmen of any change in conditions of service, recognition of settlements arrived at between the parties otherwise than in the course of conciliation proceedings, payment of compensation for involuntary unemployment, retrenchment and closure, priority for re-employment of retrenched workers, quick recovery of moneys due to workers under awards, settlements or by way of compensation, etc.

The causes of trade disputes are many and varied, but broadly speaking they arise over rates of wages, hours of work, leave, bonus, and other conditions of employment and often also over questions of dismissal, retrenchment, and victimisation of workers. Refusal of employers to recognise unions of their employees, the demand for "closed-shop" and participation in management by the workers and strikes and lockouts are among other causes of industrial unrest. The last mentioned are particularly important because they affect not only the employers and the workers but also the general public.

In India, as in other advanced countries, the State has, to a considerable extent, intervened by means of legislation and administrative orders for regulating the conditions of employment of industrial workers. But there are still many problems concerning conditions of employment of workers which are outside the purview of the existing enactments and must consequently be settled between employers and workers or between their respective organisations. Experience, however, has shown that their relations are so delicately balanced that they do not always see eye to eye with each other.

It is generally recognised that the prevention and settlement of industrial disputes and the establishment of peace and prosperity in industry depend upon harmonious industrial relations. Increasing industrialisation after the Second World War has accentuated the significance of the problem, especially in this country which has practically completed one phase of industrialisation under the First Five-Year Plan and has entered a new phase in the Second Plan.

While it is the policy of the Government to encourage settlement of industrial disputes by direct negotiations between the parties concerned, of late demands for adjudication rather than for settlement mediation and conciliation have become too common, among the parties concerned. Despite this tendency, however, the State Labour machinery has been of immeasurable utility in maintaining industrial peace.

The need for a strong and healthy trade union movement has been recognised as essential for the achievement of industrial democracy. But it is unfortunate that trade unions, except for a few, are not organised on proper lines. Lack of experience in organisational work, inadequate leadership and fear of victimisation have, to a very great extent, retarded trade unionism. Also, some employers favour or even indirectly sponsor rival unions with a view to disrupting the unity and solidarity of the workers. Despite these unhealthy factors, however, the trade union movement in this State has been a

powerful factor in influencing labour conditions and policy. Important trade unions and their leaders are generally consulted by the State Government in regard to vital labour problems. They are also represented on committees and conferences convened by Government from time to time.

The Trade Unions Act provides for the registration of trade unions and defines the law relating to registered trade unions. It grants immunity to the officers and members of registered trade unions against criminal proceedings in respect of agreements for purpose of furthering any legal objects of the union. The number of registered trade unions at the beginning of the year 1958 was 774. During the period 1st January to 31st December 1958, 216 new unions were registered. A total number of 911 unions were functioning at the end of 1958.

The existence of rival trade unions within the same establishment or industry has affected the good relations among the workers and employers. The Government have been considering proposals for mitigating this evil. This subject came up for discussion at the meeting of the Indian Labour Conference held in May 1958, as the result of which some basic principles have been agreed to be observed by the Central Organisations.

The Employers' Organisations, on the other hand, are generally well organised, especially in the principal industries like cotton textiles, tea plantations, etc., and are able to represent their points of view on labour matters satisfactorily.

The Industrial Disputes Act requires the establishments employing 100 or more workers to constitute Works Committees consisting of representatives of employers and employees, the former being nominated by the management and the latter being elected by the workers employed in the establishment. Such Works Committees are expected to meet as often as possible to discuss the grievances of the workers. The Government have been emphasising the importance of the Works Committees for promoting good understanding and relations between labour and management. At the beginning of the year 1958 Works Committees were functioning in 335 establishments in this State.

The Conciliation Officers have been endeavouring to secure an amicable settlement of industrial disputes to the maximum extent possible. It is gratifying to note that as many as 714 industrial disputes were settled by the Conciliation Officers during the year 1958. Besides these, 10,217 industrial disputes and complaints relating to demands for reinstatement of discharged workers, increase in rates of wages, fixed hours of work, retrenchment compensation, leave facilities, etc., were also investigated by the Labour Officers during the period. There were 254 strikes and lockouts during the year. Strikes were called off in 43 cases as a result of mutual negotiations, in 138 cases through the intervention of the Labour Officers and in 6 cases as a result of adjudication during the same period. In 63 cases workers resumed work voluntarily. The other cases were pending at the end of the year.

Among the important settlements affecting a very large number of workmen brought about by conciliation during 1958 mention may be made about the settlement in July 1958 between the management of the B. & C. Mills and Madras Labour Union in respect of the additional bonus for the years 1955, 1956 and 1957; the settlement in October 1958 between the managements of Burmah Shell, S.V.O.C. and Caltex (India), Limited, and their employees represented by their respective unions regarding bonus for the year 1957, wages, overtime, etc.; three settlements in respect of disputes of plantation workers in the State, viz., one regarding bonus for the years 1952 to 1956, another regarding wages, gratuity, bonus, festival holidays to plantation workers in the Kanyakumari district and the third relating to the abolition of the maistries' system and the absorption of resident maistries normally doing supervisory work and revision of their wages; and the settlement between the management and the employees of the Express Newspapers, Limited, regarding the reinstatement of certain retrenched employees, grant of increase in basic wage, etc.

Compulsory adjudication is resorted to in appropriate cases where the disputes cannot be settled by conciliation. The adjudication machinery was reorganised last year in pursuance of the provisions of the Industrial Disputes (Amendment and Miscellaneous Provisions) Act, 1956. A retired Judge of the High Court has been appointed as the Industrial Tribunal with headquarters at Madras and three Labour Courts at Madras, Coimbatore and Madurai with a District Judge as the Presiding Officer of each Court. During the year 1958, the Government referred 366 industrial disputes for adjudication, 76 to the Industrial Tribunal and 290 to the Labour Courts. The Industrial Tribunal and the Labour Courts gave awards in 350 cases. They also disposed of 76 applications under section 33-A of the Industrial Disputes Act, relating to alterations in conditions of service or dismissals during the pendency of adjudication proceedings, during the period.

With a view to securing effective implementation of the awards, the Government sanctioned prosecution against three industrial establishments under section 29 of the Industrial Disputes Act, during the year 1958.

In pursuance of the recommendations of the Standing Labour Committee, the Government of India have set up an Evaluation and Implementation Division in the Ministry of Labour to assess the extent of non-implementation of labour laws, awards, etc., and to evaluate the results achieved by such measures. Detailed particulars of cases of non-implementation or partial or defective implementation of awards are being gathered every quarter from the departmental officers as well as important trade union organisations for submission to the Evaluation and Implementation Unit. Although cases of non-implementation of awards, settlements, etc., are not many in this State, the constitution of a similar committee at the State level is under the consideration of Government. The representation on this committee will be given to the central trade unions organisations and important employers' organisations in this State.

(Continued on page 56)

Public Works

A nation Building Department

SRI J. G. ABRAHAM,
Chief Engineer (General), Public Works Department.

The Public Works Department of the Madras State is over a hundred years old. From very remote times, long before the advent of British Rule in India, the importance of 'Public Works' in the Development of the Country had been recognized by the successive authorities (Princes and other Rulers), but those early works were confined to artificial irrigation (such as channels taken off from rivers, tanks and reservoirs for storing rain water, etc.) to aid cultivation—agriculture being then as it is still now, the mainstay of the country's economy. But there was no organized department as such for carrying out those works. Land Revenue being the main source of income to the Government and that being directly and intimately dependant on agriculture (cultivation of land) irrigation works naturally received a very large share of the attention of the rulers of the day, so much so, the number of such works became very large—scattered all over the country. At the time of the advent of British Rule in India under the East India Company, the Madras Presidency (one of the three main territorial administrative units into which the country was then divided by the British authorities—the other two being Bengal and Bombay) with the exception of the West Coast districts of Canara and Malabar, had a number of irrigation works of the kind mentioned above and these were attended to by the Revenue Officers, as was the case in other parts of the country in general. Even during the tumultuous and disturbed times which immediately preceded the introduction of British rule in the Carnatic (as the area was then known) the duties entrusted to the Revenue Officers in regard to the irrigation works as aforesaid, were not wholly omitted, though many fine works suffered for lack of sufficient attention.

The early English Collectors necessarily assumed charge of the works of Irrigation along with that of collecting revenue; and as it was realized that it was essential to the security of the revenue that those works should not be neglected, large sums were also expended in keeping them in sufficient repair. But being without any professional (technical) assistance whatever—there being no Engineering department then under the Civil administration, the Collectors were compelled to entrust the expenditure to Subordinate Revenue Officers,

as in the past, but as those officers had neither technical or scientific knowledge, nor any practical experience in such works, the arrangement was not satisfactory. In course of time such a state of things attracted the attention of higher authorities and for the first time *Engineer Officers* were appointed under the title of "Superintendent of Tank Repairs" to assist the Collectors in that branch of their duty. There was at first only one such Superintendent and a second was added in the year 1809, the principal irrigated districts of the Presidency being divided between the two. By that time the subject had become considerably important and therefore, it attracted the special notice of the Court of Directors of the East India Company. As a result, in 1819, the Presidency (excluding Canara and Malabar districts) was divided into three public works divisions each with a "Civil Engineer", the whole being placed under the Control of an Engineer Officer at the Presidency Headquarters styled the "Inspector-General of Civil Estimates" who was to be the channel of communication between the Revenue and Engineer Officers in the districts and the Board of Revenue. In 1825, the whole Public Works Organization, as it then existed and which was then popularly known as the 'Maramut' Department, with all the Civil Engineers, including the Inspector-General of Civil Estimates, was placed under the Board of Revenue.

It may be observed that the Maramut or Public Works Department as outlined above, was mainly an Irrigation Department controlled by the Revenue authorities. The duty of constructing, repairing and maintaining Civil buildings throughout the Presidency was all the while entrusted to "Superintending Engineers" who were *Military Engineers* controlled by a Military Board with a Chief (Military) Engineer at the top. Even the Civil Engineers of Maramut Department then belonged to the Military Engineer Corps, as there was no separate Civil Engineering Cadre at the time. In 1836, the post of Inspector-General of Civil Estimates was abolished and a post of Secretary to the Board of Revenue in the Department of Public Works (Maramut) was created to attend to all the administrative duties previously performed by the Inspector-General of Civil Estimates. In the same year, the Chief Engineer of the Military

Board was given a seat at the Board of Revenue in the Department of Public Works to enable him to exercise necessary technical control over the Civil Engineers (who were at the time members of the Military Engineer Corps as already mentioned above) and also to give the Civil Maramut Department the benefit and advantage of his experience and guidance.

In 1838 a still more important change was effected. In four out of the five divisions of the Army, the appointment of Superintending or Military Engineers was abolished and the whole Presidency was rearranged to form eight Maramut Divisions each under a Civil Engineer. At the same time, the duty of constructing and repairing Civil Buildings in the Presidency which had hitherto been under the Military Superintending Engineers was transferred to the Civil Engineers and the Collectors under the Revenue Board, while the custody of Military buildings (previously vested in the Military Superintending Engineer) was transferred to the Station Staff Officer and it was provided that when repairs or other works to Military buildings in their divisions were required, the Civil Engineers should give their assistance to the Military Department as far as possible. With the introduction of this change, the position regarding public works in the Madras Presidency at the time, i.e., in 1838, was that they were carried on under the following three distinct and independent departments:—

- (i) The Public Works Department of the Board of Revenue.
- (ii) The Superintendent of Roads.
- (iii) The Military Board.

The Board of Revenue (Public Works Department) had the control of all irrigation works, all Civil Buildings in the districts and all roads and bridges not included in the 'Trunk Roads' or in Military Cantonments, and all Canals, etc.

The Superintendent of Roads had the sole control and Superintendence of the great lines of communication which have been classed under the term 'Trunk Roads'.

The Military Board had the superintendence of the construction, repairs and maintenance of fortifications, of all public buildings both Military and Civil as also all the Government roads and bridges at the Presidency Headquarters, and all the military buildings and forts in the districts together with all roads and bridges, etc., in Military Cantonments.

This arrangement continued till 1850 when, under instructions from the Court of Directors of the East India Company, to the Government of India, a Commission was appointed in 1851 to enquire into and report on the system of Public Works in the Madras Presidency. The Commission accordingly went into the question in great detail and submitted its report in 1852. One of the most important recommendations made by the Commission was that the control of the Maramut (Public Works) Department, which had by then considerably expanded, should be transferred from the Board of Revenue to a separate Board consisting of two Engineer Officers and a member of the Civil Service,

that the functions of the various branches or departments of Public Works should preferably be unified and that each district should have a District Engineer with a number of Inspecting Officers above them. The British Home Government in England agreed to separate the Maramut Department from the Board of Revenue, but did not accept the suggestion for the creation of a new Board of Public Works. It was decided instead to vest the control of the department in a Chief Engineer assisted by three Deputies with a geographical division of duty. The Government thereupon appointed a Chief Engineer and directed him to prepare a scale of establishment adapted to the requirements of the country and capable of undertaking all the duties, including execution, of the department. With reference to the proposals submitted by the Chief Engineer, an organization consisting of the Chief Engineer, three Deputy Chief Engineers in charge of three territorial circles and 21 District Engineers under them at the rate of one for each Collector's district, was sanctioned and that set up started functioning in full from 1858. But in 1860 the efficiency of the new organization and the expediency of reverting more or less to the former system were considered by Government and pending further measures the Chief Engineer was also appointed as Secretary to Government in the Public Works Department (the two offices being combined) and the three Deputy Chief Engineers were temporarily vested with the powers of the Chief Engineer in their respective circles. In 1863, a Committee was appointed to examine the question of the organization of the department afresh and that Committee recommended the abolition of the posts of Deputy Chief Engineers and District Engineers and to create eight Superintending Engineers' Divisions for the entire Presidency with a suitable number of Executive Ranges under them. Accordingly, the District Engineer system was abolished in 1863 and a new set up with eight Superintending Engineers' Divisions and some 80 to 90 Executive Ranges of Public Works under them was brought into force from that year.

In 1870, another Commission was appointed to go into the question of the organization of the Public Works Department. That Commission recommended reversion to the older system of District Engineers. Accordingly, the Presidency was divided into twenty-one District Engineers' charges with two Chief Engineers at the top. This continued till 1878 when once again the District Engineer system was abolished and instead, the entire Presidency was divided into five Public Works Department Circles each under a Superintending Engineer with a total number of thirty-nine Executive Engineers' Divisions under them. The very next year (1879), however, as a consequence of the financial pressure resulting from famine and the Afghan War, the Government of India ordered that the Public Works establishment throughout India should be reduced by one-fourth and accordingly in Madras the number of Public Works Department Circles and Divisions was reduced to 3 and 29 respectively. But as a result of the correspondence that took place subsequently during the years 1879 to 1881 between the

Government of Madras and the Government of India, a scheme was finally sanctioned in 1881, according to which the department was reconstituted with two Chief Engineers at the top—one for Buildings and Roads, who was also to function as Secretary to Government, Public Works Department, and the other for Irrigation, who was to function also as Joint Secretary to Government, Public Works Department—with six circles, each under a Superintending Engineer, 24 divisions, each under an Executive Engineer and a number of subdivisions and sections under them. This set up continued more or less without any material change except that the establishments were strengthened from time to time according to needs (especially after 1906 when the 'Davidson' Committee on Establishments had recommended around strengthening of staff) till about 1924, when the two Chief Engineers were divested of their functions as Secretaries to Government and they were left to function as purely technical heads of their respective branches.

The subsequent history of the department has been eventful in many ways, but the predominant note is one of around development, in spite of the reduction in the territorial area of the Madras State. Between the years 1930 and 1956, there had been a number of important changes affecting the organization of the department. The formation of the Orissa Province in 1933 first reduced the extent of the territorial jurisdiction of the Madras Presidency as it then existed and the Public Works Department also correspondingly got reduced. Next came the formation of the Andhra State in October 1953 and then the general States Reorganization of November 1956 resulting in further reduction in the extent of the territorial area of the State and consequently, of the jurisdiction of the Public Works Department. But the activities of the department, except during a short period in the early thirties (when there was a general depression necessitating retrenchment of establishment) continued to expand.

In the initial stages of Hydro-Electric Power Development in this State, there was a small nucleus of staff on the Electrical side with a part-time Consulting Engineer (Electricity), as part of the regular Public Works Department. Later on, when the activities on that side developed and expanded, a separate Electricity Branch with a full-time Chief Engineer and other staff was formed and in course of time that branch further expanded and eventually it has been formed into an autonomous Electricity Board and it is functioning as such from 1st July 1957.

Prior to the formation of a separate Central Public Works Department, the Madras Public Works Department was executing all building works in the State required by the Government of India. The period of the Second World War (1939-1945) was one in which the Madras Public Works Department was kept very busy as it was in charge of the construction of aerodromes, landing strips and a variety of other 'Defence' works, including Civil Defence (A.R.P.) works. There was a special A.R.P. and Aerodromes Circle for the purpose under the Chief Engineer, Public Works Department, who was then designated

as Chief Engineer (Buildings and Defence). As 'Communications' was also of vital importance during the war period, the expansion and improvement of roads and bridges of all kinds became necessary and, therefore, special roads (Communication) Circles were formed first under the Chief Engineer, Public Works Department (Buildings and Roads), and later under a separate Chief Engineer (Communications). In 1946, a separate Highways Branch was formed with a Chief Engineer in exclusive charge and necessary Superintending Engineers and other executive staff under him for attending to road and bridge works throughout the State. The old District Board Engineering staff was merged with the staff of the Highways branch. That set up has continued ever since.

Under the existing set up, the regular Public Works Department (Buildings and Irrigation Branches), is under the direction of two Chief Engineers. One of them is exclusively for irrigation and is, therefore, designated as Chief Engineer (Irrigation). The other is in charge of buildings and administrative matters including establishment and is designated as Chief Engineer (General and Buildings). He is also in charge of the Boiler Department, the State Broadcasting Department, the Electrical Engineer's (General) Division and the Sanitary and Public Health Engineering Branch. Each of the two Chief Engineers is the Head of a Department and is the Professional (Technical) Adviser to Government in all matters falling within his jurisdiction. They are at present assisted by two Deputy Chief Engineers each, who are of the rank of Executive Engineers. There is a Consulting Architect attached to the Office of the Chief Engineer (Buildings). He prepares the plans and estimates for the several building works with the aid of Special Staff under him and in this regard he functions as the Specialist Assistant of the Chief Engineer.

There are now four regular permanent Public Works Department Circles each under a Superintending Engineer with some 17 Executive Engineers, 70 Assistant Engineers and 240 Section Officers. These circles are "Common Circles", i.e., these are in charge of both Irrigation and Building works.

There are the following Special Circles also now:—

- (i) Designs Circle (in charge of Irrigation Research and Designs, Soil Mechanics and Concrete Laboratories, Gaugings Division, etc.).
- (ii) Projects Circle, Tiruchirappalli (for Kattalai and Pullambadi Schemes).
- (iii) Special Buildings Circle (for execution of Major Building Schemes under the Five-Year Plan).
- (iv) Public Health Circle (for the execution of Major Water-Supply and Drainage Schemes).
- (v) Food Production Circle (for Restoration of Tanks and Special Minor Irrigation Works under the control of the Board of Revenue).

The Sanitary Engineer who is of the rank of Superintending Engineer is functioning under the control of the Chief Engineer (General and Buildings) and he is attending to the investigation and design of

Water-Supply and Drainage Schemes. He is also the immediate Controlling Officer in respect of Municipal Engineers.

The Public Works Department is a *Nation Building Department*, and its activities and achievements reflect the progress and development of most of the other departments under Government, and therefore, of the State as a whole. This is so, because the Public Works Department has virtually no separate entity of its own so far as its main functions are concerned, as it is made up and is representative of, the sum total of the building and other construction activities pertaining to the various departments of the State Government. The normal activities of the Public Works Department, therefore, consist of the activities of all other departments so far as Civil Engineering works are concerned. This all important fact is not realized by many, so much so, the Public Works Department is often unjustly criticised and dubbed as a spendthrift department. When a member of the public (the 'common man') sees a fine hospital or an imposing Government College or other Educational Institution, he is apt to praise the Medical or the Educational Department for having provided such beautiful institution by way of public welfare amenities. Similarly, when a village agriculturist feels happy on account of his getting copious water-supply for raising his crops as a result of a major irrigation project, he is apt to attribute his good fortune to the Agriculture or Revenue Departments. But the department or the organization, viz., the Public Works Department, which is responsible for the actual construction of that hospital, the college and the irrigation project and many such public utility items throughout the State, is hardly ever thought of or remembered by these persons.

The Madras Public Works Department has a proud record of achievements to its credit. The total capital cost of the Government buildings constructed and maintained in the State by the Public Works Department is now about Rs. 14 crores. These include such important buildings as the General and Stanley Hospitals, Madras, the Erskine Hospital and Medical College, Madurai, the College of Technology and the Agricultural College, Coimbatore, to mention only a few. A mere perusal of these lists and charts will, however, hardly give a correct idea of the work done by the Officers of the Department. Almost every major construction work—particularly the irrigation projects—has a history of its own—about difficulties met with and solved with patience and perseverance. This cannot be better illustrated than by citing the case of the Periyar Project—the history of which is an Engineering 'Saga' in itself, as may be seen from the details given in the book—"History of the Periyar Project" written by Mr. A. T. Mackenzie, one of the Madras Engineers who helped to execute that project, which was started in 1887 and completed and put into operation by the end of 1895 and which has been acclaimed as the boldest and most interesting irrigation project in the whole of India, and perhaps in the whole world, by its unique features. The Periyar River has its source in the Western Ghats whence it flows westwards through

Travancore. The Madras Engineers constructed an immense dam (of concrete with a masonry facing) about 175 feet high and a reservoir of about 9,800 million cubic feet capacity across an almost inaccessible gorge in Travancore; and by means of a tunnel some 5,700 feet long, diverted the waters of the river from the Western to the Eastern Ghats, i.e., literally making the river flow in the opposite direction from its natural course. The site of the works was an unhealthy jungle 3,000 feet in elevation where rain and malaria rendered works impossible for a considerable portion of the year, where even unskilled labour was unobtainable and to which every sort of plant and nearly all material had to be transported at great cost from a railway 76 miles off and up a steep ghat road. The difficulty of laying the foundations for a dam in a river of such magnitude as the Periyar (the discharge velocity of which was calculated at the time as equal to half the average flow of Niagara and which was liable to sudden and heavy freshes as high as 120,000 cusecs) can very well be imagined, and in the beginning the work was swept away again and again. But the indomitable energy, resourcefulness and determination of Col. Pennycuik, the Engineer who finalised the proposals and supervised the execution of the work, and who refused to accept defeat, won through and a great project an engineering masterpiece, was completed. But in the process several persons, officers and workers—had to sacrifice their lives—the extremely difficult jungle conditions taking their toll. But no one gave up and the result was a magnificent project providing irrigation facilities for an area of nearly 143,000 acres in Madurai district as compared with 66,000 acres in the same area before the reservoir project was executed.

Hardships and difficulties have been encountered though not to the same extent and successfully overcome in other irrigation projects also by our Engineers following the inspiring example set up by Col. Pennycuik and his brave band of officers and subordinates. Another illustrious and inspiring name in the history of Madras Public Works Department is that of Sir Arthur Cotton who will ever be remembered for the unique and lasting improvements effected by him in the several irrigation systems—particularly those of the Cauvery, Godavari and Krishna—the benefits of which are even now continuing unabated.

The vital role of Engineers in the development of the nation and especially in the creation of a welfare State, has been stressed again and again by our Prime Minister and also by many other important persons. The Madras Engineers have established a very high tradition for efficiency and they have also earned a just reputation for such efficiency, combined with intelligence, zeal and a steady devotion to duty, so much so, their services are very much in demand by other States particularly in North India, and the Central Government organizations and even by foreign administrations. The services of Engineer Officers of the Madras Public Works Department have been obtained and made use of by the Punjab Government in their Bhakra-Nangal Project by the Bihar Government in their Kosi Project

(Continued on page 87)

The Villager at the Helm

SRI M. G. RAJA RAM,
Additional Development Commissioner.

The long drawn out struggle for Independence of the Indian people besides culminating in liberation from the foreign yoke also resulted in the generation of a tremendous energy to live a free life of higher standards and happiness. It was a logical process by which a passionate desire to create conditions for a healthier and happier living crystallized. However, to channelize this tremendous energy towards the fulfilment of cherished desires is a great task. No doubt in the past few decades quite a few urban areas became prosperous. Trade and commerce flourished and production also was there in fair abundance. But the people living in these cities and towns were quite content to revel in the glory of their big buildings, broad roads and neon signs. Little did they realize that the people who actually toiled for the prosperity was the villager. The villager was looked upon as a country bumpkin to be dealt with at a distance. The villager on the other hand looked with awe and admiration at the cities and towns and the neon signs and envied the revelling people and their life there. Little did he realize that he was the main contributing factor for the prosperity of these towns and cities. He was timid and considered the gap between himself and the city bird as something inevitable—ordained by fate. His toil in the land to increase production while directly benefiting the towns and cities did not have much of an impact on the large community in the villages themselves. Indeed strangely enough it even produced an urge to drift towards the cities and to misery.

With the advent of Independence therefore the Nation's planner quite rightly sought in the first instance to initiate the process of transformation of the social and economic life of the villages. This was included as one of the main objects of the First Five-Year Plan. Obviously, this will have to continue to be so, in all the Five-Year Plans to come—at any rate for quite some time. The village people should get first the benefits of improved knowledge and technical skill and for this purpose the resources of the Government should be made to flow to them first to be utilized for their economic and social uplift. How is this to be done? Obviously, there should be a permanent extension agency at the village level through which the improved knowledge, technical skill and resources of the Government can be channelized. The Community Development Programme launched in the country over six years ago was in effect the programme to achieve this object. The Block

with a population between 70,000 to 80,000 covering roughly 60 to 80 villages on an average is to be the unit for planning and development. The development activities of all the Welfare departments of the Government at various levels, viz., State, district, block and village, have to be co-ordinated effectively and for this purpose the extension agency was evolved. In order to enable the villagers to assume the responsibility for their development through their own resources they have to be trained to become self-reliant and co-operative. The increasing demands for assistance from them are far beyond the capacity of a Government to fulfill. Therefore it becomes a vital necessity to build up people's institutions functioning on democratic principles and to which power and responsibility should be transferred. Government assistance can only be confined to the provision of technical assistance and such financial help as is possible. Utilizing the technical assistance and financial help it should be left to the people themselves to think out their own programme of advancement, and what more its execution also. What are such institutions that should be developed in the village? Our object is to enable a free democratic growth of village leadership who should be in charge of the village institutions. Such institutions are the village panchayat and the village co-operative. These two should work hand in hand. In addition to these the village school also will play a vital role. Towards this purpose the Nation's planners have been making strongest appeal to provide the foundation for a democratic structure in the shape of village institutions which would enable the village community to exercise their rights as free democratic citizens. Every village panchayat should function as a chota republic. This in turn would provide the Nation a really effective functional democracy and it will also provide a broad base for survival of the democratic structure at the top.

In order to enable the village community to assume full responsibility and take the initiative in their own hands, everything possible should be done for the village community to throw up leaders. These leaders besides being encouraged to come up should also be educated in the art of self-reliance and a co-operated way of thinking. This will facilitate them to understand their obligations to society and function effectively. The Ministry of Community Development in keeping with the objectives mentioned above have evolved the under-mentioned schemes of training of personnel.)

1. *Village level*—
 - (a) Training of functional village leaders or gram sahayaks;
 - (b) training of presidents and members of village panchayats; and
 - (c) training of panchayat secretaries.
2. *Block level*—
 - (a) Training of Block Extension Officers (Panchayats); and
 - (b) training of non-official members of the Block Development Committees.
3. *District level*—
 - Training of District Panchayat Officers.

Gram Sahayak Training.—There is already a scheme in operation for training of Gram Sahayaks (functional village leaders). The pattern of this training briefly is that for every V.L.W. circle the training camp is held with about 50 gram sahayaks drawn from each of the villages in the circle. Training is imparted for full three days by the Block staff under the guidance of district level technical officers. The subjects of the Community Development Programme have been divided into five groups as under:—

- (a) Agriculture, Animal Husbandry and Minor Irrigation;
- (b) Panchayats, Co-operation and Village Communication;
- (c) Rural Housing and Village Industries;
- (d) Education, Social Education, Public Health and Sanitation;
- (e) Women and Children's Programme.

In view of the importance of increasing agricultural production the first group of subjects has been taken up in the first year, i.e., 1957-58. During this year 14,772 camps of gram sahayaks were held at which 594,701 gram sahayaks were trained in the agriculture group of subjects in the country. In Madras State 1,236 camps were held at which 61,990 gram sahayaks were trained (till 30th November 1958). The second round of these camps on the same subject is being continued. In these camps the village leaders having the knowledge and experience and interest in agriculture are given an idea of the latest methods of agriculture. The use of improved seeds and implements are demonstrated to them in a practical way. Practical demonstration is also given in the development of organic manurial resources. The trainees themselves dig and prepare compost pits. Having learnt the improved methods of agriculture themselves they will go back to their villages and disseminate their new knowledge and techniques to their brethren and associates in the villages. They act like 'improved seeds of the human variety' who are expected to multiply and spread to full saturation level in the villages much the same way as the improved seeds of crops do even now through the village seed farms.

Training of presidents and members of panchayats.—Orientation training will be provided to presidents and members of the village panchayats in camps organized on similar lines as for the gram sahayaks training.

Particular emphasis will be given to the necessity to assume power and responsibility in running their panchayats. With the passing of the new Madras Panchayat Act, 1958, it is a vital necessity for the panchayats and their leaders to know how they should function and decide the line of action for their advancement utilizing the financial provision and technical assistance made available to them by Government. The Block staff will be attached *in toto* as executive functionaries at the Panchayat Union level whose jurisdiction will be co-extensive with that of an Extension Block. The Block Development Officer will be the Commissioner for the Panchayat Union. He, along with his Extension Officers will carry out the mandates of the Panchayat Union Council. The District Officers will provide them the technical guidance and supervision.

Training of Panchayat Secretaries (Executive Officers).—This will be an institutional one extending over a period of about three months (2½ months at the training centre and half a month in the field). The proposal is to establish one training centre for each district. The object of this training will be to educate the Panchayat Secretaries in the proper method of discharging their responsibilities to the panchayats they serve and enable them (panchayats) to discharge their obligations in turn to the people who have elected them.

Training of Block Extension Officers.—This training will consist of both 'job training' and 'orientation training'. The orientation training will be arranged by the Ministry of Community Development at its existing training centres for Block Extension Officers. The job training will mainly consist of instructions on the State Panchayat Act and Rules and Regulations framed thereunder. The officers at the State and district level will be in charge of this programme.

For achieving some uniformity of approach in panchayat work through the job training the Ministry has proposed to bring together the State Panchayat officials at the State level for a short orientation camp and joint discussions of the problems. They will also evolve the methods of imparting this training to the Extension Officers in Panchayats.

Training of non-official members of the Block Development Committee.—This training is envisaged to be in two parts. Part I would be training in approach and attitude, general awareness and rights and responsibilities. It will be a seven days' camp where about half the time will be devoted to talks and discussions by different instructors, and visiting lecturers; the other half would be devoted to field visits, practical demonstrations, etc. Part II is meant to be a subject-matter training and a continuous process. It is the intention to entrust the responsibility for this programme, as far as possible, to non-official voluntary organizations—education, social service and others who have the requisite facilities and also the experience for the purpose. It has been estimated that the non-official members will be in the region of 150,000 when the whole country is covered under the Community Development Programme. For Madras it will be roughly about 18,000. In view of the magnitude of this programme and also the availability of the trainees only during off-seasons, it is proposed to have

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Linguistics

and Tamil

SRI T. P. MEENAKSHISUNDARAM.

Linguistics is the science of language. Though she is the latest to join the charmed circle of sciences in the West, she is really as old as Panini and Tholkappiar in India. It is the study of Panini in the West that in the last century ushered in this science. Panini and Tholkappiar dealt with living languages as spoken by men around them. But the nineteenth century had such a contempt for the spoken tongue that it always looked upon the book as the authority; the more dead the language the better. Its pre-occupation with the language of the past gave us the conception of history of these languages, thanks to the prevailing atmosphere of Darwinism and the recognition of the inter-relationship amongst the languages of the West and the Sanskrit. The historical and co-operative method at the hands of Dr. Caldwell, nearly a century back, brought out the existence and importance of the Dravidian family of language. The scientific spirit which was in the air inspired the scholars perhaps over-enthusiastically to speak of sound laws. But there were always irregularities and the age of democracy which was dawning then, drove them to the study of the spoken dialects which sometimes explained, as it were, these irregularities by giving the missing links in the law or theory. Dialects—their location, their dispersal, their decay, their contact and mutual influence with the improvements of the method of such studies—have developed into the Science of Dialect Geography. The linguistic survey of India judged by the standards of the time of its production, was perhaps the best and the most extensive as covering the great sub-continent of India. Unfortunately, though there is a volume on the Munda and the Dravidian languages, their dialects are not studied in detail.

The twentieth century, the century of the child, has brought to the forefront the problem of teaching languages especially the problem of teaching the standard language without at the same time hurting their self-respect and their democratic spirit to these children, from regions and communities who, because of their isolation within their dialects had not known the standard. An analysis of the structure of the language for this purpose, a comparative knowledge of the structure of the dialect of the child and the standard language to be taught, as distinguished from the ortho-

dox grammars and as correlated to the psychology of the child learning was found necessary. In the Global wars when distance was annihilated and the one world idea gradually arose, along with international contacts, there arose for some at least in the embassy, in the trade and in the army when the soldiers were sent to distant lands speaking foreign languages, the necessity for learning to speak foreign languages without tears and without waste of time. The multi-lingual countries like India, Russia and America brought in the problem of studying more languages than one. In this century, America slowly came to assume greater importance. That continent had, from early times, the Red Indians with their unrecorded languages; and American linguists, naturally interested in the study of these languages, laid the emphasis on the spoken tongue. The part played by the Missionaries in the study of the dialects of the Dark Continent of Africa and other parts of the world really laid the foundation for a scientific study of phonetics—the science of speech sounds, of phonemics—the science of the significant sounds in the languages and graphemics—the science of devising the writing system for any language especially the unrecorded one, so important when the script reform is in the air. The old study of etymology gave room for the scientific and objective study of morphemics and syntax. Semantics or the science of meaning and stylistics have been neglected because as yet they have not been amenable to an objective study.

No longer do people start with some pet theories as some word like *sul* or the demonstrative particles being the basis of all words and proceed to explain all words on this preconceived theory introducing all kinds of changes according to their sweet whims and fancies as though the consonants counted for nothing and the vowels had the pliability of their theories. The sounds, words and structure are first studied and this inductive study suggests the uniformities, as in every other science. Every change has to be explained on the basis of well established uniformity found in the language itself. Accidental similarities of words do not count for anything in proving affinities between languages. The uniformity of contrast is much more relevant in this field, for establishing a law of change in the related languages. As a matter of fact, this study of contrasts today rules every sphere linguistics.

This short history brings out the importance of this study in the modern world especially in modern India. The Madras State has made Tamil its State language and this raises the problem of developing an effective language or dialect not only for administrative, legislative and judicial purposes but also for scientific and technological purposes as an effective medium of instruction and expression. The long introduction here given is to point out the developments to be achieved in Tamil in future. We thus avoid the unnecessary problem of distribution of responsibilities for the past neglect so usually charged with emotions. Not the past but the future is what counts. This gives us a picture of the future plan to be laid out in detail and an idea of the required effort and enthusiasm. The Madras Government realizing the importance has not only during the vacation but also when the college was working sent its Chief Professor of Tamil in the Presidency College to co-operate with the Five-Year Linguistic Project of the Deccan College at Poona, inaugurated by Sir Ralph Turner in May 1953, thanks to a grant from the Rockefeller Foundation of New York. The project is coming to an end with this year. It has held every year Summer Schools and Autumn Seminars at Poona, Dehra Dun, Annamalaiagar and Mysore to which Tamil students were taken by the Chief Professor of Tamil for linguistic training. These students started with a knowledge of two different families of languages—their greater familiarity with English and Hindi—in addition to their knowledge of Tamil, created a favourable impression on all. The project had sent two Tamilians for intensive training in linguistics in the universities in United States of America for two years. Year after year, as in other languages, one or two Tamil Masters in Arts had been selected as fellows of the project getting Rs. 250 per month to undergo intensive training in linguistics at Poona, to which come American and British professors to teach linguistics to these fellows. After the period of the project, the Chairman of the University Grants Commission had agreed to meet the expenditure of running the Summer School in 1960 and for the period of the next Five-Year Plan, at his suggestion and on the recommendation of the Conference of the Vice-Chancellors and Linguists organized by the Vice-Chancellor of the Poona University, the Linguistic Society of India appointed a committee to work out the blue-print for the development and organization of linguistic studies in India. The Madras Government permitted its Chief Professor of Tamil to accept the Presidentship of the Linguistic Society of India and to be a member of this Planning Committee. That Madras is taking a keen interest is shown by the fact that Sir A. L. Mudaliar is the leading light of this committee. Under his aegis, the Madras University is providing for the examination at University level in nearly twenty languages of the West and the East, both classical and modern. The Annamalai University is wholeheartedly co-operating in the development of this plan. It has more or less been recognized as the All-India Centre for Dravidian languages and as the All-India Centre in the South for Phonetic Laboratory. The Central Government had, at the time of the celebration of the Silver Jubilee of this University made

a handsome grant of three lakhs of rupees for the foundation of a Department of Dravidian Linguistics. Honourable C. Subramaniam, Minister, Government of Madras, inaugurated this department. An expert committee of linguists of all-India importance under the Chairmanship of Dr. Chatterji suggested a programme of work for an Etymological dictionary and other works. A teacher was deputed to the United States of America for intensive training in linguistics for two years, has given a grant of three lakhs and forty-five thousand rupees for this department—buildings and a phonetic laboratory.

The Tamil country has to concentrate on the following, if it has to fall in line with the advanced countries in the world:—

- (1) Indexing of the words in all the books in Tamil and all the Tamil inscriptions.
- (2) Giving training in linguistics in B.A. and M.A. courses and awarding research degrees in linguistics.
- (3) Dialect study—Analysis and description of all the different dialects of Tamil and the dialects of other languages spoken within Madras State.
- (4) Preparation of descriptive grammars for the dialects and the classical texts and inscriptions.
- (5) Preparation of descriptive grammars of modern spoken Tamil.
- (6) Preparation of Historical grammar of Tamil.
- (7) Preparation of Historical Dictionary of Tamil.
- (8) Preparation of an Etymological Dictionary of Tamil and an Etymological Dictionary of Comparative Dravidian.
- (9) Comparative study of Dravidian languages.
- (10) Publication of texts on scientific lines, translation of important works in Tamil into English and placing them before the world.
- (11) Establishment of a language school with facilities for teaching, from the scratch, the important languages of India and the West on modern lines, through evening classes and through provision in the Graduate and post-Graduate courses. (This is necessary for creating the right kind of atmosphere especially in these days when one's hatred of another's views and linguistic fanaticism unfortunately is turned into an irrational hatred of the language of the other. The school is to be one like the London School of Oriental and African Studies at London and The Foreign Language Institute at Washington D.C.)
- (12) Improving the methods of teaching the languages.

There is, in spite of these pressing needs, at present too much of reduplication of work, lack of co-ordination and evaluation and understanding of the facilities available in various places. Our State Government has, therefore, realizing the urgency and importance, have proposed to constitute a Council of Tamil Development and Research and inaugurate it on the next Republic Day. That will be the inauguration of the Republic of Tamil Studies, so important in all walks of modern life in the Tamil land.

TAMIL LITERATURE DOWN THE AGES

SRI R. S. DESIKAN.

Tamil has a rich and noble heritage. She is neither a younger nor an elder sister to Sanskrit. She is coeval with her. Perhaps her hoary antiquity is shrouded in the far-off mists of time. She is old, yet ever young. Time writes no wrinkles on her victorious brow. Her charming and melodious voice rings across ages. We still use the very words that were uttered several centuries ago in the humming, splendid city of Pukar.

'Agastiyam and Tolkappiyam' are ancient treatises on grammar; and from this one may easily infer that there must have existed a glorious body of literature which perhaps perished with the long passage of time. Even our Sangham classics might have sunk into utter oblivion but for the noble, disinterested, strenuous and ceaseless labour of Doctor U. V. Saminatha Iyer. It is he that has unearthed the hidden and buried treasures of our literature, of which any nation may be legitimately proud.

In the Sangham classics there shines the very well of Tamil undefiled. They mirror a rich civilization almost untroubled by the unquiet thoughts and obstinate questionings of the life to come. Like the Greeks, they revel in the sheer delight of the senses. There is a humanistic approach to literature. They are saturated with and soaked in the infinite book of nature. Even time is marked and measured by the procession of the seasons and the blossoming of buds and the unfolding of flowers. The winds too are named after the directions whence they blow. Their keen observation of nature and their minuteness of detail in their descriptions fill us with wonder.

The dominant features of the Sangham classics are war and love. In 'Kurunthogai' we hear the beloved singing in praise of the majesty and splendour of the love of her lord.

"Vaster than the earth, loftier than the sky and far deeper than the sea is the love of my Lord of the hills."

In the midst of the clang and clash of arms, in the midst of clink and clatter of wine cups, in the midst of the wild dalliance of love, there are heard majestic utterances of some solitary poet—utterances that embrace the whole humanity; but none may deny that music and love-making are the meat and drink of their lives. Too much indulgence in these things has spelt their ruin; and their sensuousness has resulted in unbridled sensuality. Perhaps the decline and fall of a

great civilization in Pukar is the outcome of man's excessive delight in the sordid pleasures of the senses. It is Thiruvalluvar that has striven to stem the tide of sensuality that set in. He is a great reformer of a very high order; and his lofty ethical standards recall to us Christ's Sermon on the Mount.

The spirit of poetry which the Sangham classics breathe has an elusive charm of its own. It does not attempt either at alliteration or rhyme. It has a subtle harmony and an ineffable cadence, which a trained ear and highly cultivated understanding and refinement alone can discern. 'Ahavalpa' which may correspond to blank verse in English is their medium. It has attained its ripeness and rounded perfection in the hands of Elankov and Sathanar. With the impact of Jainism and Buddhism, there has sprung a deep distrust of the pleasures of the senses. It is true that the author of 'Silappathikaram' describes the height of a civilization given to an excessively luxurious living. Music and dance have reached their acme of perfection; but towards the end of the 'Lay of the Anklet' the artist in him gives way to the teacher in him; and he too has begun to preach the instability of human glory and the vanity of human wishes. He has his own sad misgivings about a people bent on an aesthetic sense and mode of life divorced from all moral fibre and strength.

In 'Manimegalai' the zeal of a reformer is running to excess. One has to confess that it is nothing but a piece of violent propaganda for the dissemination of the teachings of the BUDDHA. However, one is keenly alive to the poetic charm of these two lays. The negative capability of ELANGOV, his fine artistic temper and his metrical perfection cannot but arrest our attention. None may deny the presence of choice words and measured phrases in 'Manimegalai'.

The bellicose and warring element in man cannot be effaced; nor can the instinct of love be wiped out. They must find a new outlet; and have to be sublimated. With the Alvars and the Nayanmars, the war without has become a war within; and human love has been transfigured into divine one. The love of nature and art is never dead. For instance, APPAR while describing the grace and glory of the Lord bursts into the following strain:—

"Delicate as the breath of May, soft as the whispering south wind, sweet as the throb of a well-tuned

lyre, mellow as the gleam of the twilight moon, resonant as a bee-haunted mere, the spirit of the Lord steals into me."

These mystics are deeply read in the classics and have pressed into their services all the poetical devices of the classical age for giving expression to new patterns of thought and expression.

The deep researches which the first three Alvars have carried on in the laboratory of their own souls have a peculiar value of their own. In the rise and fall of the waves of the sea, THIRUMAHISHAI ALWAR catches the dance and rhythm of the whole creation.

We come across the luminous understanding, the fastidious taste, and the urbanity of Perialvar, the lyric rapture and splendour of Andal and the deep lament of Thonderadipodi over the melancholy waste of his youth, in the lascivious laps of women. The majestic march of Thirumangaimannan's verse has exercised a great influence on Kamban.

In Nammalvar we find a rare blend of the intellect, emotion and feeling, which melt into one vast flood of splendid spiritual experience. By honouring Tagore, the far west has really paid a glowing tribute and homage to this South India saint; for he has anticipated almost all the thoughts and meditations enshrined in the 'Gitanjali'.

We can never forget the peculiar lilt and melody of Sambandar's verse, the fearless and majestic utterances of Appar and his depth of thought, and ripeness of understanding, the passionate devotion of Sundarar, and the soul-subduing and tear-compelling poems of Maniekavasakar.

The period ranging from the sixth century A.D. to the ninth is indeed a glorious one in the history of Tamil literature. It is no exaggeration to say that we have an imperishable body of devotional literature, the like of which the world is yet to see.

The Ninth Century is also remarkable for the creation of a great epic *Jivakachinthamani* whose author instead of adopting the 'Ahavalpa' has explored the possibilities of 'viruththam'. Indeed he is the forerunner of Kamban, who by the alchemy of his genius has improved upon the 'viruththam' adopted by his predecessor.

Thirukathathevar has profited a great deal by the accumulated poetic traditions of ages. Silappathikaram, Manimegalai and Perunkathai—all these epics are couched in 'ahavalpa' and Jivakachinthamani is the first experiment with an epic in this new vehicle of poetry.

The marriages which are celebrated in all their sensuousness, pomp and glory are not marriages in the truest sense of the term. They mean the acquisition of various frontiers of knowledge and experience on the part of Jivakan, the hero of the epic. In the epic there is the harmonious development of the various faculties of man which are needed for the realization of the far off goal to which the whole creation moves. The epic describes the gradual evolution of a perfect soul on earth; and Jeevakann's endeavour in various fields of knowledge is only a prelude to the fulfilment of his ultimate destiny that waits him in his voyage to the unknown.

Mere orgy of emotion without the steadying and sobering influence of the intellect may result in a maudlin kind of literature; and there is an imperative need for a Sankara; and Sankara is born at this hour. But too much preoccupation with mere intellectual process without the leavening influence of love may pave the way for arid tracts of profitless reasoning; and a Ramanuja is necessary. Too much emphasis upon any aspect of life upsets the even balance of life. Thus we see the human cycle of the varying ascent and descent of love and knowledge. Only in the happy fusion of love and intellect lie the rich promise and the bright hope of humanity. With the advent of Ramanuja, the springs of love which have been choked with the desert sands of air reasoning are flung open. We find Kamban borne aloft on the crest of the released wave of feelings. Sekkezhhar's Periapuranam and Kamban's epic are born. The remarkably limpid flow of Sekkizhar's narrative, the purity of the vehicle with which he handles the theme and the deep religious feeling which colours every event of the devotee—all this has a great claim on our attention.

In the amplitude of knowledge and width of learning, in daring imagination, in the uniform level of excellence of the stately march of verse, in the strenuous endeavour to justify the mysterious ways of God, in the creation of a literary epic, in the utter scorn of kingly power, in the design of a new Republic based on the freedom of thought and love, Kamban resembles Milton. What Wordsworth says of Milton may be said of Kamban—

"Thy Soul was like a Star, and dwelt apart
Thou hadst a voice whose sound was like the sea."

After Kamban there has been a kind of darkness in the world of creative literature. It is not an unrelieved gloom. Here and there we have some lights of a Villi or Arunagiri gleaming through the enveloping darkness.

There is a spiritual revival in the seventeenth century. Thayumanavar, Kumaraguru Swamigal and Sivapragasa Swamigal—all these devotees have made their appearance. Their writings are quivering with a rare religious feeling; and they cannot but enrich and ennoble Tamil literature. In rare felicity of expression and the revival of various metres, Kumaraguru Swamigal stands unique. In the breadth of outlook, in wide toleration and in mystic experiences, Thayumanavar recalls to us Nammalvar of the sixth century. In the hands of Ramalinga Swamigal who belongs to the nineteenth century, Tamil has become a very flexible instrument; and his noble utterances flow from an abundance of the heart and glorious vision of the Lord. As we read his poems, we feel as though we were floating on an endless stream of melody. Bharathi follows in his footsteps.

With Bharathi, we enter upon the threshold of the modern age. He is a product of three fertilizing streams of literatures—Tamil, Sanskrit and English. Wordsworth, Shelley and Keats have really shaped the furniture of his mind. He is in the tradition; and one cannot but share the opinion of T. S. Eliot who in his remarkable essay "Tradition and Individual Talent" has drawn our attention to the great value of tradition. The individual talent is nothing but a mounting wave against a rich and wide background of a sea of tradition.

FOLK DANCES OF TAMILNAD

Kāragam.

This is a form of folk dance which is very popular in the southern districts of the State. The dancer dances expertly balancing a mud pot or a brass vessel on his head to the accompaniment of Nagaswaram music. He whirls around and yet the vessel never falls from his head. This art needs expert training and great precision in movement. This is danced during village festivals and to placate the Gods.

Kavadi.

The *Kavadi* is an arch-shaped thing which is balanced on the shoulder of a person at the junction of the neck and the shoulder while the dancer dances round. He deftly moves the *Kavadi*, without touching it, to all parts of his body. The orchestra is *Naiyandi Melam* consisting of two *Nagaswarams*, two *thavils*, *pambai* and *thamukku*.

"No poet, no artist of any art has his complete meaning alone. His significance, his appreciation is the appreciation of his relation to the dead poets and artists. You cannot value him alone, you must set him for contrast and comparison among the dead."

Bharathi is the poet and apostle of our nationalism. The blind and the mute have found an eye and a voice through him. The inarticulate longings and aspirations of a people groaning under the yoke of an alien rule, have found a vent in him. But his National songs may not touch us as deeply as they did, when they were first uttered in the first flush of the dawn of our struggle for freedom. However, the beauty of poetic expression and the felicity of phrases will have an appeal as long as Tamil language lasts on earth. His "Cuckoo song" is the roof and crown of his artistic creation; and his songs in praise of Kannan have the rich flavour of the Sangham classics. These lyrics will withstand the ravages of time. The lone and terrible voice of Panjali in Panchali Sabatham is only the voice of a down-trodden Nation.

The tyranny of the British Rule in India is indeed a blessing in disguise. Our acquaintance with English has flung open the doors of Western culture. Our contact with English literature has enriched our own in a remarkable manner. The growth of a vigorous Tamil prose style is indeed a product of it.

After Bharathi, the stream of poetry has not gone dry; we find several poets walking in his footsteps. The genuine breath of poetry in "Bharathi Dasan", the patriotic fervour in Namakkal Kavignar's songs and the majestic sweep and glow of poetry in Yogyar's "Ahalya" and the exquisite charm and felicity of expression in Desigavinayagam Pillai's verse are but a prelude to a greater achievement yet to be born. There are also other kindred voices of poetry heard; and they show a rich promise of the future development of poetry.

Puravi Attam or Dance of the Dummy Horse.

The figure of a horse is made of bamboo splinters and the frame is covered with thick paper. It is then lavishly decorated so as to represent a war horse. The dancer then stands on stilts through a hole on the back of the horse, the upper portion of his body showing through. In this way, the man appears to be riding the horse. He then dances to the music of the orchestra. Though the music and dance are of the simple folk type much skill and variety are displayed. This is usually danced during festive occasions.

Mayil Attam or the Peacock Dance.

This dance is more like Puravi Attam. The only difference is that the dancer does not wear any stilts and the dummy of a peacock replaces that of a horse.

In the region of short story, we may pride ourselves on our remarkable achievement; and some stories may rank with the best that the world has ever produced. The development of novel has not yet attained a great level of excellence and maturity. Most of the novels are nothing but a string of incidents, and they cannot satisfy the highly critical sense of readers who have drunk deep at the masterpieces of a Tolstoy or a Dostoevsky or a Proust.

An attempt at characterization is being made; and there are novelists who have launched on a psychological

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by an officer set apart for this purpose and in a period of three to six months. The higher grades those belonging to the Indian Administrative Service and the State (the old provincial) service should be trained in an institution where in a year or two they could be taught the subjects especially required in and for administration—like the Principles and Practice of Public Administration, Economics, Public Finance, Accounting, Statistics and their use. This training should be in a residential institution where the recruits, through the social life of such an institution, would get that training in *esprit de corps* and team work so necessary to ensure and maintain co-operation and morale in the higher services of the State. Here also they would be given opportunities for some form of social work and service in a nearby college or in the city so that he could get that human touch so necessary in the administration of the welfare services.

It is only by insistence on high standards of general education before recruitment and on training for the new and difficult but interesting tasks that await the administrator of the planned welfare State that this kind of State can become a reality and not remain a dream.

67
FOLK
DANCES



OF
TAMILNAD

VIGILANCE WELFARE

SRIMATHI V. T. LAKSHMI,
Chief Inspector of Certified Schools and Vigilance Service.

The birth of Vigilance Welfare in the world is an interesting narration and many of us may not have known it. The following account traces it for our benefit.

The Vigilance Welfare is the offshoot of the System of Abolition, which in its turn is one that challenged what is known as the System of Regulation. The term regulation is applied to the system and plan of clustering brothels or houses of ill-fame in a specific area, called the Red Light Area, so as to segregate them from the social circles of a City. In the days of yore, in many countries the Governments took it as a responsibility on their part to conduct and administer the brothels in the Red Light Areas (any places where brothels in numbers are located). Just as the modern States think that it is their duty to provide hotels, rest-houses and tourist centres for their citizens and foreign visitors, the States of bygone days considered it necessary to maintain houses of ill-fame with different types of girls who would provide entertainments and sexual satisfaction to their lonely citizens and foreigners. The Governments of such States organised measures for the registration of brothels or centres of commercialised vice, as it is now in vogue relating to hotels, clubs, associations, etc., and arranged for periodical medical inspection, examination and treatment of the girls and young women residing in brothels for prostitution so

Girls rescued from the grip of vice are given training in some useful crafts. Here is a class in Embroidery in the Stri Sadana.



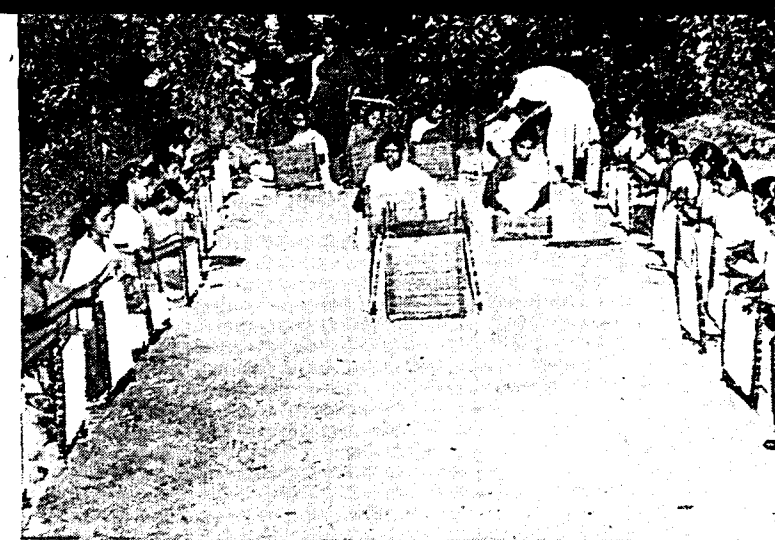
that, the sickly among them might be detected and segregated in time for observation and treatment and, if necessary, even barred temporarily from receiving men-visitors. The Governments also provided sufficient number of officers to collect heavy taxes from the traffickers or managers of brothels and the inmates thereof on the basis of their incomes. It is interesting to note that the Governments even fixed the rates of fares that should be received by the managers of houses of ill-fame and the manner in which and the tenure of the sexual services were to be rendered in return by the inmates of brothels. In places like Germany, France and, to some extent, in England, in the West and Japan and several countries in the East, the Governments had run separate departments to take census of, maintain and to regulate the registered brothels in various cities in their States. A notable feature of such departments was the issuing of licences to "good and healthy brothels" (that is, brothels which had handsome, cultured and healthy girls to offer for sexual services) and withdrawal of the same when they deteriorated as per the medical opinion. What is more annoying to note was that individual inmates of brothels were classified into various groups as A, B, C, as respects their physical fitness and capacity and personal capability to satisfy their profligate visitors' demands. Such clarifying divisions of girls were carefully done with a view to provide maximum protection from the ravages of venereal diseases, the natural and inevitable corollary of promiscuous and profligate life, to men-visitors to brothels.

The system of regulation was thus based on the ancient maxim that "Prostitution is a necessary evil". It was also based on the assumption of the inevitability of the prevalence of the double standard of sexual conduct. It was erroneously believed that unless a man, who was considered to be one of better status than a woman—and constituted as he was,—was allowed sexual outlets, whenever the need was felt, his health would be impaired. It was accepted indirectly that women had no mission to carry on except to please men in all respects even at the cost of their honour, purity and decency. The argument was that if a few feeble-minded and professional women and their progeny

were set apart in a portion of the City for the preservation of health and incidental sexual satisfaction of men, under cautious medical inspection, no harm could be wrought upon the individuals or even on society. It was also foolishly upheld that if regulated prostitution was not permitted, it would lead to clandestine prostitution and every family women would be exposed to the unbridled profligacies of men and that such uncontrolled and expansive prostitution would cause the vast spread of venereal diseases producing thereby disastrous effects on the nation. Thus, the system of regulation was flourishing, perhaps all over the world during the 19th Century.

Now, let us glance at the results of the double moral standard: (1) commercialised prostitution, (2) brothels, (3) the ravages of venereal diseases—as the regulation did not provide for any medical check or supervision for the men-visitors to brothels and hence through them these diseases spread—(4) a vast commercial profit-making traffic in women and girls, with its army of managers, procurers, abettors and so on. So, to sum up, the regulation negated the eternal principle that "there is unity of the moral law and that there is no sex in right and wrong".

It was against this one-sided and man-made system, which not only condoned immorality in men but officially made elaborate provision for its perpetuation and exploitation of women that a great English lady, Madam Josephine Butler, with a band of women, and later men workers, launched a ceaseless fight. She travelled wide and made a detailed survey and study of the System of Regulation and the consequences thereof in all aspects. Then she roused the world against the legal imposition of the evils of regulation. She contended that equality was the basis of all morality and that women and men were of equal and infinite human value; that what was morally wrong could not be medically right; and that no law should operate against women only on the ground of their moral character, unless they had offended against the law itself. In her opinion, the regulation bred and spread contagious diseases through brothels, in spite of the medical inspection, which was futile, as it applied only to one of the two partners in the sexual indulgence, based upon commercialised gains. The system, she said, threw a great slur on the womanhood by enslaving women and encouraging them to be the feeders of men's sexual profligacies. A committee of medical experts formed to report on the necessity or otherwise of the existence and continuance of the regulation, also opined that "the existence of regulated prostitution in no way diminishes the danger of infection". "For, clearly, medical inspection, which leaves untouched one of the partners in a promiscuous act, is unreliable so far as prevention of infection is concerned." Besides, according to them, there must always be a class of women who cater to the rich and "respectable" clientele, who will not move and cannot be moved into a segregated area, but would carry on their trade clandestinely." At no time and nowhere in the world had it been found possible for any legal or police authority to confine the whole of prostitution population within recognised bounds. According to them, the regulation did not



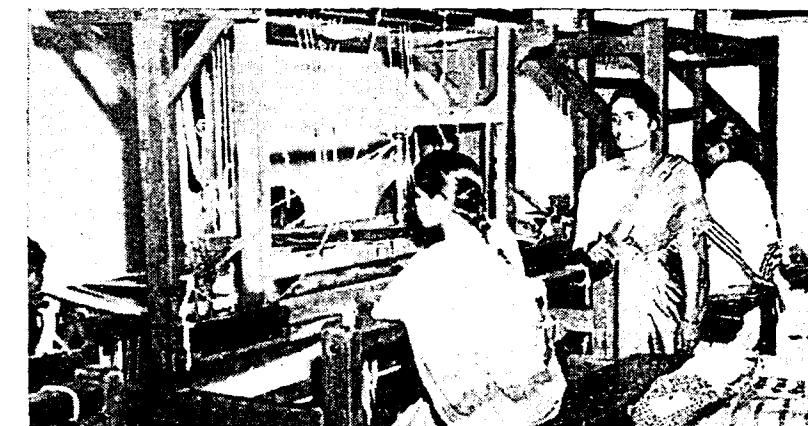
Match industry on a minor scale is run in the Stri Sadana.

diminish or do away with the clandestine or amateur prostitution but, on the other hand, served as a leading example for the same. Obviously, it did not safeguard the spread of contagious diseases as well. So, the committee decided against the continuance of regulation system as early as in 1914.

It was for these reasons that Madam Josephine Butler pleaded that the regulation in the countries might be replaced by what she called "Abolition". One of the principles of Abolition was that no civilised society or Government should register their official consent for the commercialised system of prostitution in their countries. Even an inevitable evil should not be fostered with a legal sanction by them. It was high time that the Government had a survey of the conditions of prostitution and took steps to remove the causes nurturing and necessitating it. Besides, early steps, as a preventive measure, should be adopted to the proper upbringing of children in improved house-conditions with proper education at schools. Above all, propaganda should be constantly done for the enlightenment of society at large against the nation-wide disastrous consequences of the commercialised prostitution. Instead of wasting time and energy on the arguments for the perpetuation of an ancient and ugly evil, the Governments and the public should direct their time, energy and all available resources to the raising of the socio-economic standards of living conditions of people, so that the evil, chiefly based upon socio-economic causes, might have its

(Continued on page 71)

A section of the weaving class.





Dr. V. R. THAYUMANASWAMI,
Director of Medical Services.

The general aim of medical programmes during the Plan is to expand existing medical services to bring them increasingly within the reach of all the people and to promote a progressive improvement in the level of national health. The specific objects are—

(1) Development of technical manpower through appropriate training programme and employment of persons trained;

(2) establishment of institutional facilities to serve as basis from which services can be rendered to the people both locally and in surrounding territories; and

Such bright and clean wards in the hospitals quicken the recovery of the patients.



(3) family planning and other supporting programmes for raising the standard of health of the people.

Medical Education.

Organized medical teaching was started in Madras with the arrival of the British in the first half of the nineteenth century. In about 1824, a medical school was established in Madras. This medical school was converted into a medical college in 1835 and is now known as Madras Medical College. Recently the Stanley Medical College at Madras and Madurai Medical College have been established and there is also a private Christian Medical College at Vellore. Another Medical College has been started at Tanjore this year.

Owing to medical relief with the advent of the two Five-Year Plans, much headway has been made in the way of increasing the number of hospitals and dispensaries. More Tuberculosis Clinics, Dental Clinics, V.D. Clinics and Specialist departments in the various hospitals have come into existence. Last but not the least, the more important units—the Primary Health Centres which deal with both curative and preventive medicine in relation to rural medical relief in the Community Development Blocks and the Employees' State Insurance Scheme for workers have come into being. Simultaneously the indigenous system of

medicine also has been given its due share for contribution towards medical relief. The following few pages will give a glimpse of the activities of the Medical department in the State:—

Medical Education.	Annual admission		
	1950.	1955.	1958.
Madras Medical College, Madras	125	135	135
Stanley Medical College, Madras.	100	110	110
Madurai Medical College, Madurai.	..	65	100
Tanjore Medical College, Tanjore, .. from July 1958.	..	..	75
		Total ..	420

At the end of Second Five-Year Plan, the total number of admissions is expected to be about 445.

Post-Graduate Education.

The following courses of study are provided for in the Madras Medical College, Madras:—

M.D. (General Medicine; Pathology; Bacteriology; Obstetrics and Gynaecology); M.S. (General Surgery; Ophthalmology; E.N.T.; Gynaecology). M.Sc. (Anatomy; Physiology; Pharmacology; Bio-Chemistry; Bacteriology; Pathology and Pharmacy); Post-Graduate Diplomas (Radiology; Venereology; Obstetrics and Gynaecology; Child Health; Ophthalmology; E.N.T. Anaesthesia; Orthopaedics; Clinical Pathology and Tuberculosis) and Post-Graduate Degree in Public Health; B.S.Sc.

In Stanley Medical College, Madras, provision has been made for the following courses:—

M.D. (General Medicine; Midwifery), M.S. (General Surgery), M.Sc. and Ph.D. in Anatomy and Diploma in Obstetrics and Gynaecology.

Upgrade Institutes with Central Aid and Training on All-India basis—

Institute of Obstetrics and Gynaecology, Madras Medical College, Madras—for M.D. Midwifery; D.G.O. and M.S. Gynaecology.

Institute of Venereology, Madras Medical College, Madras—for Diploma in Venereology; Refresher course in Venereology for medical and non-medical personnel.

Institute of Anatomy, Stanley Medical College, Madras—for M.Sc. and Ph.D. in Anatomy.

Institute of Paediatrics, Madras Medical College, Madras—for Diploma in Child Health.

Barnard Institute of Radiology, Madras Medical College, Madras—for D.R., C.R.A. and D.R.A.

Upgraded department.—Department of Social and Preventive Medicine, Madras Medical College, Madras.

Higher training abroad—

Under the Colombo Plan and Central Overseas Scholarship five Medical Officers have gone abroad.

Under the State Aid, two Medical Officers with post-graduate qualification are sent abroad for short-term study tour every year and there are proposals to send two or three Medical Officers for a longer period to obtain post-graduate degree.

Revised M.B.B.S. Course.—From July 1957, the minimum qualification for admission to this course is Pre-University. After that one year Pre-Professional course has to be undergone, after which 4½ years' regular course followed by one-year student—Internship, after which the degree is awarded. This is followed by one-year House Surgery.

Integrated Medicine.—The College of Integrated Medicine imparts training in three indigenous systems of medicine, i.e., Siddha, Unani and Ayurveda and also allopathic system. Minimum qualification for admission is Pre-University after which the one-year Pre-Professional course followed by 4½ years of study and one-year House Surgery. Students qualifying in this course are designated as Graduates of the College of Integrated Medicine. Annual admission 120. There are about 246 rural dispensaries of indigenous medicine.

Research.—A chair of History of Medicine (Indigenous Medicine) with central and has been created with one Lecturer and three Pandits, one for Ayurveda, Siddha and Unani, respectively.

Two Research Officers (Indigenous Medicine), one each for Ayurveda, Siddha and Unani have also been appointed.

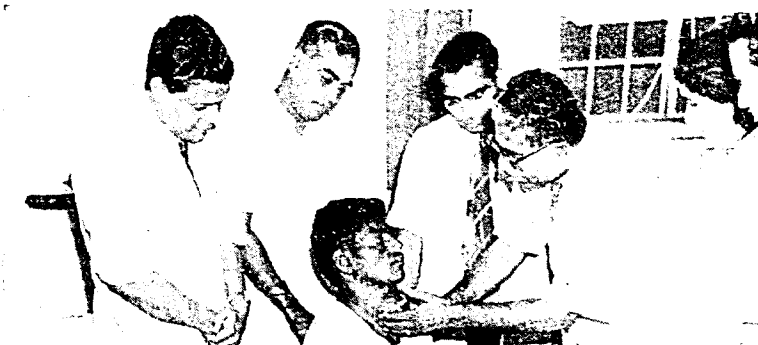
Nursing.—Every year four nurses (head nurses and nurses only) are deputed to undergo post-certificate training in Psychiatric Nursing in All-India Institute of Mental Health, Bangalore. Nursing staff are also deputed for training within India and outside India in Paediatric Nursing Diploma in Dietetics and Public Health Nursing.

An Auxiliary Nurse-Midwifery course has also been instituted and 90 candidates are admitted every year. Integration of Public Health Nursing in the basic course for Nurses was started with the assistance of World Health Organization.

A scheme for employment of married women nurses on part-time basis has been drawn up. They will have to work five hours during day time. This scheme has been approved by Government but has yet to be implemented. They can join General Provident Fund and the Madras Retiring Invalid Gratuity (Non-Pensionable) Rules will apply to them.

Male nurses were being recruited in the proportion of 1 to 3 but now recruitment is kept in abeyance for the time being.

Treatment for cancer is provided at the Cancer Institute, Adyar.



Pharmacy Services.—A three-year course leading to the degree of Bachelor of Pharmacy is conducted in the Madras Medical College. There is also a two-year Diploma course in Pharmacy for Matriculates. Fifteen students are admitted to the Degree course every year and 60 to the Diploma course. There is a proposal to increase the number of seats for the Diploma course to 100.

Dental Services.—There is a four-year course after Pre-Professional leading to the B.D.S. Degree. Annual admission is 20. There is a proposal to increase it further after construction of a Dental Institute. It is also proposed to equip all headquarters hospitals with dental clinics. So far seven dental clinics have been sanctioned and two have been opened and three more are proposed to be opened during 1959-60.

Family Planning.

Family Planning Clinics.	Urban.	Rural.
1 State Government Medical Institutions.	14	59
2 Local bodies including those opened by Corporation of Madras.	8	..
3 Private organisations	3	2

The existing Family Planning Training Institute is to be upgraded as one of the Regional Family Planning Training Centres in India.

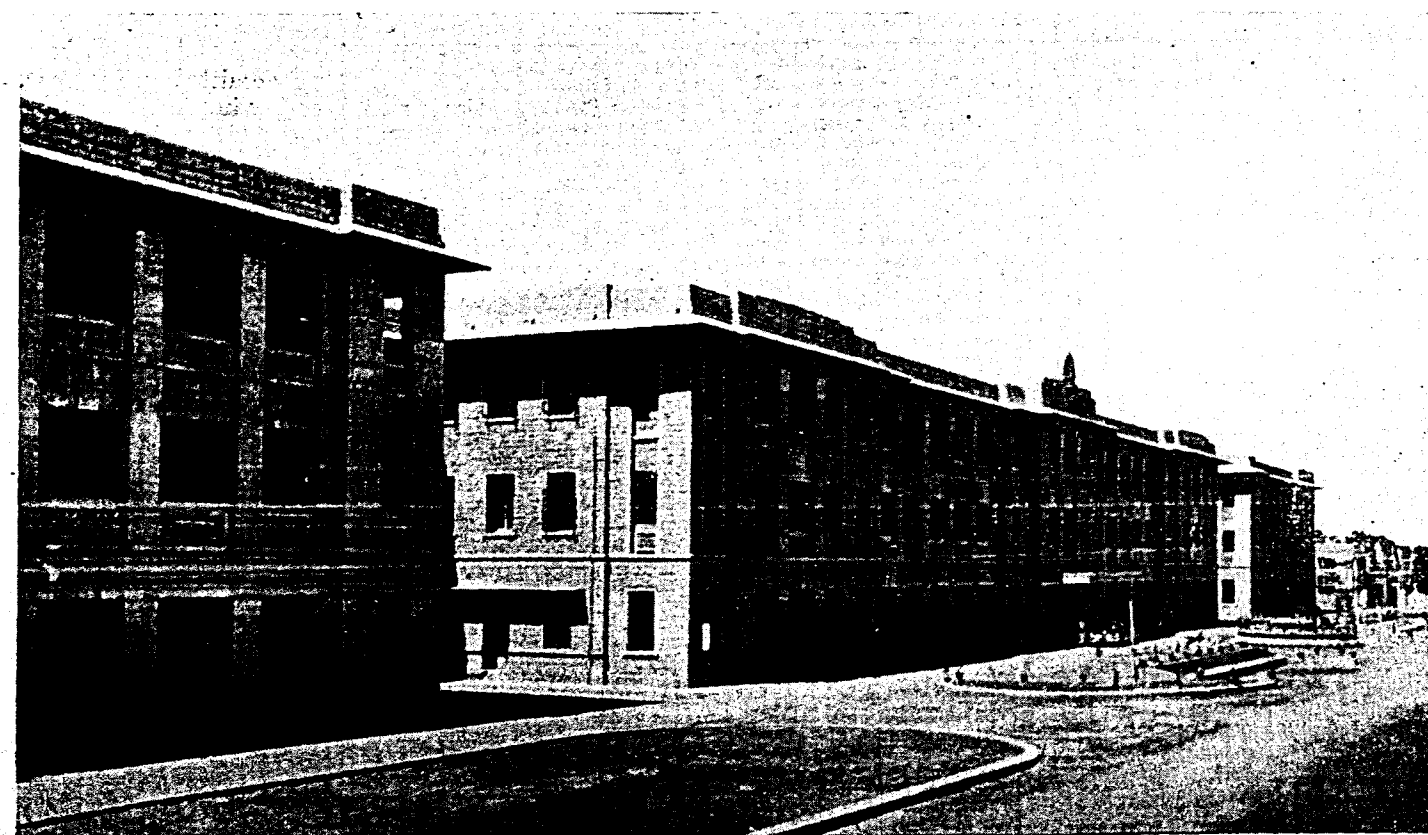
Publications.—Family Planning Manual (English and Tamil); report and personal experience (English

and Tamil); one Act Play (Tamil); safety calendar, 1958 (explaining safe period methods); memorandum explaining the details of vasectomy; memorandum giving instructions to be followed by persons undergoing vasectomy.

An intensive Pilot Scheme for Family Planning was started in October 1957 in the Pudupakkam area. Later this scheme was extended to other Corporation divisions in the City in the shape of Father Information Centres numbering 32 and Mother Information Centres numbering 40, the former centres being located in the Birth and Death Registration office of each area and the latter in every Maternity and Child Welfare Centres.

Arrangements are being made to distribute wooden rosaries free of cost explaining safe period method, and to exhibit film shows on Family Planning. Family Planning staff are functioning in exhibitions for propaganda.

The services of private medical practitioners with enough surgical experience and having Nursing Home Facilities and willing to perform Vasectomy operations on persons sent to them, have been enlisted. They are paid a subsidy of Rs. 25 per operation plus other incidental charges towards penicillin, etc. This scheme was started to benefit persons who feel shy to go to a Government Hospital for undergoing Vasectomy operations or in respect of persons who may not find time to go to a public hospital for this purpose. The scheme



The New Buildings for the Madurai Medical College.

is at present confined to Madras City alone as an experimental measure. The "Madras City Public Employees Family Welfare Scheme" has been sanctioned by the State Government wherein all encouragement and facilities are provided for public employees in Madras City for adopting surgical methods of Family Planning. A cash grant of Rs. 15 and Rs. 25 per case of Vasectomy and Salphingeotomy, respectively, is granted to cover their conveyance charges and other incidental expenses. For performing Vasectomy operation under this scheme, two surgical teams, one at Government General Hospital and another at Government Stanley Hospital, Madras, are functioning on Fridays and Saturdays between 5 p.m. to 7 p.m. Women can undergo the operation under this scheme in the three Government Maternity Hospitals in Madras City. Two nurses have been appointed to contact the families of almost all the public employees living collectively in places like Todhunter-nagar, Government House Estate quarters, Police lines, etc., in the City. Contraceptives are distributed free of cost to persons earning monthly Rs. 100 and below. From 1st January to 30th October 1958, 663 Vasectomy and 1,312 Salphingeotomy operations have been performed. The State Family Planning Board and Co-ordination Committee are rendering good service in this field:

Employees' State Insurance Scheme.—The Employees' State Insurance Scheme was first implemented in Coimbatore in January 1955 covering 36,000 workers and this number later increased to 50,000. Five State Insurance dispensaries, 48 panel doctors and one Mobile Van dispensary are in that area. A Central Medical Store (Employees' State Insurance) functions at Coimbatore, which dispenses prescriptions of costly and special drugs of panel doctors. In November 1955, the scheme was extended to Madras City covering 50,000 workers and this later increased to 66,000 when 14 State Insurance dispensaries and one Mobile Van dispensary have been set up. Here the Medical Officers are of the Service Cadre. There is one panel doctor in Tambaram and one part-time doctor at Red Hills. In October 1956, this scheme was extended to Madurai, Ambasamudram and Tuticorin covering 36,000 workers. Eight dispensaries have been set up in these places. Medical facilities available at Madura Mills, Pandian Mills and Meenakshi Mills were also utilized. Services of Medical Officers of Government Hospital, Ambasamudram, and Lower Dam Camp Dispensary, Papanasam, were utilized. In November-December 1958, this scheme was extended to Salem, Mettur Dam, Udumalpet and Tiruppur covering 20,000 workers with State Insurance dispensaries and a Mobile Van Dispensary. Medical facilities available at Mettur Chemicals were utilized. A lakh and seventy thousand workers are so far covered by insurance. Besides ordinary drugs, costly and special medicines and also medicine which should be prescribed only by specialists are given.

For in-patient treatment, an annexe of 84 beds at Coimbatore, 70 beds at Ramaligan T.B. Sanatorium, Perundurai, are set apart for workers. In Madras, a separate Employees' State Insurance Hospital with 78 beds is functioning. (There are proposals for a bigger and new hospital at a cost of Rs. 24.5 lakhs.) Sixteen



Students of the Medical Colleges come forward to render medical aid to villagers who do not have medical facilities. In this photo, a student of the College of Integrated Medicine is seen giving injection to a woman patient at Gallettipatti, a village near Madras.

beds at T.B. Sanatorium, Tambaram; six beds in Raja Sir Ramaswamy Mudaliar Lying-in Hospital, Madras, are reserved for workers. At Madurai, provision has been made at the Christian Mission Hospital.

There is a mobile X-ray plant at Employees' State Insurance Hospital, Madras. X-ray plants in Government hospitals at Udumalpet and Tiruppur are also provided. At Madras, Coimbatore and Madurai, separate Employees' State Insurance ambulance vans are functioning. In Coimbatore, Madras and Madurai specialists have been appointed. Insured persons suffering from cancer are treated at Government General Hospitals; Government Hospital for Women and Children at Madras, and the Government Erskine Hospital at Madurai.

House visits of insured persons suffering from Tuberculosis are arranged at Madras.

There is a proposal to construct a ward to accommodate 50 more T.B. patients in T.B. Sanatorium, Tambaram. Twenty-two beds have also been reserved in T.B. Sanatorium, Austinapatti. Proposals for mass radiographers and B.C.G. vaccination are under consideration.

Medical Bulletin.—A medical bulletin is published periodically and distributed to all State Government Medical Officers free.

Eye Banks.—There are three eye-banks in the State.

Blood Banks.—The Blood Bank team takes part in various exhibitions for propaganda. There are 19 blood banks in the State. Medical Officers are deputed for training in blood transfusion and resuscitation work. Blood donors are paid Rs. 7 per donation towards allowance for conveyance, etc.

Increase of bed strength.—It is proposed to increase the bed strength in hospitals by 1,075 beds during the Second Plan. Of this, 572 beds have been sanctioned.

Tuberculosis Control.—It is proposed to have one T.B. clinic at each district headquarters hospital. The T.B. Hospital at Otteri, Madras, run by the Corporation has been taken over by the Government. A new T.B. Sanatorium is under construction at Austinapatti in Madurai district. An after-care and rehabilitation centre has been provided in the T.B. Sanatorium at Tambaram.

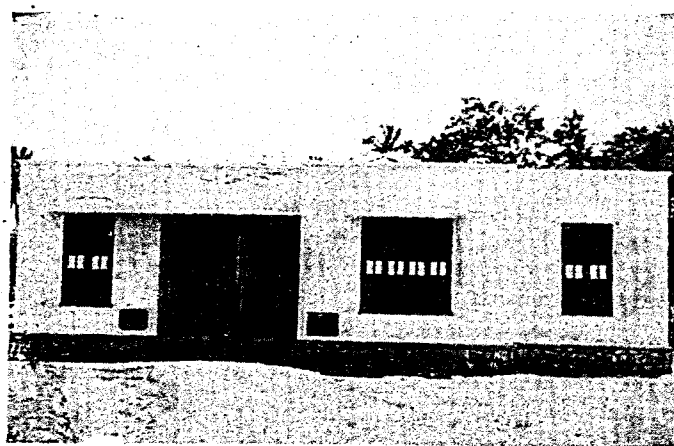
Public Health Laboratories.—One principal laboratory and ten district laboratories are proposed to be opened. Laboratories at Vellore, Palayamkottai and Salem are now functioning. The principal laboratory is to be located at Coimbatore.

Provincialization of Local Fund and Municipal Institutions.—Of the 28 Local Fund and Municipal Medical Institutions proposed to be provincialized during the Second Plan period, 24 have been provincialized and the remaining four will be provincialized by the end of the Plan period. Fifteen rural dispensaries have also been provincialized so far.

Leprosy Control.—A leprosy treatment and study centre is established at Tirukoilur, seven leprosy subsidiary centres are functioning. More subsidiary centres are proposed. One Leprosy Sanatorium for Children is functioning at Ethapur, Salem district.

Child Guidance Clinics in Psychiatric departments.—Child Guidance Clinics function in the Psychiatric departments at the Government General Hospital and Stanley Hospital, Madras.

Primary Health Centres.—There is one Primary Health Centre for every 100 villages. The main services provided are medical relief, maternity and child health care, Family Planning, School Health, Health, Education and control of communicable diseases. Thirty-four Primary Health Centres have been provided with jeep station wagon by the State Government and UNICEF. Most of the Primary Health Centres have got sub-centres. The Medical Officer visits the sub-centres and



A Primary Health Centre at Agastheeswaram in the Kanyakumari district.

villages also round about to render medical aid. Milk powder is also distributed to expectant mothers and pre-school children in each Primary Health Centre with the assistance of UNICEF. It is proposed to establish about 150 to 200 Primary Health Centres in the whole State. So far 94 Primary Health Centres are functioning. Proposals are under way for construction of Primary Health Centre buildings and staff quarters for 77 centres. In cases where specialized care is needed, the Medical Officer arranges to transfer such cases to Taluk Headquarters Hospital. Patients whose monthly income is less than Rs. 100 are given free transport in the jeep station wagon to the hospitals in emergency and those whose income is about Rs. 100, a rupee for a mile is charged.

In the Second Plan, Rs. 232.54 lakhs have been set apart for improvements to teaching institutions and hospitals attached to them. The savings from other schemes are earmarked for the starting of a Medical College at Tanjore.

For the improvement of the Medical Institutions in the City, Rs. 91.02 lakhs have been allowed. Under this scheme, the Women and Children Hospital will get a new Pediatric block and the Ophthalmic Hospital will get mobile Ophthalmic Units. The other hospitals in the City are also provided with new equipments, buildings, etc.

District headquarters hospitals are to be provided with additional buildings and up-to-date equipments at a cost of Rs. 90.44 lakhs. Under this scheme, new headquarters hospitals are to be built at Chingleput, Palayamkottai in the Tirunelveli district and Ramanathapuram. The headquarters hospitals at Cuddalore and Coimbatore are to get new blocks of 100 beds each. The Headquarters Hospital at Tiruchirappalli is to get an additional out-patient block. New nurses' quarters will be built at Salem and Tiruchirappalli.

Taluk headquarters hospitals in the State are to get 1,076 beds more and other improvements at a cost of Rs. 108.56 lakhs.

Rupees 89.88 lakhs have been allotted for opening 200 Primary Health Centres, so far 94 such centres have been opened, and 77 more are under construction.

Of the 14 urban units and 84 rural centres proposed to be opened for Family Planning at a cost of Rs. 10.64 lakhs, 14 urban units and 59 rural centres have been opened so far.

For other schemes, Rs. 124.30 lakhs have been allotted. Under these schemes, more Dental Clinics are to be opened; Local Fund Taluk Headquarters hospitals are being provincialized; nurses' quarters are being constructed; special diet kitchens, T.B. Clinics, Leprosy subsidiary centres, Isolation wards for advanced cases of Tuberculosis and after-care and rehabilitation centre for recovered T.B. patients are being established; an infectious diseases hospital and a mental hospital are proposed to be established at Madurai.



Dr. I. D. MANTRAMURTI,
Principal, Government Veterinary College, Madras.

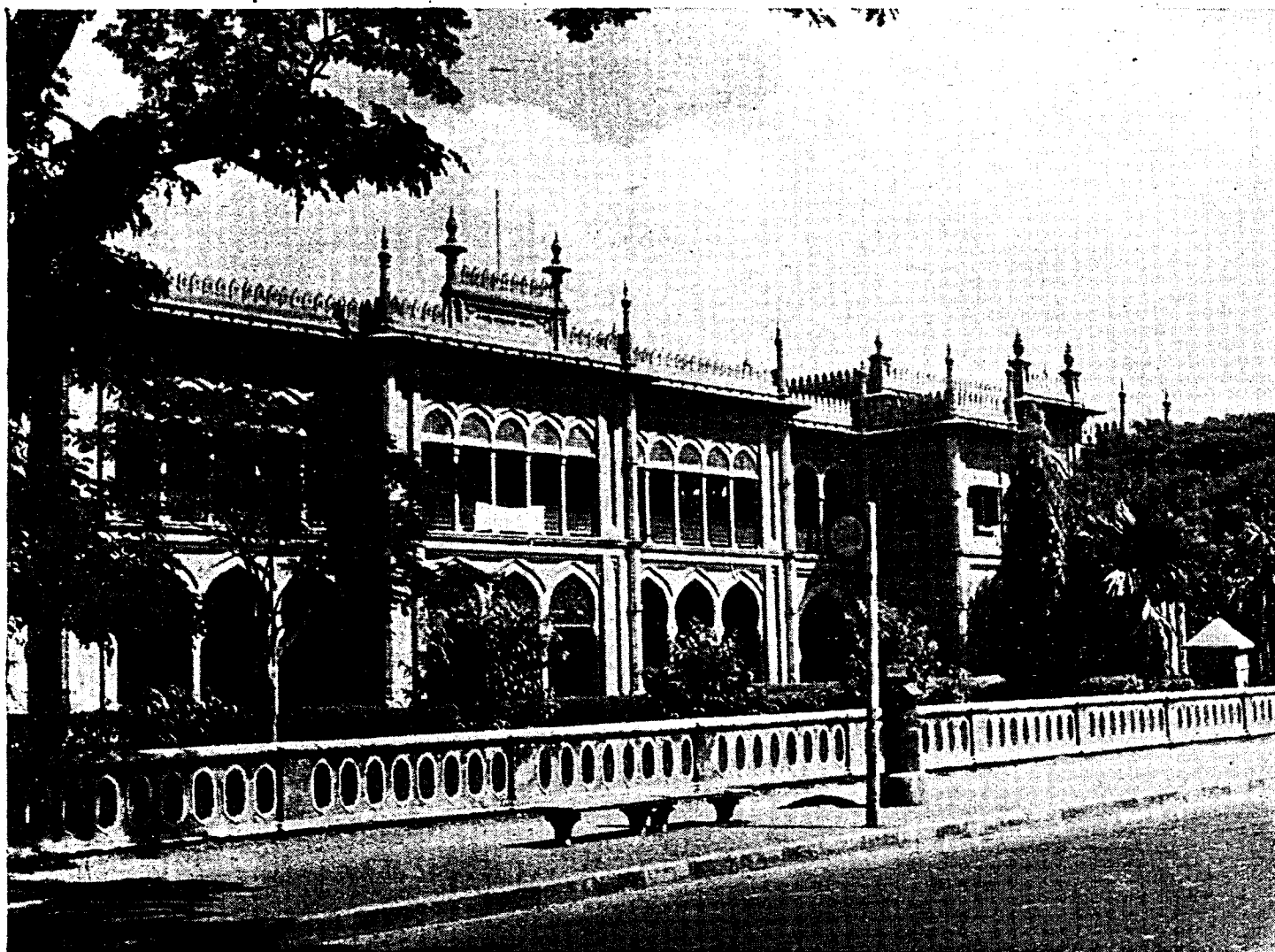
Worship of the cow in India can be traced to the prehistoric times. Animals received considerable attention appropriate to those days and the veneration for the cow has been handed down through the centuries. It is clear that the importance of livestock in human welfare was much appreciated even in the early days of Indian history.

In the British era, the stud farms which they established were looked after by men from Britain since 1774, as there were no Indians who were qualified Veterinarians. Even those persons who were imported from Britain were mostly unqualified. History revealed that qualified Veterinarians from Britain were made available in India only in 1808. This led to the establishment of an Army Veterinary Department in India in the year 1827. These Veterinarians devoted their attention mostly to the study of tropical diseases affecting the army horses, but nothing, however important, resulted by their study. It was only after the advent of some of the outstanding Veterinarians in 1850 that an Army Veterinary School was established at Poona in the year 1862, mainly to train persons for the Army Veterinary Department. Soon it was realized that attention should be paid to the cattle population also, since the diseases affecting cattle were very poignant and sudden in their devastating effects, ultimately paralysing the food position. This resulted in the Government of India appointing the "India Cattle Plague Commission" in the year 1869, to focus their attention on the preservation of livestock. Among the various recommendations of the Cattle Plague Commission, the establishment of a Civil Veterinary School to train Indian agriculturists was one. Accordingly the first Civil Veterinary School was established at Babugarh in the year 1877 with the medium of instruction in Urdu. Since then there was great demand from various States for qualified Indian Veterinarians and the first Indian Veterinary College in English was established at Bombay in the year 1886. Then followed Bengal with English as medium of instruction while Lahore and Rajaputana started the Veterinary Colleges with Urdu as the medium of instruction.

The Civil Veterinary Department, Madras, which was inaugurated in the year 1892 for rendering adequate Veterinary aid in the Madras Province, could not progress well on right lines due to paucity of trained personnel. Hence the immediate need for an Institute of Veterinary Education was fully recognized for getting properly trained personnel to undertake work for bringing the underdeveloped animal industry to its proper status.

In the year 1900, a conference of Veterinary Experts in the country was held at Ambala to formulate a suitable Curriculum of Studies for Veterinarians in the country and accordingly the Madras Government opened an Institute of Veterinary Education with the medium of instruction in English on 1st October 1903 with twenty students in a rented building which was subsequently named "College". Experience revealed that for the efficient teaching of Veterinary Science and also for affording facilities to the students for having clinical practice, a veterinary hospital attached to this educational institution was necessary and since the rented building could not be provided with all facilities the erection of a permanent building in Vepery High Road which was considered to be a fine piece of architecture was constructed and the College moved to its new premises. Since then the hard task of producing trained Veterinary personnel to meet the needs of times was entrusted to this College. How well this institution has discharged the duties entrusted to her is a matter of history! In surveying the long history of this College, we have to place on record the unforgettable services rendered by its early pioneers who had nursed this institution with care and devotion and also pay our tribute to those illustrious men of this College who had contributed so much to the building up of the profession.

To start with, the Veterinary course at this College was spread over a period of three years and the students were examined *viva voce* by the Board of Examiners appointed by the then Inspector-General, Civil Veterinary Department, Madras, and awarded a diploma after the final examination. On the recommendation



The Veterinary College, Madras.

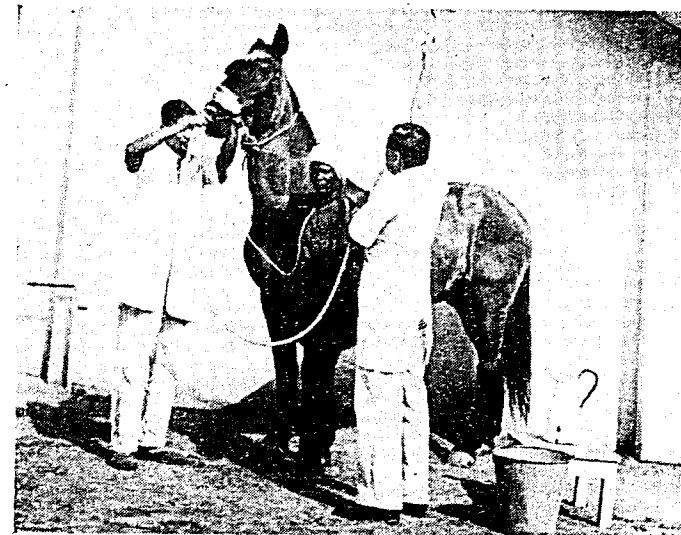
of the Royal Commission on Agriculture, a revision of the curriculum of studies was made in the year 1930-31 and adopted at this College.

One of the important events in the history of the College is its affiliation to the University of Madras in the year 1936. This is the first Veterinary College in India to be affiliated to the University conferring the degree of Bachelor of Veterinary Science. Consequent on the introduction of the B.V.Sc. Degree Course, the syllabus and curriculum of studies on Veterinary Science were revised and the minimum qualification for admission to the B.V.Sc. Degree Course was made Intermediate in Arts and Science. Even after the B.V.Sc. Degree Course was introduced, the Diploma Course of three years' duration continued to function at this College. In 1938, the duration of the Diploma Course was extended to four years laying more emphasis on Animal Husbandry subjects and simultaneously the duration of the Degree Course was also extended to five years, both being run concurrently. In the year 1946-47, with a view to have a uniform curriculum of studies in India and as recommended by the Indian

Council of Agricultural Research the duration of the Degree Course was curtailed to four years and one term abolishing the Diploma Course.

A short course of two years' duration designated as the Veterinary and Livestock Inspectors' Course was started in the year 1948. These personnel relieved Veterinarians of their routine duties in the field and helped the Veterinary Assistant Surgeons to concentrate on important problems relating to Livestock development. When about 250 Veterinary Livestock Inspectors were made available, this course was abolished in the year 1953.

After a year, when more Veterinary personnel were needed, it became imperative to provide a cheaper agency and accordingly a "Stockmen Course" of eleven months' duration was introduced in the year 1954. Students admitted to this course were given a working knowledge in the subjects of Veterinary Science with special emphasis on Animal Husbandry. This course continues to be conducted now at the Livestock Farms at Hosur, Pudukkottai and Orathanad where 200 students are admitted annually, with eight months' training



A horse being treated by the students of the Veterinary College.

at the Livestock Farm and three months' training at the Madras Veterinary College.

A Flaying Course of three months' duration, with a view to adopt better methods of flaying so as to reduce the economic loss through faulty flaying of hides and skins, was started at this College in the year 1954. This course seeks to train professional flayers and also Veterinary Assistant Surgeons who in turn would train flayers in the districts.

Specialised skills and techniques of Livestock improvement have formed land marks in the progress of civilisation as in other activities. The objective in Veterinary Education is to produce forward looking men able to apply a broad-based general education and specialised knowledge for the improvement of livestock wealth. Education forms the very root of improvement and highly qualified and experienced teachers who are specialists engaging themselves in research in their own lines are required now. With this objective in view, this College has given a lead to other Colleges in India in the field of higher Veterinary education. It is the first college in this country to afford facilities both for teachers and post-graduate students to undertake post-graduate research work in various fields of Veterinary Science and Animal Husbandry leading to the award of Research Degrees, M.Sc., Ph.D. and D.Sc. of the University of Madras. Till now 6 M.Scs. and one Ph.D. Degree have been awarded in the Faculty of Veterinary Science of the University of Madras. About 20 persons have at present registered for the M.Sc. Degree and are pursuing their research in this College.

In addition, with a view to provide in India a high standard of post-graduate training similar to that obtained in other countries, the Joint Indo-American Team on Agricultural Education and Research which toured the country has selected this institution by virtue

of the already existing facilities, as one of the four colleges in the country for developing post-graduate education and research on a regional basis. Accordingly, the post-graduate course leading to the Degree of M.V.Sc., was inaugurated in September 1958 at this College by Sri Bishnuram Medhi, Governor of Madras. At present eighteen students, nine from this State and nine from other States have joined this course in various subjects of Veterinary Science.

This college also conducts, as and when necessary, post-graduate Refresher Courses for graduates employed in the Animal Husbandry Department of this State with a view to put them abreast of modern developments in Veterinary Science and Animal Husbandry.

In order to overcome the shortage of trained personnel in the field of Parasitology, a post-graduate Course in Veterinary Parasitology was conducted at this College from 1955 to 1958 with grants-in-aid from the Indian Council of Agricultural Research, when students from this State as well as other States were trained under this Course.

It may be noted with interest that for the first time in the history of this College, lady students were admitted to the B.V.Sc. Degree Course in 1948, the first of whom graduated in the year 1952. So far nine women graduates have passed out from this College.

With the addition of the new Block, the Hostel attached to the College provides residential accommodation for 470 students of this College.

At present the College has a well-equipped Hospital with different wards for both in and out-patients, an operation theatre with X-ray and Physio-therapy facilities and a Laboratory with modern equipment and appliances for the proper diagnosis of clinical cases. This affords excellent training facilities for students of Veterinary Science. The presence of different breeds of cattle, the poultry unit where exotic breeds of poultry are maintained and the Artificial Insemination Section afford ample opportunities for training in Animal Husbandry. In the field of control of Animal diseases, the position of this College has been unique. From its very inception, the College besides teaching, has bestowed time and attention on diagnostic work, research and investigation on Animal diseases of economical importance. Thus the College is not only a teaching institution of the Madras University, but is also a National Research Institute for Animal Husbandry in the economy of stock owners and the agriculturists and in the solution of the food problem. It continues to be the light and guidance for the future plans of development or Livestock and the Centre of Research. The history of this College cannot be said to be buried in antiquity. It is a contemporary history which most of us belonging to the Veterinary profession have lived together with this institution. What makes it of interest is not its length, but its crowded hours of glory and its work in the cause of dumb animals and the economic welfare of the poor ryots of our country.

Small Savings Wears A New look

SRI M. SHANMUGAM,
Special Officer (Small-savings) and Deputy Secretary to
Government, Finance Department.

The history of the Savings Movement in India dates from 1833 when Government Savings Banks were established in Calcutta, Bombay and Madras. The Post Office Savings Banks were instituted in 1882 all over the country.

The Small Savings Movement was sponsored by the Government of India in 1943 as a war time measure to mop up the savings of the people with a view to checking inflation. The Movement has three principal objectives—

- (1) It teaches monetary discipline and promotes thrift as a way of life.
- (2) It stimulates public interest and participation in national development projects.
- (3) The Movement helps to contain Inflation.

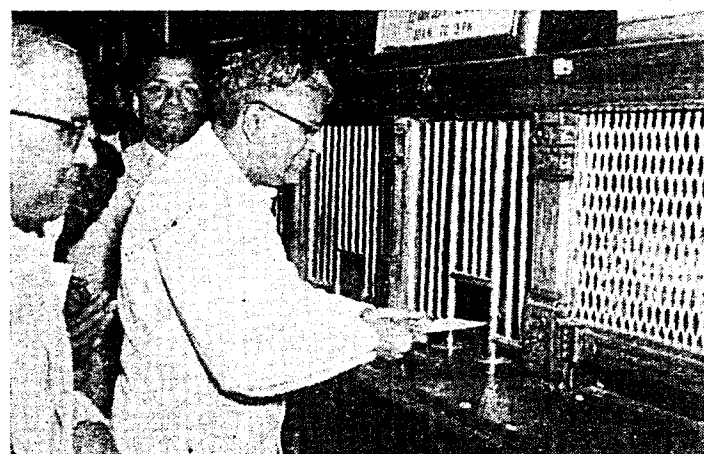
The value of Small Savings in a planned economy is scarcely to be over-emphasized. The effort on Small

Savings may well be crucial to the fulfilment of the Plan. During the First Five-Year Plan the target for Small Savings collections of Rs. 225 crores was exceeded by nearly Rs. 17 crores. Thus Small Savings helped to finance about 12 per cent of the First Five-Year Plan outlay. The Small Savings target under the Second Five-Year Plan is Rs. 500 crores. Collections during the first and second years of the Second Plan total nearly Rs. 133 crores averaging Rs. 66 crores a year as against 41.5 crores during the preceding five years. This is an indicator that the target is not impossible of achievement.

During the year 1957-58 it may safely be estimated that the comforting message of Small Savings has been carried over 6 lakhs of homes in Madras State. Net collections in the year aggregated to Rs. 7.85 crores. The Agency force also rose from 300 to nearly 13,000 during the year in the State. This compares with the total All-India Agency force of 58,000.



The Cumulative Time Deposit Scheme in savings was inaugurated on 2nd January 1959 at the General Post Office by Sri R. Venkataraman, Minister for Industries. Sri R. Venkataraman is seen making his first deposit in the savings bank.



The Cumulative Time Deposit Scheme in the Savings Bank at the Mount Road Post Office was inaugurated by Srimathi Sakuntala Subramaniam on 2nd January 1959. Photo shows Srimathi Subramaniam making her first deposit.

The Savings Organization ceaselessly strives to cater to the multiple needs of the investing public in the search for security. The requirements of the small saver who might be in no need to obtain a quick return of his capital, are admirably served by the 12-Year National Plan Savings Certificate. This certificate is the Savings Security par excellence, for capital and interest are allowed to accumulate till maturity, yielding 5.41 per cent interest. The 10-Year Treasury Savings Deposit has its principal appeal to investors who may be desirous of a regular annual income for meeting current expenditure while concurrently ensuring that capital is left untouched. The 15-Year Annuity Certificate offers an immediate annuity to the investing annuitant. The Post Office Savings Bank is the 'Peoples Bank', as a Savings account can be opened with a minimum deposit of Rs. 2. The Gift Coupon Scheme covering National Plan Savings Certificates has been devised as a means of combating social pomp and ostentation with its attendant waste. The Gift Coupon is the Gift that keeps on giving. Savings Stamps afford the humblest in the land an opportunity of participation in the Savings Scheme. Small Savings is therefore tailored to suit every pocket and to cater to every need. It is particularly timely to keep in mind the durable satisfactions of Small Savings Securities, viz., security

of principal, indestructibility of security, guaranteed rate of interest and freedom from market fluctuations. Recognizing the need for imparting the character of pledgeability to Small Savings Securities, the National Plan Savings Certificates and Treasury Savings Deposit Certificates have been made pledgeable with the Reserve Bank, Scheduled Banks, Co-operative Societies and Banks, and Corporations & Companies in which Government hold shares to the extent of 50 per cent or above.

The interest yield on all Small Savings Securities, as also the annuity amount under the 15-Year Annuity, are not liable to Income-tax and Super tax, besides not being taken into account in arriving at aggregate income for determining the relevant income-tax bracket.

Small Savings investments are exempt from being included in net wealth for purposes of levy of Wealth tax, provided such assets were held by the assessee for a period of at least six months ending with the relevant valuation date.

As the need for a scheme of monthly recurring deposit had long been keenly felt, a new Small Savings Security called the Cumulative Time Deposit Scheme has been marketed with effect from 2nd January 1959. This

Scheme provides for monthly deposits in the Post office of Rs. 5—Rs. 200 subject to a maximum of Rs. 12,000 for an individual and Rs. 24,000 in joint accounts. The medium of the Pass Book has been introduced thus eliminating any possible complaint from the sophisticated small saver. A depositor of Rs. 5 per month becomes entitled to receive a lump-sum of Rs. 325 and Rs. 725 at the end of five years and ten years, respectively. In respect of five-year deposits, the interest yield works out at about 3.3 per cent (compound) and in respect of the ten-year term at about 3.8 per cent (compound). Besides, the interest on this security is income-tax free. A depositor, subject to the overall limit of Rs. 12,000, can have any number of accounts in his own name or jointly with another. Withdrawals, limited to 50 per cent at credit of the account, in multiples of Rs. 10, are permitted once in a five-year account and twice in a ten-year account, after the first year of the account. The amount withdrawn is to be deducted at 6 per cent interest from the maturity or cumulative amount. Failure to deposit the monthly instalment, provided such default does not exceed five in a five-year term or ten in a ten-year term, has the effect of extending the date of maturity of the account by the number of months for which default has occurred.

The Post Office National Savings Certificate Rules have been amended with effect from 1st January 1959. Limits of investments in 12-Year National Plan Savings Certificates have been raised for Scheduled Banks, Co-operative Banks, Registered Firms and Companies from Rs. 15,000 to Rs. 25,000. In respect of charitable institutions the limits have been raised from Rs. 60,000 to Rs. 1,00,000. With the advent of the Cumulative Time Deposit, a single individual can invest as much as Rs. 1,05,000 in Small Savings Securities. This limit is doubled in the event of a joint investment being made.

The procedure formerly prescribed for pledging National Plan Savings Certificates has been considerably simplified and stands reduced to endorsement on the certificate itself.

Legislation amending the Post Office National Savings Certificates Ordinance, 1944, is scheduled to be introduced shortly in Parliament providing for—

(i) Statutory 'nomination' by the holder to entitle the 'nominee', in the event of death of the holder, to receive the proceeds of National Plan Savings Certificates, or balances in Post Office Savings Bank Deposits or Cumulative Time Deposits.

(ii) The stocking and sale of Savings certificates by other institutions, besides the Post office.

The progressive formation of Savings 'Sells' or 'Groups' in all places where people congregate for work contributes to the rhythm of the Savings Process. In Madras State there are now functioning over 1,500 Savings Groups with a total membership of 34,500. Contemporary accent on the Payroll Savings Plan has been sustained by the recent amendment of the Payment of Wages Act, permitting deductions from the wages of employees with their consent for the express purpose of investment in Small Savings Securities.

Being responsive to the maxim of consumer sovereignty, some of the institutional rigidities and procedural cobwebs of the Small Savings Movement have yielded in priority to a new streamlining. The Movement bids fair to entice the Savings Rupee.

(Continued from page 13)

The development of handicrafts is also given due importance considering the traditional beauty, workmanship and fine quality and a number of schemes for the development of art-metal, bell metal, sculpture, paper toys, ceramics, fancy leather goods, printing and dyeing druggets and carpets, ornamental handles, etc., are being implemented. Marketing of finished products is also given priority and sales depots are proposed to be opened in the districts.

Sericultural activities are being extended in Tenkasi area of Tirunelveli district and Gudiyatham taluk in North Arcot district. Hosur in Salem district is the important centre in the silk industry of the State, after the transfer of Kollegal to Mysore State.

Industrial co-operatives for small scale and village industries started with Government subsidy have made good progress in the field of handpounding of rice, pottery, oil industry, tannery, handicrafts and metalwares. One thousand and four hundred jaggery manufacturing co-operative societies, with a target of 24.71 lakhs maunds of jaggery for 1958-59, have already produced 15.42 lakhs maunds up to November 1958.

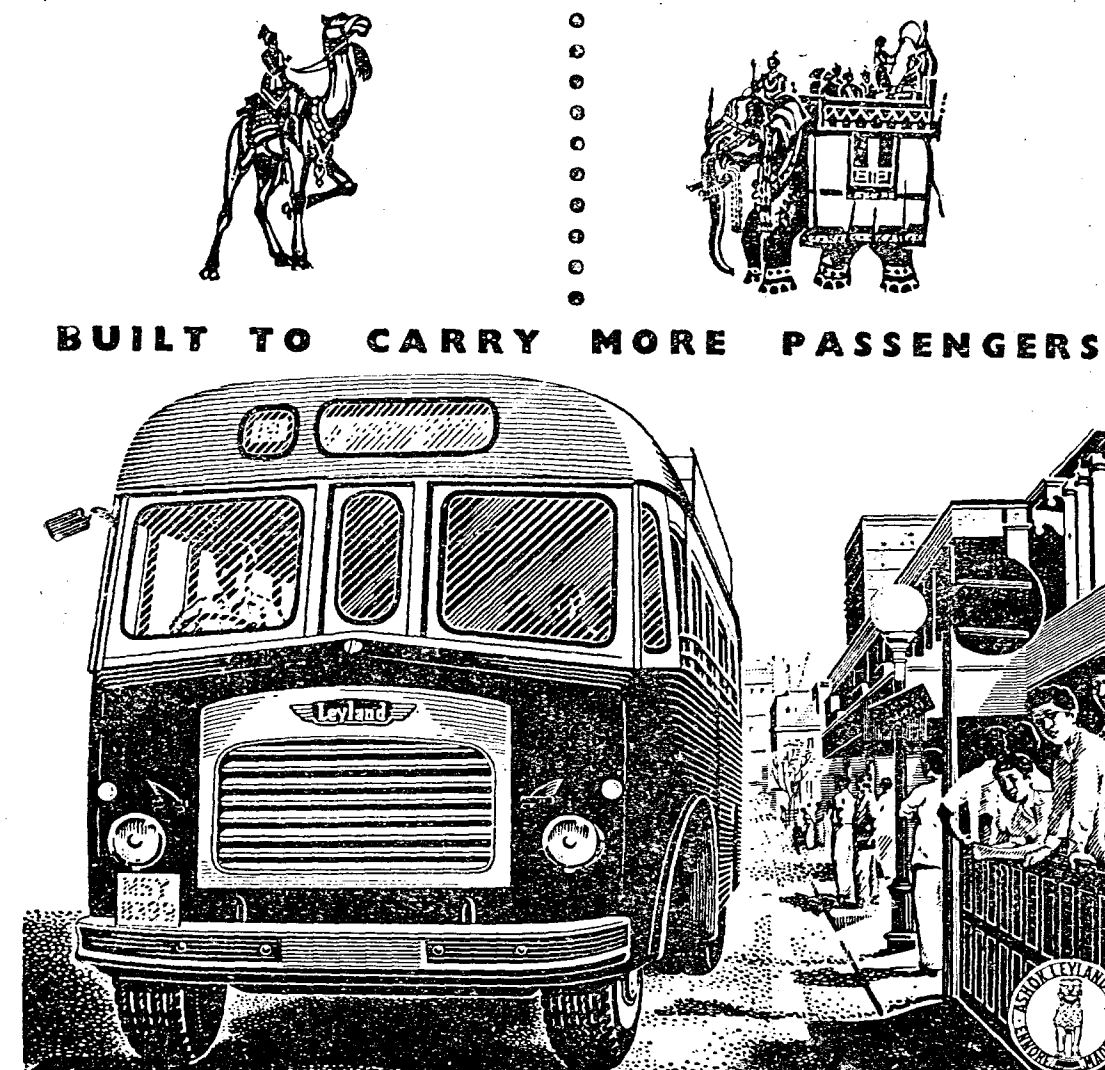
The craftsmen training schemes implemented through a number of industrial training institutes located throughout the State are providing full-time and part-time courses. They are already turning out a large number of technical personnel for manning these industries. The gap between the turnover and the manpower requirements will be bridged. The implementation of the schemes included in the Plan is sure to lead industrial development and there can be no doubt that Madras will before long gain an important place in the industrial map of India.

WILD LIFE PRESERVATION

It is Madras State which leads India in formulating Acts in connection with the Wild Life Preservation. In 1873 an Act to safeguard the white elephants was enacted.

PROHIBITION

Madras is the first State to introduce Prohibition. In 1937 the campaign was inaugurated in Salem district. During the Advisor's regime it was scrapped and was again introduced in 1946 and gradually extended to the entire State.



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Tourism

A Peep into the Land of Tamils

INDIA, with its rich and variegated landscape, its myriad monuments and temples designed and executed by master-craftsmen of by-gone ages, its colourful customs and festivals and its salubrious hill stations and other attractive holiday resorts, is indeed of absorbing interest to the tourist from abroad and the holiday-maker at home.

It is a pity that we Indians do not enjoy the pleasure of visiting these places while we are in a position to set about discovering the glory that is Ind. We have not yet taken to the idea of travelling for pleasure most probably because of financial reasons. Barring these who are religious-minded, who undertake pilgrimage to holy places and shrines, most people limit their travels to the absolute minimum.

History of tourism.

It will be interesting to know something about the origin of tourism in the world. Its tradition in Europe goes back to about a hundred years but its importance as a social phenomenon was only felt in the twenties when Americans started coming to Europe in large numbers and the people in Europe turned to Eastern countries as a means of relief from the strenuous day-to-day life caused by heavy industrialization.

The need to develop tourism as a major industry for earning foreign exchange—particularly dollars—was strongly felt for the first time after the Second World War. Apart from the economic aspect it has become socially and to some extent politically important.

Sargent Committee Report.

The first important step to organize tourism in India was taken in 1945 when the Government of India appointed a Committee under the Chairmanship of Sir John Sargent to survey the potentialities of developing tourist traffic in India. The Committee presented its report in May 1946 when the country was facing an important crisis in its history. The Committee had recommended that successful steps to promote tourism

was essential for substantial addition to India's revenues both by direct and indirect means. It suggested that if tourism was properly organized every aspect of business, especially cottage industries, could benefit greatly by the influx to tourists. Because of the political situation in the country the report did not receive the careful consideration it deserved.

The Beginning.

For a beginning the Government of Free India opened a small tourist office traffic branch as part of the Ministry of Transport in 1949. Immediately thereafter four Regional Tourist Offices were established at Delhi, Madras, Calcutta and Bombay. Then it was decided to establish overseas tourist offices. The first such office was opened in December 1952 in New York. This was followed by the opening of tourist offices in San Francisco and in London.

The tourists who come to India are now interested to know the real India and its people. They are keen to know how this country is marching forward, after achieving Independence, under the Five-Year Plans.

Tourist traffic on the increase.

The importance of tourist traffic can be felt by the revenue it brought. Few years ago India earned Rs. 21½ crores a year by this tourist traffic. In 1956 the income had risen to Rs. 16 crores. In the next few years it is possible to increase this to Rs. 100 crores. Considering that a small country like Austria earns annually by tourist traffic about Rs. 80 crores, it is possible for a big country like India to increase this revenue manyfold. If tourism is made attractive by the provision of amenities on the one hand and the removal of difficulties on the other, there is no reason to doubt that tourist traffic can be increased to a considerable extent. India is a place somewhat distant to the foreign tourists and travel expense is one of the major factors that is to be considered by a prospective tourist. It might not be difficult to introduce a low air-fare in order to attract more tourists.



The Five Monolithic Rathas at Mahabalipuram.

The various activities for the promotion of tourism have borne fruit and resulted in an increased number of tourists visiting India. Until recently the tourist season in India in various places lasted only for six months from October to March, but it is interesting to note that in many places the tourist season is being gradually extended to nine months. This is a hopeful

Sri Varadharaja Perumal Temple at Kancheepuram.



sign. The Ministry of Transport have published some excellent literature for tourists which compare well with other countries.

Domestic travel.

Tourist facilities will never develop to the necessary extent without the development of domestic travel. The development of good roads, easy travel, hotel accommodation, are all necessary and investments in these will certainly pay in the long run. There is need to inculcate by means of publicity and propaganda a desire among the local population to see places of interests and monuments. If we take Japan as an example, shops in small towns were reported doing a thriving business, in spite of economic depression in that country. This was due to desire of the Japanese for travel and their spirit of helping all business. A Japanese, while he travels, does not take his own food with him, but patronises eating-houses and way-side taverns. The Japanese usually spend their earnings more on travel than in other form of entertainment. They realize that there is pleasure and education in it.

Variety treat in South India.

South India, especially Tamil Nad, abounds in temples, and there is not a village in the south without a temple. If the tourists think that there is nothing but the temples to be seen in this part of India, they are thoroughly mistaken. Besides big temples with towering and majestic gopurams, there are very good hill stations, health resorts, sanctuaries and historical places of interest.

Temples.

It is not easy for a tourist to visit all the temples of Tamil Nad. But one should certainly see the temples in Tanjore, Madurai and Rameswaram. The tower of the Tanjore Brahadeswara temple is the chief attraction with a "Vimanam" carved out of a single rock of granite said to weigh 80 tons. This stone is believed to have been conveyed to the summit by means of an inclined plane. There is a very big bull (Nandhi) carved in stone in this temple. Similar images of the bull could be seen only in Basavangudi (Bangalore) and in Chamundi Hill (Mysore).

Madurai, which was the cradle of Tamil literature, is called the City of festivals. The big temple with four towering gopurams on all four sides is rich in architectural carvings. The rare representation of Nataraja, the Dancing God, and several other carved figures in bas-relief and images have been the marvel of the connoisseurs of art. There is musical stone pillars in one of the outer enclosures of the temple. Similar musical stone pillars are also found in the temple at Suchindram in Kanyakumari district. These pillars, when tapped with a piece of wood or stone, produce the basic musical notes. In both Tanjore and Madurai there are palaces which are worth a visit.

The most interesting and arresting feature of Rameswaram temple is the vast perambulatory corridor. This corridor of thousand pillars is the longest in the

world. The workmanship is of Dravidian style in its perfection. The whole architectural arrangements give an impression of a well-defined unity of design and structure.

Those who have time can visit the temples at Kancheepuram, Chidambaram, Tiruchendur and Srirangam among other places.

Palni is worth a visit since it is a place of worship of Lord Subramanya. The idol of the presiding deity is said to be an amalgam of nine minerals. Mention must be made that many Muslims also come here for worship.

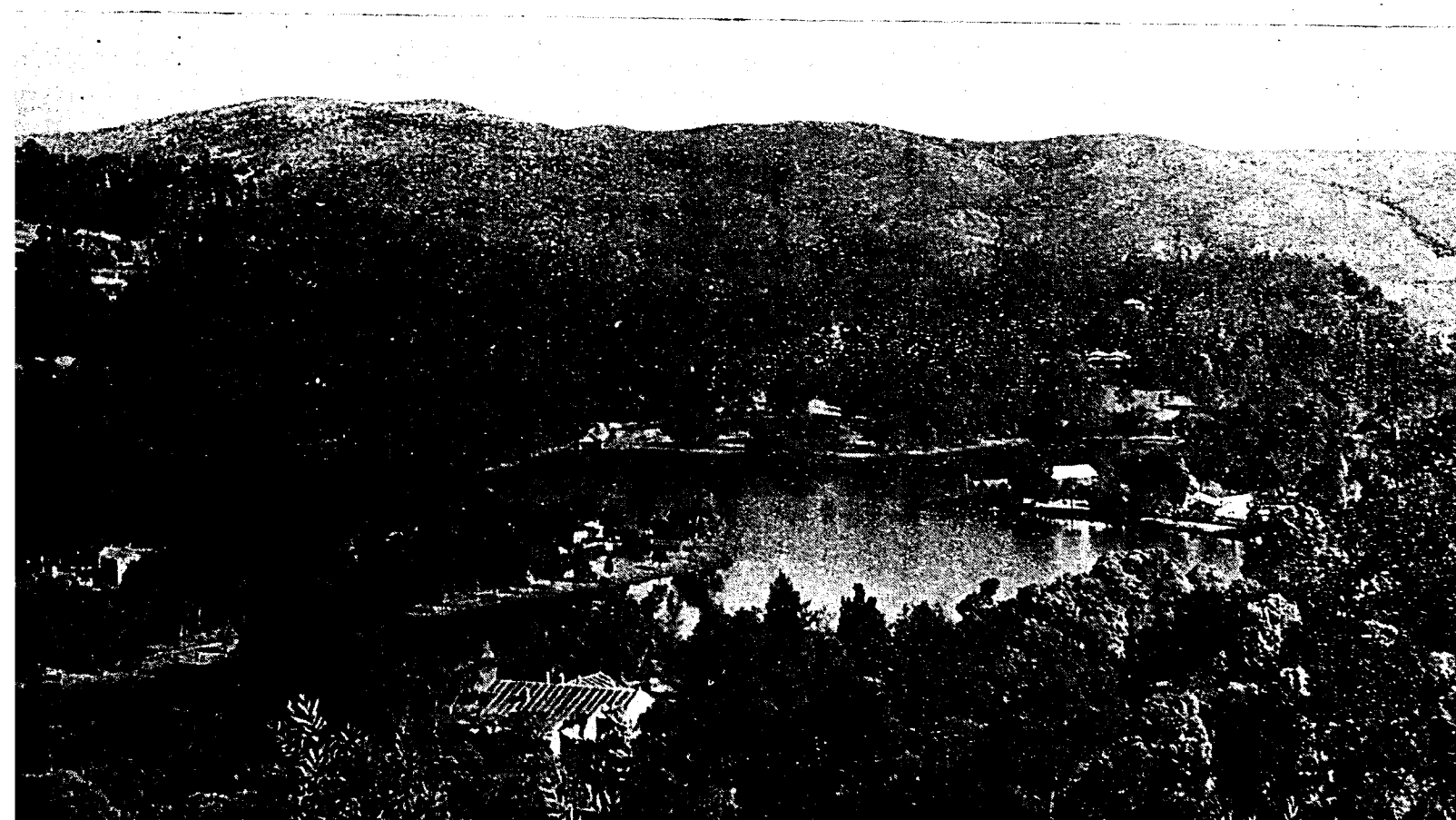
Another place where Hindus and Muslims worship together is Nagoor near Nagapattinam. It is a Muslim pilgrim centre. Velanganni near Nagapattinam is a great pilgrim centre for Christians, attracting thousands of devotees of all creeds every year.

Places of historic interests.

Madras, the gate-way of the South, gets the first place in this category. The pride of Madras is the Marina, the largest beach, second best in the world.

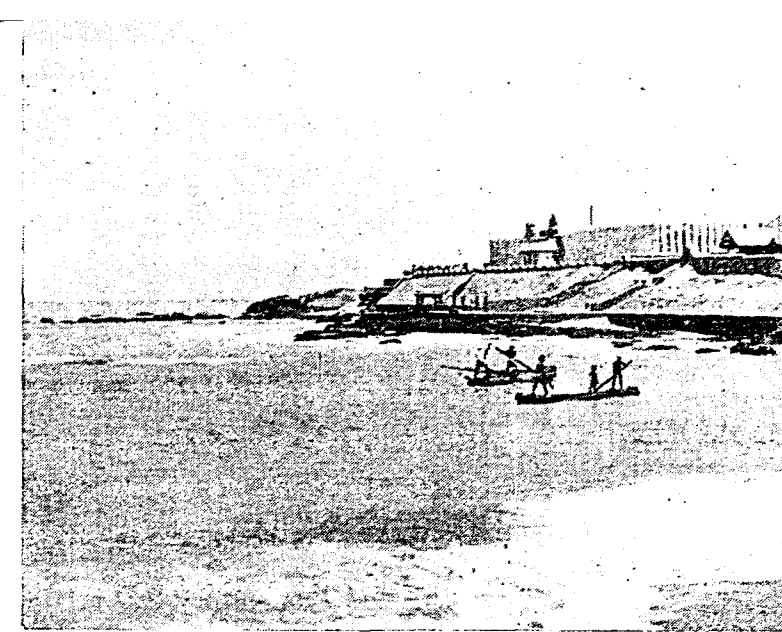
Tanjore which was once the capital of the Cholas and Madurai, the capital of the Pandyas. Mahabalipuram, world famous for its monolithic sculptures.

The Lake at Kodavikanal.



Gingee for its rock fort, Tiruchirappalli with its temple on a rock—all these are places worth visiting.

Mahabalipuram, situated along the sea-shore near Madras, is a treasure-house of art. There are wonderful monolithic monuments of the ancient Pallava dynasty. Kancheepuram, the Golden City, has historical traditions. The presiding deity is Sri Kamakshi in whose temple the Great Sankaracharya is reported to have defeated Buddhist philosophers and re-established



Land's End of India—Kanyakumari.

Hinduism. The Tiruchirappalli fort contains the Pallava cave temples cut into the rock on the left side of the steps.

The fort at Vellore is another land mark in the history of South India. It was here that the first Sepoy Mutiny began which was rightly called as a rehearsal for the uprising of 1857. Vellore was the seat of Muslim rulers and had seen many battles. There is a fort and inside this there is a temple noted for its sculptural beauty. It is said that an attempt was contemplated to remove the carvings of the mandapam and to ship them to England and to construct a mandapam there.

Gingee, the seat of Government of the King of Vijayanagar, is preserved in all its ancient glory. It is connected with the legendary hero, Raja Desingu.

Hill stations and health resorts.

The hill stations of the south are all-the-year-round resorts. The two major hill stations are Ootacamund and Kodaikanal. Man and nature have collaborated to make Ootacamund the unchallenged Queen of the Hill Stations. Many visitors to the Nilgiris choose to stay on the lower heights in Coonoor and Kotagiri. Kotagiri is called a little pearl in the ear of Nilgiris.

The generous splendour of the summer days is nowhere so gorgeous as in Kodaikanal which seems to challenge the right of Ootacamund to the title of Queen of the Hill Stations.

Speaking of smaller hill stations mention must be made of Yercaud which is but an hour's run by car from Salem Town.

Courtallam in Tirunelveli district is the spa of the South. The famous waterfalls in the place are easily accessible to bathers and are very safe. The Suruli Waterfalls in the Cumbum Valley in the Madurai district is now being developed as a tourist centre.

Sanctuaries.

Vedanthangal is one of the two bird sanctuaries in India and offers great possibilities as a picnic spot. Every year after the rainy season thousands of aquatic birds come to this place to breed on the trees of the lake. At certain times the number of birds is so great that it is not even possible to see the leaves of the trees.

Mudumalai game sanctuary lies in the Mudumalai range of Nilgiris Division. It has an area of 114 square miles. On account of the strict protection afforded to the wild life in this area and prohibiting shooting totally the wild animals in the sanctuary are able to live unmolested and breed in peace.

Projects and dams.

To know the resurgent India one should see its projects, dams and other monuments of nation-building

achievements. Mention should be made of the Neyveli Lignite Project. The Kunda and the Periyar Hydro-Electric Projects which are under construction and other dams which have been completed in the recent years.

It will really be a pleasure for the tourist to visit the land's end, Kanyakumari. Here the three seas meet. The sunrise and the sunset can be viewed from this spot.

Now that the Government have taken a determined hand in developing holiday travel in the country, tourism can be expected to play the same dominant role in our national life as it does in many Western countries.

(Continued from page 6)

The question of training further batches of typists at the headquarters of each district is under the consideration of the Committee. Private typewriting institutes are sure to equip themselves soon with typewriters with the standard key-board and persons trained on these typewriters will be available for future recruitments as typists in Government offices.

Another formidable problem in connection with the implementation of the Official Language Act is the translation of departmental Codes, Manuals and Forms. This is a laborious and arduous work and will take some years to complete. The work has been taken up, in the order of urgency, and is being pushed through as quickly as possible. For the purpose of preparing these translations and their scrutiny, the Committee has appointed a number of Translators and Scrutiny Officers who have sound knowledge of Tamil as well as English, and they are paid an honorarium based on their out-turn of work.

The Committee has arranged for the translation of a few Acts like the Panchayat Act, the translation of which is urgently required. But this work in respect of the bulk of the Acts must necessarily wait till a Standard Glossary of legal terms is available to ensure accurate translations. The Government have appointed a Special Committee with the Director of Legal Studies as the Chairman, for the preparation of this glossary. Translation of the Acts in replacement of the pedantic translations which we have had so far can also be taken up as soon as the Committee has concluded its labours.

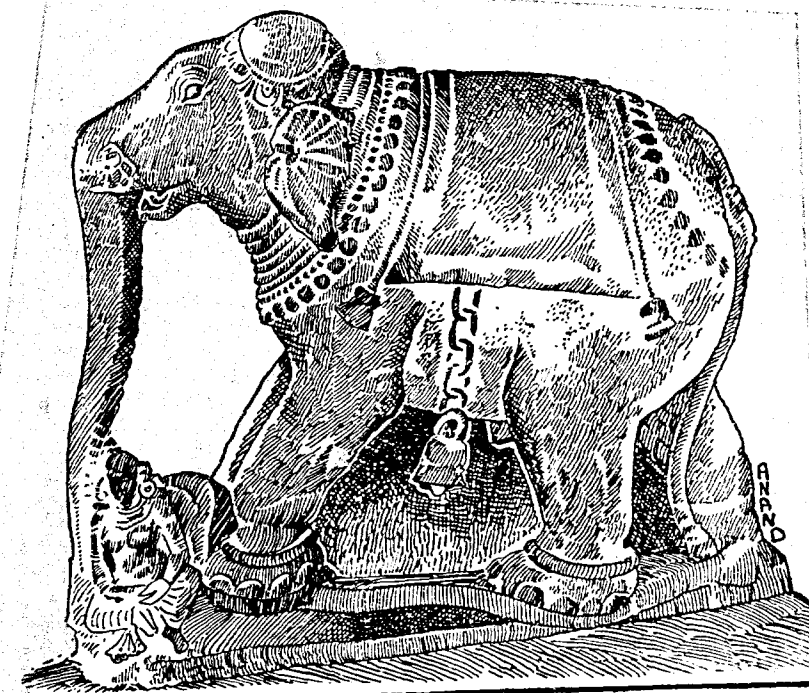
There is no doubt that, before long, correspondence in Tamil will be efficiently carried on in all offices in the State. Noting and drafting in Tamil is, generally speaking, less difficult for the younger members of the staff than for their older colleagues. From the point of view of knowledge of literary Tamil and ability to use it for official purposes, future recruits will be generally better than even the young members of the staff in Government offices now. The successful implementation of the Official Language Act is therefore assured.

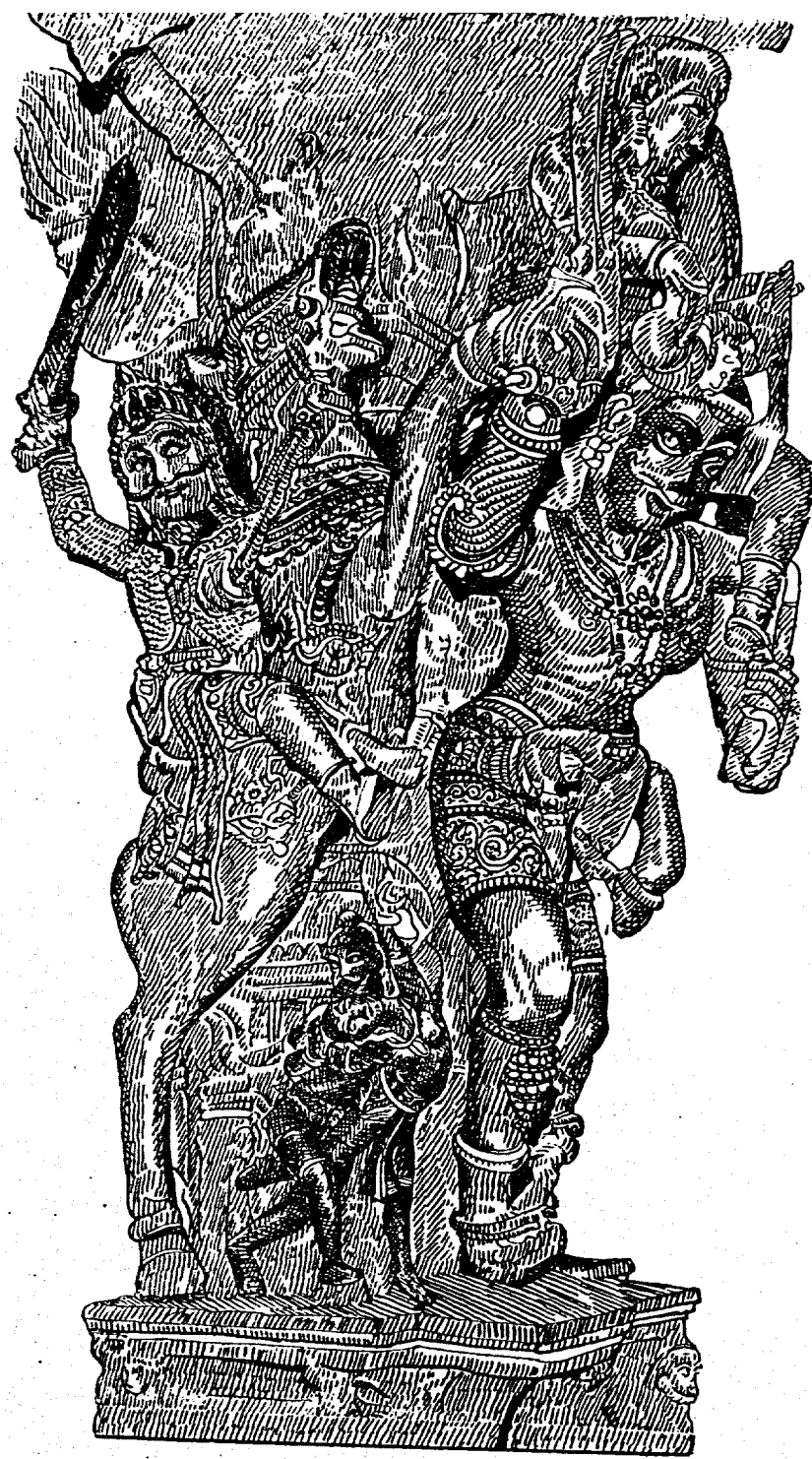


The Tales **THE** **Stones Tell**

In the temples of Tamil Nad great pieces of sculptures are found in good number. The sculptor has not created them just as he pleased. Each piece of sculpture has a story of its own. It tells a story too. If only, one has time and resources to delve into the mysteries of the past one can reap a rich reward of tales.

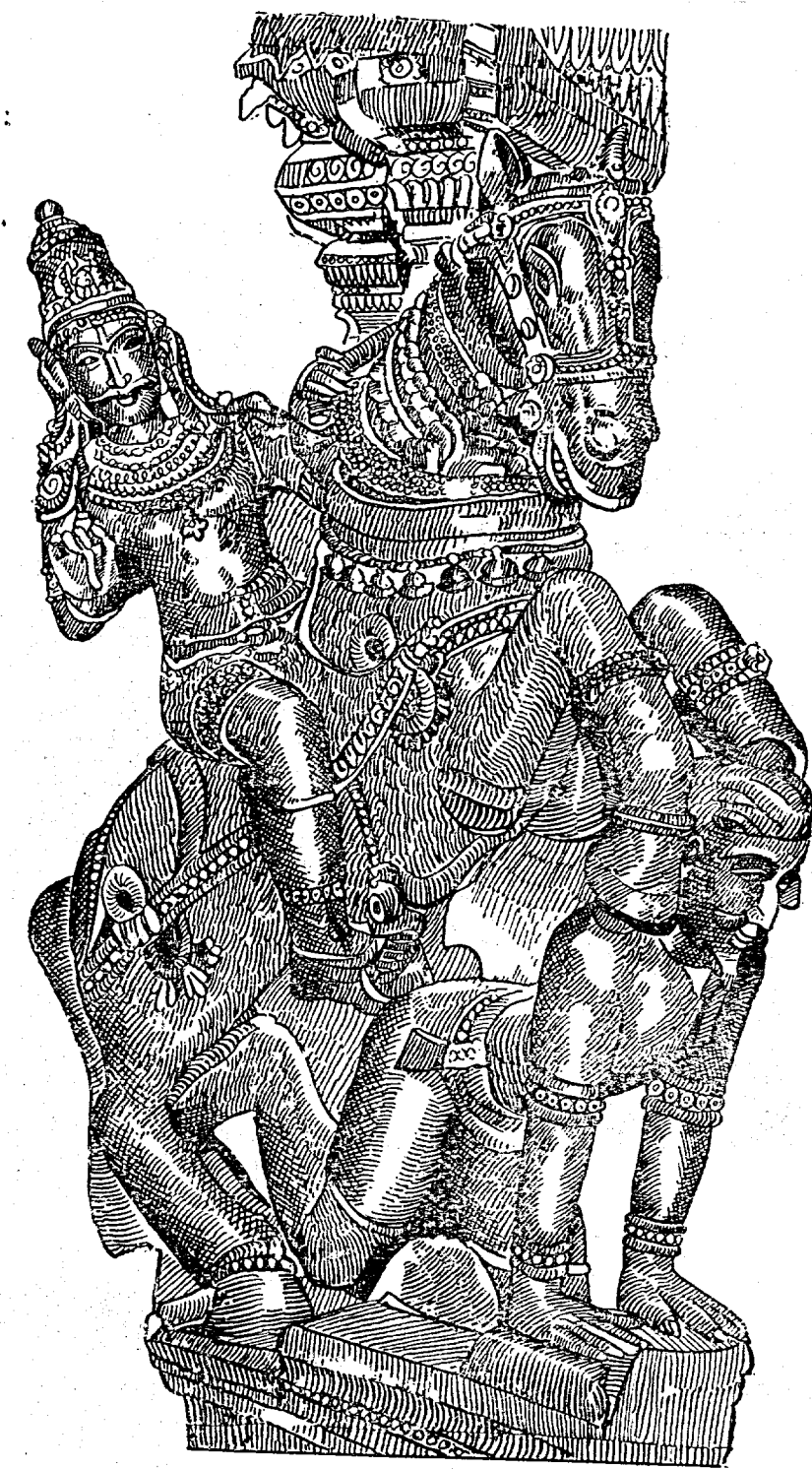
There is a temple at Krishnapuram, about ten miles from Tirunelveli, one of the southernmost districts of Madras State. This temple was built in the 15th century by Sri Krishnappa Nayakkar the then ruler of Madurai. He had commissioned some famous sculptors from Vizianagaram and they have left behind a wonderful collection of sculptures that tell us tales of heroism, love and tragedy.





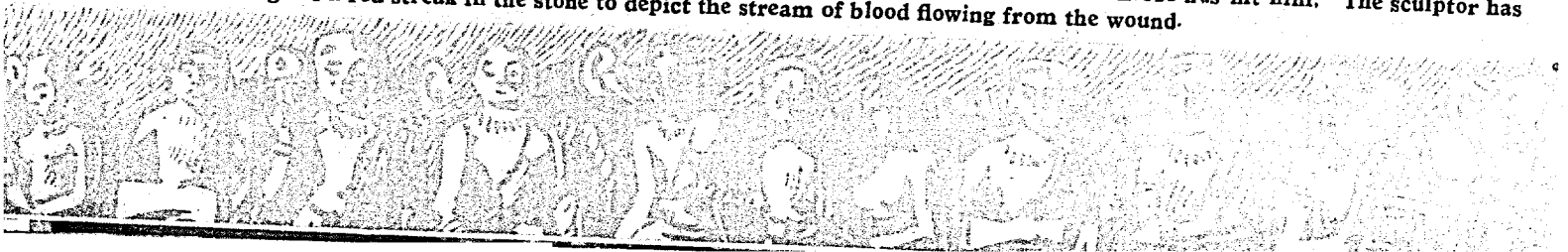
THE KURAVAN

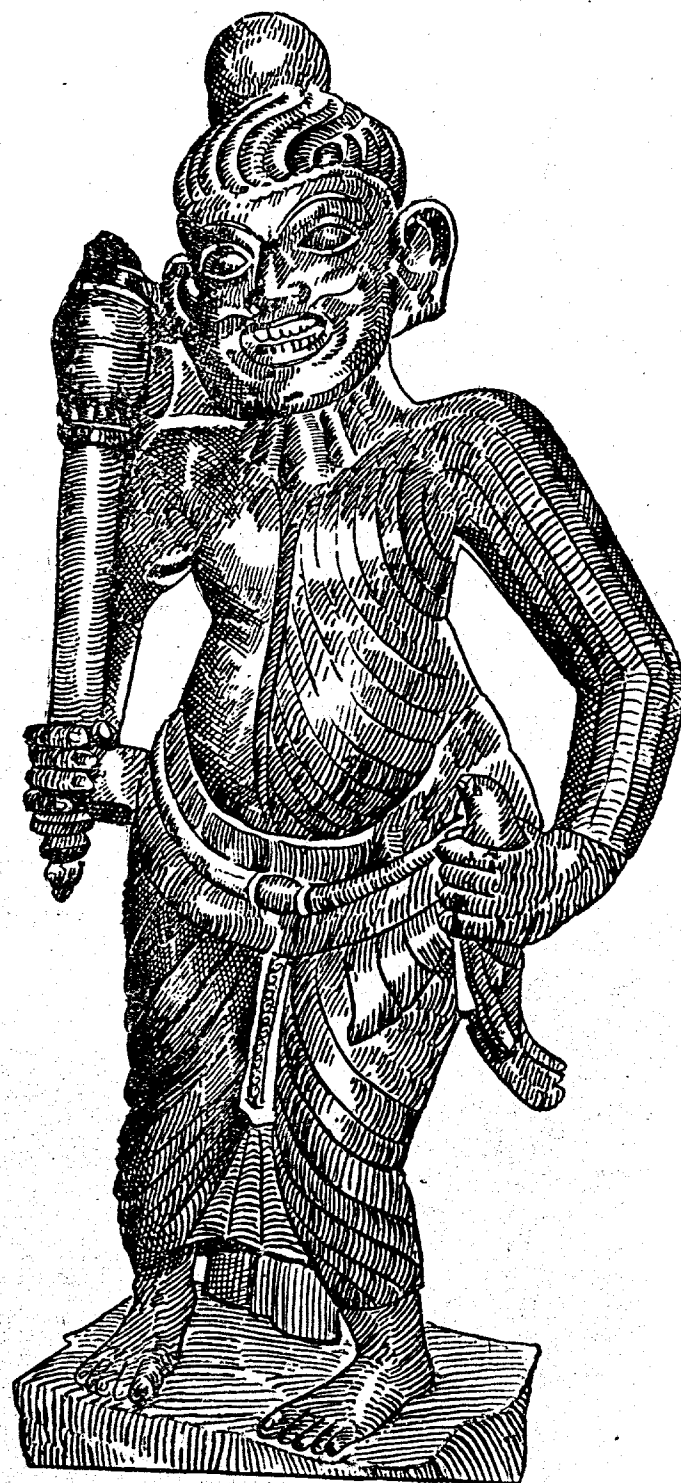
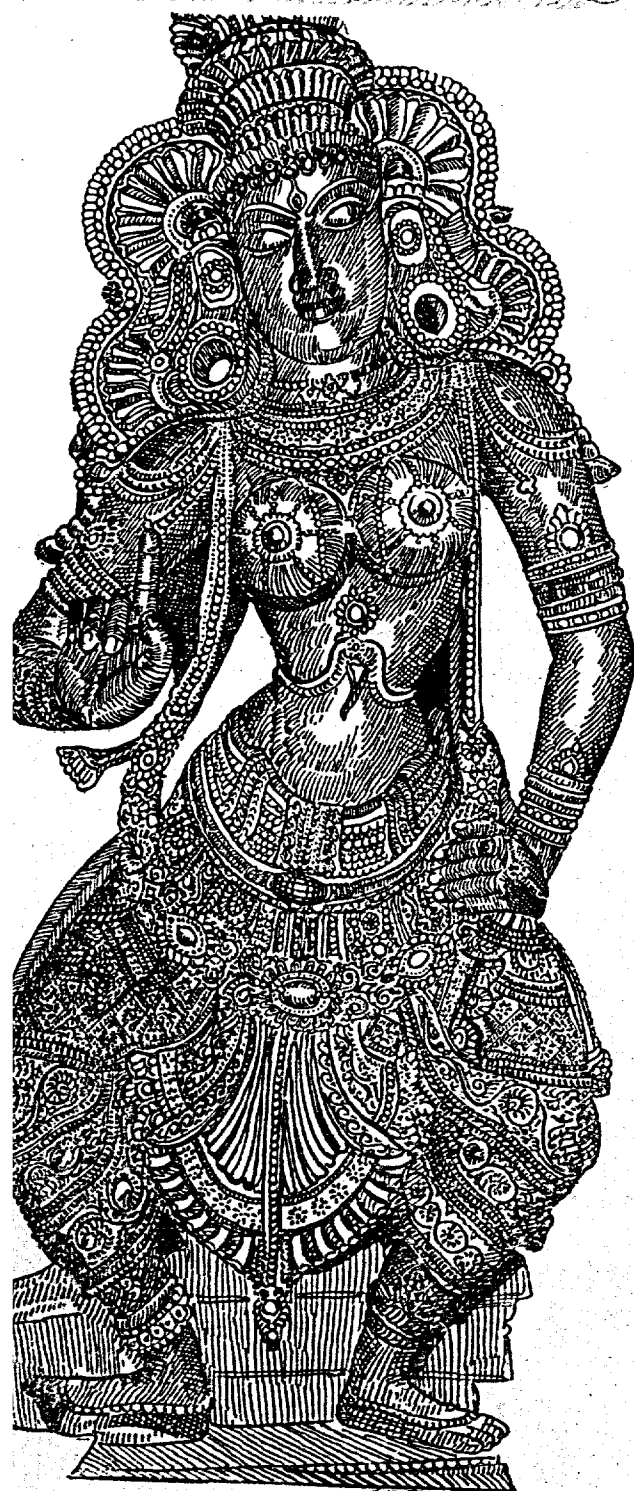
There is a sculpture of a *Kuravan* carrying a princess on his shoulder. The princess is sitting serenely on his shoulder expecting rescue at any movement. And the guards are racing after him and they have neared him. They are careful lest they hurt the princess and the rider controls his horse in such a way that it rears up. The guard has raised his sword and is ready to strike down the *Kuravan*. There is a gash on the side of the *Kuravan* where the hoof of the horse has hit him. The sculptor has taken advantage of a red streak in the stone to depict the stream of blood flowing from the wound.



AND THE PRINCESS

One of the smaller pieces shows one of the guards fighting with a friend of the *Kuravan*. There is another piece which shows one of the *Kuravan's* friend lying in the path of the guard and preventing him from reaching his friend. The end is obvious. The princess is rescued and the *Kuravan* is brought to book. But the sculptor has not wasted his time on the obvious.





THE PRINCESS AND THE SAGE

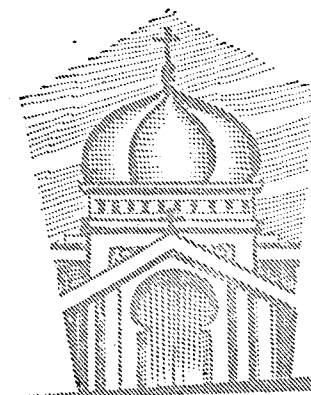
The sage was a very handsome young man. No wonder the Princess fell in love with him. But the sage thought that she was a nuisance and a hindrance to his *tapas*. After trying all sorts of tricks to avoid her, he thought of making her loathe him by transforming himself into an ugly being.

But the princess was not to be deceived. She said that she loved him for what he was and whatever shape or form he assumed she would go on loving him. Finding that the Princess truly and really loved him, the sage assumed his natural figure and, so the story goes, they lived happily ever after.



THE KURATHI AND THE PRINCE

There is not much of a story here. But it is obvious that the *Kurathi* is abducting the Prince. And the Prince apparently is happy and at the same time awed by the imposing strength and figure of his abductress.



Christian Monuments in Madras

Dr. M. AROKIASWAMI.

Reader in Indian History and Archaeology, University of Madras.

Christianity has had a long history in Madras and the numerous monuments left here down the centuries speak for themselves. In spite of all historical speculations and age-old controversies with regard to the arrival of St. Thomas in Madras in the middle of the first century A.D., the Cathedral dedicated to his name stands full square in San Thome bearing testimony in some way to the truth of this historical advent of this Apostle of Christ. Built and consecrated in 1896, this specimen of excellent gothic architecture stands exactly over the small original chapel dedicated to St. Thomas where, it was piously believed, the remains of the saint were laid to rest.

Centuries before the Portuguese, from whom the first well-known Christian missionaries of South India landed in Madras, travellers and pilgrims from Arabia, Syria, England and Europe had come here from as early as the sixth century A.D. There is indeed a work in Syriac written by Zadoe, who calls himself "priest, monk and archmadrite" of the monastery of St. Thomas, to which reference is made by all early visitors to San Thome. This work is entitled "Life of Hermit Yonan" and was written before 363 A.D. From this early period onwards numerous pilgrims, lay as well as religious have made their visit to Madras. Many of them are well-known people. The name of Marco Polo, the great Venetian traveller of the thirteenth century, is certainly an eminent one. Recording his visit to Mylapore on the "south-eastern coast of India" he says, "Christian pilgrims carry away earth from the spot where the saint was killed, and this they afterwards employ in cases of tertian and quartan fever, and by the Grace of God and through the merits of the saint, these maladies are cured". The tradition of the tomb of St. Thomas in San Thome gathered mass with the advance of time and we find the Bishop of Cochlin, whose jurisdiction included San Thome in 1600, ordering that the priest in charge of the chapel over the tombs should himself sweep it.

Such is the historical importance of the great cathedral of St. Thomas, which stands as a monument of the antiquity of Christianity in Madras. During several excavations conducted at the spot an ancient stone image of St. Thomas, as it is supposed, was discovered lying over the tomb stone of his grave. The spot has also yielded many Jain and Vaishnavite images of olden times, which are still preserved in the museum of St. Bede's High School close by. All these certainly bear evidence to the antiquity of the place. In fact the history of Madras itself begins from Mylapore and San Thome than from Fort St. George and the Esplanade. The Alvares and the Nayanmars sang about the glories of Mylapore when that only was the present City of Madras and tradition again associates the great Tiruvalluvar only with Mylapore.

As if connecting the old and the new another Christian monument lies across the river Adyar near Saidapet. The well-known Marmalong bridge connecting Saidapet with the Government House at Guindy was laid across by a Christian philanthropist, Petrus Usca, in the year 1726 for the benefit of the public making their visit to St. Thomas Mount. An inscription in stone embedded in a pillar at the northern end of the bridge records in Latin, Arabic and Armenian the name of the builder and the purpose of the building. The Latin part in the middle reads as under:—

HUNC PONTEM
EDIFICARI JUSSIT
PRO BONO PUBLICO
COJA PETRUS USCAN
NATIONE ARMENI
ANNO SALUTIS
MDCCXXVI

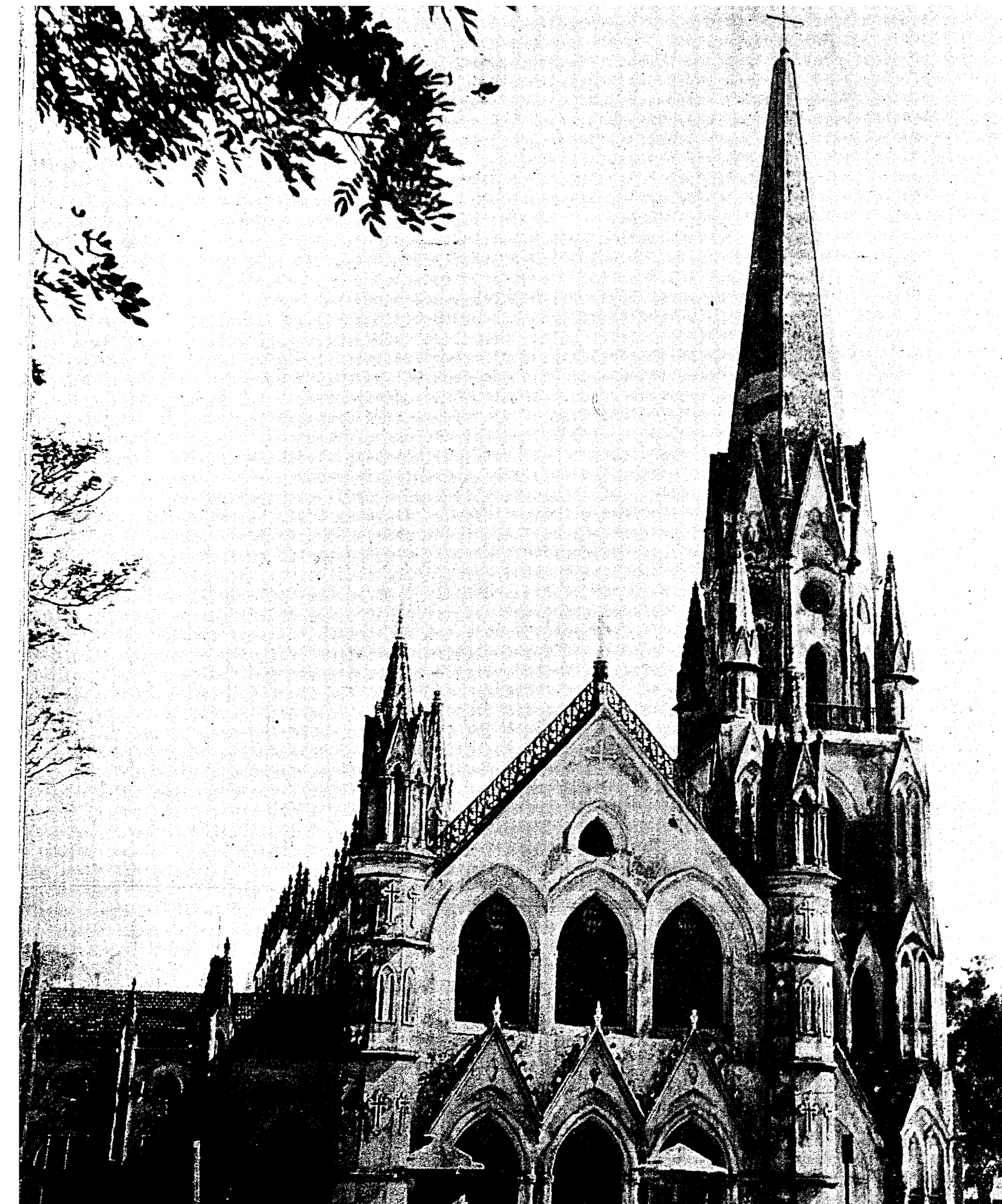
Here Petrus Usca tells us his name, his nationality, the year and the purpose of the construction—an example of a concise record, full in its brevity and attractive in its simplicity.

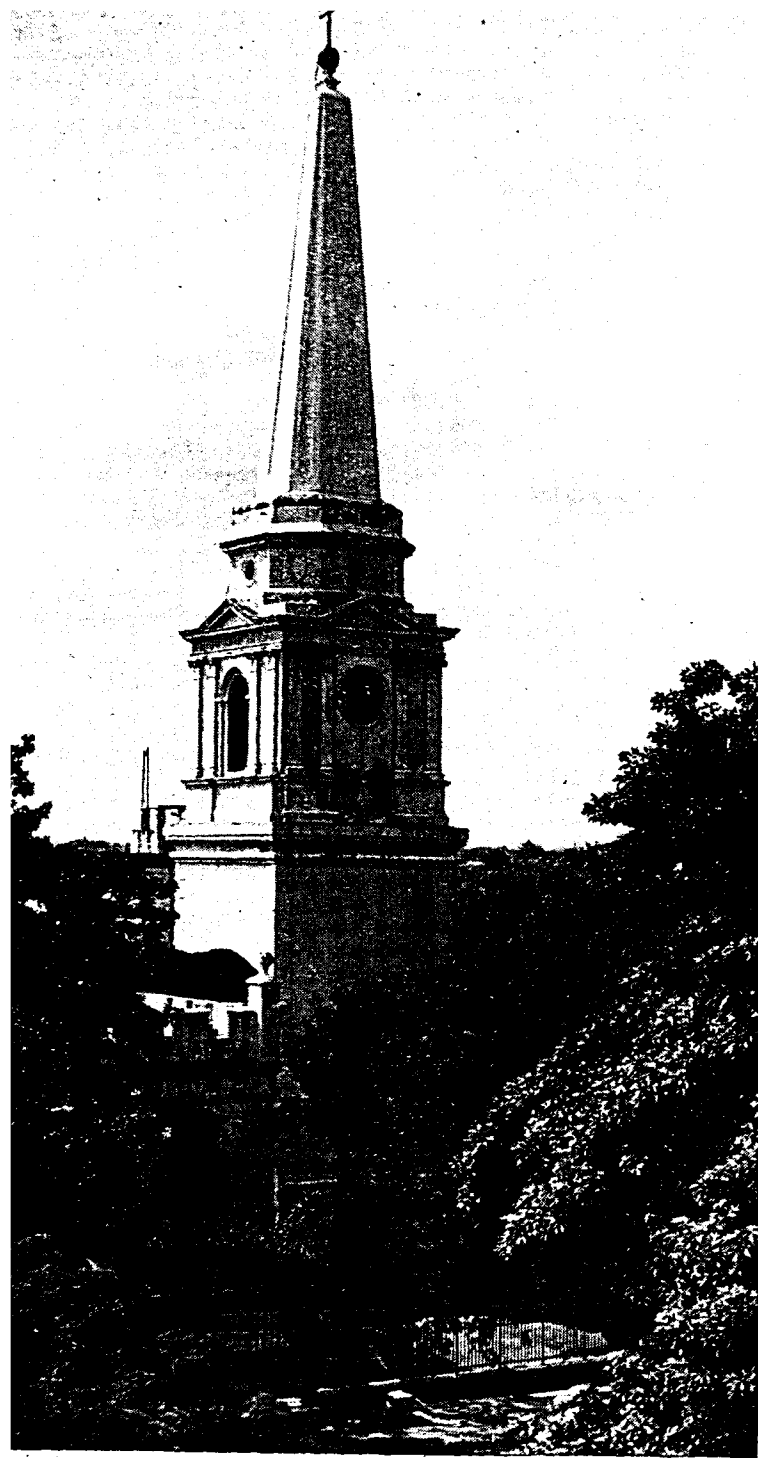
1 This monastery is mentioned in Syriac works as Madrastha, Madrasth, and Madrasa. It is just possible that the very name Madras has its origin from this.

2 Labourt; *Le Christianisme dans l'Empire Perse*, p. 306.

3 Quoted from Zaleski; *The Apostle St. Thomas*.

4 D' Souza; *In the steps of St. Thomas*, 58.





St. Mary's Church, Fort St. George.

The Marmalong bridge is thus not only a Christian monument in Madras but also an Armenian one. An Armenian by race and a Christian by faith Petrus Usan was the son of Coja Usan, an upright merchant in Madras in the mid-eighteenth century, when trade knew not much of morality or justice. Born in Julfa

in Ispahan in 1680 he lived exactly 70 years, dying in Madras in 1750 (some say, 1756). From Madras he established trade connections all over India and was deeply loved by all the native powers of the period and also the English for whose love he had to lose nearly thirty-three houses which he possessed in Madras during the French war with the English when the former destroyed all of them. He evinced great sympathy for the poor for whose benefit he caused a church to be erected in Vepery. When he died, his remains were indeed buried inside this building which he had built for the poor. It was this same sympathy that made him build the Marmalong bridge in 1726.

This bridge over the Adyar is one of the longest bridges in Madras. It is still flanked by old wooden railings, that could have been renewed long ago. But thereby hangs a tale. Usan in his death-bed had left a will by which he left 1,500 pagodas to be invested in some safe place for the repairing of the bridge from time to time and for the maintenance of a keeper of the bridge, who was expected to watch over it. The executors of the will, however, invested the money in the Vestry of St. Mary's Church, Fort St. George, and it could not carry out the intentions of the testator.

The principal work of the Vestry was the care of the Church and its furniture, the school building and the houses belonging to it and the residence of the chaplain. It was responsible for the payment of the Church and school officials and it held in trust a fund for charitable and educational purposes. This did not mean that it was incapable of undertaking any kind of trust work, but with its meagre staff and particular sphere of action it was unequal to the task entrusted to it by the executors of Usan's will. Two of the early chaplains of St. Mary's, William Stevenson and Charles Long, had expressed their difficulty in acting as "bankers and official trustees"². Nearly thirty-five years after Mr. Long had expressed his difficulty to be a trustee of a private estate the Vestry undertook to discharge the same function with regard to Usan and it went the bad way. For nearly fifty years the Vestry Council carried on the trust tolerably well doing repairs when necessary and paying a bridge-keeper, taking care of the choultry attached to it, etc. But even in doing so, they never spent the full interest that accrued from the capital³. In the last decade of the eighteenth century, however, the trouble started. The Vestry had lent out its money to two local English firms and they were unable to pay up. Mr. Roebuck, a free merchant, residing in Madras, submitted a proposal just at that time for widening the bridge at a cost of about 3,000 pagodas out of the interest that had accumulated on Usan's money. The Vestry had no other way but to accept its inability to carry out the project for want of funds. The matter was taken before the Supreme Court which ordered that a sum of 8,780 pagodas (to which Usan's money had totalled during the period) to be paid into the Court by the Vestry. Two points

were raised in the argument against carrying out this injunction and they were accepted as being sufficiently convincing:—

(1) That the Vestry was the concern of the Church and the public had no say in its matters; and

(2) that when money was accepted by the Vestry it was only in payment of interest thereof with no liability to pay back the capital.

In this way ended the benefit which Usan wished to confer on Madras and curiously enough the bridge was left uncared for, for long after this enquiry into the Vestry muddle.

The entire village of St. Thomas Mount to which Usan's bridge was intended to lead is a Christian monument in Madras. The place has acquired celebrity long before the English made it their strategic military post, as the place where St. Thomas died and from very early times pilgrims had flocked to the spot and many Armenian and Persian Christians had established settlements here. Tomb stones at the foot of the hill give evidence of these early settlements and Marco Polo lets us know that numerous Christian communities lived at St. Thomas Mount even in the thirteenth century, when he visited the place. The historian D'Oreey writing in 1893 says:—

"To this day and from time immemorial the City of Meliapour, to which the Christians of India have

¹ Penny; op., cit., 541.558.

² D'Oreey; *Portuguese Discoveries*.

The Marmalong Bridge.



given the name of St. Thomas, sees every year the two neighbouring hills (meaning Little Mount and St. Thomas Mount close by each other) covered by a multitude of Christians, old and new, who flock thither from the coasts of Malabar, from Ceylon, from the most distant parts of India and even from Arabia, to deposit their offerings and to pray at the shrine of the Holy Apostle¹."

It is said that about 1450 when the Moslems invaded Madras, there was a severe battle at St. Thomas Mount between the Christians and the invaders, with the result that the former lost their dwellings in the mount and had to repair to Pulicat eighteen miles north of Madras. When the Portuguese arrived in Madras one of the very first things they did was to bring these Christians back to St. Thomas Mount. The Portuguese took possession of the hill in 1545 and from that day and due to that reason it is still known in the vernacular as "Parangimalai", the word "Pharangi" referring to the Portuguese.

Two objects of attraction on the hill to the historian and the tourist are the "bleeding cross" and the picture of the Madonna said to have been painted by St. Luke, an Apostle of Christ, and preserved in the Church on the top of the hill. The former is a stone cross on which the blood of St. Thomas is said to have splashed when he died and the wonder is that it is said to have sweated blood every year on the 18th of December—

¹ Over the spot where this church stood now stands the Church of St. Mathias in Vepery. It still houses the tomb of Usan.

² Ft. St. George Consultations, Feb., 1714-15, July, 1719.

³ Penny; *Church in Madras*, I, 539.

probably the day when St. Thomas died. This seems to have happened till the close of the eighteenth century and we have letters of the Jesuits who were residing here speaking to the veracity of it'. One of the Portuguese journals of the period also refers to this. This cross is still to be seen on the mount. It bears an inscription in Sassanian-Pahlavi dating from a period anterior to the sixth century A.D. Many unsuccessful attempts have been made by scholars of repute at deciphering this hieroglyphics. In 1908, however, two Professors have translated the inscription independently of each other and, if what they say is to be accepted, it seems to refer to the Christian doctrine of redemption through Christ: "Through the Cross the Messiah brought salvation to the world."

In the last quarter of the seventeenth century, the famous St. Mary's Church within the Fort St. George was built. It forms an important mark in the sky-line of Madras. It is also to be considered as a historical monument for various reasons. It is the first Christian church built by the English in India. It was built and

	PAGODAS.
Balance at beginning of year	5,573
Interest	4,766
Church Collections	943
Cemetery Fees	110
Sunday Boat hire	359
Poor Fund Subscriptions	953
Sundries	218
	12,922

This church has been described as "a treasure-trove" for the historian, because of the numerous tombs of great men, like Pigot, Munro and Hobart (all Governors of Fort St. George) which it contains and many marble tablets of historical interest which it houses. There are two remarkable marble statues—of the famous missionary Schwartz and the great General Conway—in this

1 Letters edificantes, 1781.

2 Gouvea's Jouruada.

3 Quoted from the records kept in Fort St. George pertaining to the Vestry of which 7 volumes remain.

(Continued from page 15)

The need for finding a formula for promoting amity and better relations between employers and workers and for securing industrial harmony has been under the consideration of the Government of India for some time. The subject was discussed by the Standing Labour Committee and the Indian Labour Conference more than once. It has been agreed to by the representatives of the employers as well as labour that they should subscribe to a Code of Discipline for the purpose. A draft Code of Discipline was finally evolved at the 16th Session of the Indian Labour Conference held at Nainital in May 1958 and at the 17th Session of the Standing Labour Committee held at Bombay in October 1958. Copies of the Code have been communicated to all the important organisations of employers and employees and they have been requested to adhere to its provisions. The officers of the Labour Department have also been instructed to see that the provisions of the Code are observed by the employers as well as the employees.

blessed in 1680. A governor lost his job by it. In the years preceding 1680 was Governor of Madras Streynsham Master. He was as independent as he was religious. He decided to build this church and carried his council with him. They decided upon it and arranged in the settlement for the cost of it without consulting the Company in any way. The Home Board of the East India Company under the chairmanship of Sir Josiah Child resented this and he felt that the time had come to remove Master from office. The year after the opening of the church, Master was relieved by Gyfford and Child writing to Gyfford afterwards reminded him of the pride of his predecessor recommending to him incidentally a greater humility in office. Child remarked characteristically that "Master was too big for his position". Lastly this church is to be remembered for the great work of charity which emanated from its Vestry to which reference has already been made in this paper. Though it was responsible in some way for losing Uscan's money, its record of work was generally good. As an example we may cite an entry found in its records for the year 1805:—

	PAGODAS.
School	2,147
Church	1,176
Poor Relief	2,093
Bridge Repair	58
Sundries	210
	5,674
Credit balance ..	7,248
	12,922

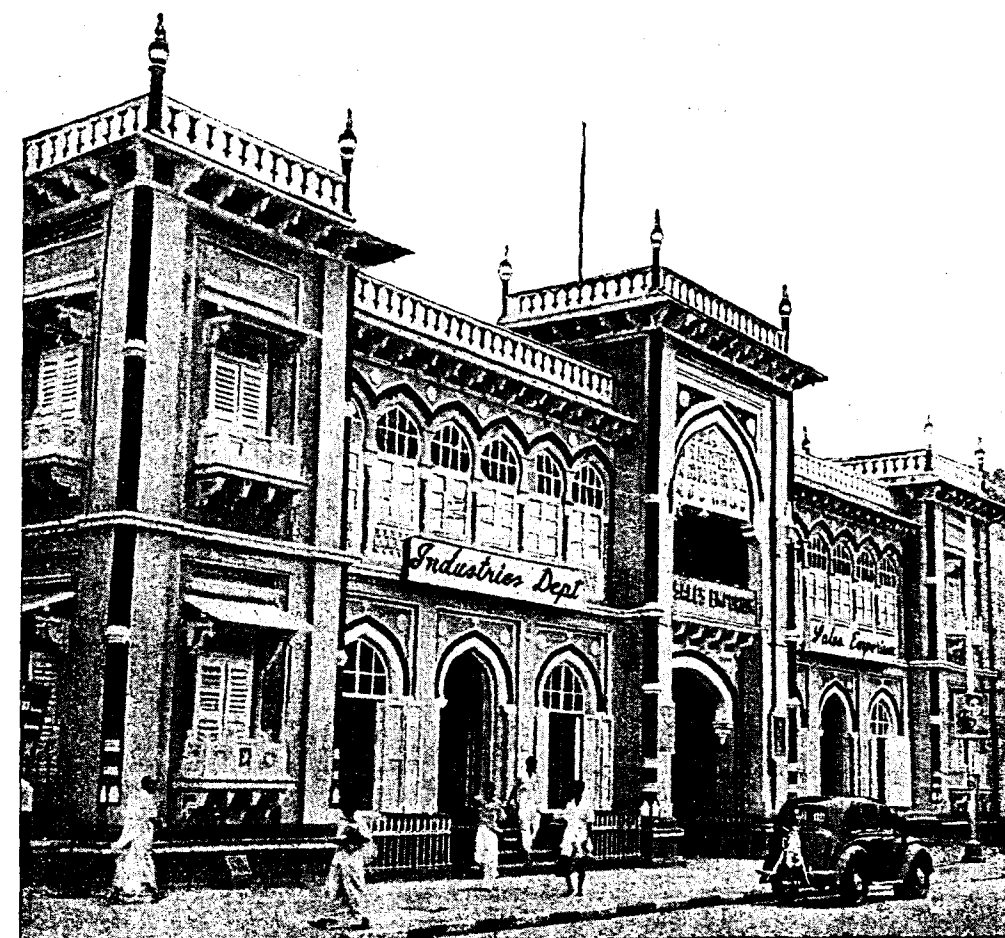
church. A nice picture of the "Last Supper" done by a pupil of the master-painter, Raphael, said to have been brought from Pondicherry after the English capture of that city also hangs in this church. The most interesting point to remember about this place is, however, that Robert Clive, the founder of the British Empire in India, was married in this church in Madras.

The Second Five-Year Plan attaches considerable importance to the constitution of joint standing consultative bodies at various levels. The consultative bodies functioning at the All-India level are the Standing Labour Committee and the Indian Labour Conference with representatives of labour, employers and Government. The State Labour Advisory Board is the most important consultative body at the State-level to which all important problems affecting labour are referred for advice. These bodies as well as the Labour Ministers' Conference meet periodically and consider appropriate measures for further improvement to ensure to labour its legitimate position in the country. The objective is increased association of labour with management in respect not only of industrial relations but of increasing productivity. However, labour problems will continue to exist in the future perhaps on a much larger scale, but with goodwill and understanding on the part of employers and workers, it is possible to find satisfactory solutions to them.

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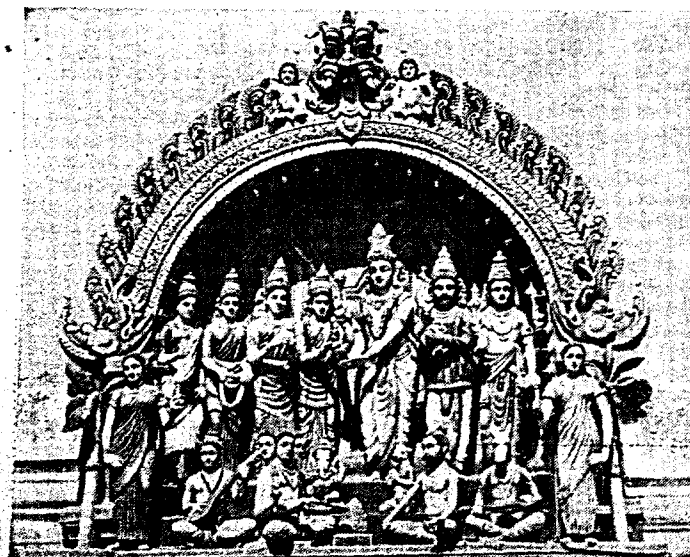
Temples TAMILNAD

SRI T. M. BHASKAR TONDIMAN, I.A.S.,
Collector of North Arcot.

There is a good little story in the Periapuranam of Sekkilar. The story is quite simple. Rajasimhan, a Pallava king at Kancheepuram, had a desire to construct a temple for Lord Siva. He pooled together all the resources of the State and started the construction of a big temple at Kancheepuram for Kailasanathar. A poor old man, Poosalar by name, was living at Tiruninravoor, a place few miles away from Kancheepuram. He also had a burning desire to construct a temple of his own. He was such a poor old man that he could not even make both ends meet. He cogitated over the matter and finally thought that he could construct the temple in his mind itself. On the day, when Rajasimhan started laying the foundation of the temple, Poosalar also started construction of his temple by laying the foundation for it in his *mind*. The construction of the temple started by Rajasimhan was progressing well. Many of the famous sculptors of the Tamil

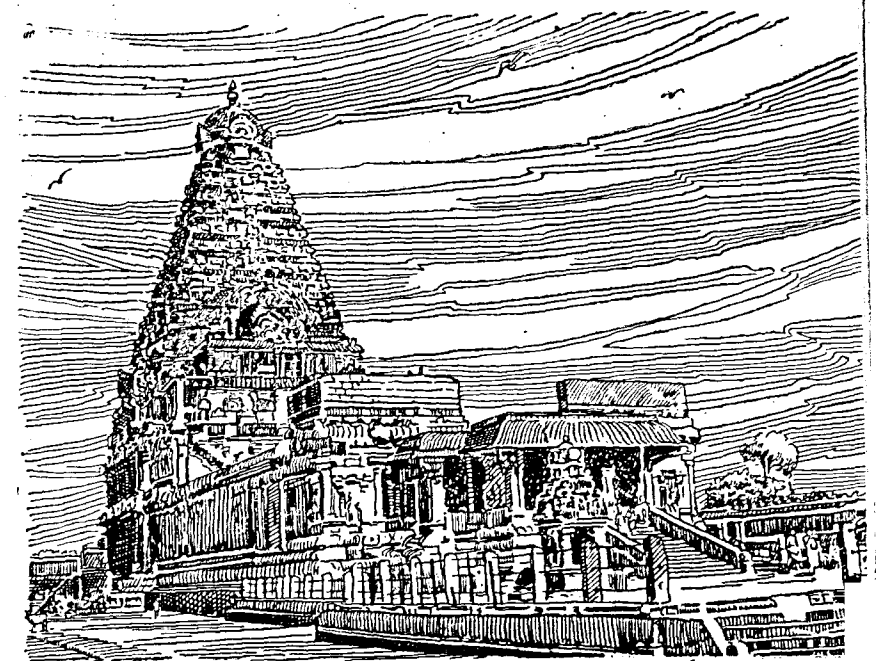
Nad were hard at work. Outer Prakarams were laid; Mahamandapam and Arthamandapam were constructed; Garba Graham and the Vimanam over it were all well planned and executed. Rajasimhan was personally supervising the entire work and the minutest detail in the construction of the temple received his personal attention. Poosalar also did not shirk in his work. He was also constructing the Mahamandapam, Arthamandapam, Garba Graham, Vimanam and all the adjuncts of a temple—all in his mind, of course. Finally, the construction of the temple started by Rajasimhan was completed and a date was fixed for the Prethishtai (installation) of the deity. As luck would have it, Poosalar had also fixed the same date and hour for the installation of the Lord in the grand edifice raised within his mind. The night before the date fixed for installation, Rajasimhan retired to bed with a contented heart that he had achieved a great task of constructing a big temple for Kailasanathar at his Capital. But the Lord appeared in his dream and advised him to postpone the ceremony of installation, as He had to be present at the installation in another temple constructed by Poosalar at Tiruninravoor. Rajasimhan had no other option except obeying this command. What a wonderful conception about the preference of God for His abode? It is hailed by all that the poet Sekkilar was able to give a concrete shape to an abstract idea that "God is within you"—oft repeated by all saints and philosophers of the world.

It is these ancestors who conceived the construction of temples within their own mind, have also chosen to build great edifices as the abode of the Lord. Such temples are scattered all over the Tamil Nad today and they speak volumes to the devotion and foresight of our monarchs and their subjects. Though there is mention in Silappathikaram, a classic of the second century A.D., about the existence of temples for Siva, Vishnu, Indra and Balarama, they have all disappeared, presumably washed away by the sea.



The Facade of the Temple at Perur in the Coimbatore district

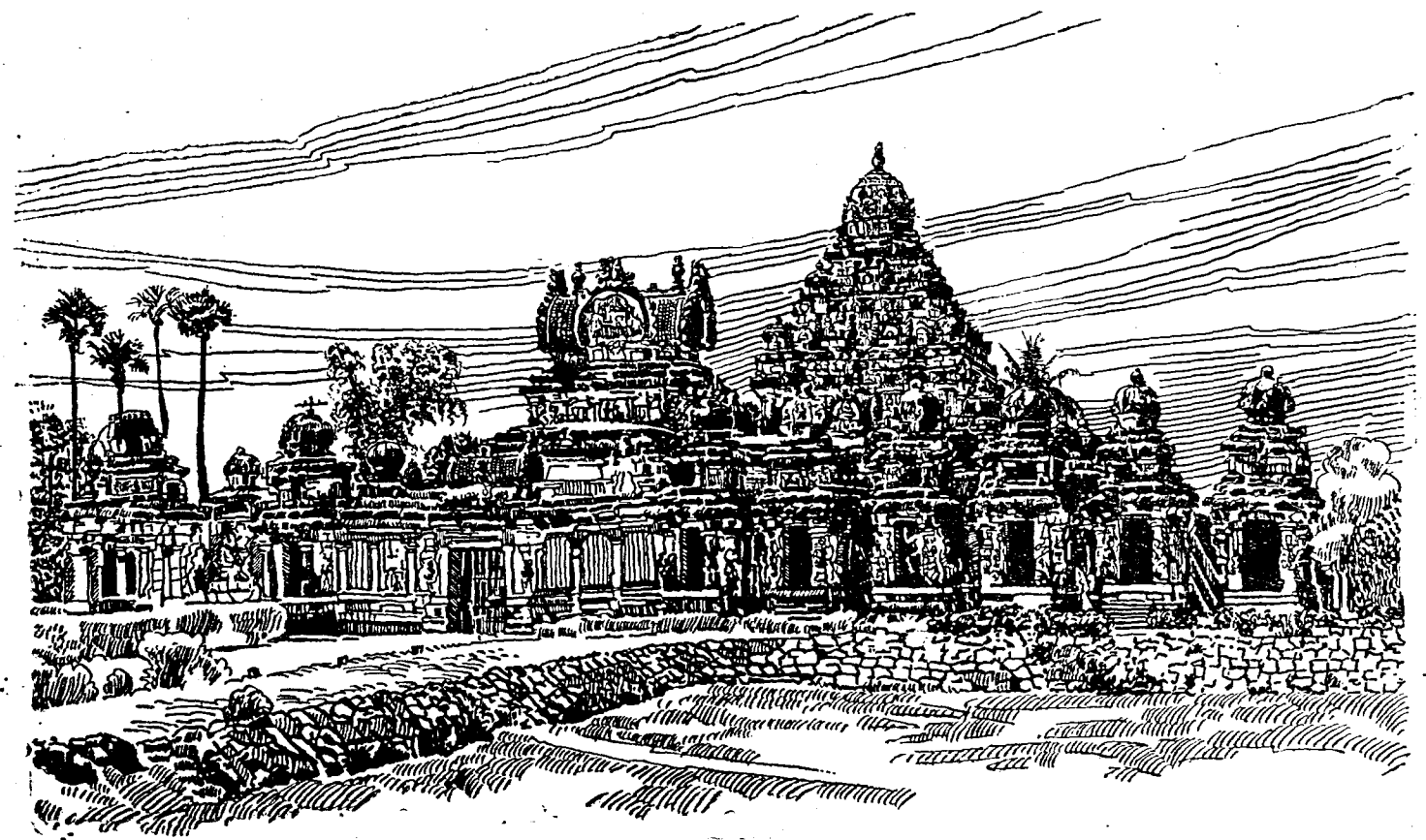
Pallava kings are the pioneers in temple construction and they get the singular honour of carving temples out of hard rocks. It was given to Mahendravarma Pallavan of the sixth century A.D., to cut a Chaitya out of a rock at Mandakapattu in South Arcot district and inscribe in it his desire to carve temples out of rocks, as the temples constructed with brick and mortar, stone and wood, had all decayed. This was followed by other rock-cuts in Mamandur in North Arcot district, Singavaram and Dalavanur in South Arcot district, and Sittannavasal and Rock Fort of Tiruchirappalli district. When Mahendravarman started carving chaityas out of rocks, his illustrious son Narasimhavarman began chiselling out temples and Rathams out of rocks and we have thus before us the rock-cut temples and Rathams of Mahabalipuram. I need not repeat all, what others have said about Mahabalipuram. These monolithic rock-cut temples contain some of the robust specimens of sculpture, executed in South India. The figures of Arjuna absorbed in Tapasya, of the Mahavishnu in the recumbent pose, of Mahishasura Mardhini in attitude of war, all reveal the power and beauty of the art of the Pallavas. Though religious in inspiration, the sculptures of this period were nevertheless rooted firmly in the aesthetic moment, which created much of the lyrical poetry of the Tamils and continued for several centuries. The Pallavas fashioned some of the loveliest female figures ever done in India.



The Brahadeeswar Temple, Tanjore.

They are noted for their inherent grace of stance and rhythm.

The temples of the succeeding period, when the Tamil Nad was under the hegemony of Chola Emperors, are well known for their grandeur and magnificence. The art of temple construction had reached the climax in



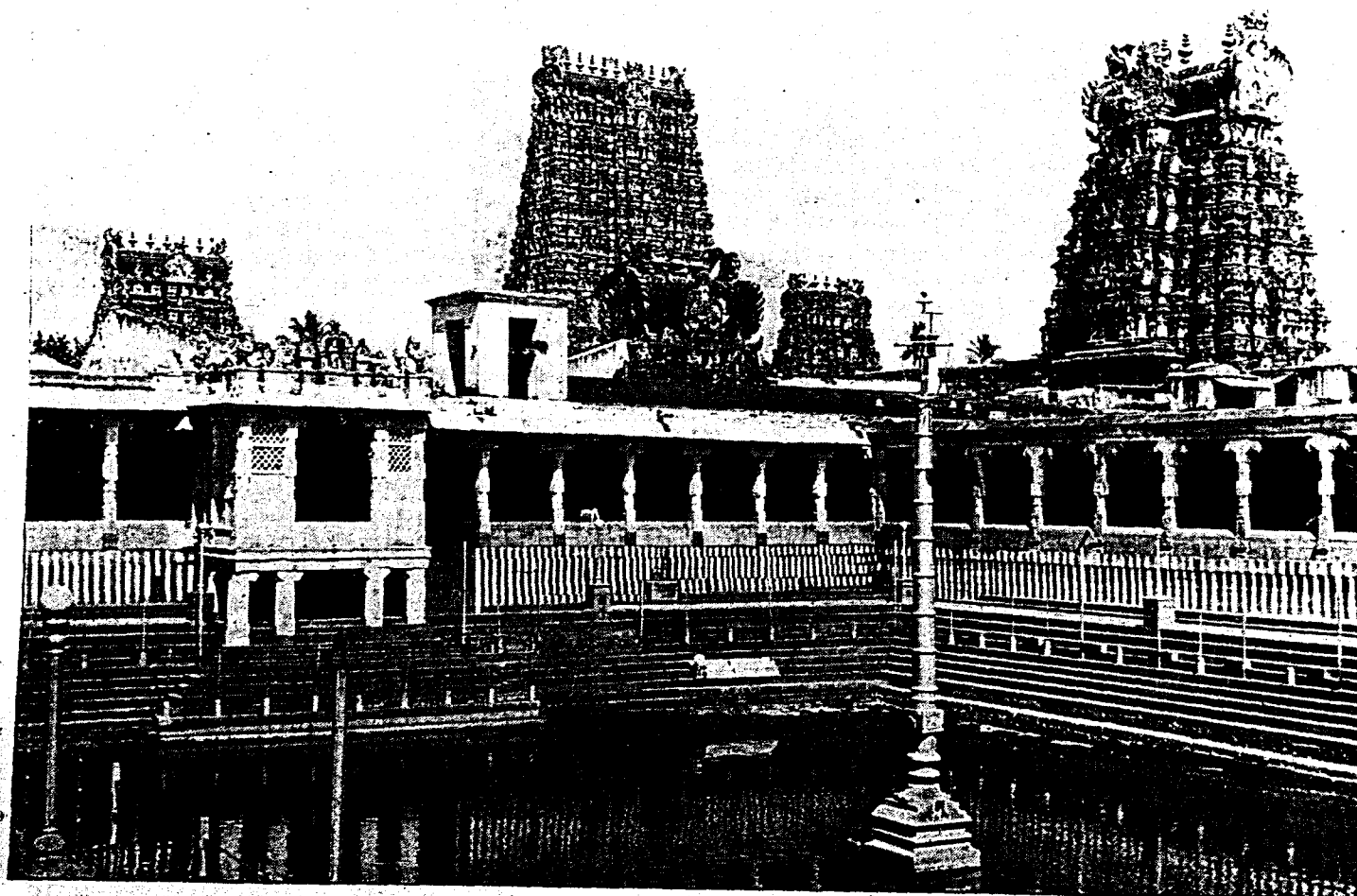
Sree Kailasanathar Temple at Kancheepuram.

the days of the Imperial Cholas, whose period was an Augustan Age in Literature. The temple of Brahadeswarar at Tanjore constructed by Rajarajan the Great and Gangaikondacholechram constructed by his Greater son Rajendran, reflect the spirit of the age, of conceiving everything in terms of Great, Grand and Beautiful. The most brilliant performance of these Chola Emperors was the perfecting of bronze sculptures. These were all made under the inspiration of the great Saiva Saints who popularized the practice of perfecting the temples with votive images of the different aspects of Shiva. The most outstanding specimen of the Chola sculpture is the Nataraja, illustrating the process of world creation and dissolution in terms of Dance and Rhythm. The traditions of Chola Emperors were carried on by the Pandiyan rulers also. But it was given to the Naick rulers who held sway over the South, to construct a good number of temples all through the Tamil Nad. We have before us today the magnificent temples of Madurai Meenakshi, Sreerangam Ranganathar, Tirunelveli Nellaiappar, etc. The grandiloquent gopurams constructed by them for these temples speak volumes about their devotion to majesty of scale and intricacy of detail.

The temples of Tamil Nad are not merely architects' handwork for congregation. It is the hub of the life of the Tamils. Around it revolves the social, economic and spiritual life of the community. It caters not merely for the things of the spirit but also of the body. It is a means as well as an end, the end being good life. Look at the pattern of our Town-Planning from the black hills of Venkatam to the blue waters of Kanyakumari. Everywhere the temple is at the centre. Life flows in concentric circles until you reach the outer ring of swaying corn fields, from which the community draws its sustenance. Where there is no temple, there is no real cultural life, no healthy social fabric and no adequate economic foundation.

To those who have some acquaintance with the ancient inscriptions of this land, it would be clear how very fallacious is the facile assumption that our temples are mere places of pujas and rituals. To them were attached great institutions of learning. There were halls for disputations of grammarians. There were halls for dissertations of diverse philosophies. There were

(Continued on page 83)



The tank of the Golden Lotus in the Sri Meenakshiamman Temple at Madurai.

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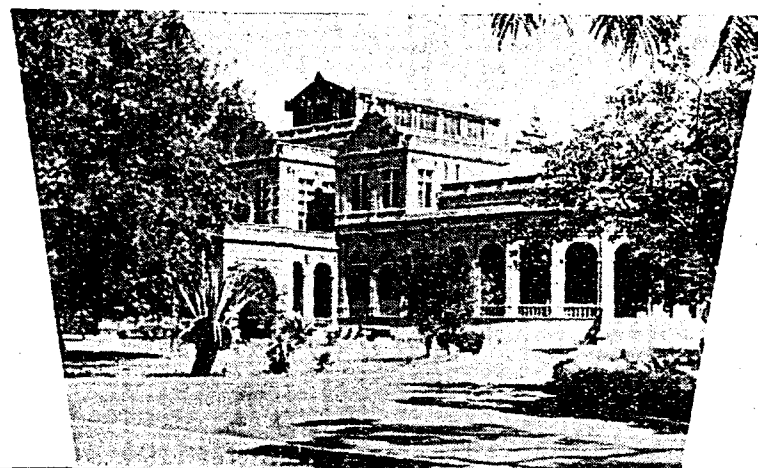
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A TREASURE HOUSE OF ANTIQUES

DR. S. T. SATYAMURTI,
Superintendent, Government Museum.

The Madras Government Museum is an institution over which the Madras State may legitimately pride itself, as it is not only a treasure house of rare and priceless antiquities and works of art reflecting the past history and culture of our country, but also a centre which has been constantly radiating knowledge to the public at large in its own quiet way for over a century in this part of the country. The Madras Government Museum had its inception in the year 1851. Its first Officer-in-charge was Surgeon Edward Green Balfour who launched an intensive collection campaign in order to build up the collections in the various sections of the Museum. Since then, the Museum has steadily grown under the guidance and supervision of a succession of able directors. In 1951, the Museum celebrated its centenary, having completed hundred years of useful service to the public. The Centenary celebrations were inaugurated by the Prime Minister, Pandit Nehru, on November 27, 1951. As part of the same function, the Prime Minister also declared open the National Art Gallery, sponsored by the Government of Madras.

The Museum continues to be immensely popular as an educational institution in the City and its activities have expanded enormously in all directions in recent years. The National Art Gallery is an added attraction and with the merger of the Pudukkottai State into the Madras State, the Pudukkottai Museum also became administratively annexed to the Madras Government Museum.

The Madras Museum is organized into the following seven sections: Archaeology, Anthropology, Numismatics,

Zoology, Botany, Geology and Chemical Conservation. These sections are managed by Curators who are experts in their respective fields. Each of the first six sections contains extensive collections illustrating mostly the Culture and Natural History of South India. Some of these are displayed in the public galleries, but a large part of the collections are kept as reserve for study and reference purposes.

Zoology.—The Zoological section is one of the largest sections in the Museum, handling the collection, preservation, storage and display of all types of animal forms from the lowly organized one-celled protozoan to the gigantic whale. Although its scope is mainly limited to South Indian fauna, a few interesting specimens of foreign animals have also been added to the collections, particularly in recent years. Among the more important recent acquisitions to this section, mention may be made of a pair of African Bustards, a pair of Monal, the American Raccoon and an Ostrich.

Reference collections.—In addition to the exhibited specimens, the section maintains a large and valuable reserve collection for study and research purposes. These collections are mostly preserved in alcohol or formalin and are stored in the reserve collection rooms. They are particularly rich in marine fauna collected from the Gulf of Mannar area. Dry collections of insects of most of the common South Indian species are maintained in insect cabinets and are made available for study and examination by students and research workers.



At the Government Museum, bronze images are cleaned through an electrolytic process which is very effective. These pictures show a bronze image before (left) and after such treatment (right).

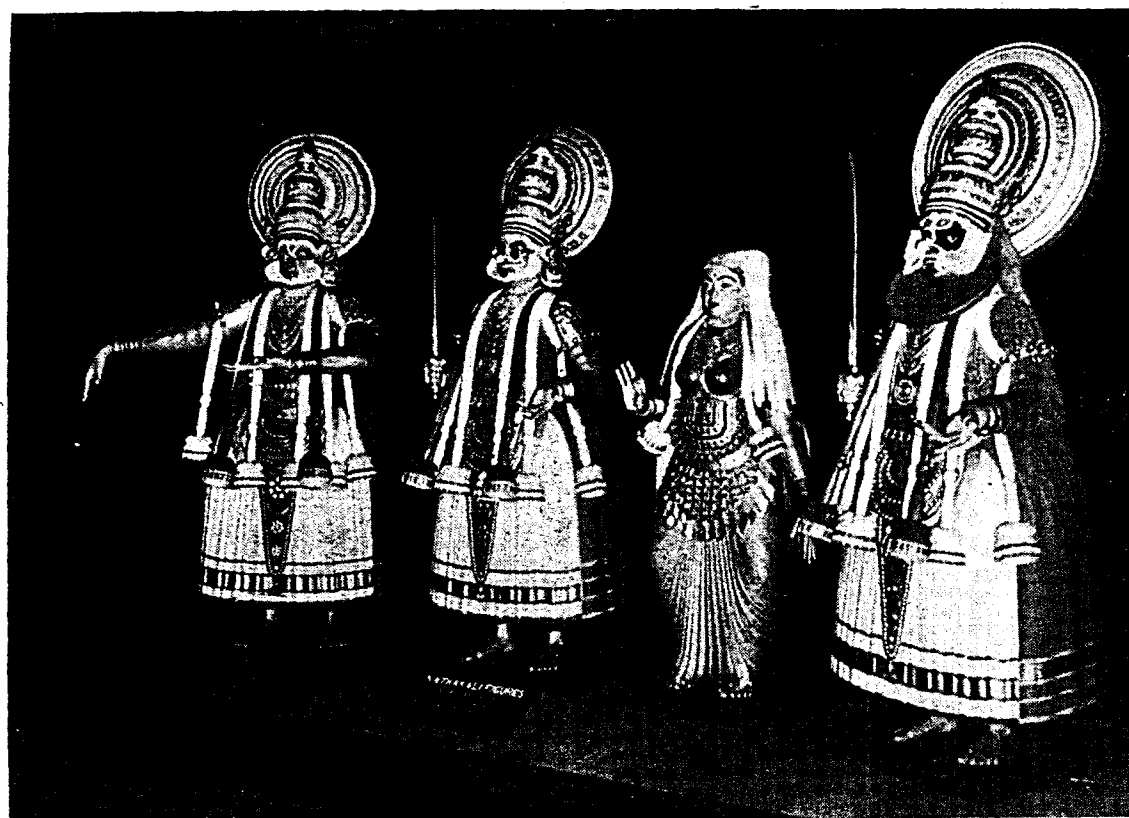
Preparation of exhibits and preservatory work in the Zoology section.—A glimpse into what is being done in the preparation rooms of the Zoological section in this Museum may be interesting as the exhibits which the visitor sees in the galleries are only the finished products of various technical processes, which are carried on "behind the scenes" as it were. Taxidermy is one of these difficult arts involving the careful skinning of the carcasses of birds and animals, the preservation of these skins and their final shaping and mounting in life-like form. Such work demands a keen eye for animal form, expert manual dexterity and a high degree of mechanical skill, and very often a knowledge of photography, carpentry, modelling and painting helps considerably in mounting up an animal satisfactorily. In modern museums, apart from taxidermy, moulding and casting biological specimens in plaster and wax, forms an integral part of the preparatory methods, as plaster and wax models painted accurately in their natural colours make pleasing museum exhibits which have a definite advantage over spirit-preserved specimens, in that they retain their colour and form almost permanently. Attempts are therefore being made in this Museum to prepare more of these casts, particularly of reptiles and fishes, though the techniques involved in their preparation are difficult and an expert artist is required to paint the finished models in their natural colours. Two cases full of painted casts of snakes have been prepared and put up in the Reptile Gallery and many of these models look quite life like. Small illuminated dioramas with painted back grounds and with the animals set in their natural setting in an artificially modelled foreground have also been prepared and are proving to be very attractive.

Botany and Geology.—The Botanical galleries include systematic, ecological and economic sections. In the Economic-Botany gallery, a large number of vegetable raw materials, forest products, timbers, indigenous drugs and cottage industry products are exhibited. The Geology gallery is also subdivided into various sections. The General Geology gallery deals with the surface architecture and structural details of the earth. In the section devoted to stratigraphy, samples of beds of a few geologically important strata, and of fossils of different geological ages are displayed with adequate explanatory labels. In the gallery devoted to Economic Geology, many interesting specimens such as gem stones, gold ores and building stones attract the attention of the visitors. Some exhibits which specially interest the layman in this gallery are the meteorites, a plaster model illustrating the internal structure of the earth, a gigantic fossil *Ammonite* (which is allied to the living cuttlefish) and a model of the herbivorous dinosaur, *Brontosaurus*.

Numismatics.—The Madras Museum is noted for its large and unique collection of coins, particularly of South Indian and Mughal coins, but for reasons of security only plaster cast impressions of some of the more important types of coins have been displayed in the public galleries. The earliest Indian coin represented in the Museum cabinet is the Purana or the Punch-marked coin, dating back to the sixth century B.C. The Gupta coins are specially interesting, being mostly of gold and bearing inscriptions in classical Sanskrit which appear for the first time on Indian coinage. A very rare find recently acquired by the Madras Museum was a hoard from Dowlaiswaram, a place near Rajahmundry, consisting of 127 gold coins 49 of which belong to the Eastern Chalukyan ruler, Raja Raja I and the rest to his son, Kulothunga Chola. This section also has a good collection of historical documents, seals and medals.



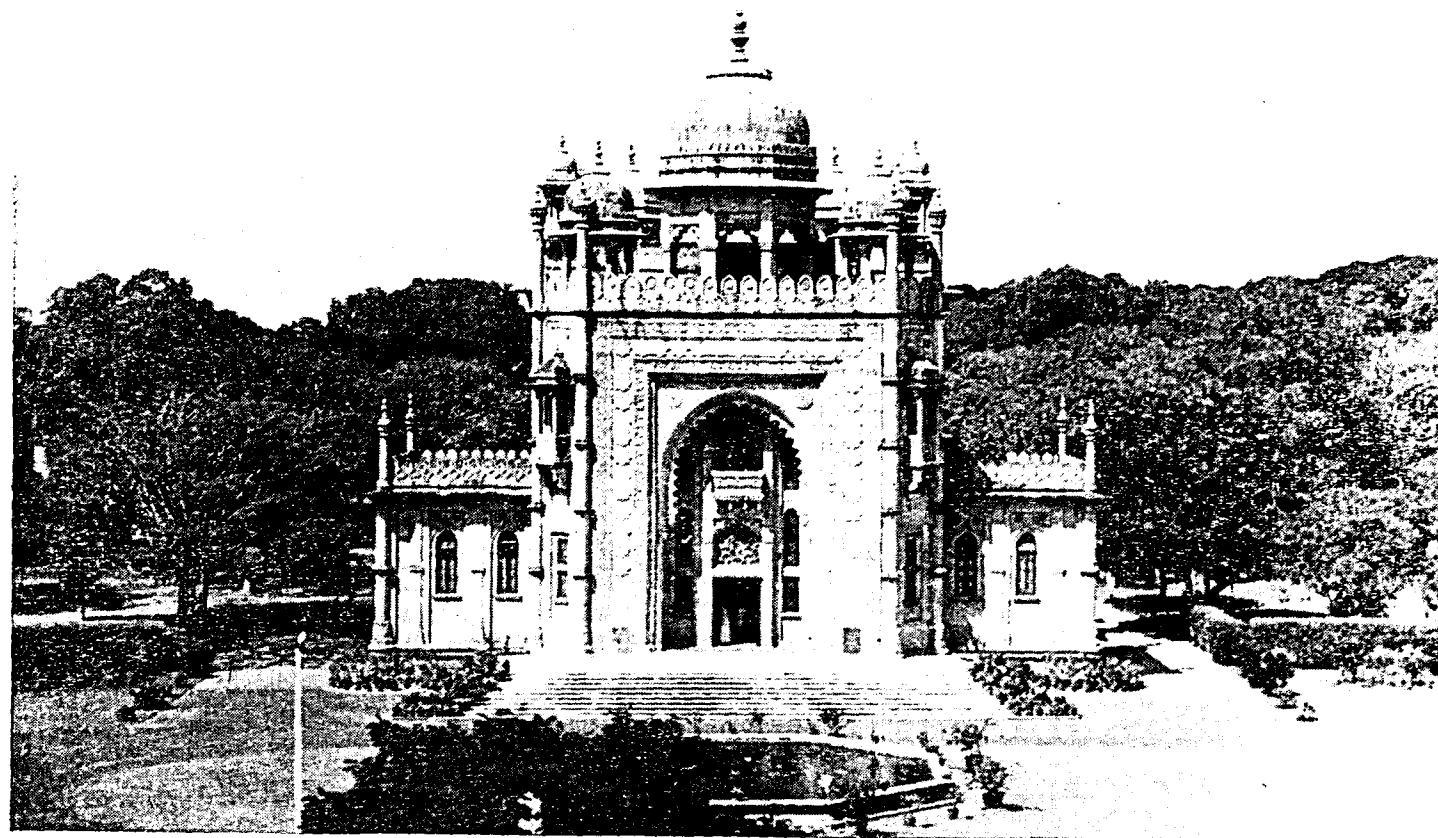
Diorama of the Starred Tortoise in the Natural History Gallery.



Kathakali figures in the Ethnology gallery.

Archæology.—The Archæological section of the Museum is a centre of attraction particularly for foreign visitors. It is concerned with the acquisition, preservation, study and display of sculptures, antiquities and allied objects pertaining to the various periods of South Indian History. The specimens in this section consist of sculptures in stone and metal, inscriptions on stone and metal, architectural pieces, paintings, wood carvings, metalware and a few manuscripts. The most ancient antiquities of the historical period of South India consist mainly of the Buddhist relics from Andhradesa of which the beautiful Bhattiprolu crystal reliquaries and the inscribed stone caskets which contained them deserve special mention. The Buddhist sculptures from Amara-vati, form by far the most interesting and important record not only of the development of the artistic activities of South India during the five centuries from about 200 B.C. to about 300 A.D., but also about the social life of the people of those times so that period is not attested by any indisputably authentic written records. The galleries devoted to South Indian bronzes constitute another remarkable part of this section. Exquisite specimens of art are on display here. Of these the most notable ones are the Dance of Siva (Nataraja) and the Rama groups. In the whole world this Museum may be said to be the only institution where hundreds of specimens of bronzes of a single area are available to be studied and relished under a single roof.

Anthropology.—The Madras Museum is among the earliest of institutions in India and abroad where ethnology and pre-historic archæology are represented as museum subjects. The first palæolith in India discovered in 1863 by Bruce Foote, and housed in this Museum is one of a large collection of pre-historic antiquities. An earlier collection acquired in 1878 from J. W. Brecks from the Nilgiris consists of exotic pottery, beads, ornaments, iron implements and bronze vases. Large collections of iron age pottery, iron tools, bronze utensils and gold ornaments excavated at Adichanallur in Tirunelveli and Perumbair in Chingleput and the stone age collections later made by Sri V. D. Krishna-swami, Mr. F. P. Manley and Sri A. Aiyappan have considerably augmented the Museum reserves so that the pre-historic antiquities of this Museum constitute one of the richest collections in the world today. These now form the index collection for reference, study and research for pre-historians from all over India and abroad. Besides, the Museum possesses a large ethnographical collection representative of the tribal and rural cultures of the people of Southern India. This includes models of tribal dwellings, utensils, implements used by tribalfolk, their dress and ornaments. These have been recently augmented by interesting additions such as the Kathakali figures representing the dance drama of Kerala, the shadow play figures of Malabar and Andhra, models of Lambadi and Gadaba women to illustrate their dress and other objects of the material culture of these picturesque tribes.



The National Art Gallery.

The National Art Gallery.—The aim of the National Art Gallery, which formally came into being in 1951, is to show under a single roof, masterpieces of arts and crafts of ancient South India and to display select works of art of modern times. To begin with, ancient masterpieces of bronzes including the world famous Thiruvelangadu Natesa and minor arts like ivory carvings from various parts of South India contained in the Museum collections were transferred to the National Art Gallery. Paintings and sculptures by modern artists are purchased annually. The most noteworthy among the exhibits in this room are the four exquisite oils by Raja Ravi Varma, the "Temple Steps" in oils by Sri Devi Prosad Roy Chaudhury, the "Mother and Child" by Sri K. C. S. Panikker and the portrait study of Pandit Jawaharlal Nehru by Sri S. N. Chaukur. Of the other paintings on display, the most notable ones are the two old tempera works from Andhradesa and a few pieces belonging to the North Indian Schools of Painting, including a couple of interesting paintings of the Kangra School, a group of four Ragini paintings of the Rajasthani School, and a group of three or four of the Mughal School.

Chemical Conservation.—The Museum possesses a well-equipped chemical laboratory for the treatment and conservation of antiquities and works of art. The valuable antiquities that are received by the Museum from time to time, come very often covered all over with

products of decay and corrosion. Even those which are on display in the galleries or kept in the reserve collections succumb to the corrosive influences in the atmosphere and begin to form disfiguring crusts after a time. It is in the Chemical Conservation Laboratory that such antiquities are given proper scientific treatment so that they may be restored as much as possible to their original appearance, and may be protected against further deterioration. The electrolytic process of cleaning ancient bronze images, which has now largely superseded other processes by dint of its superior advantages, has been carefully adopted for the treatment of large bronzes of which the Madras Museum possesses a good collection. Besides bronze images, various other antiquities such as iron implements, copper plates, wooden and leather objects, coins, etc., are also conserved by chemical methods.

Research and Publications.—Research has always been a dominant feature of the activities of this Museum. The results of the researches carried on in the various sections have been published from time to time, notably in the Bulletins of the Madras Government Museum which have raised the prestige of the institution considerably in the eyes of foreign scholars and have brought in several foreign periodicals by way of exchange. In the natural history series, several of our publications have been regarded as standard contributions to the fauna and flora of Southern India, while

the Bulletins in the General Series include several valuable monographs on the Archaeological and Anthropological material contained in this Museum.

Educational activities.—Museums which are mere show places are things of the past. There is now a growing awareness, all over the world, of the vital role that museums can play in the education of the child and the adult. In keeping with this modern trend, the Madras Museum has expanded its educational activities considerably during recent years. We are attempting to make the Museum more meaningful and enjoyable to the public in various ways. Some of the means by which the Madras Museum has been trying to make itself more educationally useful are detailed below:—

(i) **Special Exhibitions.**—These are a regular feature of our activities. Special exhibitions are organized from time to time to spot-light any recent acquisitions or to mark special occasions such as the Darwinian Centenary, Wild Life Week, Museum Week and Buddha Jayanti. These exhibitions attract large numbers of school children and help to stimulate their interest in the Museums' collections. Special Child Art Exhibitions are also organized by the Madras Museum to encourage Child Art in the State. The Museum also frequently participates in other exhibitions, e.g., India 1958 Exhibition.

(ii) **Summer Courses in Museum Technique.**—Under the Second Five-Year Plan the Museum imparts practical training in Museum work to two batches of 40 teachers each from schools all over the State so as to help them to organize school museums of their own. This course has become very popular now and teachers are evincing greater interest in the techniques taught here year by year. We have also prepared a comprehensive Handbook on Museum Technique for the benefit of the trainees and it is hoped this Handbook will be released from the Press very soon. The trainees are taught the elements of Taxidermy, modelling, preservative methods and general care and maintenance of Museum exhibits.

(iii) **Lectures to College students.**—Under a scheme recently drawn up by Government under the Second Five-Year Plan, the Superintendent and each of the Curators in the Museum deliver a series of three lectures on subjects in their respective fields for the benefit of students from Colleges in the City. Although the response from the students has not been very encouraging, it is hoped that in course of time, these lectures will become very popular, and proposals have now been submitted for organizing these lectures for a larger audience. It is hoped that these lectures will become a regular annual feature of our activities.

(iv) **Visual Aid Programme.**—As part of the Audio-Visual Aid Programme of the museums, sets of electroplated casts of 32 Indian coins representing Indian Coinage from about the sixth century B.C. to the time of the East India Company, are offered by the Museum for sale to educational institutions with an illustrated booklet which serves as a handy guide to the

study of the coins of the dynasties and periods which are represented in the set. The Museum also offers its surplus coins and plaster casts of coins for sale to the public after distributing coins to other institutions under the Distribution Gratis Scheme. Photographs and picture post cards depicting the outstanding exhibits in the Museum have also been prepared and kept for sale. This year, a set of six coloured picture post cards illustrating the common birds of Madras have been prepared and released for sale. This is the first time in the history of the Museum that Natural History Picture post cards have been prepared for sale to the public.

(v) **Loan of circulating collections of paintings to schools.**—Over two hundred and fifty paintings representing the Rajput, the Mughal, the Deccani and the Tanjore schools that were stored in the reserve collection of the Archaeological section of the Museum were divided into sixteen sets. These sets are sent round the thousand and odd high schools in the Madras State in circulation. A set is loaned to a school for six months during which they are displayed prominently in a central place to stimulate in young students an interest in the original works relating to the various traditional schools of Indian painting.

(vi) **Guide Service.**—The Museum has on its staff two Assistant Curators who offer free guide service to the visiting public who wish to avail themselves of such service. These guides explain the exhibits in simple language (mostly in the vernacular). This service has proved to be a boon mainly for the illiterate visitors who are not in a position to read the labels.

(vii) **Demonstrations to school teachers.**—Every year on Saturdays, during December and January, parties of teachers from various schools in the City are taken round the galleries by the respective Curators who explain in detail the significance of the exhibits to the teachers. The object of these demonstrations is to enable the teachers to have an intelligent grasp of the objects displayed in the Museum so that they, in their turn, will be able to satisfactorily guide their pupils when they are brought to the Museum on their routine visits.

Museums thus have an important and almost unique part to play in education, meeting the needs of both formal and informal instruction, of children as well as adults. There are no frontiers to restrict the exploration of the mind with the aid of the museum collections. The Madras Museum in spite of the limitations imposed on it by staff, accommodation and finances, has had a very commendable record of educational activities and research. In planning for its future, it is well to remember that apart from the passive role of museums in collecting and preserving material, they have an even more important, active and dynamic role to play in making these collections educationally useful and it is this aspect of museum work that has given museums recently the vitality which they lacked some decades ago.

completes the triangle. Another route takes off at Salem and passing through the industrial city of Coimbatore, "The Manchester of South India" runs into Kerala State. The last of the series is the Madurai-Ramnad road extended up to Mandapam following in its route the old Mangamma Salai in several places. There is a proposal to construct a road bridge at Pamban Straits to provide direct road link to the greatest pilgrim centre of the south, viz., Rameswaram, with the main land of Ramanathapuram district. Among the State Highways, mention may be made of Nagapattinam-Tiruchi Road passing through Tanjore and having as its continuation the Tiruchi-Coimbatore Road. These two roads together run horizontally in the middle of Madras State from the east coast to the western boundary. Other important inter-State State Highways include the Cuddalore-Chittoor Road connecting the district headquarters of North and South Arcot districts, Madurai-Tenkasi Road and Dindigul-Palani-Coimbatore Road, serving the trade and pilgrim interests, the Coimbatore-Mettupalayam-Ooty Road leading to the "Queen of Hill Stations" in India. One important feature of the Highway Grid in Madras is that all district headquarters are connected either by a National Highway or State Highway.

Besides the above, several major and other district roads with their branch roads serve the local interests

(Continued from page 29)

own natural death or at least immediate frustration. Such were the objective principles of the System of Abolition.

After passing through long periods of tireless fight, Madam Josephine Butler's gospel was accepted by the League of Nations. Many countries were convinced of her standpoint and so, they pledged themselves to follow and promote the System of Abolition. One such country was England. India was then a part of the British Empire and later Commonwealth and, therefore, she was also virtually obliged to adopt this System of Abolition. This system was not, however, unknown to India. Even in the late 19th Century, Sri Keshab Chandra Sen of the Brahmo Samaj at Calcutta, formed an association to fight against the commercialised prostitution and brothels of any type and to raise the moral standard of men and women. Even the United Nations have recognised the principle of Abolition in 1952 and Independent Republic India, among other countries, has solemnly pledged to adhere to this System of Abolition both on hygienic and moral grounds. Among the few blessings which England showered on India and which India still cherishes is the System of Abolition.

It was to advocate and enunciate the principles of the System of Abolition that the Association for Moral and Social Hygiene was formed in Calcutta and later in Delhi in 1928. Under dramatic circumstances, a similar Association with a different caption but with the identical objectives of not only suppressing the evil of immoral traffic in girls and women, closing down brothels, dismantling the network of "traffic gang" and

adequately. It will be gratifying to note that Madras State has so well extended its network of feeder roads into the rural parts, that no village, in an agricultural or otherwise well developed area, lies at a distance of more than two miles from any road, and in the under-developed hilly and forest regions, more than six miles from any road.

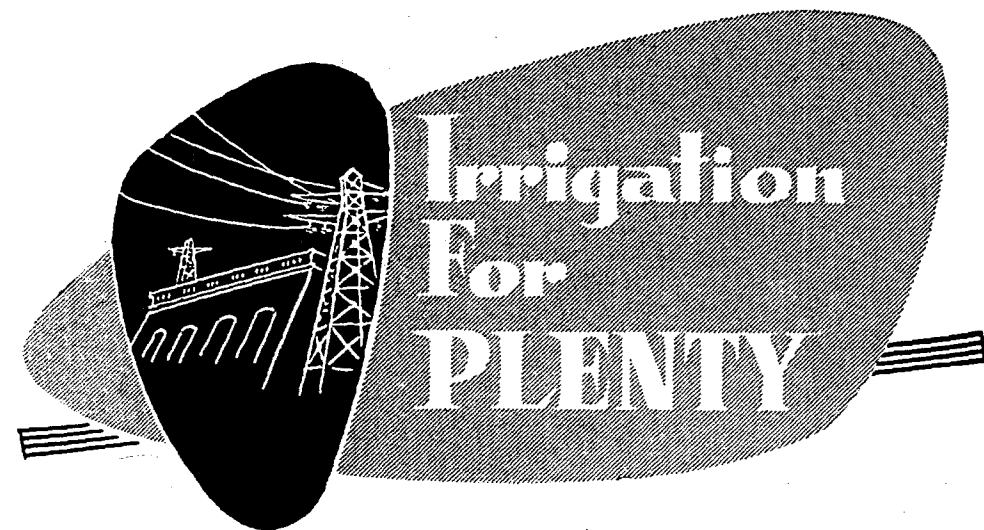
The Future Problems.

Though the above facts present a rosy picture, yet there is the other side of the problem too. The rapid rate of industrialisation, the manufacture of motor vehicles stealing a pace over the construction of road schemes, the constant migration of the rural population towards cities, the change over of the movement of goods traffic from the rail to the road out of necessity, the inadequacy of the old structures to withstand the heavy laden weights of modern vehicles, the question of proper maintenance of the vast mileage of roads constructed with people's participation—all these—are only a few of the problems to be tackled with prudent planning, if the future is to be equally bright. Realizing the importance of roads in building up a Nation, the Government are spending large amounts of money on communications.

Let me conclude this article with the statement of Winston Churchill "Give us the Tools and we will finish the job".

reclaiming and rehabilitating the victims to the vice, but also as a preventive measure, propagating the principles of self-denial and continence as well as dignity and purity of women was formed in the Madras City in 1924-25. It is the MADRAS VIGILANCE ASSOCIATION. Any expatriation on this will take us off the track, as it provides a theme for yet another article: If there is any demand for it, it will be contributed some other time. It will suffice for us to know that it was the Care and Correctional Institutions (Shelters, Rescue Homes and Vigilance Homes) or Protective Homes, started and conducted by this Association that the State Government took over, provincialised and constituted them under the MADRAS (STATE) VIGILANCE SERVICE in 1948, and ever since, through its directly controlled and aided institutions in the City and State, it is rendering yeomen service to the cause of the exploited victims to the commercialised vice. Madras is the only State in India to have a Government Vigilance Department (Service). This is, in brief, the biography of the Madras (State) Vigilance Service.

To conclude, the social service minded public of Madras State may leave the direct action against the commercialised vice to the Police and the custodial care, training and resettlement of the victims to it to the Madras Vigilance Service. But, it should exhort the people of all castes, creeds, colours and classes to devote their time, energies and resources at their disposal in establishing reasonable equality and responsibility between the sexes and a code of honour, decency and self-respect that women may demand of men. Sex purity is the basis of general morality and it is the building factor of national solidarity.



SRI U. ANANDA RAO,
Chief Engineer for Irrigation.

It is an undenied and undeniable fact that Madras State has been the pioneer in the field of irrigation from very ancient times. The renowned Grant Anicut amidst picturesque surroundings across the sacred Cauvery, the Uyyakondan channel, a master-piece of a contour canal in those days when modern technique was unknown and the innumerable tanks dotted all over the entire State like pearls bear testimony to the engineering marvel and far-sightedness of the master-builders of Tamil Nad. By and by, the waters of all major rivers have been harnessed and put to beneficial use by means of the construction of anicuts and channels taking off from above them. In short, there is no major river left in the State whose potentialities have not been exploited for the benefit of the toiling millions.

Yet in the post-war years the problem of maintaining our growing population even at its present subsistence level has assumed staggering proportions. In order to grapple with the alarming food situation the Government has to don the mantle of universal provider with the apparently inexhaustible water resources. India's history, as in ancient times, is being made in the valleys and basins of her rivers. Under the pressure of vital

The Neyyar Project in the Kanyakumari district was inaugurated by the Chief Minister. The photo shows the Project site.



needs big and small schemes irrespective of their financial considerations were launched under the First and Second Five-Year Plans. The schemes generally contemplate of cooping up large flood flows of rivers, though occurring only for a very limited period in reservoirs formed by building dams across the rivers and thereby bringing greater areas under the plough. Nine such schemes were taken up during the First Plan at an estimated cost of about Rs. 29 crores to benefit about 334,000 acres. Of these, the Lower Bhavani, Mettur Canals, Araniar and the Cauvery Delta Drainage Improvement Schemes were almost completed in the First Plan period itself or early in the Second Plan period. The remaining five schemes were continued during the Second Plan period and have since been completed. Of these the Sathanur, Krishnagiri and Amaravathi Projects were completed and brought to beneficial use during the year 1957.

During the early part of the current year one of the two remaining projects, viz., Manimuthar Project was opened for irrigation. This project lying in Tirunelveli district comprises a part-earth and part-masonry dam across the Manimuthar river, a tributary of Tambaraparani and a new canal 28 miles long to feed nearly 300 precariously rainfed tanks irrigating about 20,000 acres. The reservoir is also intended to stabilize supplies to about 83,000 acres of existing irrigation under the Tambaraparani system which is paradoxically subjected to frequent failure due to dearth of water at crucial times though there is enough surplus water. The project was commissioned on 3rd January 1958 for the full area.

The only other project, viz., Vaigai Project is also nearing completion. This project is for the construction of a part-earth and part-masonry dam forming a reservoir with a capacity of 6,800 million cubic feet across the Vaigai river to harness the surplus waters diverted from the Periyar lake. The waters so stored

will be utilized for irrigating 20,000 acres. Half this extent will be served by the existing Periyar canals after suitable improvements and the other half by a new canal 17½ miles long being excavated on the right side of the Peranai regulator. The canal excavation for 13½ miles has been completed and water was allowed for 900 acres in the head reach from July 1958 onwards. The reservoir is also designed to hold up the surplus waters of the Vaigai river now going to waste and to release the same when required to stabilize existing irrigation under the Vaigai river in the most backward area of Ramanathapuram district.

During the Second Plan, four more new schemes have been taken up. They are (1) New Kattalai High Level Canal, (2) Pullambadi Canal, (3) Vidur Project and (4) Parambikulam Projects. The first two are mainly for utilizing the considerable excess flow of the Cauvery river that is wasted, by diverting to feed a number of tanks. They will irrigate in all about 43,000 acres. Good progress has been made in the excavation of the canals and they are expected to be completed by 1959.

The third scheme, Vidur Project, is to form a reservoir across Varahanadhi in South Arcot district for the joint benefit of both Madras and Pondicherry States. An extent of 3,200 acres will be benefited by the scheme. Nearly 50 per cent of the work on this scheme has been completed and we are sanguine that the project will be completed in all respects in about a year.

The fourth and the most important major multi-purpose scheme included in the Second Plan and yet to be taken up is the Parambikulam Project. This project contemplates harnessing the waters of Parambikulam river. The river rises in the Anamalais in Coimbatore district and flows within the Madras State and then enters the Kerala State through Cochin and finally falls into the Arabian Sea under the name Chalakudi. The harnessing of the Parambikulam river came up for active consideration by the Madras State after the separation of the Andhra State, as the residuary Madras State had very limited or rather little scope for additional irrigational facilities. As the river Parambikulam is an inter-State one, much spade work had to be done before coming to an agreement for the utilization of the waters for the mutual benefit of both the States.

It is good augury that a working plan for the sharing of the Parambikulam waters has been mutually agreed to after prolonged deliberations. The willing co-operation of the Kerala Government, their innate goodwill and their abiding interest in the overall development of the nation is really laudable and deserves particular mention. The project, as finally decided, aims at harnessing and utilizing the entire flows of Parambikulam, Aliyar and Nirar rivers and the surplus flows of Sholiar. The scheme is in two distinct parts.

The first part consists of big storage reservoirs within the Kerala State limits on the Parambikulam river and its tributaries, viz., Tekkadi, Tunakadavu and Peruvarpallam with suitable interconnections by means of

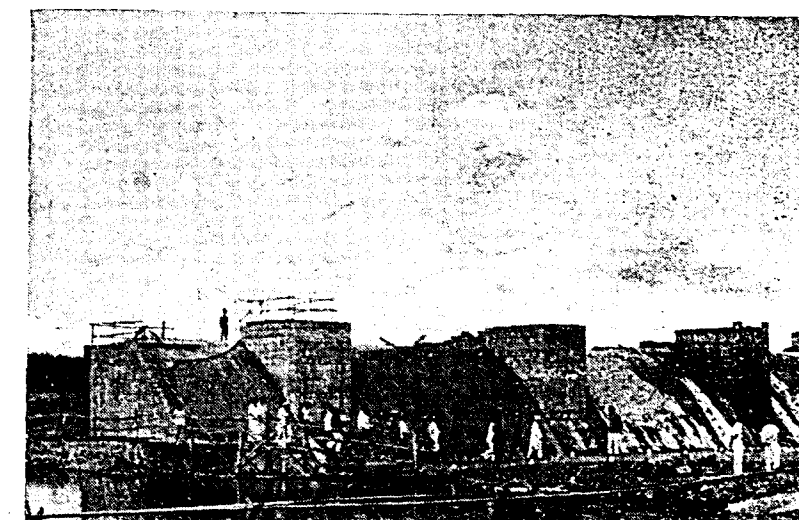
tunnels, etc. Flows from the Sholiar, another tributary of the Parambikulam river, which are surplus to the requirements of the Hydel schemes in Kerala State on the same river lower down, will be diverted into the main Parambikulam reservoir. The total flow that is expected to be available for the use of Madras State from these rivers is about 19,000 million cubic feet in an average year. Waters from these reservoirs will be diverted eastwards by means of a tunnel 2½ miles long. At the exist end of the tunnel there is a drop of about 500 feet where a firm power of 33,000 K.W. can be developed. From the tail race of the power house a contour canal will be taken to the Aliyar river which will also be dammed to form another reservoir. Two canals will be aligned from this reservoir for irrigation in Pollachi taluk of Coimbatore district.

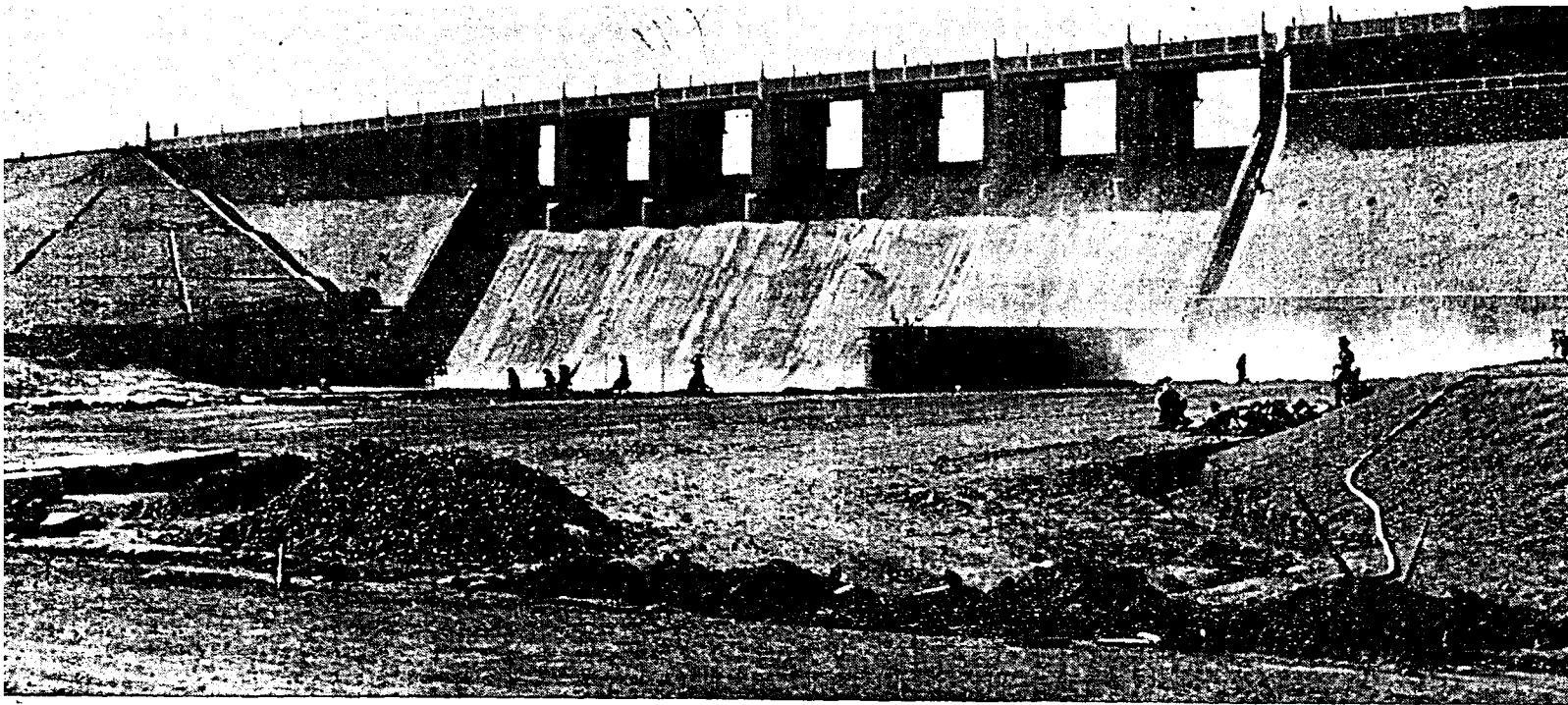
The second part of the project consists of the diversion of the waters of Nirar, a sub-tributary of the Periyar river to the Aliyar river by a tunnel 6½ miles long. The waters so diverted as well as the flows of the Aliyar river at the site of the reservoir will be again diverted to the Nallar valley by a short tunnel. All these waters will be stored in a reservoir by the construction of a dam wherefrom another tunnel conveys the water. At the end of this tunnel there is a drop of about 1,700 feet where a firm power of 80,000 K.W. can be developed. The tailrace water is again picked up and let into a reservoir on the Palar river wherefrom two canals take off to irrigate areas in Dharapuram, Udumalpet and Palladam taluks of Coimbatore district.

The total area that will be benefited by this scheme is about two lakhs of acres of mixed crops of paddy, millets and cotton. About 113,000 K.W. of firm power will also be developed. The cost of the project is expected to be about Rs. 30 crores. With the additional grant expected during the Second Plan the execution is proposed to be accelerated and one of the units of the projects, viz., Aliyar Dam and canal are proposed to be taken up for execution next year for which the preparation of plans and estimates are under way. The other units will also be taken up one by one and when the entire project is completed, it will usher in an era of prosperity to the arid regions of Coimbatore district.

Not only great strides were made in respect of major irrigation but also minor-irrigation was given due and

The Vidur Reservoir Project under construction in the South Arcot District.

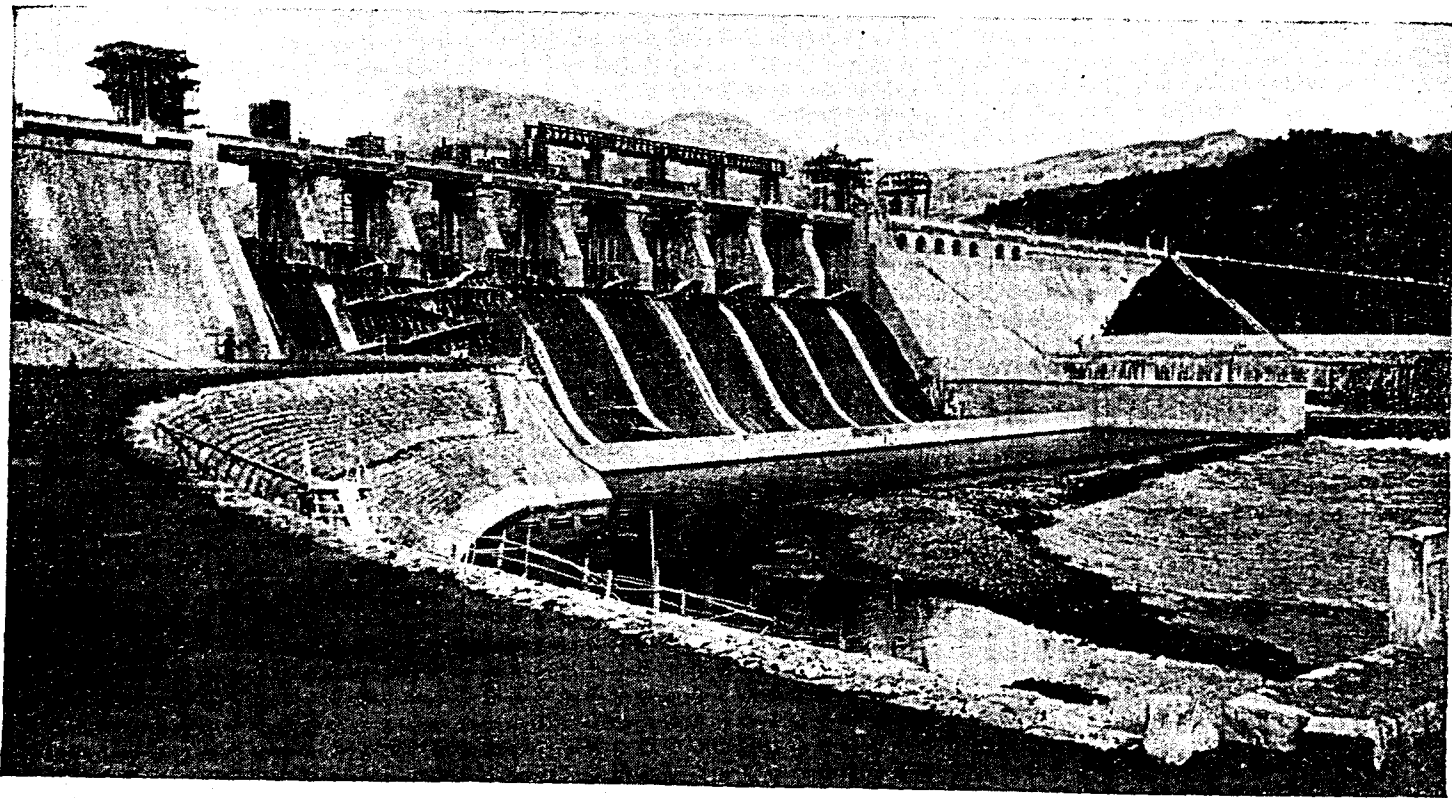




The Vaigai Dam in the Madurai district which was inaugurated on 21st January 1959.

proper attention. Sixty-nine works were taken up during the current year at a cost of Rs. 21.40 lakhs to benefit about 32,000 acres. Besides 18 works under the de-silting-cum-reclamation Scheme were also taken up to bridge the gap and reclamation of about 3,000 acres between the registered ayacut and actual cultivation.

All is grist that comes to a mill. With the completion of the projects under First and Second Plans nearly 90 per cent of the potentialities of the rivers in the State has been availed of and so Madras State has come to the end of its tethers in respect of water resources. It has, therefore, become incumbent on the part of Madras State to look for an integrated development of



The Amaravathy Reservoir Project in the Coimbatore district.

large rivers of adjacent States on zonal basis in order to increase the food production for feeding the teeming millions. With the mutual goodwill and co-operation of our neighbouring States it is a practical proposition to design many such schemes as to give rapid and

kaleidoscopic change in every sphere that matters social economic and political. With the national prosperity attendant upon these projects we hope ours will be a land of Utopia ere long.

IRRIGATION PROJECTS IN MADRAS STATE.

Name of Schemes.	Year of completion.	Cost in lakhs.	Area benefited.	District benefited.
		Rs.		
1 Srivaikuntam Anicut	1839	17.75	26,000	Tirunelveli.
2 Cauvery Delta	1839	93.86	44,008	Tiruchirappalli.
3 Barur Anicut (Tank)	1891	4.52	6,887	Salem.
4 Mehamathur Anicut	1891	0.87	4,555	South Arcot.
5 Vridhachalam Anicut	1893	1.08	8,829	Do.
6 Pelanderai Anicut	1893	6.92	12,839	Do.
7 Marudur Anicut	1893	0.60	21,000	Tiruvannamalai.
8 Vallur Anicut	1893	0.76	5,216	Chingleput.
9 Kalingarayan Anicut	1893	1.80	14,116	Coimbatore.
10 Chembarambakkam	1893	7.64	13,000	Chingleput.
11 Kodivere Anicut—				
(a) Thadapalli Channel	1893	1.77	15,183	Coimbatore.
(b) Arakankottai Channel	1894	1.44	4,821	Do.
12 Tirukoilur Anicut	1895	3.99	28,000	South Arcot.
13 Shathiatope Anicut	1895	10.90	33,000	Do.
14 Palar Anicut	1896	35.29	24,102	Chingleput.
			54,566	North Arcot.
15 Cheyyar Anicut	1896	12.29	22,193	Do.
			494	Chingleput.
16 Periyar System (Dam)	1897	108.36	1,43,000	Madurai.
17 Poiny Anicut	1897	3.04	22,462	North Arcot and Chittoor (Andhra.)
18 Lower Coleroon Anicut	1903	30.02	84,244	South Arcot.
			23,685	Tanjore.
19 Toludur Regulator	1925	26.23	25,000	South Arcot.
20 Kattalai Regulator	1926	45.25	66,632	Trichy district.
21 Cauvery Mettur (Dam)	1934	725.82	2,65,000	Tanjore.
22 Kodayar	..	..	60,000	Kanyakumari.
23 Koyaiyar (Extension Perunchannai Dam).	1953	44.5	6,000	Do.
24 Lower Bhavani	1955	1000	2,07,003	Coimbatore.
25 Aranar Project	1957	104.12	3,000	Chingleput.
			8,500*	
			New 17,709	
			3,291*	} 21,000.
26 Sathanur Project	1958	289.28	15,300	North Arcot.
			5,700	South Arcot.
27 Krishnagiri Project	1958	202.43	6,500	Salem.
			2,500*	
28 Manimuthar Project	1958	505.00	20,090	Tirunelveli.
			83,009	
29 Amaravathi Project	1958	324.40	21,000	Coimbatore.
			32,030*	
30 Mettur Canal Project	1959	1183.00	17,200	
			27,860	Salem.
31 Vaigai Project	1959	330.00	13,000	Madurai.
			7,000*	Ramanathapuram.

* Existing.

COOPERATIVE FARMING

in Madras State

SRI A. PALANIAPPA MUDALIAR, I.A.S. (Retired),
Registrar of Co-operative Societies.

A co-operative farming society is a voluntary organization of the farmers to carry on farming operations jointly, on the lands willingly pooled by them into a common farm, or on the lands held by the society as owner or lessee.

Where the farmers have pooled their own lands for joint farming, it is known as a Joint Farming Society; where the farmers have agreed to cultivate collectively, the lands held by the society either as owner or lessee, it is known as a Collective Farming Society.

In a joint farming society, cultivation is done either through personal labour of the members or if necessary by hired labour. The members (or others) get remuneration for the labour contributed by them. In addition, each owner who has pooled his land into the common farm, gets what may be called 'land dividend', out of the net produce, in proportion to the extent or the value of the land contributed by him.

In a collective farming society also, the members (or others) get remuneration for the labour contributed by them. The net produce is shared among the members in proportion to the labour contributed by them. There is no question of 'land dividend' in this kind of society, as the ownership of the land is with the society and not with the members.

Thus, the essence of a co-operative farming society is joint operatorship, whether it is a joint farming society or a collective farming society.

Joint endeavour in other fields of co-operative activity in the Agricultural sector.

The idea of joint endeavour on a co-operative basis in the agricultural sector is not new in our State. It has been there for more than 50 years. The village co-operative society, which is the earliest kind of co-operative institution in rural areas is an example of joint endeavour for the purpose of securing and supplying agricultural credit, as well as procuring and distributing the agricultural and domestic requirements of the members. So also the agricultural banks, which have been started recently. On 30th June 1958 there

were 7,915 village co-operative societies and 245 agricultural banks which supplied credit to the members to the extent of Rs. 8.21 crores, and supplied agricultural and domestic requirements to the members to the value of Rs. 58.14 lakhs during 1957-58. The co-operative marketing society is another example of joint endeavour on the part of the agriculturists, to market their produce to their best advantage. There were 105 marketing societies in our State on 30th June 1958, which during the year 1957-58, marketed the produce of the members to the extent of Rs. 185.09 lakhs besides issuing loans on the pledge of produce to the extent of Rs. 169.88 lakhs to enable the members to hold their produce for a better market.

Besides the village co-operative societies and marketing societies, there are in this State what are called 'land colonization societies', which come close to the co-operative farming societies. A land colonization society secures land from the Government or others by assignment or lease, divides such land into smaller units of 5 or 10 acres among its members, who cultivate their share of the land individually, paying rent, if necessary. The society has a right to resume the land from any member, if he does not cultivate the land properly. On 30th June 1958, there were 33 land colonization societies in our State, holding 15,032 acres of lands.

A co-operative farming society (either a joint farming or a collective farming society) is a step forward in the joint endeavour described above. Indeed, the joint or collective farming society is the highest form of common endeavour in agricultural co-operation.

The need.

The need for co-operative farming arises out of the inherent disadvantages of small and scattered holdings into which most of our cultivable land is divided. It is obvious that a small landholder who has a tiny holding is grossly lacking in capital or other resources to carry on farming on scientific lines, so as to get the maximum yield. If the advantages of large scale and scientific farming are to be secured, and maximum production achieved, he should combine with others

similarly placed in life, and pool his land with those of others. It is out of this realization of the advantages of large-scale farming, co-operative farming societies have been formed in our State.

Working of Joint Farming Societies.

There are seven co-operative joint farming societies in this State with 428 members who have pooled into the society 1,307.45 acres of lands. Most of them were formed within the last two years, some very recently. Though it is rather early to assess the extent of increased production and increased income achieved by these societies and their members, yet the results so far shown by the societies are promising.

In Nathagoundanpudur (Coimbatore district) for instance, the lands which have been pooled into a common farm (about 100 acres), were depending only on rains, with no irrigation facilities. Failure of crop, after the farmers had made considerable investment in seeds, manure, etc., was not uncommon. The joint farming society has sunk two big wells, installed pump-sets, and is making arrangements to sink a third well. One well has already begun to irrigate and the second well which is nearing completion will begin to give irrigation facilities shortly. With three big wells in the area, the entire area pooled is expected to get irrigation facilities. The members of the society now go forward with common farming operations, with confidence in the future of their crops and invest money in good seeds and manure without the fear that the investment might become an unprofitable outlay in the event of the failure of rains. The society has conferred a benefit on the small holders of these 100 acres, which it was not possible for them individually to achieve, with their limited capital and resources.

In Mecheri Co-operative Joint Farming Society (North Arcot district) for instance, where crops are now being harvested, the outturn is much more than what it was before the lands were brought under joint farming. Though the lands here, were not so much lacking in irrigation facilities as those in Nathagoundanpudur, yet the efficiency of cultivation was not uniform. While a handful of people were able to cultivate efficiently and get the maximum yield, the others were not able to do so. After the lands were pooled, the society has been able to achieve a higher standard of cultivation, and to raise the outturn per acre even on lands, which were rather indifferently cultivated formerly.

Working of Gramdhan Sarvodaya Co-operative Societies.

Apart from the seven co-operative joint farming societies referred to above, there are ten Gramdhan Sarvodaya Co-operative Societies in the Madurai district. These are essentially co-operative farming societies of the collective farming type. But their objects are more comprehensive, to be in consonance with the Sarvodaya ideal. Apart from carrying on farming operations, their objects include (i) taking care of orphans and destitutes and maintenance of public institutions like orphanages, chatrams and temples, (ii) providing educational assistance and medical aid to the members and their families, (iii) promotion of sanitary habits by taking over, establishing, maintaining and

managing educational institutions, (iv) promotion of social, cultural and recreational activities and (v) working towards self-sufficiency in food, clothing, etc.

The Gramdhan village offers a peculiarly favourable climate for the starting and working of co-operative farming societies because the villagers, by having agreed to give away their lands for the common benefit of the village, are psychologically prepared for the idea of co-operative farming. The members of the Gramdhan Sarvodaya Co-operative Societies have executed gift deeds of their lands in favour of the society, to enable the latter to secure credit and other facilities for the capital and recurring expenditure, connected with farming operations. In 9 out of 10 societies registered, 722 members have gifted lands to the extent of 1,385.07 acres to the societies.

Mention may be made of a co-operative farming society formed in a Bhoodan village (Thanneerpandalpudur in the Coimbatore district). Here 53 land-owners have donated to this society 311 acres of land. The society has retained 78 acres of lands for collective cultivation by the members and has allotted the remaining 233 acres among 62 members. This society combines in itself, both the systems of cultivation, i.e., individual cultivation by the members on the lands allotted to them, and collective cultivation of the land retained by the society for common farming.

Societies taking lease of lands from temples, etc.

In the field of co-operative farming, a new line of development has taken place recently. Temples and other religious institutions in our State, own large extents of lands. It is generally the practice that these lands are leased out in large blocks to private individuals, who again sub-lease the lands to smaller cultivators resulting in rack renting. With a view to eliminate this type of middle men in the field of farming, so that his income might be shared by the actual cultivators on the one hand and by the temples and religious institutions on the other, societies have been formed in ten places in the State. These societies have taken the lease of lands from the temples (with the exception of those recently formed). Though for the present each member is allotted a portion of the land taken on lease, the objective is to bring the lands under collective cultivation ultimately, when the members are willing and are prepared for it. So far four societies have obtained lease of lands to the extent of 500 acres from the temples and are undertaking cultivation through their members.

Financial assistance by the Government.

With a view to encourage co-operative joint farming societies and co-operative collective farming societies, the State Government have evolved a pattern of financial and other assistance. Suitable assistance is provided to facilitate the working of such societies. Free grants are given (at the rate of Rs. 10 per member except to those who own lands bearing an assessment of Rs. 10 and above) towards share capital and at Rs. 5 to Rs. 10 per acre towards purchase of manure and seeds. Towards purchase of plough bulls, interest-free loan of Rs. 400 per pair of bulls, half as grant and half as loan is given. Similar assistance is available for purchase of

agricultural implements, and other transport vehicles. So far as permanent improvement to lands is concerned, financial assistance subject to a ceiling of Rs. 100 per acre, is given half as a grant and half as interest-free loan. For irrigation facilities, such as sinking of wells and installation of pump-sets, the entire amount is given as interest-free loan in the first instance and 25 per cent is written back as free grant proportionately each year. For the construction of godowns and cattle-sheds, a maximum assistance of Rs. 10,000 and Rs. 5,000, respectively, is given, half as interest-free loan and half as free grant, in respect of each item, the loan being repayable in 20 years and 10 years, respectively. Besides the direct financial assistance indicated above, Government have agreed to guarantee the repayment of loans advanced by the Central Banks to co-operative farming societies, for cultivation purposes. The free services of Co-operative Senior Inspectors and Agricultural demonstrators or maistries are also given for a period of three years to each society.

The extent of financial assistance given so far is as follows:—

In respect of joint farming societies, loans amounting to Rs. 2 lakhs and free grant amounting to Rs. 0.31 lakh, have been given. Besides, Government have guaranteed to the Central Banks repayment of loans by the farming societies to the extent of Rs. 1.90 lakhs. In respect of Gramdhan Sarvodaya Co-operative Societies, Government have granted loans amounting to Rs. 4.74 lakhs, and free grants amounting to Rs. 1.54 lakhs. Besides, Government have guaranteed the repayment of loans taken by these societies, to the extent of Rs. 1.51 lakhs, to the Central Banks. In respect of the Bhoodan Co-operative Farming Society a loan of Rs. 20,000 and a free grant of Rs. 12,000 besides a Government guarantee to the Central Bank of Rs. 10,000 have been given. In respect of the Tenant Farming Societies formed for taking the lease of temple lands, loan of Rs. 27,750 and free grant of Rs. 15,825, besides a Government guarantee of Rs. 24,000 have been given.

Pro and Con.

The objective of the Government is to have at least one co-operative joint farming society in each block, so that the experiment in co-operative farming might be on a fairly large scale in different regions, and among different people, so that the problems and difficulties that arise in actual working might be examined and solved in the proper perspective. Some unjustified fears have been expressed from time to time, about co-operative farming. It is said for instance, that this is a method of doing away with individual ownership of lands. It is not so. In a co-operative joint farming society where owners pool their lands, individual ownership is definitely recognized, and based on such recognition, the net produce is shared among the owners in proportion to the extent of the value of the land pooled by them. Again, it is said that co-operative farming would reduce the members to the status of wage-earners. This is again a misunderstanding of the position. A co-operative farming society, as already explained, is a voluntary organization, and is functioning on democratic lines. The members participate in the formulation of the cultivation programme, and their representatives participate in the management of the

farm. They have absolute freedom, in formulating the programme, in managing the farm, in determining the method of distribution of profit, etc., subject to certain overall safeguards, prescribed by the by-laws, which they have framed for this purpose. There is no element of compulsion. Again, it is sometimes said, that individual initiative and incentive, have no place in an organization of this kind. This is not so. There is ample scope for the display of these qualities, in the democratic functioning of a co-operative farming society. With a view to ensure, that in the preparatory and initial stages, the advantages of individual initiative and incentive are not lost, there is provision in the by-laws of the society to carry on cultivation in groups also, with suitable group incentives. After all, even individual initiative and incentive can bring forth results, only if the size of the farm is sufficiently big, and the capital and other resources available to the individual farmers are adequate. In the absence of these requisites for scientific and profitable farming, individual initiative or incentive, by themselves, cannot be of much use to the small farmer.

Let me conclude the article with an appropriate saying of Mahatma Gandhiji: "I believe that we shall not derive the full benefit of agriculture, until we take to co-operative farming. Does it not stand to reason, that it is far better for a hundred families in a village to cultivate their lands collectively and divide the income therefrom, than to divide the land anyhow into a hundred small portions?"

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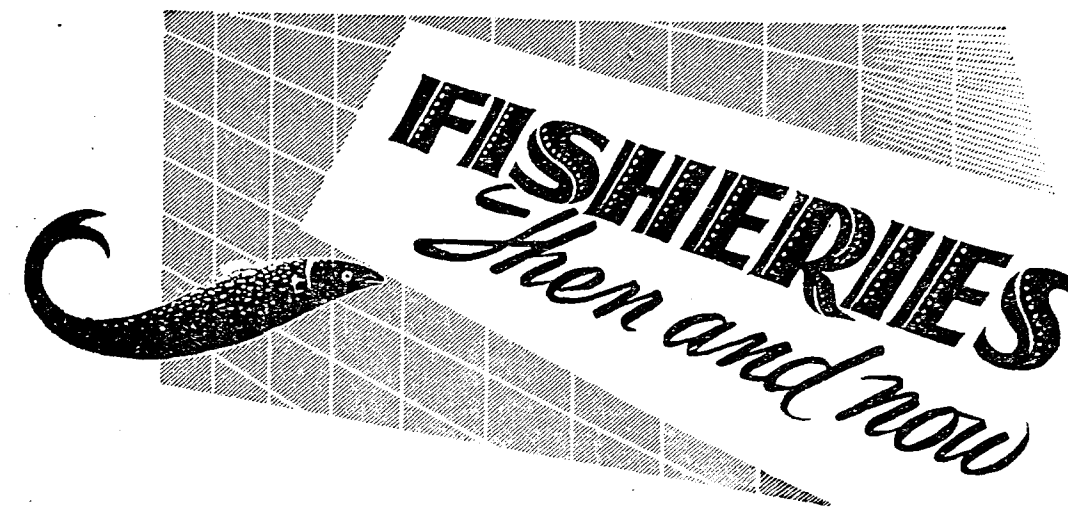
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SRI C. P. KELU ERADY, I.A.S.,
Director of Fisheries.

Fishing is one of the oldest industries in the world. Pre-historic man hunted and fished long before he tilled the soil or knew the use of metals. The Stone Age population of India were found more in the coastal belts than in the interior, and cured fish, supposed to be prepared by them, were found among the archaeological remains at Harappa and Mohenjodara. Fish legends, similes and stories are met with the Hindu religious books such as Rig Veda, Atharvana Veda, Jataka, Mahabharatha and Panchatantra. The Sumerians, the Egyptians, the Chinese and the Japanese have practised fish culture long before this industry developed into a science as we know it. The existence of fishing as their chief occupation among the aboriginal races of various countries of to-day, such as the Dyaks of Borneo, Samoan Islanders, Tahitians, Sarawaks, Polynesians, Negroes, Hottentots, Red Indians and the Esquimaux show that fishing is a very ancient practice.

Fish as food.

To-day, there can be very few races who do not include this valuable food in their diet. Whether eaten raw, cooked, salted, smoked or preserved in one way or another, the popularity of fish is world-wide. The flesh of fish is generally white and flaky, has an agreeable flavour, is soft and easily digested. It contains a high percentage of proteins and fats. It is stated that eighteen of the amino acids which build up the human body are the first digestion products of fish food. The other essential and accessory food stuffs in fish are nitrogenous elements, iodine, sulphur, phosphorus, magnesium, iron and copper. Vitamin A, B and D, the growth-promoting and disease-resisting factors of all animal and vegetable life is present in large quantities in the liver and body fats of many species. Above all, fish is cheap. These advantages make it a desirable item in the dietary of the rich and an unavoidable factor in the food of the poor.

Fisheries Development in Ancient India.

Even from Kautilya's (321-300 B.C.) Arthashastra, it is evident that even in the dim past, fishery was a well-established industry in India and that fish was relished as an article of food. During famines or other natural calamities, greater use was made of fish to tide over food shortages. Fishermen were charged low licence fees for catching fish and were given concessions for fording or crossing rivers. Fish processing (dry fish and fish manures) was known in those days and fishery products were charged a low rate of toll tax. From the inscriptions on Asoka's Pillar edict V (246 B.C.) it is seen that legislative measures for the conservation of inland fisheries were adopted in those days. Asoka prohibited the catching of fish with reference to breeding periods, lunar periodicity and religious customs. This resulted in the evolution of fishery lands in the country. From the Pallava, Chola and Vijayanagara inscriptions dating from the 5th and 6th century A.D. to the 16th century, details are available about the employment of fishermen in irrigation tanks in South India and about the utilization of the income from the lease of fishery in the tanks for the maintenance and improvement of irrigation tanks and about the gradual development of fisheries in those waters. The *Manasollasa* by King Someswara, son of King Vikramaditya VI of the later Chalukyas (A.D. 1127), is an encyclopaedic work and gives details of different kinds of marine, freshwater and estuarine fishes, their habits and of fishing tackles.

Origin of Madras Fisheries Department.

Even before 1870, Mr. H. S. Thomas, a Madras civilian, and Dr. Day of the Madras Medical Service (subsequently Inspector-General of Fisheries in India) had urged the importance of developing the fishery resources of India as an important source of food-supply. Sir F. A. Nicholson, another civilian, in an official note of 1899 on the desirability of developing

the Agricultural Department, proposed that a Bureau of Fisheries should be established as an important branch of that Department. In January 1905, he submitted general proposals for the development of the fisheries of the State and in May 1905 the Government deputed him for a period of two years to investigate the fishery industry in the State and also to study the fishing methods and practice in Europe, Japan and America. In April 1907 the Government accepted the proposals of Sir Nicholson for the initiation of a small Bureau of Fisheries. The aim of this Bureau was three-fold, (1) to conserve and develop marine fisheries, (2) to similarly conserve and develop inland fisheries and (3) to look after the interest of the fisherfolk.

Achievements.

In the course of its steady growth of about half a century, the Madras Fisheries Department has made considerable progress. The work of the pioneers was of course preliminary and rather of the nature of reconnaissance. Mr. James Howell, who joined the department in 1908 as Marine Biologist and Superintendent of Pearl and Chank Fisheries, conducted surveys and investigations on pearl and chank fisheries, prospects of fish-trawling, fishing methods, habits of important sea fishes and on marine fishing. Mr. H. C. Wilson, Piscicultural Expert in the Department from 1907 to 1917, organized the Inland fisheries activities of the Department by establishing hatcheries and fish farms, introduction of exotic fishes, surveying river fisheries and by introducing conservancy measures. The Post-war Development plans of the Government gave a fillip to the development of the activities of the Department. The First and Second Five-Year Plans gave further opportunities for expansion of the activities of the Department. Seventeen schemes with a total outlay of Rs. 95.14 lakhs are now being implemented.

Research.

The importance of researches and up to date successful fishery development in the State has been reorganized by the Department from its inception. Marine biological stations were established at Krusadai Island (1927), Ennore (1946), Tuticorin (1947) and Cape Comorin (1957). The fresh water biological station was established in Madras in 1942 and moved to Bhavanisagar in 1954. A technological station was established in Tuticorin in 1956. At all these research stations valuable data are gathered for the proper conservation, development, exploitation and utilization of the fisheries resources of the State.

Marine Fisheries.

By conducting exploratory fishing with different types of powered vessels and modern gear the Department has located several potential grounds both in the inshore and offshore waters. The Department has also initiated a programme for mechanization of indigenous crafts and introduction of improved designs of fishing

boats and so far 42 mechanized boats have been constructed and given to Fishermen Co-operatives together with nylon nets. Sixty fishermen are being trained every year at two Training Centres at Nagapattinam and Tuticorin to enable them to undertake mechanized fishing. Fishing harbours are being established at Madras, Nagapattinam and Cuddalore. One Ice Plant with capacity for a daily output of 5 tons and with cold-storage facilities for 15 tons is nearing completion at Tuticorin. To facilitate quick transport of fish, the Department maintains a fleet of 21 vehicles. The existing fish markets are being improved for popularising fish. Nineteen fish-curing yards are maintained for processing of fish.

Inland Fisheries.

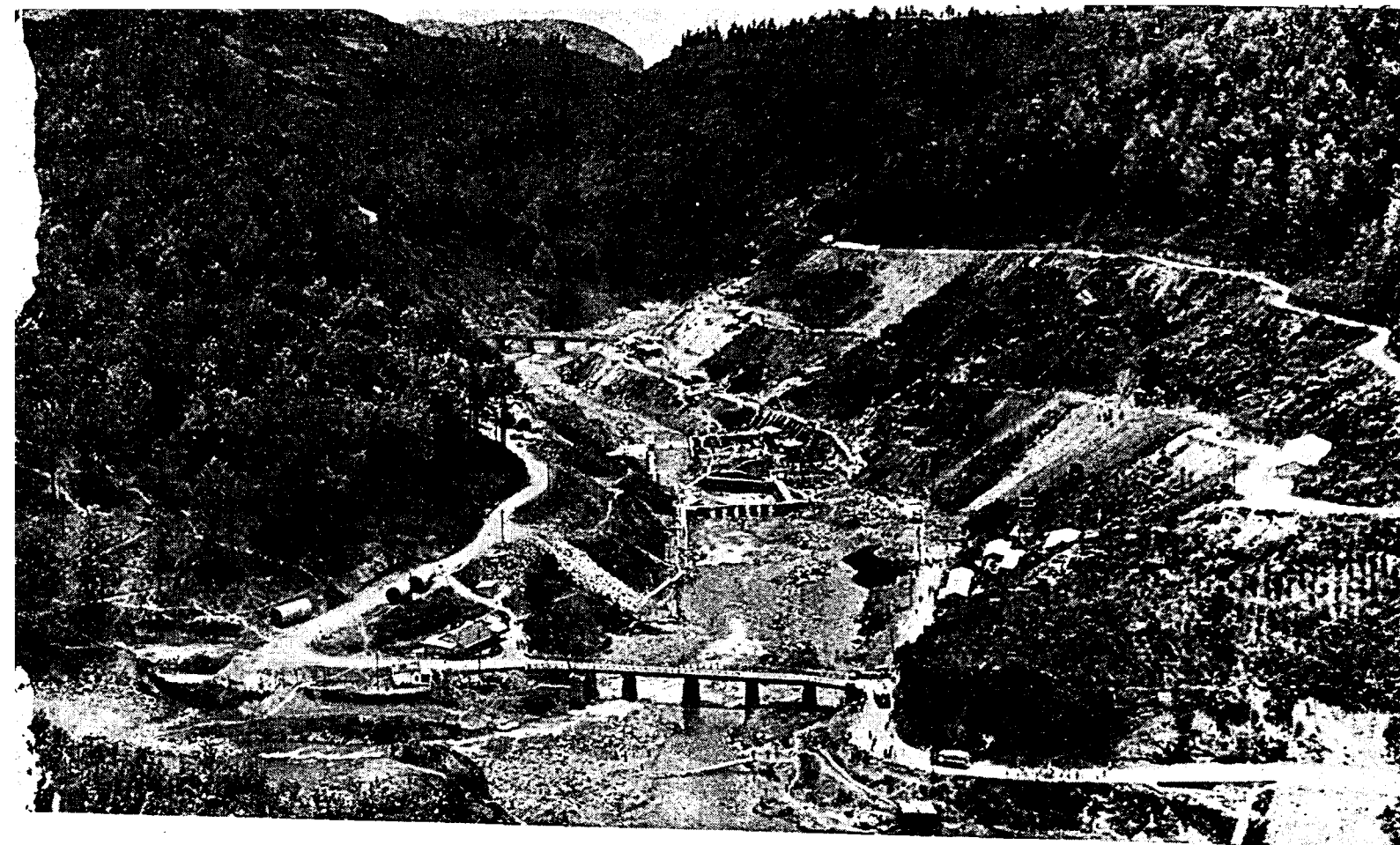
About 70 fishery demonstration units function in the State to survey all cultivable waters and for facilitating fish-seed distribution and for imparting instruction on fish-farming. On an average about three crores of fishlings are collected from about 60 natural nursery areas and transplanted into various inland waters every year. Reservoirs constructed in connection with river valley projects are being developed as productive fisheries. The fisheries of estuarine regions of rivers are rationally exploited through a system of licensing with a view to develop estuarine and brackish water fish culture. A large model brackish water fish farm is also being constructed near Adyar. An ice-cum-cold storage plant with capacity for production of 5 tons of ice a day and storage of 15 tons of fish is being set up at Mettur.

Socio-economic work.

The fishermen are assisted by the Department to play their due share in increasing fish production and distribution through the co-operative movement. So far 200 fishermen co-operative societies and district federations have been organized and through them Rs. 6.5 lakhs have been distributed as long-term and medium-term loans and subsidy towards credit facilities for the elimination of middlemen, purchase of domestic as well as production requirements, construction of curing sheds, godowns and markets and for marketing their produce. Besides, several relief measures are given to the fisherfolk affected by calamities like cyclone, sea-erosion, fire havoc, accidents in the sea and failure of normal fisheries. Provision of housing schemes and construction of feeder roads to fishing hamlets are also attended to. A Fisheries Welfare Officer has been appointed to give wholetime attention to these problems.

Fish production in the State increased to 107,300 tons in 1957-58, when compared to 98,600 tons in 1956-57. The per capita consumption of fish correspondingly increased from 10.5 to 11.3 lb.

The Fisheries Department is contributing its best for the development of the fishing industry on which depend about 2½ lakhs of fisherfolk and several traders and financiers.



The Kundah Valley—Where work on the Kundah Project with Canadian aid goes on.

POWER FOR PROSPERITY

SRI V. P. APPADURAI,
Chief Engineer for Electricity.

The aggregate demand which was 252,000 K.W. at development of the Madras State with the achievement of the plan targets under generation, transmission and rural electrification. The year saw the commissioning of the biggest hydro set of the Grid at Periyar and the biggest thermal set at Madras. With the commissioning of these two sets the installed generating capacity increased from 256,500 K.W. to 321,500 K.W. registering an increase of 25 per cent.

About 1,400 miles of E.H.T. and H.T. lines and 2,500 miles of L.T. lines were constructed during the year. At the end of the year there were 11,350 miles of H.T. lines and 15,500 miles of L.T. lines. Electricity was extended to over 1,300 villages and 16,000 pumpsets. To-day 7,500 villages and 75,000 pumpsets are having the benefits of electricity.

The aggregate demand which was 252,000 K.W. at the beginning of the year has rapidly increased to 300,000 K.W. To meet the ever-increasing demand for power 1,400 million units have been generated in all the power stations.

The gross revenue earned during the period is estimated to be around Rs. 11.5 crores while the capital expenditure will be about Rs. 13 crores.

Second Plan.

The power schemes of the Madras State included in the Second Five-Year Plan envisage more than doubling the installed capacity, length of lines and the number of towns and villages electrified. The table below gives the targets for the Second Plan under generation, transmission and distribution for the Madras State; for

purposes of comparison, the all-India targets are also given:—

Particulars.	All India target.		Percentage increase.	Madras target.		Percentage increase.
	1955-56.	1960-51.		1955-56.	1960-61.	
Generation—						
Installed capacity in 1,000 K.W.	3,400	6 800	100	256	571	123
Units generated in millions	11,000	22,000	100	1,055	2,100	100
Transmission—						
H.T. lines—11 K.V. and above	35,000	70,000	100	7,343	15,500	112
Distribution—						
Number of villages and towns electrified	7,400	18,000	145	3,543	10,000	182
Per capita consumption in units	25	50	100	25	60	140

Progress.

Generation.—The Madras Plant Extensions (III Stage) which envisaged the erection of a 30,000 K.W. set with two numbers 150,000 lb./hr. boilers were commissioned in April 1958.

All the civil works of the Periyar Hydro-Electric Scheme were completed and the first unit was commissioned in October this year. The second and third units are expected to be commissioned before March 1959 adding 105,000 K.W. installed generating capacity to the Grid.

For the Kundah Hydro-Electric Scheme, civil works are in full swing in all the dam sites, tunnels and the power-house sites. The generators for the first plant have already been shipped and it is programmed to commission the first unit by October 1959. The initial phase comprising of the first two stages will be completed within the Plan period and will add 180,000 K.W. installed generating capacity to the Grid.

Transmission.—Including the transmission lines proposed under the Kunda and Periyar Hydro-Electric Schemes, an additional 8,200 miles of E.H.T. and H.T. lines and 8,000 miles of L.T. lines will be erected during the Plan period. Of these, 4,200 miles of E.H.T. and H.T. lines and 7,300 miles of L.T. lines have already been erected to the end of December 1958. A major stride in respect of transmission during the Second Plan period will be erection of the first 230 K.W. line in the State from Kundah to Madras which will convey power generated at Kundah to Madras a distance of about 300 miles.

During 1958, the following transmission lines were completed and commissioned:—

- (i) Madras-Villupuram 110 K.V. line.
- (ii) Sembatti-Tiruchirappalli 110 K.V. line.
- (iii) Sembatti-Karur 66 K.V. line.
- (iv) Periyar-Theni-Madurai 110 K.V. line.

Rural electrification.—Madras continues to maintain its lead in the matter of rural electrification with over 7,500 towns, villages and hamlets electrified by 1958. During the Second Plan period, it is proposed to extend electricity to 5,000 additional villages. Of these about 2,620 have already been electrified during the first two years and 900 villages in the first nine months of the current year. About 32,440 pumpsets were working on electricity at the end of the First Plan period. Today nearly 75,000 pumpsets are deriving the benefits of electricity.

With the commissioning of the 30,000 K.W. set at Madras and 35,000 K.W. set at Periyar, Madras, ranks third in generation and utilization of power, Bombay and Bengal leading. In the matter of hydro-electric development, Madras is second only to Bombay. Madras continues to lead the rest of India in rural electrification with over 7,000 villages taking electricity supply.

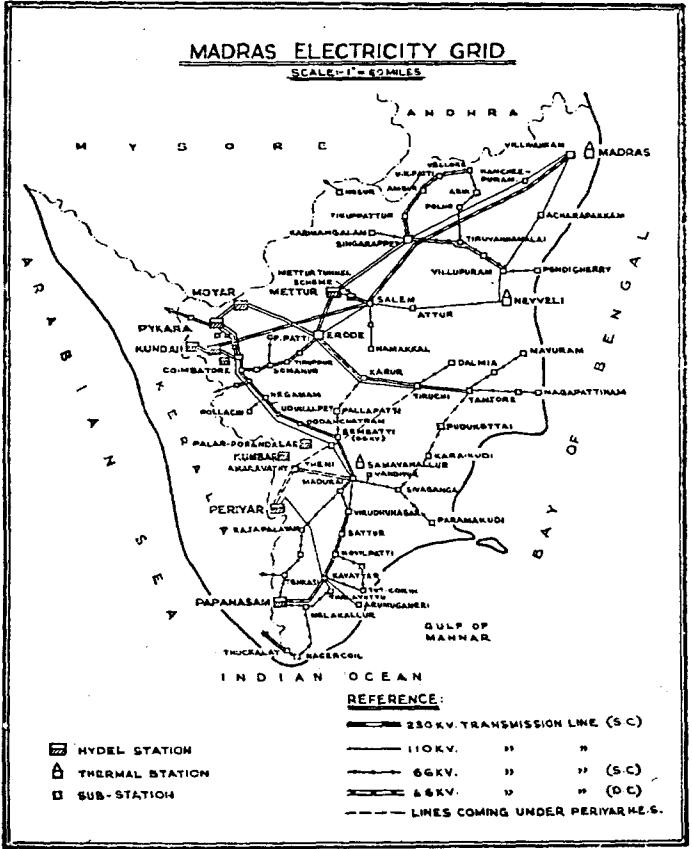
Future plans.

Demand for power in the State is widespread and insistent. Several new industries are being planned all over the State and power for them is to be provided from the Grid. The important industries coming up in the State are the aluminium industry, soda ash plant, raw film factory, paper factory and cement industry. The requirements for these are estimated at 120,000 K.W. Apart from these the department will have to meet the growing requirements of small scale industries and the lignite mining load apart from demand from rural areas.

To meet the growing demand which is expected to be of the order of 549,000 K.W. in 1961-62, new power sources have to be tapped. Sanction of the Government of India is awaited for the Mettur Tunnel Scheme to utilise the irrigation discharge at Mettur Dam which will give 200,000 K.W. seasonal power for seven months. The investigations of the Palar-Porandalar Scheme and Kumbhar-Amaravathi Scheme have just been completed while the investigations of Kundah ultimate phase is under progress.

The integrated Neyveli Lignite Scheme of the Government of India contemplates the erection of a thermal station of 250,000 K.W. capacity and it is expected that about 200,000 K.W. of power would be made available to the Madras Grid.

The recent conclusion of an agreement between the Kerala and Madras States regarding the Parambikulam Scheme has opened up further possibilities in the power development of the State. It is estimated that about 150,000 K.W. of additional power will be available to Madras from this scheme.



FIRST PLANE OVER MADRAS.

Madras was the venue of the first attempt to fly a heavier than air machine within seven years of the experimental flight of the Wright Brothers at the Kittyhawk. The monoplane was seen by the citizens of Madras to zoom past over their heads at the none-too terrific speed of about 20 miles. This was on November 2, 1910.

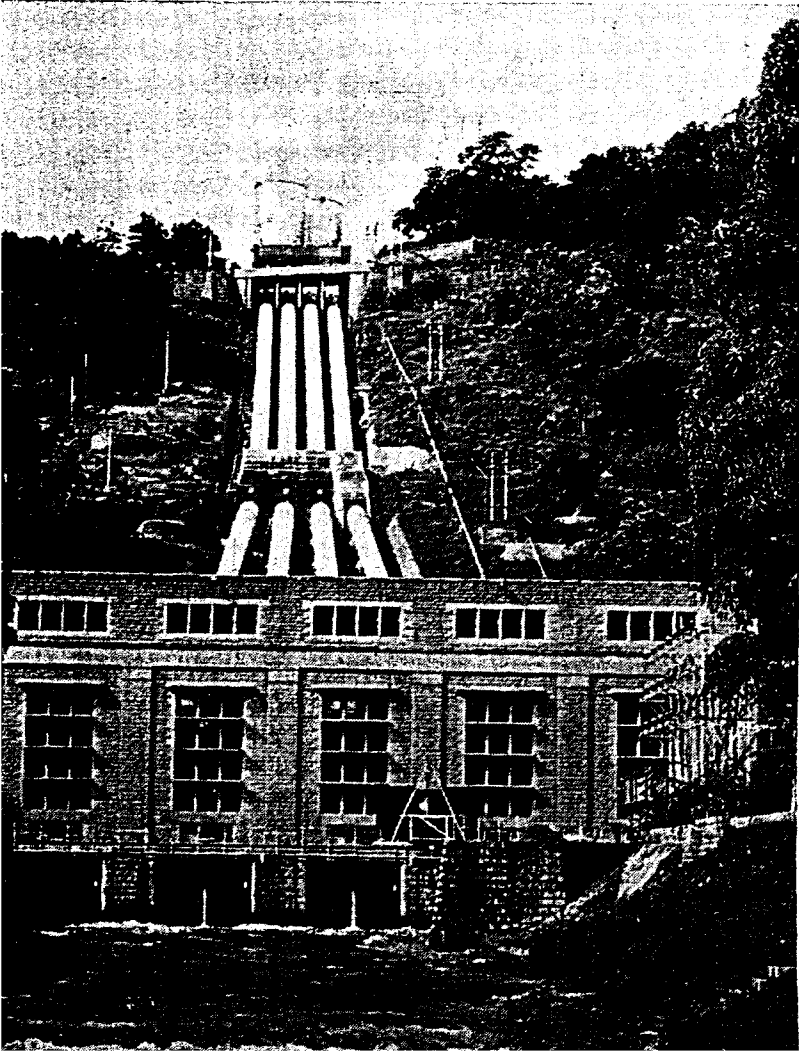
SALES TAX

Sales Tax was first introduced in Madras to recoup the loss incurred due to Prohibition. To-day it has become a main source of income and was even mentioned by one of the former Finance Ministers of the State as Kamadenu.

(Continued from page 60)

Vyakarna Mandapas and Vyakana Mandapas. There were music halls and dancing theatres. A Chola inscription of the eleventh century A.D. records the existence of a hospital with fifteen beds, a physician, a surgeon, two female nurses and a host of pharmacists and hospital subordinates with a large stock of herbs and drugs. There were orphanages and houses for feeding the poor and providing for their clothing. Another Chola inscription refers to a college of three hundred students, ten teachers and a spacious hostel to accommodate them. Every temple had its library, known as Saraswathy Pandaram. In this sacred place, there were a number of Ramanuja Koodams for the feeding of the poor. The large mass of inscriptions during the Vijayanagar Emperors shows that temples were the pivotal points of economic reconstruction. Almost every large benefaction (Nibandams) that poured into the temple treasury, was invariably for the improvement of agricultural conditions, for construction of new and for repairing old works of irrigation. The dumb cattle too had their share of attention and the livestock improved and multiplied through Pasumadams.

The great centres of learning everywhere had sprung from great centres of religion. In our own Tamil Nad, the most ancient shrines were the cradles of renowned universities. The Meenakshi temple was the habitat of successive Tamil Sangams. In the sacred city of Kanchi existed not one university, but several. The Buddhist, the Jain, the Vaishnavite, the Saivite, all had their separate and highly advanced schools of learning, as was in Nalanda of the North. The temple of the Tamils, in short, is an institution, a symbol of national solidarity and a sign of prosperity of the people. It is a museum and a college. It serves as a source of history for the future. We therefore bow down our heads to our forefathers, who were master builders of temples and their adjuncts.



The Power-house at Papanasam.

Preservation of Cattle Wealth

DR. D. PATTABHIRAMAN,
Director of Animal Husbandry.

The Animal Husbandry Department, whose activities towards the development of livestock wealth of this State have gained wide-spread popularity, had its humble origin as early as 1868 when a Royal Commission was set up to report on cattle diseases in India. It was in pursuance of the recommendations of the Royal Commission that a Civil Veterinary Department for Madras was set up in 1892. Even in those early years lack of adequate number of well-trained personnel to man the Department was keenly felt and to overcome that difficulty a Veterinary Institute was started in 1903 in a rented building in Vepery near the S.P.C.A. hall and it is that institute which has subsequently developed itself into the present Madras Veterinary College. Step by step, slowly but surely, the Department grew up, and in 1920 with the provincialisation of the Veterinary institutions, which were till then under the local bodies, the Department was in the charge of a Chief Superintendent and four Deputy Superintendents to assist him, each in charge of one of the four divisions into which the Presidency was then divided for administrative convenience. In 1923 the divisions were reconstituted into circles, the number of which kept on increasing with the increase in the activities of the Department. In 1926 the College which was independent of the Chief Superintendent till then was placed under his over-all control and thus the administration of the entire department together with the College was entrusted to a single officer who was designated the Director of Veterinary Services. A significant development which can very well be termed a land-mark in the history of the Department took place in 1938 when the Livestock Section of the Agricultural Department was transferred to the Animal Husbandry Department. Till that date the Animal Husbandry Department was confining itself to investigation and eradication of animal diseases and only from then onwards the emphasis has been rightly shifted to the proper development of livestock on scientific lines. It was but fitting that the development of livestock wealth was entrusted to well-trained veterinarians.

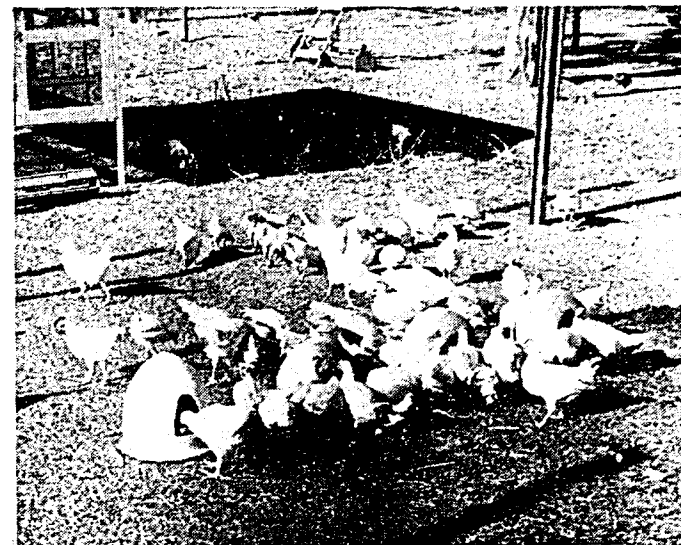
It is no exaggeration to say that the advent of freedom gave an added impetus to this Department and its activities have increased by leaps and bounds in

recent years, thanks to the abiding interest of the members of the Government and the popular representatives. In 1948 the designation of the head of the Department was changed from the 'Director of Veterinary Services' as 'Director of Animal Husbandry'. Today subsequent to the reorganization of States in 1956 the Department is manned by a Director assisted by three Deputy Directors, one each in charge of 'Veterinary', 'Livestock' and 'Key Villages'. There are 107 Gazetted Officers in charge of district administration, livestock farms, education, research work, etc., besides 544 Veterinary Assistant Surgeons, 124 Veterinary Livestock Inspectors and 507 Stockmen.

Cattle.

Madras State, according to 1956 census figures, has 9.7 million white cattle, 2.0 million buffaloes, 7.0 million sheep, 3.8 million goats, 0.02 million horses and ponies and 0.64 million other species of animals making a total of 23.16 million livestock besides a poultry stock of 10.4 millions. Though Madras possesses 7.5 per cent the total livestock population of the Indian Union the national wealth derived by the livestock of this State falls far below that of the other States in the Indian Union. This is mainly attributable to the large number of useless and unproductive cattle of non-descript type in this State. It is well-known that the milk-yield of a cow in this State ranges only from 2 to 3 lb. a day and the per capita consumption of milk is only 2.44 oz.

As almost 95 per cent of the cattle in this State are of a non-descript variety and consequently unproductive it has been quite a problem to grade up the cattle of non-descript variety with pure breeds of Sindhi, Gir, Jersey and Murrah for milch type and Kangayam, Hallikar and Umbalachery for draught purposes. However it is with a view to achieve this very object that Livestock Farms at Hosur, Orathanad, Pudukkottai and Chettinad are being maintained under the control of this Department. The Livestock Farm at Hosur is the oldest of these farms and is rightly reputed to be one of the best in the East. Sindhi, Gir and Kangayam breeds are maintained in Hosur. Murrah buffaloes and



Fowls are also distributed to farmers.

Umbalachery breed of cattle are maintained in Orathanad Farm. The Livestock Farm at Pudukkottai has been developed recently. The Livestock Farm at Chettinad is a recent creation and is being developed fast. The main function of these farms is to maintain the purity of the breeds of cattle and to further improve them and also to supply pedigree bulls to the districts to enable the ryots to grade up the local cattle. The breeding bulls are distributed to the various districts on a planned basis. At present there are 2,562 bulls of different pure breeds such as Sindhi, Kangayam, Gir, Hallikar, Umbalachery and Murrah buffaloes with the ryots in several districts distributed under the various schemes sponsored by the Government. Nevertheless there is a very large gap between the demand for and the availability of breeding bulls and it is with the object of bridging this gap as speedily as possible that the Artificial Insemination Scheme was introduced in 1948 with the setting up of two Artificial Insemination Centres—one in Madras and another in Coimbatore. It is heartening to note that the Artificial Insemination Scheme has become increasingly popular and that there are at present 28 Artificial Insemination Centres spread throughout the State.

Cross Breeding Scheme.

With the specific object of improving the local non-descript cattle in the hilly and heavy rainfall areas in this State by the introduction of foreign Jersey blood through Artificial Insemination a 'Cross Breeding Scheme' in Ootacamund has been sponsored by the Indian Council of Agricultural Research in 1955. The semen of Jersey bulls is flown from the Southern Regional Artificial Insemination Centre, Bangalore, and local cows in Ootacamund and its surroundings are inseminated.

Key Village Scheme.

Concentrated work towards the improvement of livestock is carried out through Key Village Schemes. The Key Village Scheme aims at intensive livestock improvement in a compact area so that all aspects of animal husbandry such as controlled breeding, proper

feeding, rearing of young stock, cultivation of fodder crops, silage making, pasture management, dairying and producing seed-bulls. A compact area consisting of a group of contiguous villages containing a population of 5,000 cows and/or she-buffaloes of breedable age is selected as a Key Village Block. All scrub-bulls in the area are compulsorily castrated and only pedigree bulls are allowed to propagate by natural service or by artificial insemination. There are at present 28 Key Village Centres in the State where both natural service and artificial insemination are carried out free of cost and controlled breeding is ensured by the systematic castration of all scrub-bulls. Selected calves in the area are also subsidised at the rate of Rs. 10 per calf. For the systematic utilization of bulls produced in the Key Villages 17 Supplementary Extension Centres have been established. In each of those centres 50 bulls of approved breeds are distributed in a compact area to select custodians for natural service and a sum of Rs. 30 per month is paid as subsidy to each of the custodians.

Sheep and goats.

Besides cattle-wealth this department has been paying equal attention to the development of sheep and goat. The Sheep-breeding Farm at Ootacamund concentrates on standardizing the woolly sheep in Nilgiris for its wool quality, increasing its carcass weight, and supplying good stud rams to the public to grade up the local sheep. With a view to improve the quality as well as quantity of wool of the local sheep cross-breeding with the Australian breed of Romney Marsh Sheep is also encouraged. Sheep-breeding on sound lines is carried out in the Livestock Research Station, Hosur, also where Bikaner and Mandya rams are made available to improve the local flock not only from the point of view of increased quantity of wool but also of producing better mutton-yield. Under the Second Plan a sheep farm was opened in Chinnasalem for the development of sheep in and around that area. Very recently another sheep farm was opened at Kattupakkam in Chingleput district. Eight sheep and Wool Extension Centres have been established in the State to help the ryots take to improved methods of sheep-breeding. Several sheep-shearing units have also been established in several parts of the State where intensive propaganda and visual demonstration of using improved shears, better production and clean harvesting of wool, etc., are carried out.

Poultry.

Great strides have been made in Poultry Development also. Intensive poultry development work in this State is carried out through the Poultry Research Station,



Teynampet, Madras, the Poultry Sections at the Livestock Farms in Hosur and Orathanad and the Poultry Demonstration Units in the Veterinary institutions. Pedigree birds and eggs are supplied to the public. Such a supply on an extensive scale is carried out in the Community Development and National Extension Service areas. Attention is concentrated on the improvement of local breeds of poultry by grading up with superior strains of exotic breeds in the Poultry Extension Centres. White Leghorn, Rhode Island, Red and Black Minorca are made available in large numbers in the Poultry units maintained throughout the State. It has also been proposed to pay a subsidy of Rs. \$50 each to select poultry breeders to enable them to purchase incubators and other scientific aids for poultry rearing.

Animal Health Service.

For the expeditious and effective control of contagious as well as non-contagious and parasitic diseases, an efficient Veterinary Organization, both at headquarters and the field, has been set up the State.

There are 112 Veterinary institutions consisting of hospitals and dispensaries at present in this State, opened at various centres depending upon the demand from the public and the need of the area concerned. These institutions are intended for the treatment of cases, both surgical and medical, for the castration of scrub bulls and to serve as infirmaries for the animals remanded under the Society for Prevention of Cruelty to Animals Act and to conduct post-mortem on dead bodies brought by the public as well as the Police. Clinical Laboratories are also now located in most of the district headquarters, hospitals and at the Livestock Research Station, Hosur Cattle Farm, for investigation, early diagnosis and treatment of diseases both in hospitals and field.

In addition to these Veterinary institutions this Department provides veterinary aid even at village level through a team of touring staff consisting of Veterinary Assistant Surgeons, Veterinary and Livestock Inspectors and Stockmen compounders. The headquarters of these staff are usually fixed at Taluk Head-



Prize cows as this contribute to the quality of cattle wealth.

quarters for each of these touring billets consisting of a taluk or even less. There are at present 15 such touring billets.

The common contagious diseases affecting cattle in the State are Rinderpest, Haemorrhagic Septicæmia, Black Quarter, Anthrax, Foot and Mouth. Out of the above contagious diseases Rinderpest was mainly responsible for a heavy toll of life among cattle. It is really gratifying to note that due to the untiring efforts of the field staff of this Department this dreadful disease of cattle has been eradicated from this State and this State is free from Rinderpest since 1952-53 although this is reported to be prevalent in the neighbouring States of Andhra and Mysore. With a view to keep this State permanently free from the ravages of Rinderpest by warding off even the tickling of infection from the neighbouring States, quarantine stations now renamed as check posts have been established at Tiruvalem of North Arcot district and Tiruvottiyur of Chingleput district and all animals entering the State are protected against Rinderpest and branded with a standard 'O' mark. The animals in the villages to a depth of 15 miles from the border are also protected so as to create an immune belt in the borders of the State.

Among the other contagious diseases prevalent in the State, Black Quarter, Haemorrhagic Septicæmia and Anthrax appear in this State, depending mostly on climatic variations. During the year 1957-58, there were only 9,149 deaths in the State, indicating a negligible percentage of mortality to the 23 million of livestock population of this State. This is mainly attributed to the advance preventive inoculations done by the field staff of this Department in all the endemic areas, marked out separately for each diseases in addition to inoculations conducted in affected and free areas of the State. The efficiency in respect of prompt control of contagious diseases is further expected to be enhanced by providing at least one Veterinary Mobile Unit in each district under the Second Five-Year Plan.

Four such units have already been introduced in the districts of Chingleput, Tanjore, Tiruchirappalli and Tirunelveli and three more are to be opened during 1958-59 for ensuring expedience in attendance of outbreak reports and covering a large number of villages under the mass campaign of advance preventive vaccinations in free areas. Nearly four lakhs of animals were protected during 1957-58 in this State against the various contagious diseases, mostly in the endemic areas.

Institute of Veterinary Preventive Medicine, Ranipet.

All the biological products required to combat contagious diseases like Rinderpest, Black Quarter, Haemorrhagic Septicæmia, Anthrax, etc., among cattle Ranikhet diseases, fowl-pox, etc., among poultry and sheep-pox, etc., are produced at the Institute of Veterinary Preventive Medicine, Ranipet. During 1953 a freeze drying machine with accessories was supplied to the Institute by the Food and Agriculture Organization and a Veterinary Expert was assigned to this institutions to train the staff in handling the equipment and for the manufacture of vaccine on modern lines. All the virus vaccine are now manufactured and supplied in freeze dried from this Institute. Besides meeting the demand of the field staff of this Department, the biological products manufactured at this Institute are also being supplied to other States like Kerala, Coorg, Kutch, Bombay, Madhya Pradesh, Rajkot, Bhavanagar and Pondicherry. The institute is equipped with a number of modern equipments to facilitate research and manufacture of biological products on efficient lines. Research work on the improvement of vaccine comparative studies on immunising value and experiments on types of mixed vaccine are also undertaken at the institute.

In addition to the laboratory staff working at this institute there are separate Disease Investigation staff who undertake disease investigation work in the State and conduct field trials thereby co-ordinating the work done at the Laboratory.

Madras City Milk Plan.

With a view to reorganize the milk supply in the City a Scheme known as Dairy and Milk Project has been sanctioned under the Second Five-Year Plan. Under this scheme it has been proposed to evacuate city cattle and accommodate 4,000 good cattle from among them in a colony at Madhavaram, 7 miles from the City. The fodder required for the colony will be supplied from the sewage farm developed by the City Corporation adjacent to the Colony. The milk produced in the Colony together with the collections from rural areas will be processed in a large dairy to be set up and distributed to the public. This will provide unadulterated and wholesome milk for the public.

Government Milk Factory, Madras.

The Government Milk Factory, which was started by the Revenue Board in 1947 to augment the milk supply in the city by supplementing with reconstituted milk as a war-time measure was handed over to the Animal Husbandry Department on 1st October 1955 for supplying 'Toned Milk' to the public with the sole object of making it available at a lesser cost. About 4,000 lbs.

of toned milk are produced and supplied by this Factory for the consumption of the public daily. Besides, the toned milk, dairy products such as ice-cream, rose-milk are also produced at the Factory for sale to the public at moderate prices.

From the foregoing account it will be seen that this Department has been engaging itself in ceaseless activity towards the betterment of the ryot enabling him to pay adequate and proper attention to Animal Husbandry which is after all the hand-maid of Agriculture. As an effective methods of reaching the ryot several cattle-shows and exhibitions have been organized from time to time. The response and co-operation from the general public towards the activities of this Department have been forthcoming in abundance making us feel confident that we will play our rightful part in the building up of the Nation.

(Continued from page 19)

by the Orissa Government in their Hirakud Project, by the Central Water and Power Commission, by the Damodar Valley Corporation, by the Neyveli Lignite Corporation, by the World Health Organization and by other Administrations within and without this State. This in itself is a sufficiently eloquent tribute to Madras Engineers.

The present younger generation of Madras Engineers are justly proud of the really great achievements of the State Public Works Department. They, at the same time, fully realize that such achievements have been possible only by the zeal, enthusiasm whole hearted work and singleminded devotion to duty on the part of their illustrious predecessors some of whom, even lost their lives in the worthy cause of constructing monumental works like the Periyar Dam. They also realize that very high traditions of work and conduct have been established (in the course of more than a hundred years during which the department has usefully functioned), which they should emulate and build up on the excellent foundation laid by their illustrious predecessors like Sir Arthur Cotton, Col. Pennycuik and more recently by several of their worthy successors. While paying their humble tribute to these illustrious predecessors of theirs, the Engineers of the Madras Public Works Department sincerely and fervently dedicate themselves to the onerous but glorious task that is now before them, with wholehearted zeal and enthusiasm so that this great country of ours can prosper more and more. The responsibilities that have devolved on Engineers after we attained Independence are undoubtedly vast and manifold, but in view of the past history and the glorious record of the Madras Public Works Department, there can be no doubt that all the Engineers and other staff of the department will rise up to this great occasion and following their high traditions, help build greater monuments of India's progress and also build them higher and better than ever before. Their motto in dedicating themselves to this noble task will always be "Service, integrity and efficiency" and God willing, they will live up to that, and thereby bring honour to themselves and the noble profession to which they belong.



EVENTS OF SIGNIFICANCE IN 1958

The year 1958, has been quite an eventful year for Madras. On the first day of the year itself the Chief Ministers of Madras, Mysore and Andhra, met at Mahabalipuram at the invitation of the Chief Minister of Madras and reviewed the position arising out of the report of the Official Language Commission. They expressed their agreed view that the discontinuance of English by 1965 was impracticable. On the 3rd day of January 1958, Sri C. Subramaniam, Finance Minister, held a press conference, at which the stand of this State in regard to the language question was explained. The Chief Ministers and Ministers of Kerala discussed about the diversion of the Parambikulam waters to Madras in June. In November an agreeable solution was reached in this regard. Sri M. Baktavatsalam, Home Minister of Madras and Sri Kala Venkatarao, Minister for Revenue, Andhra, discussed the problems relating to the border of Madras and Andhra States and decided to implement Sri Pataskar's award without modification.

The Prime Minister of India, Sri Jawaharlal Nehru, visited the City on January 6 to inaugurate the 45th session of the Indian Science Congress. He also declared open the Industrial Estate at Guindy.

Tamil was adopted as official language of the State on January 14, 1958. From this day, 1,922 Government offices in the State began using Tamil in their ordinary business.

The State got a new Governor in the person of Sri Bishnuram Medhi, who was sworn in on January 24. The Governor addressed a joint session of both the houses of the Legislature on February 8th. Dr. P. S. Lokanathan's report on sales tax was released on the same day.

The Budget for the year 1958-59 was presented to the State Assembly on March 1 by Sri C. Subramaniam, Finance Minister. The pearl fishery at Tuticorin was inaugurated on March 2 by Srimathi Lourdhammal Simon, Minister for Local Administration. This lasted until the end of April and was conducted successfully.

A Committee was appointed to hold enquiries and advise the Government in fixing minimum wages for persons employed in any tobacco manufacture (including beedi making) in the State. The Madras Catering

Establishments Bill was passed in April 1958. The Panchayats Bill, abolishing the District Boards and vesting the power in Panchayats was also passed last year. It was decided to bring into force the Sales Tax Act based on the recommendations of Dr. Lokanathan from April 1, 1959.

Dr. Rajendra Prasad, President of India, visited the State in August 1958. In the course of his tour in the State, the President declared open the new hostel for the women students of the Presidency College at Madras and laid the foundation stone for a medical college at Tanjore and for the Regional Post-Graduate Research Institute for Agriculture at Coimbatore.

Regional Post-Graduate Training in Veterinary and Animal Husbandry was inaugurated in the Madras Veterinary College in September. In the field of secondary education, great strides were taken. The school improvement Project Conference which was held at Kadambathur in the Chingleput district was just a spark which touched off a great flame of enthusiasm in the minds of the people of the State. The success of this conference made the people in other parts of the State come forward to donate freely and with great enthusiasm cash and kind for the benefit of the schools in their area. More than a dozen such conferences have been held in the State and lakhs of rupees in cash as well as things worth lakhs of rupees have been collected. Another aspect of education in which Madras is pioneer is the supply of free midday meals to poor children in the State schools. This is done in almost all aided schools and municipal and Government schools in the State. The children of Non-Gazetted Government Officers are provided facilities for free education up to Sixth Form. And education for all children in the State has been made free up to Fifth Standard. An Advisory Board on education was also set up in 1958.

That year also saw the completion of Manimuthar and Amaravathi Reservoir projects in the Tirunelveli and Coimbatore districts respectively. Construction of the Vaigai Project in Madurai district proceeded at a fast pace and finishing touches to the dam were being given at the end of the year. Works on the Vidur



Public participation for the progress of Education. This lady is giving her mite for the development of schools to Shri Pant, Union Home Minister at one of the Pilot Co-ordination Conferences.

Reservoir Project across the river Varahanathi in South Arcot district and one across the Neyyar in Kanyakumari district were begun in 1958 and they are fast progressing.

In October 1958, the first power generating unit at Periyar was commissioned. The work on the Kundah Project also is proceeding without pause.

The reader will have gathered from this feature that Madras is forging ahead with its plans and schemes for the good of the people and that no effort is spared to maintain an atmosphere of amicability and goodwill with neighbouring States.

(Continued from page 26)

approach to the novel. Our writers are really proceeding along the right line, and their efforts are likely to bear fruit in remarkable creations of a high order. The art of the essay is of recent development; but good essays have begun to adorn our literature. The aspects of biographies and auto-biographies have begun to claim

the attention of writers; the Tamil encyclopaedia launched by Sri T. S. Avanasilingam covers a wide range of subjects. It is an ocular proof that Tamil is expanding her frontiers of knowledge in every direction.

With several wholesome influences at work, we have forged an effective instrument with which we may go ahead in every field of human endeavour and thought. What we need now is a fearless pursuit of truth to its subtlest retreats. We must cultivate a highly critical sense which will alone enable us to winnow the grain from the chaff, the true from the false, the gold from the dross.

We must not allow any room for a self-complacent attitude; for it is wrought with great danger; and true perfection is gained through a series of disgusts. Let us march on from perfection to greater perfection, for—

“All experience is an arch wherethro’
Gleams that untravelled world, whose margin
fades
For ever and for ever when I move.”



The Chief Ministers of the Southern States met on 1st January 1958 at Mahabalipuram to discuss the Language Problem.



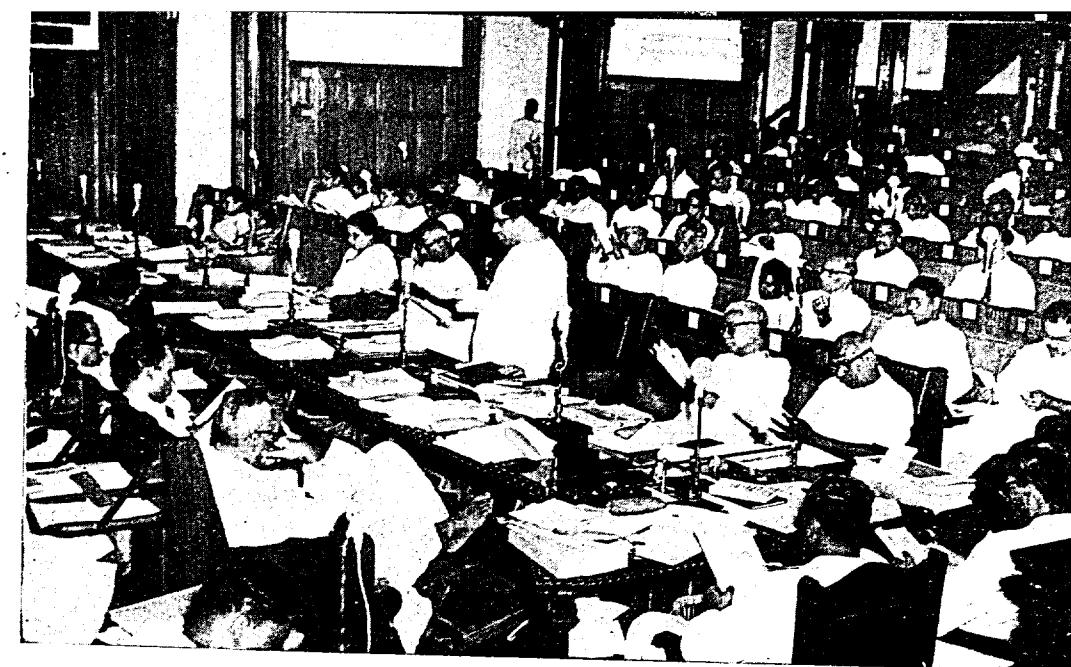
The Press Conference held by Sri C. Subramaniam, Finance Minister, at which he explained the stand of Madras in regard to the Lingua franca of India.



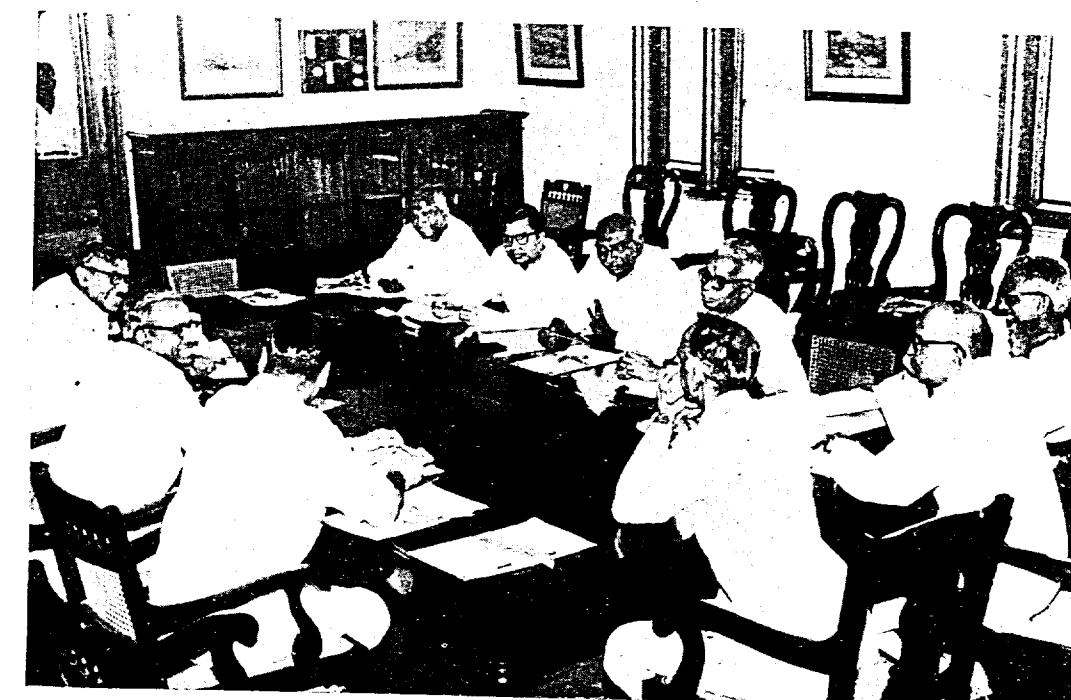
Shri Bishnuram Medhi was sworn in as Governor of Madras on January 24, 1958.

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The Finance Minister presented the budget for 1958-59 at the State Assembly on March 1, 1958.



The Chief Ministers and Ministers of Madras and Kerala discussed about sharing of the Parambikulam waters in June.

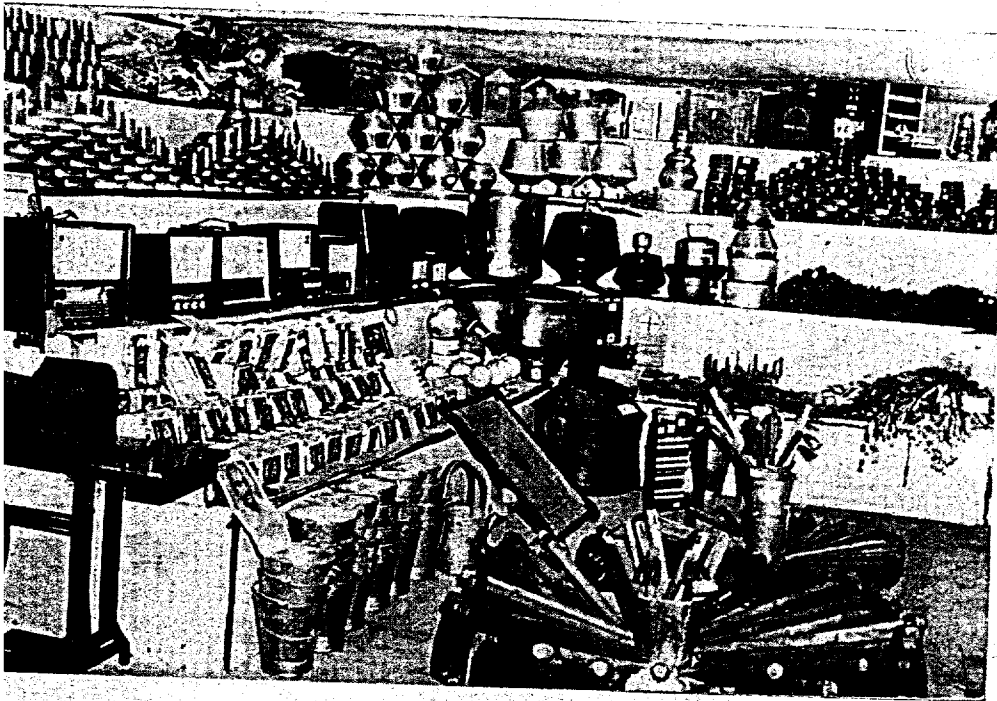


The President of India declared open the new hostel for the girls of the Presidency College.

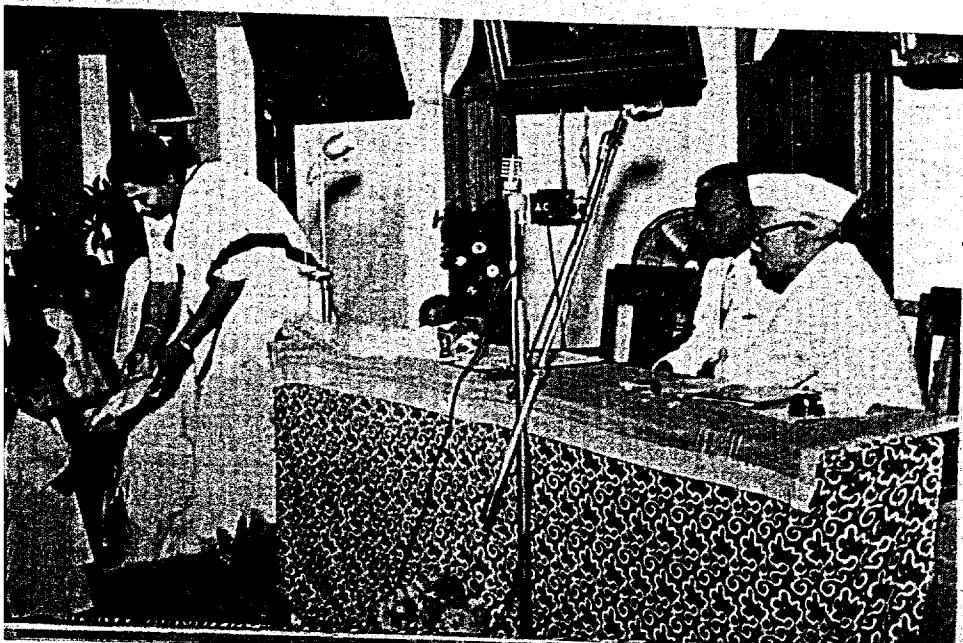




Post-graduate courses of study were inaugurated in the Veterinary College in September 1958.

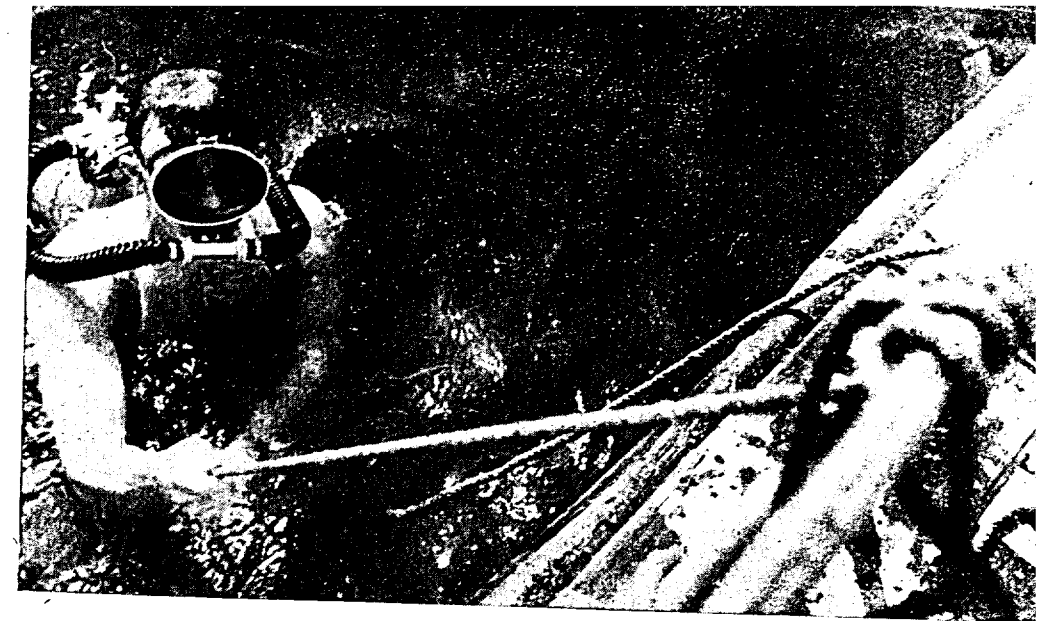


These are some of the articles donated to schools under the school improvement programme.

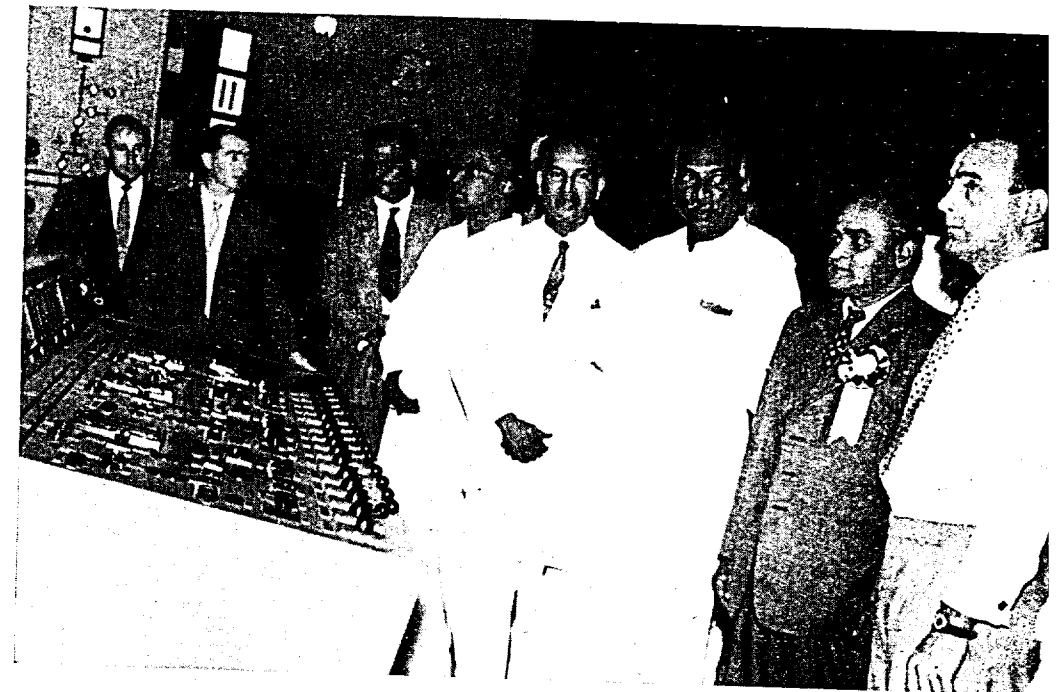


Supply of midday meals to the poor children in aided schools was formally inaugurated by the Governor. The photo shows Srimathi Lourdhammal Simon, Minister for Local Administration giving away the first food packet.

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Pearl fishery was conducted in the State with great success in 1958.



The first generator of Electricity was commissioned in October 1958 in the Periyar Hydel Project.



Double shift was introduced in the Government Press, Madras, on 30th December 1958

First in Madras State

FIRST RAILWAY IN SOUTH INDIA

Among the first eight Railway Companies formed in India about hundred years ago was the Madras Railway Company. The first line to be opened in South India was between Madras (Vyasarpadi) and Arcot (the present Wallajah Road) in 1856. It was decided to make Royapuram the main terminus probably because it was close to the Harbour and the Customs House. The Madras Railway Company's contracts expired on 31st December 1907. The lines owned by this Company were purchased by the Secretary, State of India, on January 1, 1908. A landmark in the history of Indian Railways is the Integral Coach Factory at Perambur. Its significance is second only to that of Chittaranjan Locomotive Factory.

CO-OPERATIVE MOVEMENT

To Madras belongs the honour of having taken the first step towards the introduction of the Co-operative Movement, for in 1892 the Government of Madras appointed one of its senior officers Sir Frederic Nickolson to study the movement of Land and Agricultural Banks which prevailed in Europe and report how far they could be effected to Indian conditions to establish in Madras Presidency in order to relieve rural indebtedness. His valuable report formed the basis for the Act of 1904.

True pioneers of this Movement were Sri Srinivasa Sastri and his colleagues who started in 1903 the Triplicane Urban Co-operative Society. It was in Madras again we witnessed the establishment of the first Apex Co-operative Bank in India started in 1905. The honour of establishing the first Co-operative journal also belongs to Madras—The Madras Bulletin of Co-operation. This has rendered yeoman service to the cause.

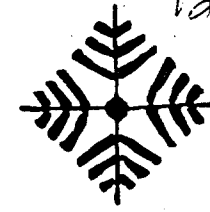
MADRAS HAND-KERCHIEF

The term Madras Handkerchief would mislead any one into thinking that it denotes the small square piece of cloth we carry in our pockets. Actually Madras Handkerchief or Pattimarpu, as it is locally known, is a class of cotton fabric manufactured on handlooms with mill yarn pre-dyed in permanent but not fast colours. These clothes are meant for export to West Africa. The export trade in Madras Handkerchiefs began in the days of East India Company when these fabrics were sold in auction in London at the intervals of three months. British merchants who purchased them re-exported them to Africa. Soon export terms came to be established in Madras. Until about the year 1928 the export trade in the Madras Handkerchiefs was exclusively in the hands of two foreign firms.

THE MADRAS CORPORATION

It is one of the oldest Corporations in India. It was established by the Charter of 1687 issued by the East India Company under the authority of its own charters, Charles the Second, and James the Second and with the sanction of the King in Council.

In 1792 Municipal administration was reorganised by an Act of Parliament. Under an Act of Madras Legislature in 1865 the Corporation was composed of a President, Vice-President and Commissioners and in their place the States Municipal Act of 1919 created a Council with a President and 50 members. In 1933 the Act was amended and the Mayor and Aldermen were revived. The new Bill which is now proposed says that the strength of the City Council should be between 100 and 110 as against the present 81.



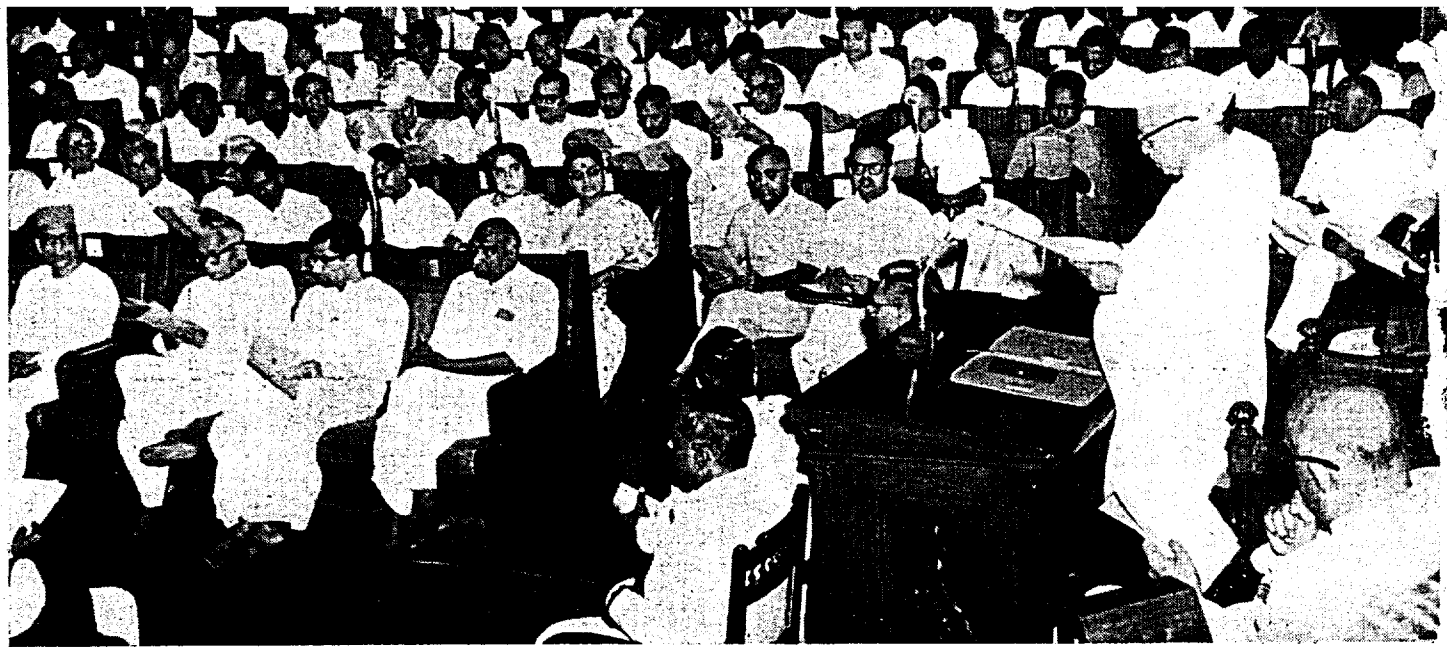
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MADRAS

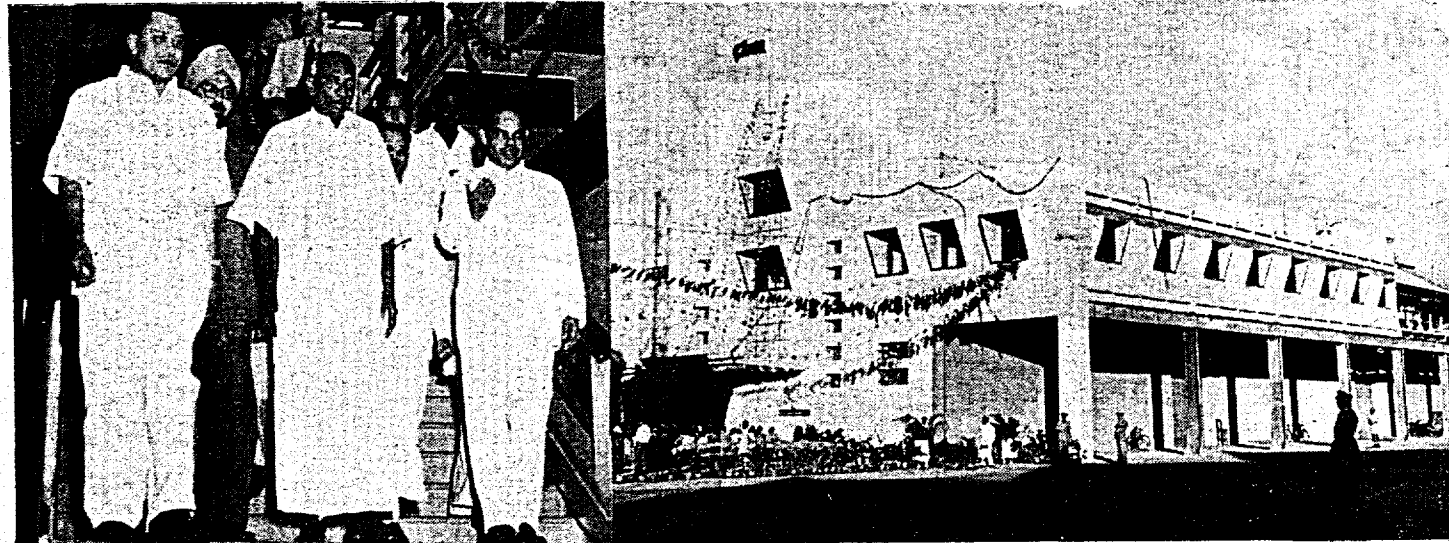


MARCH-APRIL
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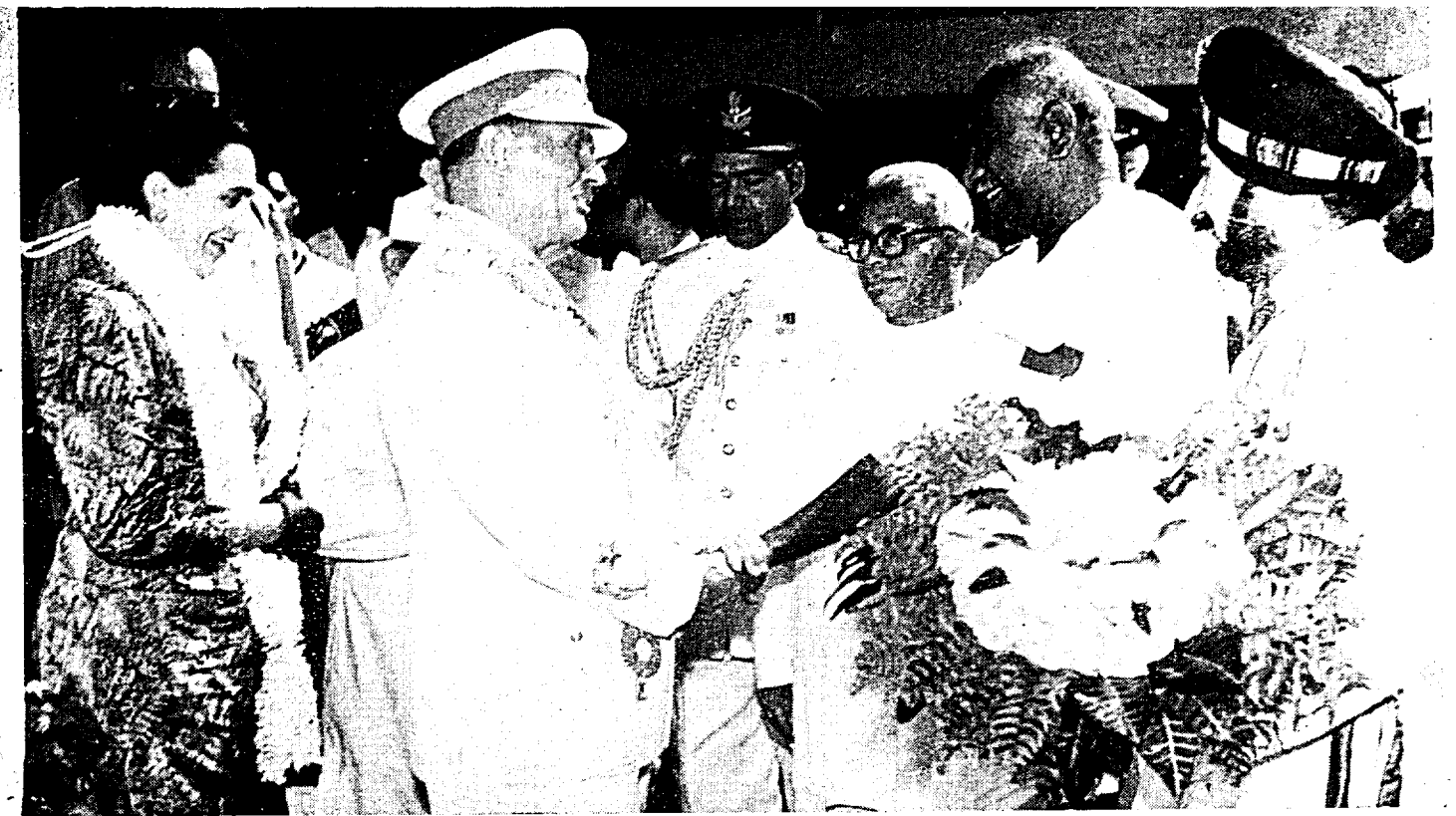


The Governor addressed the Joint Session of both the Houses of Legislature on February 4.



Sri K. Kamaraj, Chief Minister, declared open a new passenger shed constructed on the North quay of the harbour.

The third series of the Gandhian Literature in Tamil were released in January. The Home Minister, Sri M. Bakthavatsalam, is seen addressing the gathering.



Marshal Tito taking leave of Sri Kamaraj, Chief Minister, before boarding the yacht on his way to Ceylon.

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Sri M. Bakthavatsalam, Minister for Home, presenting to Marshal Tito an album of photographs taken during the Marshal's visit to the State.



KERALA SOAP INSTITUTE

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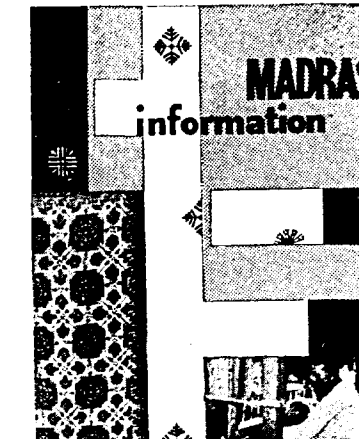
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This month's cover:



In order to emphasize the need for
supporting Handloom industry,
Handloom Week is celebrated every
year in the month of February. The
photographs on the cover of this
issue show a weaver at work and
a delectable design patterned in
a loom.

MADRAS
information

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Industrial Co-operatives for Handloom Weavers in Madras State

SRI V. VENKATACHALAM, Special Deputy Registrar (Weavers).

One of the objectives of the Second Five-Year Plan is to provide larger employment opportunities for the people. In the fulfilment of this objective, the handloom industry plays a vital part. This has been realized by the Government and they are implementing several schemes with the large-scale assistance made available by the Government of India from the "Cess Fund" to improve the industry and the socio-economic condition of the seventy-five lakhs of people depending on it.

The pattern of employment of the handloom weavers can be broadly classified into four categories, namely, (1) Independent weavers, (2) weavers working under master weavers, (3) weavers working in handloom factories and (4) weavers who are members of primary weavers' co-operative societies of the cottage industrial type. Weavers in categories (1) and (4) above own looms and produce cloth. They market the cloth either by themselves or handover the cloth to weavers' co-operative societies of which they are members. A large number of weavers coming under categories (2) and (3) do not own looms. They weave on looms supplied by the master weavers or work in handloom factories set up by private entrepreneurs under conditions in which they cannot have the full benefit of their toil. The labour-capital relationship has not been happy on account of the diverging interest between the workers and the employers.

The benefit of financial assistance from the Cess Fund can reach the weavers who have no looms of their own only if they are provided with looms and accessories and enlisted as members of co-operatives. The need for improving the conditions of these weavers was recognized in 1954 when some handloom factories were closed and the weavers working in them were thrown out of employment. After careful examination, it was decided that these weavers should be rehabilitated by establishing co-operative handloom factories. Co-operative handloom factories run on sound lines will set a standard for handloom factories run by other agencies. They have the unique advantage of converging the interests of their members as workers and ultimate owners of the factories and there will be place for the controversies of capital versus labour.

In the composite State of Madras it was decided in 1954 to try the formation of co-operative handloom factories under the name of Industrial Weavers' Co-operative Societies, in the Malabar District by converting the existing handloom factories into co-operatives, as the buildings, the equipment and the

workers were readily available and only the administration of the factory needed change. Two handloom factories namely the Lokanatha Weaving Factory at Chovva and Kousaliya Weaving Factory at Totada were taken for conversion into Industrial Weavers' Co-operatives. The main outlines of the scheme are indicated below:—

The former workers of these factories namely weavers, dyers, warpers, maistries and clerks will be enrolled as members. Other persons in the neighbourhood will also be admitted, if necessary. Each worker should invest a minimum of Rs. 50 in the shares of the Co-operative Society by contributing Rs. 12-8-0 towards the share, the balance of Rs. 37-8-0 being provided by the Government of India as a loan out of the Cess Fund recoverable in two years. The management of each society will be entrusted to a Board of Directors not exceeding 7 members representing the various sections of the factory. The first set of directors will be nominated by the Registrar for a period of five years. The capital equipment of the factory consisting of land, building, weaving appliances, etc., will be purchased with the aid of a loan from the Cess Fund. The working capital will be provided as a loan from Cess Fund to each society at the rate of Rs. 400 per loom. A full-time Secretary of the grade of Co-operative Sub-Registrar will be in charge of the administration of the co-operative society. He will be assisted by the requisite staff whose cost will be met by Government initially.

Two industrial weavers' societies were thus set up in Malabar in 1955. They received an interest-free loan of Rs. 1,12,302-8-0 from the Cess Fund for meeting the cost of their capital equipment. They made rapid progress and their members were assured of continuous employment on reasonable wages. Their production was regulated by the Marketing Officers of the Madras State Handloom Weavers' Co-operative Society with reference to demand. The Madras State Handloom Weavers' Co-operative Society also took up the marketing of a part of the goods produced by them.

The position in Malabar was of course, peculiar in that most of the handloom weavers were organised and employed in small handloom factories run by capitalists. But in other parts of the State there is no regular factory system as such to any appreciable extent for the handlooms while a large number of weavers are working under master weavers. These workers have no looms of their own and they deserved to be rehabilitated through industrial co-operatives.

In the year 1956, the Government of India examined the conditions of these loomless weavers and agreed to extend financial assistance for setting up fresh industrial co-operatives with new looms, equipment, etc. The extension of assistance to establish co-operative handloom factories without converting the existing handloom factories offered scope for the promotion of the industrial weavers co-operative societies in the present Madras State.

The Deputy Registrars were requested to examine the possibilities of starting industrial co-operative societies for the handloom weavers who had no looms of their own. They were also informed that the industrial societies might be formed either by the conversion of existing private factories which were not working properly or were closed or by the setting up of new factories with fresh looms and equipment. In the programme for the handloom development under the Second Five-Year Plan, a target for the formation of six Industrial Weavers' Co-operative Societies was also included.

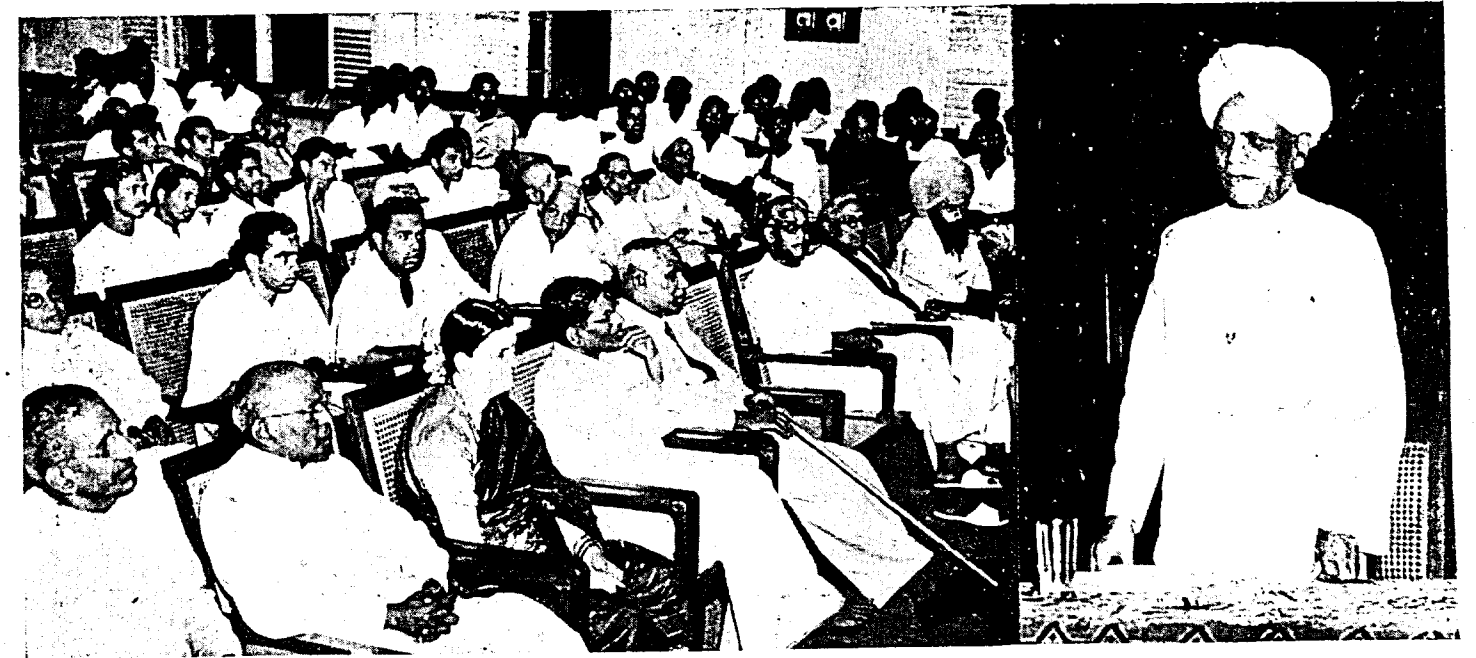
The progress in the establishment of these societies is encouraging. Proposals for the organization of twelve co-operatives of this type have been received so far (within the third year of the Plan Period). Of these the Government of India had approved the schemes for establishing ten and the State Government have sanctioned the starting of nine societies. Seven societies have been started in the following places:—

- | | |
|---------------|-----------------------------|
| (1) Madurai. | } Tiruchirappalli district. |
| (2) Karur. | |
| (3) Manavasi. | |

- (4) Aruppukottai (Ramanathapuram district).
- (5) Kornad in Mayuram (Tanjore district).
- (6) Arani (Chingleput district).
- (7) Vellandaivalasu (Salem district).

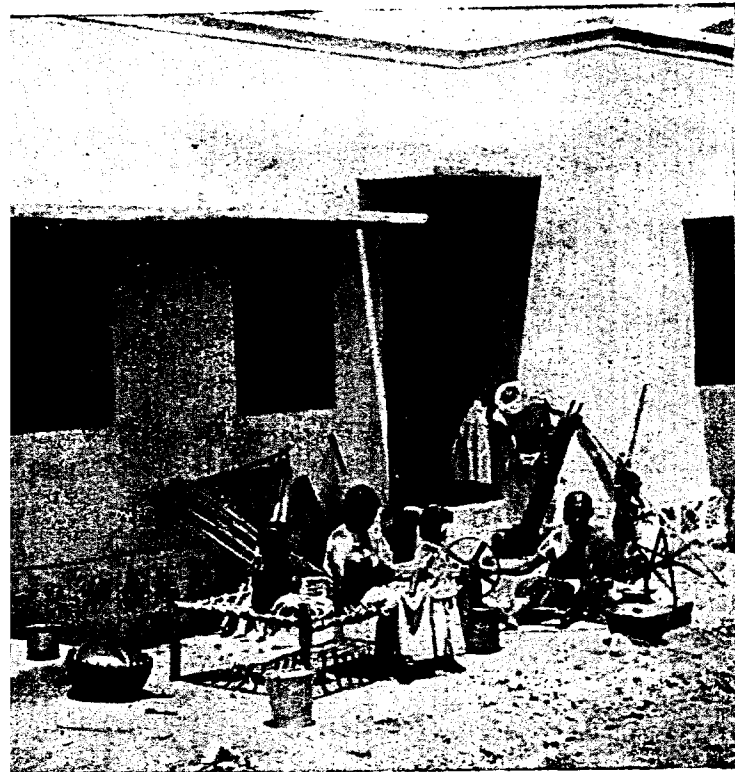
Two more will be started shortly one at Rajapalayam in Ramanathapuram district and the other at Vijayamangalam in Coimbatore district shortly. Technical approval of the Government of India for setting up an industrial society at Paramakudi in Ramanathapuram district has also been received.

The terms of assistance from the Cess Fund for the industrial weavers' co-operatives in the present Madras State are similar to those of the two industrial societies established at Malabar in 1955 and referred to in paragraph 4 above. For the seven industrial societies already established Rs. 3.13 lakhs under loan and Rs. 0.15 lakh under grant have been given for the provision of share capital, working capital, etc. Loans were also given to the Karur and Arani Industrial Societies to the extent of Rs. 0.53 lakh for purchase of the premises in which the factories are located. Thanks to the establishment of these societies, 480 weavers, 264 auxiliary workers such as bobbin winders, warpers, sizers, etc., and 88 other staff are provided with employment. As only skilled weavers are employed the productions of these societies are popular and there is practically no problem of marketing for them. These societies are shining examples of industrial democracy and Madras State can well be proud of establishing and running them successfully for rehabilitating the loomless weavers.



Under the auspices of the Swarnambal Trust, Sri Natesa Pillai delivered a series of Lectures at the University of Madras on "The age of Tiruvalluvar".

A WEAVER'S DAY



Winding yarn on the cone.

For the weaver, the day starts rather early. He gets up when it is still dark and prepares for the day's work. Since the preliminary work is usually done in open air in front of his house, he has to finish it before the sun gets too hot. The yarn is starched and strengthened before it is fed in the loom from the warp. This part of the work takes place outside the house.

Pirn winding.



Vat dyeing.

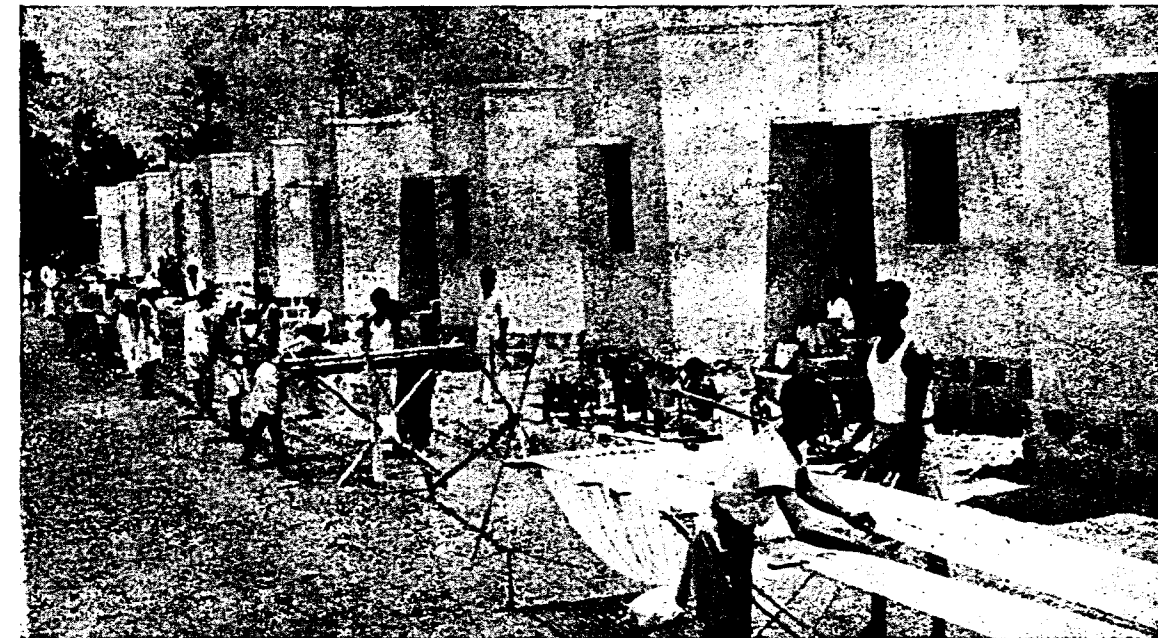
All the work connected with this is done by the weaver with the help of the members of his family. The weaver depends on the mills for his supply of yarn. The yarn is first dyed by one of the many processes for dyeing. This is carried on as a cottage industry. The weaver buys the yarn of whatever hue he needs. The thread from the hanks is first wound round cones and from these cones on to the spindle which scuttles across the warp in the loom. This work of winding the yarn known as 'pirn winding' is usually done by the womenfolk at home.



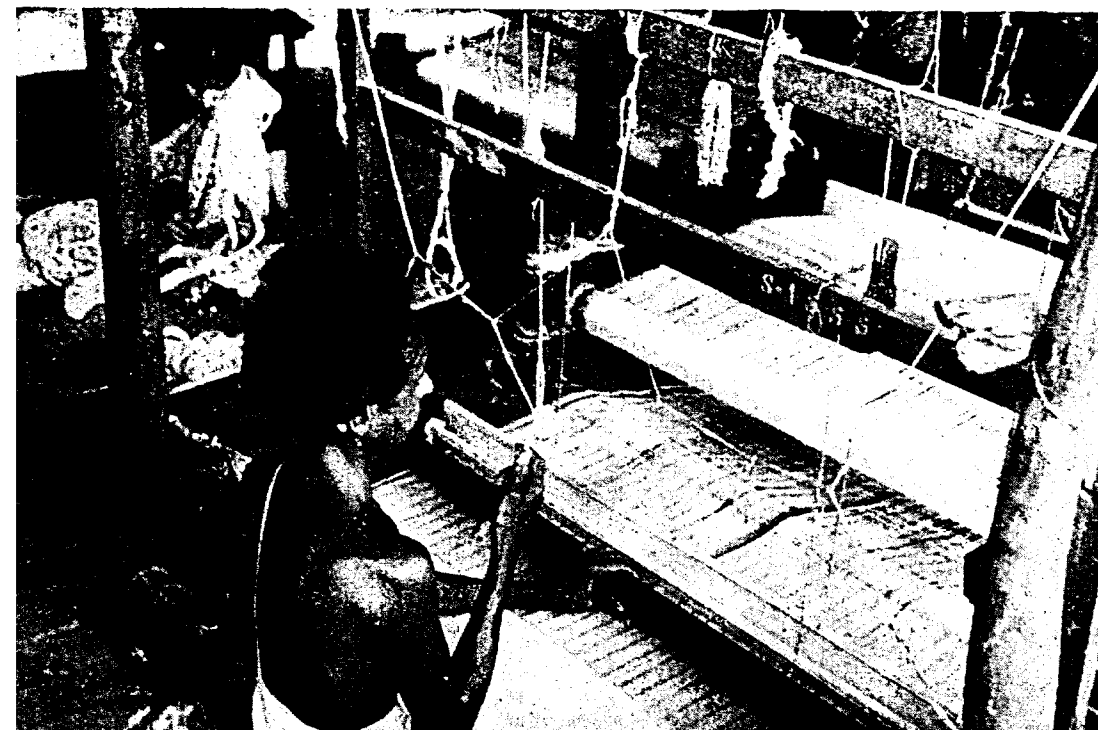
Starching.

141
The yarn, before it is fed into the loom from the warp has to be strengthened. This is done by stretching it to its full length and starching and brushing the yarn. It is stretched outside on the road, suspended between two posts and starch is applied. Afterwards it is beaten and

Warping.



Weaving.



brushed and allowed to dry. Thus the yarn, is strengthened. Then the strands that are broken are mended and any other defect is set right.

The yarn is then removed and fed into the loom. And the shuttle starts on its rhythmic scuttle] of pattern weaving. A cloth is born.

Co-operative Spinning Mills and Handloom Industry

SRI M. PUBALARAYAN, General Manager, South India Co-operative Spinning Mills.

The handloom industry of this country has been put to severe test for the past several years. Except for brief periods of apparent prosperity, it must be admitted that the industry has been struggling for existence. The struggle will go on until a permanent or long-term solution is found.

The main problems of the handloom industry have been (i) the inadequate supply of yarn of the required quality and counts at reasonable prices, (ii) the competition from the mill industry, (iii) the loss of export markets, (iv) want of technical assistance and research and (v) lack of organization. The Central and State Governments have been trying from time to time to help the industry to stand on its legs.

Due to the establishment of more spinning mills, and other factories, the problem of inadequate supply of yarn to the handloom weavers does not exist now. But the high price the handloom industry has to pay for the yarn makes it difficult for it to withstand the competition of the mill industry. The greater activity of the weaving mills in producing cloth, the gradual loss of export markets on account of import restrictions in foreign countries and the keen competition of countries like Japan and China in foreign markets have brought about a glut of mill cloth in the internal market of our country. The successful competition of the mills with the handlooms is due to the low cost of yarn at which the composite mills get it, low cost of production on account of the larger turnover with the aid of heavy labour-saving machinery, low cost of processing such as bleaching and dyeing and facilities for introducing improved designs and giving better finish to the cloth produced. It is estimated that the price which the handloom weaver pays for the yarn he gets is about 20 per cent higher than that at which the composite mill gets it for the manufacture of mill cloth. Hence it is imperative that yarn should be made available to handloom weavers at the same price at which the composite mills get it. Even though it may not be possible to reduce the price to the extent demanded by the handloom weaver, it should be certainly possible to reduce the burden of high price of yarn on the handloom cloth to some extent at least. Some of the avoidable links in the chain of middle men between the spinning mill and the handloom weaver can be eliminated and the load of their margin of profit on the price of yarn reduced. A system of supplying yarn by spinning mills at ex-mill rates to the handloom industry through organizations of weavers will have the desired effect of reducing the cost of yarn to the handloom weaver.

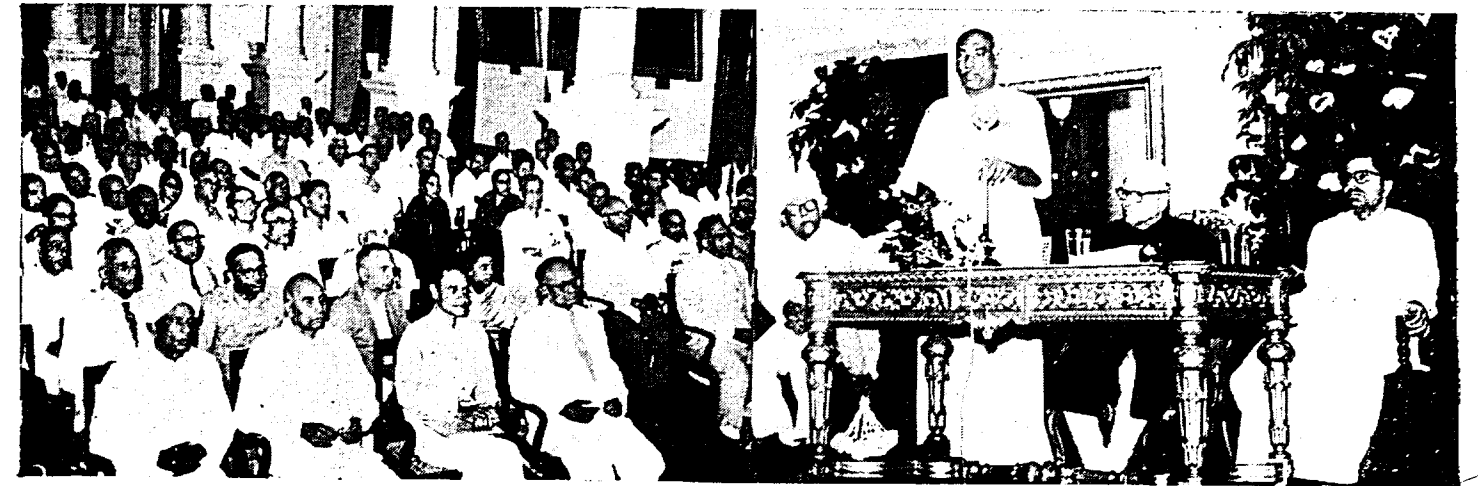
Among the several measures adopted by Government towards rehabilitating the handloom industry, the financial aid to co-operative spinning mills out of the

Cess Fund is an important one. It is one of those measures which will offer a long-term solution to the problems of the handloom industry. In pursuance of the decision of the Government of India suggesting participation by State Government in the share capital structure of co-operative spinning mills up to 51 per cent of the subscribed share capital of each mill, with the aid of a loan from the Cess Fund, co-operative spinning mills in various States are being organized. The Government of Madras have invested a sum of Rs. 10 lakhs in the South India Co-operative Spinning Mills from a loan of a like amount from the Cess Fund. They have also sanctioned another sum of Rs. 10 lakhs for investment in the Ramanathapuram Co-operative Spinning Mills towards share capital.

A co-operative spinning mill aims at supplying to the handloom weavers quality yarn at reasonable prices. It assumes the role of a composite mill in serving yarn to the handloom weavers in the co-operative fold. It will be the endeavour of every co-operative spinning mill to supply yarn to the handloom weaver at a price which will enable the handloom industry to compete favourably with the mill products. It will also act as a check on any tendency towards unwarranted rise in the prices of yarn or deterioration in the quality of the yarn available in the market for the handloom industry. Yarn accounts for nearly 60 per cent of the cost of handloom cloth and any reduction in the price of yarn will help to reduce the cost of handloom cloth. Reduction in the price of handloom cloth will stimulate demand for it, and more demand means larger production and increase in the earnings of the handloom weavers.

But it is not one or two co-operative spinning mills that can confer such a boon to the handloom industry. The requirements of the handloom industry are so large that we require a net work of co-operative spinning mills throughout the State. In the Madras State, the South India Co-operative Spinning Mills at Pettai, Tirunelveli, has gone into production from July 1958. Two more such mills have been registered, one at Sri-villiputtur and the other at Nazareth. The Ramanathapuram Co-operative Spinning Mills has already collected a share capital of over eleven lakhs of rupees and as stated earlier Government will contribute Rs. 10 lakhs. It is taking steps to acquire the site for the premises of the mill and to finalize the arrangements to purchase the machinery.

The Co-operative Spinning Mill at Nazareth will also take steps soon for the establishment of the mill. When these mills go into production 40,000 spindles will produce yarn. If a net work of such co-operative spinning mills is formed in the country, it will enable handloom weavers to attain self-sufficiency in the matter of supply of yarn of standard quality at reasonable prices.



The Tamil Development Research Council was inaugurated on 26th January 1959 by Sri Bishnuram Medhi, Governor of Madras, Sri K. Kamaraj, Chief Minister, presiding.

Tamil Research Council

The Government have passed orders constituting the Madras State Tamil Development and Research Council as a separate agency for the development of Tamil language in all its aspects and at the same time to secure the co-ordination of the measures taken by the Official Language Act Implementation Committee with the other measures for the development of the Tamil language. Sri C. Subramaniam, Minister for Education, will be the Chairman of this 39-member Council. The constitution of this Council represents the first concrete measure to implement the Government's intention to introduce Tamil as the medium of instruction in Colleges. The Government feel that if this is to be achieved, it is necessary to make a preliminary survey of the problems involved and take decisions on the nature of courses and institutions in which the change is to be brought about. Decisions have also to be taken on the preparatory measures and also on the time-schedule in respect of this proposal. Further, cheap and popular books in Tamil have to be published and brought within the reach of every one. The efforts of different agencies engaged in the printing and publication of Tamil manuscripts and of conducting research have to be co-ordinated. These in brief are the several aspects in the development of Tamil language, which the Tamil Development Research Council will attend to.

The following are Members of the Council:—

Sri C. Subramaniam, Minister for Education, Chairman.

Members—

Sri C. N. Annadurai, M.L.A.

Sri A. Vedaratnam, M.L.A.

Both representing the Madras State Education Advisory Committee.

Sri P. Savarimuthu, representing the University of Madras.

Members—cont.

Sri T. M. Narayanaswami Pillai, Vice-Chancellor of Annamalai University.

Sri M. Ananthanarayanan, I.C.S., representing the Official Language Act Implementation Committee, Madras.

Sri K. Somasundara Desigar, representing the Hindu Religious and Charitable Endowments.

Sri M. P. Somasundaram, representing the Tamil Writers' Association, Madras.

Sri M. K. Shanmugam, representing the University Teachers' Association.

Sri Jagannathachariar, representing the South India Teachers' Union, Madras.

Sri K. Palaniappan, representing the Madurai Tamil Sangam.

Sri C. Vedachalam, representing the Karanthai Tamil Sangam.

Sri E. Govindaswamy Pillai, representing the Saraswathi Mahal Library, Tanjore.

Sri E. M. Subramania Pillai, representing the Presidency Tamil Sangam, Sankarankoil.

Dr. S. G. Manavalaramanujam, representing the Academy of Tamil Culture, Madras.

Prof. R. Viswanatha Aiyar, representing Dr. Swaminatha Aiyar Library, Madras.

Sri T. S. Avanashilingam Chettiar, representing the Tamil Valarchi Kazhagam.

Members—cont.

Sri N. D. Sundaravadivelu.

Rev. Xavier S. Thani Nayagam, Department of Education, University of Ceylon, Peradeniya (Ceylon).

Dr. D. C. Sircar, Government Epigraphist for India, Ootacamund.

Sri K. R. Srinivasan, Temple Survey Project, Madras.

Sri T. Chandrasekharan, Government Oriental Manuscripts Library.

Sri P. R. Srinivasan, Government Museum.

Dr. R. P. Sethu Pillai.

Dr. A. Chidambaranathan.

Sri K. V. Jagannathan.

Dr. M. Varadarajan.

Sri M. P. Periaswamythoorn.

Sri M. S. A. Majid.

Sri P. Jeevanandam.

Dr. S. S. Bharati.

Sri V. Ramalingam Pillai.

Kumari Masilamani, Women's Christian College, Madras.

Kumari R. Rajamani, Queen Mary's College, Madras.

Sri S. S. Vasan.

Sri T. P. Meenakshisundaram.

Sri K. A. P. Viswanatham.

Sri M. P. Sivagnanam.

Sri V. R. Nedunchezhiyan.

The functions of the Council will be as follows:—

(1) To keep under review the progress of the work done by the Official Language Act Implementation Committee; and to co-ordinate that work with other related activities in the field of development of Tamil.

(2) To arrange for the systematic copying of all the inscriptions in the various temples in this State and arrange for publishing the same according to a planned time-schedule; and to co-ordinate this work with the activities of the Epigraphical Department of the Government of India.

(3) To arrange for the systematic study of the antiquities of pre-historic and historic periods of Tamilnad and to co-ordinate this work with the activities of the Archaeological Department of the Government of India.

(4) To co-ordinate and develop the activities of institutions and libraries, where unpublished manuscripts are available, co-ordinate the work relating to editing and printing on the basis of a planned time-schedule.

(5) To co-ordinate and develop the activities of all agencies at present engaged on the production and the publication of popular reading materials with a view to develop the reading habit among the people; and to co-ordinate this work with the programme of Public Library Development, especially in villages.

(6) To arrange for production of children's books in Tamil, to arrange for their distribution and to co-ordinate this work with a programme of library development, especially in villages.

(7) To promote the study of folklore;

(8) To arrange for the preparation of a complete descriptive catalogue of the manuscripts in the custody of all institutions in the State and indexing subject-war, authorwar, etc.; to arrange for the compilation and publication of bibliographies, dictionaries, encyclophædias, basic vocabularies, etc.; and to take all other steps necessary for promoting systematic study and research into ancient manuscripts.

(9) To take such other measures as are necessary to develop the Tamil language and to spread its use as a vehicle for all transactions both in the educational and other fields.



Sri Ekambaranathan, a mentor of the Ambar Charka was awarded the title of "Padma Shri". Sri Lal Bahadur Sastri is seen pinning the medal on Sri Ekambaranathan.



Shri Sriman Narayan, Member, Planning Commission, met the Chief Secretary and other officials connected with Planning and Development in the State, during his visit to the City in January (above).



Vice-Admiral Ramdas Katari, I.N., Chief of Naval Staff, inspected the Units of the Naval Wing of N.C.C. in the City Schools and Colleges during his visit to the City in January (right).



Citations on copper plates were presented to those who helped in coining and introducing Tamil Administrative Terms and Teachers' College Terms on 4th February 1959 by the Governor. Photo shows Sri A. Arulappan, Professor of Tamil, St. Xavier's College, Palayamkottai receiving the Citation from the Governor. He was also awarded the title "Tamil Perum Pulavar".

A Century of Forestry

SRI C. A. R. BHADRAN, I.F.S., and T. B. JAMBULINGAM, A.I.F.C.

Introductory.

Perhaps the earliest utterance on Forestry was made some 2,500 years ago, when the Buddha said:

"The forest is a peculiar organism of unlimited benevolence that makes no demands for its sustenance. It affords protection to all beings, offering shade even to the axe-men who destroy it."

It is a sad comment on human progress since then, that even today the importance of forests for the well-being of the people is not realized in its full significance. To meet the growing demands for land for food and other crops and to serve the varied domestic requirements, forests and trees have been thoughtlessly destroyed all along, all over the world; this process, at least in the early stages of human advancement, was furthered by the apprehensions that the wild beasts of the forests would remain a constant source of danger and disturbance to man, his domestic animals and his crops.

It was left to the French and German nations to lay the foundations of scientific forestry. Having neither the great reserves of the thinly populated areas of Northern Europe, nor the warm climate of the Mediterranean, nor Britain's mastery of the seas, they recognized the need to conserve their forests at a comparatively early stage in their modern history; in fact, even before coal became the basic fuel for industry. Thus began the practice of forestry on the basis of a sustained yield; and the art, science and business of forestry has so developed since then on the continent that nowhere else can be seen such orderly forests like the Black Forests of Germany or the Mountain Forests of the Juras, which have been systematically managed for four centuries or so now. It is to their credit that even ambitious dictators did not allow their grandiose plans to interfere with the conservative management of their forests. As a result, these forests today constitute standing evidence of the advantages to the people from sustained working, especially in such a long-term business as Forestry.

Thus the need for conservation of forest resources and the proper management of forests has been actively recognized only in the last 400 years or so. In fact, over most of the world, any form of systematic forestry has been practised scarcely for a century. Having completed 102 years since the First Conservator of Forests was appointed, Madras can claim to be in the vanguard of forest administration. But the recent political changes have adversely affected the extent of regular forests and forest resources of this State and a considerable leeway will have to be made up to bring about a satisfactory position in this respect, again.

Historical.

As everywhere in India, the greater part of Madras State was also originally a thickly wooded country. The old epics and poems speak of the south as one sea of forests. Even the comparatively recent military records (of the 18th century) relate how troops had to cut their way through dense jungle in tracts which are now vast open lands or degraded thorny scrub. Apparently, as population increased and cultivation extended, the jungle receded to locations not wanted otherwise and the remote hills.

About 1800 A.D. the Government of the day took the initial step towards forest conservation and protection, when they appointed the Bengal-Bombay Joint Commission to enquire and make regulations prohibiting the felling of teak trees below 21 inches in diameter. In 1805, the Committee reported that the capacity of the forests for mature teak timber had been overestimated and more accessible forests had been overexploited but with protection, a valuable property could be gradually built up. The general protection and management of forests were however left to the care of Officers of the Army and the executive services and occasionally to a few Policemen and Engineers who happened to have picked up some knowledge of forestry during their casual trips to France and Germany while on furlough in Europe.

However, difficulties began to be encountered in meeting the demands of the Bombay Naval Dockyard for teak. The construction of railways also made heavy inroads on forest resources. The prolonged peace conditions of the 19th century with its increase in population and increased demands, bore heavily on the forests in general all over India and locally shortages were felt acutely. In 1842, Mr. Conolly, the then Collector of Malabar, suggested the planting of teak and it was undertaken from 1844 onwards to lead to the world-famed teak plantations of Nilambur (now in Kerala State).

Regular Forest Conservancy may be stated to have begun in Madras in 1856 when Dr. Cleghorn was appointed First Conservator of Forests for the Presidency of Madras and Col. Boddome as his assistant just a century ago. It was not until 1864, however, that the first regularly trained Forestry Officer was appointed in India, when Dr. Dietrich Brandis became the country's First Inspector-General of Forests. He inspected the forests of Madras in 1881 and gave valuable advice to Dr. Cleghorn.

In 1855, a new era began in the history of forestry in India, when Dalhousie laid down a definite and far-sighted forest policy. The forests of the Madras State was administered under a special State Act passed in 1882. The Government then desired that only an area about one-eighth of the Presidency should be set apart as reserved forests! Large areas containing forest growth were thus left under the control of the private owners and also as unreserves. Though a separate forest administration was set up as early as 1856, progress was slow even with the primary work of forest reservation and up to the early twenties of this century selection, demarcation, survey and settlement of the Government forests engaged the attention of the department almost to the exclusion of most other forestry interests. Forest protection and conservancy remained more or less nominal. As the organization of the Government forests progressed, a change came in slowly. The forest staff was gradually strengthened. Forest Officers and others in touch with the local conditions began to recognize that whatever might be the needs of the people, the forests in their existing condition could not bear the ever-increasing drain to which they were exposed. Then followed the problems of forest conservancy and the related questions of abolition of goat browsing, limiting of cattle grazing according to carrying capacity of the area, provision of small timber and fuel to the villagers at concessional rates, supply of manure leaf, etc. The Government's anxiety to remove the more serious of grievances caused by forest conservancy and its efforts to popularize Forest Administration did not make matters easier. Government advised the Forest Administration of the need for sympathy in administering the Forest Act and of its duty to provide the villager with his wants for forest produce. Forest Committees were constituted from time to time but in practice no attempt was really made to manage the forests on business lines. It is an interesting fact that even to-day conditions are scarcely different: for instance, progress has been extremely slow regarding survey, demarcation and management of the ex-zamin forests taken over by Government in 1951.

Till not long ago the District Forest Officer was a Forest Assistant to the Collector and his office was a branch of the Collector's office. The overall control vested in the Board of Revenue. The Conservator of Forests were technical, inspecting officers whose recommendations on technical matters were generally agreed to. A Committee appointed in 1913 recommended that such reserved forests as were solely intended to ensure a continued supply of grazing, fuel and agricultural requisites be entrusted to panchayats composed of village interests. Accordingly, in 1914, certain so-called minor reserved forests in a few districts were transferred to management by panchayat. In 1923, a Retrenchment Committee recommended a classification of the forests into major and minor fodder and grazing reserves or minor forests, which were useful mainly for the supply of every day needs of the ryots, passed on to Forest Panchayats for management. The Committee even considered that no special technical knowledge was necessary for the management of these simple forests and so the panchayats worked under the control of the Revenue Department from July 1925! A total area of

about 3,500 square miles was thus transferred. These forests were rapidly denuded and in less than a quarter of a century it has become imperative that these forests should be reverted in the Forest Administration. But it has to be added that here again progress has been slow, as rehabilitation of these forests is proving a difficult proposition and funds available are far from liberal.

Territorial changes.

The original Madras Presidency has undergone many changes in the last quarter of century to result in the present Madras State. In 1936, Ganjam district was transferred to form part of the new Province of Orissa, which meant a loss of about 625 square miles of reserved forests. In October 1953, the Andhra State came into existence and about 10,170 square miles of reserved forests went with it. Again, according to the States Reorganization Act of November 1956, about 2,068 square miles of reserved forests consisting of valuable timber forests and plantations were transferred to Kerala and Mysore States. Against this, a small extent of less than 200 square miles of forests accrued to the new Madras State from the erstwhile Travancore-Cochin State. In the present Madras State the total extent of the forests is 6,734 square miles and that of reserved lands comprising mostly ex-zamin forests is about 1,491 square miles. Thus, forests constitute in all about 17 per cent of the total land area of the present Madras State.

The forests described.

Madras has attracted the attention of botanists and been subject to extensive botanical exploration from about 1,650. Several eminent botanists like Vanrheede, Roxburgh, Beddome, Hooker, Gamble, Bourdillon and Fischer have made valuable collections and published detailed information on the flowering plants of the area, enabling in turn extensive studies of the forest types included in the region. With reduction in the territorial limits of Madras State, the number and types of forests and their extents have also dwindled. The southernmost outlier of sal (*Shorea robusta*) in Ganjam district stands excluded from the present Madras State. The extent of tropical wet evergreen forests has become considerably attenuated with the loss of the West Coast districts to Kerala.

Wet evergreen.—These occur in hilly terrain (elevation 500 to 1,000 meter) in Tirunelveli, Kanyakumari, Madurai, Coimbatore and the Nilgiris districts, in localities where the rainfall exceeds 2,000 millimetre. These forests are dense and contain a multitude of species. Some of which attain a height of 40 meter and over. The following are the valuable species occurring in these forests: *Mesua ferra* (Nangal), *Calophyllum tomentosum* (Poon), *Balanocarpus utilis* (Malaikongu), *Dichopsis elliptica* (Pali), *Vateria indica* (Velapine), *Canarium strictum* (Dhup), canes and eta reeds. Though these forests are dense, these are rarely exploited except for canes and reeds. Sleepers are being converted and extracted from the evergreen forests in Coimbatore South Division in recent years.

Moist deciduous.—These are commercially the most valuable timber forests in this State. They occur in localities where the rainfall varies from 1,250 millimeter

The Madras Forest Department is celebrating its Centenary in the month of April 1959.

to 2,000 millimeter in the Coimbatore, the Nilgiris and Kanyakumari districts. *Tectona grandis* (Teak), *Terminalia paniculata* (Pillamarudu), *Terminalia tomentosa* (Karimarudu), *Lagerstroemia lanceolata* (Venteak), *Pterocarpus marsupium* (Vengai), *Adina cordifolia* (Manjakadambai), and *Dalbergia latifolia* (Rosewood) are the common timber species. Considerable extent of these areas are clearfelled and replanted with teak, rosewood and softwoods.

Tropical dry.—These occur over vast areas in this State and serve mainly to meet locally the small timber and fuel requirements of the people. They also serve as grazing grounds. *Tectona grandis* (teak), *Anogeissus latifolia* (Vekkali), *Cassia fistula* (Konnai), *Albizia lebbek* (Vagai), *Azadirachta indica* (Neem), *Albizia amara* (Usil), and the two bamboos *Bambusa arundanacea* and *Dendrocalamus strictus* are common in this type, while sandalwood trees are common in the north-eastern parts. These are open type forests over undulating country.

Dry thorn.—These forests are open low forests occurring over the plains or low undulating terrain with thorny species. *Acacia arabica* (Karuvellam), *Acacia leucophloea* (Velvelan), *Acacia sundra* (Sundra), *Acacia planifrons* (Odai), *Albizia amara* (Usil), *Zizyphus* sp. (Elandi) are the most common species. Euphorbias predominate all over and of late even these are utilized as fuel. These forests serve for supply of firewood to a limited extent. Grass is scanty and yet cattle resort to them of necessity in large numbers. Vast areas of degraded forests of this type have been taken up for artificial regeneration.

Shola forests.—These occur in the higher elevations (temperate climate) in the Nilgiris, and the Palni Hills mainly. They constitute patches in depressions and consist of stunted evergreen species. In the surrounding high ground *Phoenix humilis* (Siru icha) occurs scattered amidst tall coarse grass. The world famous downs of the Nilgiris and Kodaikanal hills area a part of this type and vast areas of this type are being planted with wattle and bluegum.

The beach forests.—Major portions of this type occurring along the coastal sandy wastes, with occasional palmyrahs. Large areas where sub-soil moisture conditions are favourable are being planted with casuarina. In patches occur the carnatic dry evergreen type. Adjoining the backwaters especially near Chidambaram at Pichavaram, Kodikarai, mangrove forests occur and these forests are being exploited for firewood.

Change in condition of forests.

Due to over-exploitation and repeated coppicing, most of the forests are in a rather degraded condition. The soil is exposed in many places to the ravages of sun, wind and rain. It is further hardened and rendered impervious by excessive grazing and trampling by cattle. In such cases a secondary, open, poor quality scrub results where a good tree crop of the dry deciduous type occurred before. Thorny species and species unpalatable to cattle tend to predominate while species of fuel and fodder value and of valuable species like sandalwood get scarce.

Large-scale afforestation work in the grassy upland of the Nilgiris and the Palni Hills is changing the look of these hills; plantations of casuarina and cashew are affecting for the better the coastal sands and some inland areas. The barren ex-panchayat and ex-zamin areas are also being similarly re-clothed gradually. But this is invariably proving a difficult and slow process. In fact, repeated and persistent efforts may be necessary before any tangible results can be achieved.

On the other hand, mainly to meet the growing demand for food, considerable areas of forest land have been broken up for cultivation and other uses. Construction of dams to form reservoirs for irrigation and power projects has led to the submergence of considerable areas of forest lands and clearance of forest growth.

Changes in forestry practices.

In the more valuable timber forests, selection fellings were progressively replaced by clearfelling and planting. As transport and extraction facilities improved, selection working tended to become confined to the truly remote areas. Coppice fellings have been the general practice for fuel working but the leaving of standards has gone out of vogue.

The advantages of assured regeneration by artificial methods have been recognized for over a century so far as valuable timber species like teak are concerned. Even with fuel working in the adverse climatic conditions prevailing, it is recognized that coppice regeneration would be inadequate and would require full-scale supplementing with planting. The introduction of exotics like bluegum, casuarina, wattle and cashewnut has progressed apace, in order to meet the needs of quick growing species suitable for fuel, tan-bark and soil conservation.

The progress of road development and mechanical equipment has led especially in the present century to the rapid replacement of manual labour and animal transport by modern methods of conversion, extraction and transport involving large-scale use of mechanised means.

The forests and the people.

Forests contribute to our wealth and well-being in many ways. They are of direct value for the many useful forest products they yield, such as timber, fuel, grazing and fodder, manure leaf and minor forest produce. Indirectly they facilitate the advancement of agriculture and maintenance of the climatic conditions of the locality. They also help to conserve the soil.

Forests are, therefore, national assets and their care and progressive maintenance would be the duty not only of Government but equally also of the people. It would serve but little useful purpose for Government to attempt developing forests, if the people do not restrain themselves from letting loose cattle at every opportunity resorting to indiscriminate cutting and removal of trees or setting fire to forests, etc. The earlier it is realized that there is not enough of forest

produce to cater to all our needs, the better for the cause of ensuring in perpetuity at least their protective values adequately.

It has to be appreciated that the Forest department is the earliest of all welfare departments. It continues also to provide work for a large number of village folk and hill tribes (in the execution of various forest operations). The Forest department does its best also to advocate the peaceful co-existence of the dumb denizens of our forests. The annual contribution to State Exchequer (after meeting all its own expenses) that the Forest department makes it not insignificant either. The Forest revenue at present is about Rs. 130 lakhs and total expenditure about Rs. 74 lakhs.

Our forests afford annually grazing facilities for some 41,000 buffaloes, 811,000 heads of cattle, 1,405,000 sheep and 137 other animals like horses, elephants, etc. The grazing fees collected are purely nominal and hence the revenue derived from this source is only Rs. 3,15,000. In this connection it may be pointed out that our forests really cannot support so many heads and the persistent demand of the people to admit more number of cattle would only result in 'killing the goose that lays the golden egg'.

Our forest also yield every year about 1,200 tons of sandalwood, 20,000 tons of Timber, 20 lakhs tons of fuel besides sleepers 10,000 Broad Gauge units. All this does not meet however even a part of the needs of the people. Timber is imported mainly from Kerala, Bombay and the Andamans and Charcoal and firewood are imported from Andhra Pradesh. It is expected that for another two decades at least this dependence on other States will have to continue.

Bamboos, manure leaves, cashew, tamarind, avaram bark, palm leaves, gallnuts, wattle and other tan barks, stones, cardamoms and ivory are some of the important minor forest products. Bamboos alone fetch a revenue of Rs. 7 lakhs per annum and the requirements of the people are supplemented by supplies from Kerala. The production of manure leaf in this State is much below the demand and removal has therefore

to be restricted. Cardamoms and tamarind are exported to other countries and States being surplus to our needs. The approximate revenue at present derived by sale of Minor Forest Produce standing in the forest is Rs. 5 lakhs. It should be clear from the above that our forests have to be developed in all directions.

Development Plans.

Working Plans for the systematic exploitation and development is a basic pre-requisite of all good forest management; such plans have been in force for over four decades in respect of Madras forests. But as has been already explained these forests are degraded now and need special attention. Vast areas of completely denuded ex-zamin forests and degraded ex-panchayat forests transferred to the Forest department also await regular protection and improvement. By the pressure of ever increasing population, by the improvident demand made on the forests for wood, etc., by the growing imbalance between land under cultivation and land under forests, a pressing problem has been cumulatively created in the course of many years. Hence advantage has been taken of the National Five-Year Plans to develop these forests.

Under the First Five-Year Plan the resumption of all the panchayat reserved forests and many ex-zamin forests was completed. They are given rest and protection since. Certain soil conservation experiments were completed in the Nilgiris. The road system in the Javadi Hills, important sandal bearing area, was improved. Casuarina was planted over 1,400 acres dry fuel species over 30,000 acres; softwoods over 2,700 acres (to meet the demand for matchwoods), wattle over 2,849 acres and bluegum over 1,097 acres in the Nilgiris and Palni Hills. The revision of the Working Plans of Nilgiris, Coimbatore South and Tiruchirappalli was concluded. Working plans and schemes were undertaken for the first time for the ex-panchayat forests. However much could not be done in the First Five-Year Plan.

The make up this lag in the First Five-Year Plan a comparatively large provision of Rs. 135 lakhs was approved for the Second-Plan period for forest improvement under thirteen different schemes as follows:—

Serial number and name of the scheme.				Physical target.	Expenditure provision.
(1)				(2)	(3)
					RS. IN LAKHS.
1	Preservation of wild life	..	..	Rigid protection and improvement to Mudumalai Wild Life and Vedanthangal bird sanctuaries.	4.5
2	Creation of rodder banks and improvement to grazing	..	..	12,500 acres	1.33
3	Lac cultivation	..	..	Stepping up lac production in nine centres and planting lac host tree.	1.19
4	Cashew cultivation	..	..	45,450 acres	25.16
5	Expansion of planting activities of valuable commercial timber species such as teak, etc.	..	..	Teak 4,170 acres .. Bamboos 600 acres .. { Teak under 'irrigated condition' 1,200 acres. }	4.55
6	Creation of river canal and lake fringe forests	..	..	4,000 acres	8.00
7	Development of matchwood plantations	..	..	8,300 acres	5.96
8	Creation of industrial plantations such as wattle and bluegum.	..	..	Wattle 19,000 acres .. Blue gum 1,900 acres ..	9.12

Serial number and name of the scheme. (1)	Physical target. (2)	Expenditure provision. (3)	RS. IN LAKHS.
9 Rehabilitation of degraded forests—			
(1) Afforestation of low hills	17,750 acres	7.30	
(2) Demarcation and survey of ex-zamin forests ..	State	1.29	
(3) Construction of residential accommodation ..	Do.	1.17	
10 Reclamation of eroded lands—			
(1) Afforestation of dry fuel forests	70,000 acres	30.00	
(2) Development of fodder and pasture	15,000 acres	12.19	
(3) Reconnaissance survey of eroded lands outside reserved forest.	State	1.85	
(4) Construction of residential accommodation ..	Do.	5.00	
11 Extension of casuarina plantation	3,400 acres	5.00	
12 Development of modern technique of timber extraction and communication.	State	7.00	
13 Development of Forest Administration Working Plans ..	Do.	4.00	
		134.61	

It is confidently anticipated that the targets, physical and financial, will be fully achieved in this period.

The future of forestry in the State.

The programme of development under the Second Five-Year Plan will be further intensified during the Third Five-Year Plan. It has been proposed to implement nine schemes at an estimated outlay of over Rs. 300

lakhs. The new schemes proposed are planting along the railway lines, forest resources, survey, compensation for extinguishing forest rights, farm forestry, timber operations and forest utilization, setting up a forest centre, improvements to Zoos and providing more amenities to staff and labour. The particulars of the schemes proposed are summarized below :—

Name of the scheme. (1)	Physical target. (2)	Financial target provision. (3)	RS. IN LAKHS. (4)
	ACRES.	LAKHS.	
I. Forest plantation—			
1. Extension of casuarina plantations	6,000	18.00	
2. Cashew cultivation	15,000	9.00	
3. Teak (without irrigation)	5,000	3.00	
4. Teak (by irrigation)	1,200	1.50	
5. Matchwood plantations	6,500	5.50	
6. Wattle and eucalyptus plantations	20,000	8.00	
7. Creation of forests along river, canal and lake fringes and railway lines.	13,000	43.50	
8. Planting species useful as hosts for lac insects including cultivation of lac.		3.00	
		91.50	91.50
II. Forest Resources Survey	Entire State	3.00	3.00
III. Forest consolidation—			
1. Survey and demarcation of ex-zamin forests ..	Entire State	6.00	
2. Compensation for extinguishing forest rights ..	Do.	5.00	
		11.00	11.00
IV. Farm Forestry and Vanamahotsava—			
1. Raising of forests in Community Development/ National Extension Service Blocks.	89,500 acres	75.00	
2. Reconnaissance survey of eroded lands outside Reserved Forests.	State	6.50	
		81.50	81.50

Name of the scheme. (1)	Physical target. (2)	Financial target provision. (3)	RS. IN LAKHS. (4)
	ACRES.	LAKHS.	
V. Cultural and Preservation Work—			
1. Rehabilitation of degraded forests	..	..	187.00
(a) Afforestation of low hills	18,000	7.50	
(b) Afforestation of degraded fuel forests in ex-panchayat and ex-zamin forests.	72,000	35.00	
2. Working plan organizations	State	6.00	
3. Improvement of forest grazing	5,000	5.00	
4. Wild life preservation	(1) Two new sanctuaries one at Ullandy and the other at Mundan-thorai. (2) Further improvement in Mudumalai wild life sanctuary. (3) Improving the Madras Zoo and establishing two new Zoos, one Coimbatore and the other at Madurai.	11.00	
		64.50	64.50
VI. Timber operation and forest utilization	..	3.00	3.00
VII. Communication and buildings—			
1. Roads	40 miles	7.00	
2. Buildings	..	20.00	
3. Forest Centre	..	4.00	
		31.00	
VIII. Staff and training—			
1. Training	..	8.00	
2. Creation of accounting unit	..	1.00	
		9.00	
IX. Labour amenities—			
1. Lorries—26 lorries	..	6.70	
2. Mazdoor lines—26 Mazdoor lines	..	1.30	
		8.00	8.00
		Total provision ..	302.50

In spite of these ambitious plans, this note cannot be better concluded than by emphasizing that self-sufficiency in forest products and adequacy in the content (if not extent) of forests will be achieved in our State only with the peoples' full and active support. Much of the future development of forests in Madras depends

on the progress of farm forestry and vanamahotsava. It would be appropriate here to re-call

'He that planteth a tree is a servant of God. He provideth a kindness for many generations and faces that he hath not seen shall bless him'.

Harijan Week was celebrated in the City in the last week of January. Processions were taken round and public meetings were held in various parts of the City. A mass public meeting was held at which Sri P. Kakkan, Minister for Works and Harijan Welfare—addressed the gathering.



“Top Slip - The Land of Forest Enterprise”

SRI S. M. A. ASLAM, M.A. (Dip. in Geo.), A.I.F.C., Personal Assistant to the Chief Conservator of Forests.

The visitor who yearns for high, pure air loaded with oxygen, the visitor who seeks peace and tranquility, and who would like perhaps, to come face to face with wild elephants or white bison, or who is in search of that small, idyllic world of Nature at its best must make for 'Top Slip'. Here he will attain satisfaction for 'Top Slip' awakens in one that happy on 'Top of the world' feeling.

To many outside the Forest department in Madras State and to many more, even amongst the common folk of the neighbouring districts 'Top Slip' may sound a curious and unfamiliar name. This place is about fifty miles from Coimbatore and nestles in the Anamalais at an altitude of 3,000 feet, right at the exit of the Palghat gap. Its strategic position has made it the venue of many a successful forest enterprise. The place derives its name 'Top Slip' from the practice adopted during the 19th century, of sliding logs of timber down the slopes of the hills over a distance of 1,000 feet to the foot of the Ghats.

These hills are popularly known as Anamalais and are shrouded with thick forest growth. They are the much favoured haunts of herds of elephants. These verdant and sunny hills with contradictory ridges, intersecting valleys and gradients that annul one another are the meeting place of many rivulets and water courses. Looking out a little further, we find these hills flanked on the west and the south-west by the Parambikulam area of the Kerala State. This area gets a rainfall ranging from 60 inches—120 inches from east and west and is ideal for teak growing. It is, however, only

next to Nilambur (South Malabar) where the best teak in India is grown. The portion of this area lying in Coimbatore district comprises mainly of Mt. Stuart, Tekkadi, Ulandy and Palakadavu. These areas have been noted for their teak, rosewood and vengai. Rosewood trees 30 feet in girth (at breast height) and 120 feet tall, yielding about 1,000 cubic feet of timber per tree and valued at Rs. 20,000 (at the present market rate) have been extracted from these forests. A single plank 6½ feet wide and 16 feet in length sawn out of one rosewood tree was presented to Lord Willington.

The early history of these forests is shrouded in obscurity as no reliable records exist. But it is certain that since time immemorial these tracts were subjected to unrestricted removal of all species except teak, rosewood and vengai. These species were perhaps preserved from exploitation up to historical times mainly due to the comparative inaccessibility and extremely malarious condition of their location. Lucrative demand for large sized timber was also lacking. The advent of the British towards the latter half of the 18th century completely changed the picture. The growing demands for better quality timber gave a great fillip to the exploitation of teak from these forests. Soon the forests were getting depleted. In the middle of the 19th century earnest attempts were made to help nature to replenish herself, Hago wood pioneered the growing of teak artificially in these areas and this he did at a time when these forests were infested with wild animals and when these tracts were inaccessible and had to be covered only on foot or on ponies.



The Ulandy Valley road which was constructed recently at a cost of Rs. 7 lakhs is the Road to Plenty.



Set up against varying forest panorama, the road offers pleasant driving.



The rich foliage with which the area abounds.

The absence of a road system rendered the exploitation of these forests uneconomical.

The first road was constructed in 1851 from Top Slip to Siehali a distance of over six miles to harness the valuable forests of Siehali valley. Although in 1856 Captain Michael aligned a Ghat Road from Top Slip to the foot of the hills, the actual construction of the road was taken up only in 1868. This road was the main artery along the timber bearing areas from the hills to the plains for well over 50 years until it was replaced by the present Sethumadai—Top Slip Ghat Road in 1924.

Apart from the construction of these roads, other mechanized methods were tried to exploit the timber by ropeways and tramways from Top Slip to Sungam. But the gradient was too steep at places and working of these schemes had to be discontinued.

From 1916 onwards the Mount Stuart Forests ceased to be mere exploitation; exploitation was followed up with regeneration of teak. It was then that the necessity of constructing good roads was keenly felt. Transport is the foundation on which the economic prosperity of a nation should be edified and it is more so in the case of exploiting the forest resources. Road transport has aptly been called the "Nations Delivery System".

Realizing the truth of the above statement, Marshall, the then Forest Engineer laid the foundation of a Ghat Road from Sethumadai to Anaipadi in about 1926.

With the opening of the Anaipadi Ghat Road, regeneration progress in and around Mount Stuart was given an impetus. But still the inaccessible Ulandy Valley remained unsurmounted and unrevealing. After a series of unsuccessful attempts, the question of successfully linking the Ulandy Valley to the other net works of road on the plateau was taken up in 1945 as a Post-War Development Scheme. But due to deficiency in forest budget, this work had to be postponed. It was only in 1955 that the construction of the road was again examined and entrusted to Forest department of Madras State. The 16½ miles long Ulandy road was constructed at a cost of Rs. 7 lakhs.



The road is flanked by imposing tall trees of valuable timber.

With the alignment and completion of the road, the 12,000 acres of the valley are now available for exploitation of timber and bamboo-bearing forests. Thus the road to Ulandy is rightly called the road to plenty—for while one acre of good forest area in the valley can be planted with teak at a cost of Rs. 70, the potential value at the time of its maturity would be Rs. 7,000. The road which was opened in the middle of 1958 will thus compensate the loss sustained by the Madras State as a result of the implementation of the States Reorganization Act of 1956 when large areas of the first-class forests had to be transferred to the Kerala and Mysore States. Apart from the benefits which will accrue to the Forest department, this road opens out new avenues for harnessing the Parambikulam water for Power generation and irrigation.

Top Slip has yet another attraction for the visitor. The Wild life is extremely varied due to the range of forest types and elevations. The animals peculiar to this tract are the majestic white Bison which is the largest wild ox alive today and which attains as fine a stature here as the Gaur of the Mudumalais. The white Sambhur which is so utterly sylvan in habit and looks is also confined to the Anamalais. Besides the animals mentioned, the Lordly Elephant, the mouse deer, the panther, the barking deer, the common Langur, the Bonnet Macaque are the other features of this place. However, the lesser fauna of these forests are no less interesting particularly the avifauna which is typical of mixed deciduous forests. The flora, especially in areas where no plantation work has been done, is of real interest to the botanist and naturalist. In an attempt to save the many forms of creation for posterity and from total extinction, the State has made an earnest beginning with the "Setting up of a Special Game Tract".

Top Slip with true forest panorama, pleasant weather, perennial streams and a beautiful Rest House holds every promise of developing into one of the finest "Nature Spots" in India—This will be realized soon—if only the feeling for Wild Life now so evident is sustained.

Metric System of Weights and Measures

SRI R. R. VISUVASAM, I.A.S.

Weights and Measures must be ranked among the necessities of life of every individual as also of human society. They enter into the economic arrangements and they are necessary to every occupation of human industry, trade and commerce. The knowledge of Weights and Measures, as in established use, is among the first elements of education and is often learnt even by those who know nothing, not even to read and write. The same thing holds good in the case of coinage.

Now that the decimal system in coinage has been adopted, decimal system for weights and measures seems appropriate. The decision of the Government of India to adopt the Metric System of Weights and Measures as the sole system along with the decimal coinage, needs more publicity so that the masses of the country could be conversant with the great changeover. Every one should be convinced about the advantages of the Metric System, which after all is based on our own decimal system of mathematical expression.

The modern method of expressing all numerals by 10 symbols having absolute and positional values, is a product of Indian ingenuity, because this unique conception was given to the world by an Indian Mathematician more than 2,000 years ago, and it has become the basis of all mathematical calculations everywhere in the world. The rapid advance in the Science of numerals is due to the great simplicity and ease given in the Mathematics by these ideas of decimal point and decimal place.

The Indian Standards Institution Special Committee of 1949 appointed by the Government of India to consider and recommend to the Government, National Standards for the measurement of length, weight, volume and energy, after prolonged deliberations on the various points of view expressed by different authorities, came to the conclusion that the general consensus of opinion in India was in favour of adoption of the Metric System.

The Government of India accepted the recommendation of the Indian Standards Institution Special Committee, that in order to spread over the rather considerable expenditure involved, the changeover should be carried out in three stages, covering a period of 11 to 15 years. It was satisfactorily expressed that ultimately, the standardization under Metric System would more than repay the expenditure inevitable in its introduction. Its uniformity will lead to security to the masses in their day-to-day commercial dealings; its simplicity would result in tremendous saving of time,

money and energy in commercial and technical calculations and in education and training of the younger generation; its international character would help stimulate overseas trade, etc.

This system, called 'Metric System' is based generally on the fundamental standard of length, viz., 'Metre'. The Metric System originated in France in the Wake of the French Revolution. With a view to making the new system universal and not changing, it was decided to base the standard of length on Nature itself. The 10 millionth part of the Earth's quarter at the Meridian (Longitude) was at that time declared to be the "Metric". The Metre is the primary unit of length under the Metric System. The word 'Metre' is derived from the Greek word 'Metron' and the Latin word 'Me' meaning 'to measure'. This is the brief history of the 'Metre'.

The French National Academy introduced for the first time the use of Weights and Measures, viz., Metre for length, Kilogram for mass and Litre for capacity, in the year 1793. It was decided to have Weights and Measures based on these units in 1799, when the Metric System was initially introduced and it became the sole legal system only in 1840. In 1870, the French Government convened an International Conference, which was attended by delegates from various countries. The Conference signed what is known as "Convention of the Metre" which brought the International Bureau of Weights and Measures into existence.

Three-fourths of the population of the world is using Metric System of Weights and Measures. All countries, except England and America are using Metric System, but two-thirds of the International trade of America and half the International Trade of England are being carried out by use of Metric Weights and Measures.

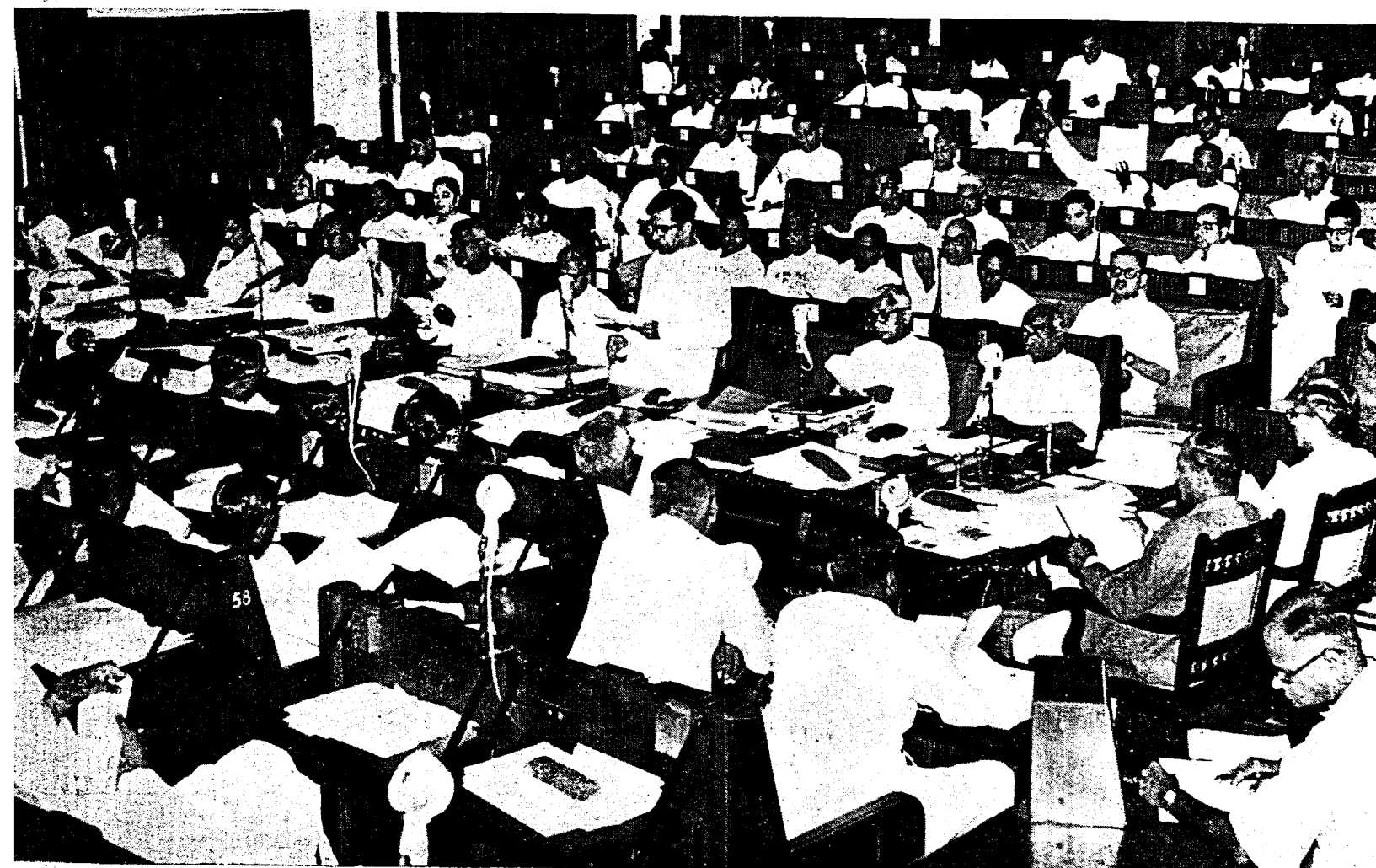
In Madras State at present we have no Act in force. Different kinds of standards are being used and more confusing is the fact that different weights are called by the same name. For example, the seer. We have seer of 24 tolas, seer of 60 tolas, seer of 72 tolas, etc. The Indian Standard seer is 80 tolas. We have no system at all. We have been so used to this confusion that we do not even pause to think of the chaos that is caused in the trade and commerce of the State. Even in buying and selling gold we just rely on seeds that are picked up in the forest as a weight. It is a very common sight to see even a lump of stone being used as a weight in our State. We are almost primitive in this respect.

The enforcement of Metric System has been introduced in the first instance in the four districts of Madras, Chingleput, North Arcot and South Arcot of this State. The Government of India decided in April 1957 to introduce decimal coinage and you are aware how this system is working satisfactorily in this country. Similarly, Government of India have decided to introduce Metric System of Weights and Measures, by implementing the Standards of Weights and Measures Act, 1956.

In future, commercial weights required by the traders for use for trade will be manufactured by manufacturers to whom licences for the same will be granted under the Metric Act. They should manufacture as per specifications and get them passed by the Inspector of Weights and Measures after check, and then sell them

in the market. In this way commercial weights and measures will be manufactured and supplied.

Apart from the fact that these all undoubted advantages to be derived by the whole country in its internal trade and commerce by the adoption of the metric system of weights and measures, the country is bound to derive far greater advantages by way of easier transactions in our external trade. The Madras Government has enacted the Metric Weights and Measures Act. Similar procedure will be adopted in other States also, where each State will have its own enactment based on the Central Model Act and Rules. Consequently, there will be a uniform Weights and Measures Act, prevalent in all the States of India, and we will do away with all sorts and kinds of weights and one accepted uniform weight will be prevalent all over India.



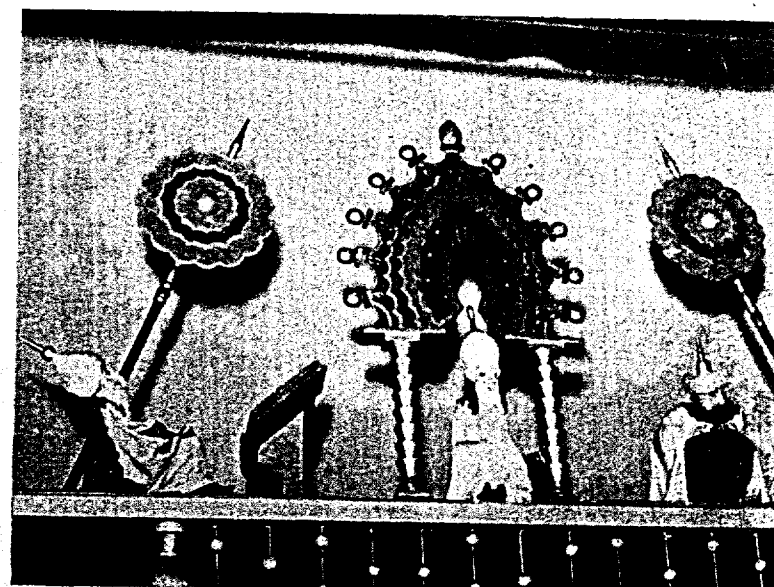
The Finance Minister Sri C. Subramaniam presented the Budget for the year 1959-60 in the State Legislative Assembly on 2nd March 1959.



SOVIET PUPPET THEATRE IN THE CITY

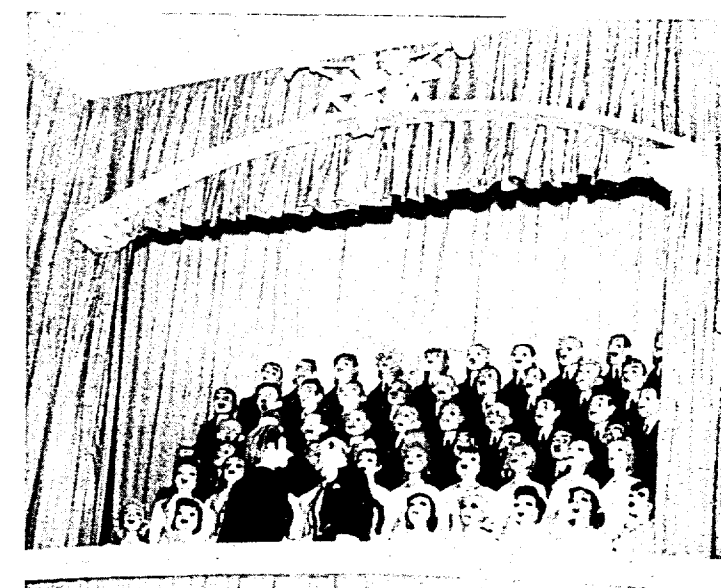
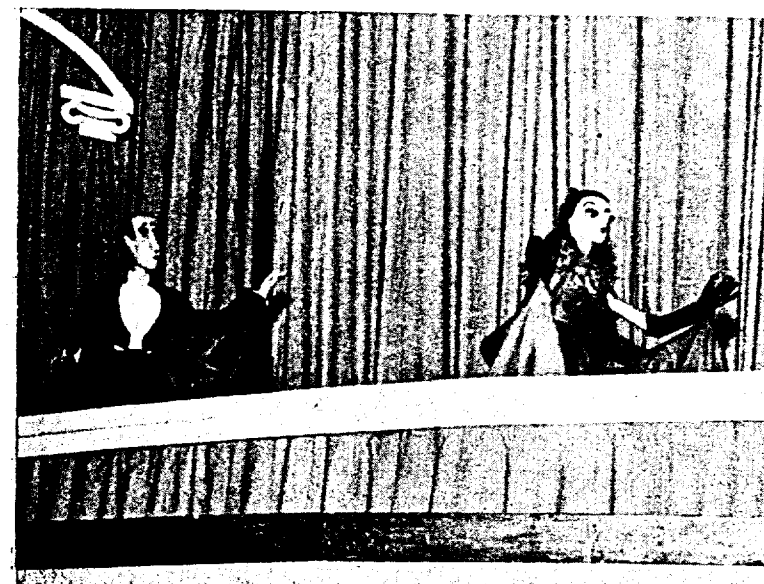


The Soviet Puppet Theatre was in the City during the second week of February. "Alladin's Magic Lamp" and "An Unusual Concert" were performed much to the delight of the old and young. The photos on these pages show some of the scenes from these two shows.



Members of the Theatre.

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From "An Unusual Concert".



Right: The Finance Minister making the acquaintance of the star performers backstage.

Left: The Director's Show.

Above Left: From "Alladin's Magic Lamp".





The Directors and members of the Theatre were entertained to a performance of Dummy Horse Show by Sri Sundaramurthi and Party and Barathanatyam by Kuriari Padmini Priyalarisini.

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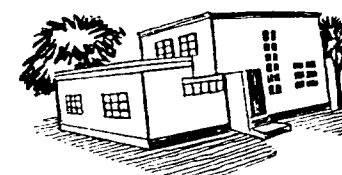
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DA 56/344

Co-operative Education and Training

SRI K. W. A. GOVINDARAJAN, Deputy Registrar of Co-operative Societies, Tiruchirappally.

Madras is one of the States in India which realised most early the need for providing training facilities to the staff employed in the Co-operative Department as well as co-operative institutions. As early as 1914, the Madras Provincial Co-operative Union was formed, one of its duties being the education of members and office-bearers of Co-operative societies and the training of the staff of co-operative institutions besides general co-operative propaganda. It continues to be the apex agency for the promotion of co-operative education and propaganda in the State. It is in charge of the training of non-official staff and it supervises the Co-operative Training Institutes under it. It prescribes the courses of study in the Training institutes and holds examinations for the trainees.

Till recently there were only two co-operative Training Institutes one at Tanjore and another at Coimbatore for giving training to non-official staff such as Supervisors of Co-operative Central Banks and employees of other co-operative institutions besides prospective employees of Co-operative institutions in the residuary State of Madras. Government have sanctioned the establishment of one more institute at Madurai to serve the districts of Madurai, Ramanathapuram, Tirunelveli and Kanyakumari. This Institute was started on 27th July 1956. The Co-operative Training Institutes are independent organisations registered under the Madras Co-operative Societies Act and the Madras State Co-operative Union exercise general supervision over them, conducts the annual examinations and awards certificates for successful candidates. In order to tone up and strengthen the teaching arrangements, Government have sanctioned the appointment of Deputy Registrar, Principals and part-time Commercial Instructors to the Institutes at Tanjore and Coimbatore. The candidates are given theoretical training for a period of nine months in the Institute commencing from July every year. On completion of theoretical training they are given practical training for a period of two months in their native districts. The practical training is arranged by the District Co-operative Central Banks. The subjects taught are Co-operation, Auditing, Banking, Rural Economics and Book-keeping. Successful candidates are employed by the co-operative institutions.

During 1957-58, 676 candidates were undergoing training in the institutes at Tanjore, Coimbatore and Madurai. The Madras State Co-operative Union framed regulations for admission to the institutions, namely, that candidates should be those declared eligible for admission to the University or fit for selection for public service by the Public Service Commission. Candidates belonging to Scheduled castes and Muslim

community who have appeared for the S.S.L.C. Examination or equivalent examination but have not passed are also eligible for admission. Besides the regular annual courses a special short-term course is conducted by the Institutes for the benefit of the employees of non-credit co-operative institutions such as stores societies, milk-supply societies, weavers' societies, etc. The fee for the annual course is Rs. 60 while that for non-credit course is Rs. 5.

The subordinate personnel of the Co-operative Department, viz., Junior Inspectors and Senior Inspectors recruited by the Madras Public Service Commission are given training in the Central Co-operative Institute, Madras. This institute is run by the Co-operative Department. It was founded in 1934. The teaching staff consists of one Deputy Registrar, Principal Co-operative Sub-Registrar, lecturers and two part-time Commercial Instructors. At present there are 140 Senior Inspectors-trainees undergoing training in the Central Co-operative Institute, Madras. They are given theoretical training for nine months which is followed by practical training for a period of three months in the districts. The subjects taught are co-operation, co-operative law, Auditing, Banking, Rural Economics and Book-keeping. During practical training they study the working of the various types of co-operative societies, their audit and supervision, etc. On completion of the training they are posted for regular duty. The Central Co-operative Institute conducts examinations in all the subjects twice a year in March and September which the officers of the Co-operative Department on probation are required to pass. Non-officials who are employed or who seek employment in Co-operative Institutions are also admitted to the Institute. The number of candidates so admitted is limited to 10 per session provided they have passed the intermediate examination of a recognised University and remit Rs. 70 for the entire course.

Apart from the training facilities available in the State the Reserve Bank of India, Bombay, has opened a Regional Co-operative Training Centre at Madras to impart training to the Intermediate personnel employed by the Co-operative Departments and Co-operative Institutions in the Southern Zone, which includes the States of Madras, Andhra, Kerala and Mysore. It imparts training to about 45 candidates every year. It conducts special short-term courses in co-operative marketing and in land mortgage banking for a period of four months. Departmental as well as non-official candidates are deputed for training in these courses. The extension officers for Co-operation are also sent in batches of 25 candidates for training in the Regional Training Centre for Block Level Co-operative Officer, Tirupathi which is run by the Reserve Bank of India, Bombay.

The existing arrangements for training of co-operative personnel both official and non-official are not adequate and steps are being taken to expand and improve the training facilities so as to meet the growing need for trained personnel arising from the recent expansion of the movement in the State and the several schemes for co-operative development included in the Second Five-Year Plan. The Central Co-operative Institute, Madras, has no building of its own. The trainees undergoing training in the Central Co-operative Institute, Madras, are put to much difficulty for want of hostel accommodations. Government have since approved the proposal of the Registrar for the construction of building and hostel for the Central Co-operative Institute, Madras, at an estimated cost of Rs. 3.75 lakhs. Shortly the institute will have a building and hostel for accommodating about 100 trainees. The Co-operative Training Institute at Tanjore and Coimbatore have also proposed to construct a hostel buildings providing accommodation for about 35 trainees and Government have agreed to provide 50 per cent of the cost of the hostel buildings as Government loan.

Besides the training of the staff of the Co-operative Department and the Co-operative Institutions attention is paid to the education of members and office-bearers of co-operative societies and to general co-operative propaganda. In order to train the Panchayatdars and members of co-operative societies a Five-Year Training Scheme was implemented with the grant given by the Government of India as early as 1935. In 1944, the scheme of training the Panchayatdars of Co-operative Societies was revived with the funds provided by the State Government. They were given training by the teaching staff employed in Co-operative Institutes during the vacation from April to June. The classes were conducted for a period of two years and were discontinued in 1947. The scheme could not be worked successfully mainly for the reasons that the number of days of training in a centre was fixed at 15 and the panchayatdars mostly agriculturists were not able to

attend the classes leaving their own work. The All-India Co-operative Union has now drawn up a scheme for the organisation of Co-operative education for the non-official personnel of the Co-operative movement, viz., members and potential members. Panchayatdars and office-bearers of co-operative societies for the country as a whole and the scheme is being implemented through the Madras State Co-operative Union in this State. During 1957-58 the scheme was implemented in Tirukkalikundram Block in the Chingleput district and Madurai Block in the Madurai district. For the year, 1958-59 the Tiruvallur Block in the Chingleput district and the Melur Block in the Madurai district are selected for implementing the scheme. According to the scheme the members are to be given training for three days, the panchayatdars for one week and the office-bearers for five to six weeks. The candidates attending the classes are paid a stipend of Re. 1 per head per diem. The services of one Co-operative Sub-Registrar and two Senior Inspectors are given to the union for the implementation of the scheme. The Co-operative Sub-Registrar is assisting the union at its headquarters and the two Senior Inspectors are conducting the classes in the district. During 1957-58, 5,682 members and prospective members 464 panchayatdars and 68 office-bearers received the training.

The Madras State Co-operative Union is the Central institution charged with the duty of carrying on co-operative propaganda in the State. It conducts the *Madras Journal of Co-operation*, a monthly journal devoted to the spread of co-operative knowledge, subsidises co-operative journals in various regional languages, runs a co-operative library, publishes propaganda literatures. The union is subsidised annually by the State Government and by the Madras State Co-operative Bank. It participates in the local exhibitions, conducts periodical conferences on a State basis and organises propaganda lectures. The magic lantern slides, films and posters of the union are in great demand in other States.

There are three Tamil journals, viz., *Kootturavoo*, published by the Tamilnad Co-operative Federation, Coimbatore. The *Madurai-Ramanathapuram Kutturavoo*, published by the Madurai District Co-operative Central Bank, Madurai and *Kutturavoo Thondu*, published by the Tanjore Co-operative Employees Association, Tanjore under the scheme for the training of non-official personnel of the Co-operative movement, pamphlets explaining the duties of members, panchayatdars and office-bearers and their role in the co-operative are also distributed during the classes. Seminars are also conducted where one or two office-bearers from each society and the supervisors of Central banks are invited for group discussion and the difficulties experienced in the development of the co-operative movement are discussed.

It is hoped that the arrangements made for co-operative education and propaganda in the State will be availed of by the co-operative institutions, co-operators and the general public so that the co-operative movement may render greater service to the cause of national development.



Srimathi Lourihammal Simon, Minister for Local Administration, presided over the Annual Day Celebration of the Adyar Ladies' Club.

SACRED SANGU FISHERIES



SRI V. D. SPURGEON, Deputy Director of Fisheries, Madras.

Most of you may be familiar with the Indian Conch-shell known as *Sangu* in Tamil and *Senkham* in Telugu, but not its fishery. *Sangu* is commonly used in religious ceremonies by a vast majority of people in our State. In Hindu mythology and ancient Tamil literature there are frequent references to *Sangu*. It is well known that *Sangu* is one of the two symbols piously associated by Hindus with Lord Vishnu. Pictures and idols representing this God show him always with *Sangu* in one hand and chakra or discus in the other. The "Parawas" of Tuticorin who are a sea-faring community have *Sangu* as a symbol in their flags. Travancore State coinage had the *Sangu* emblem on one side.

Valampuri.—A right-handed *Sangu* or *Valampuri* is held in great esteem among the masses. A *Valampuri* is believed to assure prosperity to its possessor and also to ensure safety from the adverse effects of "evil-eye" and witchcraft. Hence, *Valampuri* is in great demand and enquiries about it are addressed to the Fisheries Officer at Tuticorin. A good-sized and perfect *Valampuri* may fetch anything up to Rs. 1,500. This being the value of a single shell, many a legend has grown with time about its powers. Stories are not lacking to say that a man in the street turned a millionaire overnight by finding a *Valampuri* or an opulent person lost all his riches when his *Valampuri* passed away from his hands or great evil befell an unfortunate individual who dropped his *Valampuri* and broke its tip! Legend has it that a *Valampuri* originates from the Tirukkazhukundram fresh water tank once in 12 years when the tank water gets greatly agitated and heated.

The uses of Sangu.

Temples.—First of all, *Sangu* is used as a blowing wind instrument. Its use as trumpet is spread all over the country and there is hardly a temple in the country which does not use *Sangu* in its festivals and pujas. *Sangu* plays a prominent part for family deities. The long-drawn notes of *Sangu* as they are borne clear and mellow on the evening breeze, have a haunting charm that serve to announce the commencement of rites and to scare away evil spirits. The mendicants also blow *Sangu*. In small temples only *Edampuri Sangu* is used whereas in important pilgrim centres like Chidambaram, Rameshwaram, Madurai and Benaras, *Valampuri* conches are blown. This is considered an act of great merit and it costs much. This is a favourite even with the Lamas of Tibet.

Rites and ceremonies.—*Sangu* has some part to play in rites and ceremonies. In South India, it is blown in funeral rites. In Bengal, it is blown during marriages. In certain parts of Tamilnad, bits of *Sangu* are tied in the thali. Again, in Bengal nobody is considered to have been properly and legally married unless the bride wears several pairs of beautifully lacquered *Sangu* bangles. *Sangu* is also buried with the bodies of opulent and distinguished persons.

To ward off evil.—*Sangu* is used commonly as amulets to ward off "evil-eye" and possible misfortune. It is tied in the doorlintels, around the neck of cattle and hung round the neck of children. In Madras City, a *Sangu* hung round the neck of a cow or buffalo indicates that she is a milch cow. Pieces of *Sangu* tied tightly on the wrist with a black thread is considered an effective talisman. In the Gulf of Mannar region, *Sangu* rings are popularly worn as auspicious symbols. Women of South Arcot use necklaces of *Sangu* beads with similar belief. A *Sangu* is buried while laying the foundation stone for a house to ensure prosperity and good luck to the inhabitants. The "Parawas" of Tuticorin bury *Sangu* just near the door so that a person has to touch it before leaving the house, which guards him from misfortune.

Feeding spout.—All orthodox country folk believe in feeding the newborn with the help of polished *Sangu* spout.

Lime.—*Sangu* when calcined yields the best lime for whitewashing and polishing. The auspicious nature of the shell enhances the demand for *Sangu* lime, especially for whitewashing newly built houses and temples.

Incense sticks.—*Sangu* has a horny lid to cover its mouth opening. This lid is called the *operculum*. This is dried and powdered and soaked in water and used as an adhesive to bind together fragrant material used for coating incense sticks.

Food.—Inside the shell lives a soft animal. This is pulled out, boiled and sliced and sold as "*Sangu sathai*" (*Sangu* meat). About 40,000 lb. of raw meat is thus realized for food in a year.

The divers, after the day's fishing is over, on their run towards shore usefully engage themselves in extracting the *Sangu* flesh from within the hard specially twisted shells with the help of an iron hook. Flesh thus extracted are put in palmyra baskets and handed over

to their housewives who know the art of preparing them for curry. The meat is well-boiled and then cut into thin slices and sun-dried. After complete drying, the product emerges out as crisp chips similar to potato chips in appearance. It is good eating if fried with 'masala' paste in ghee or curried with vegetables. The stuff was retailed at 12 annas per Madras measure and it is Rs. 1-4-0 per measure now. Fisherwomen put them in coloured and fancy palmyra leaf baskets and hawk them along the streets. It is greatly relished by fishermen only, but others, out of curiosity, purchase small quantities now and then and try to cultivate a taste for it.

Jewellery.—*Sangu* is used in jewellery. It is this utility that outbeats all others described so far in the preceding paragraphs. Have you ever seen a well polished large *Sangu*? It is so milky white, bright, shining and will easily match with genuine ivory. Further, a national custom rigorously binds the women-folk of Bengal to wear several pairs of *Sangu* bangles beautifully lacquered red.

Tuticorin Fishery.

Sangu fishery is a Crown monopoly. By that, it is meant that *Sangu* shells are the property of Madras Government and no one can remove them from the deep-sea or pick them when washed ashore or carry away if caught in fishing nets. They should be surrendered to the nearest fisheries officers.

Within Madras State, *Sangu* fisheries are off Tuticorin, Kilakarai, Mandapam, Rameshwaram, Pamban, Nambuthalai, Mullimunai, Tondi, Sethubavachatram, Adirampatnam, etc. Among all these, the only large-scale well-organized and scientifically run *Sangu* fishery is that of Tuticorin.

A risky job.

Sangu fishing is an arduous and risky job. To hold one's breath and to quickly descend down a depth of 11 fathoms (66 feet) and to crawl on the seed-bed, to spot *Sangu* by mere sight, to collect them one from here and another from there, to store them in a net-bag tied to the waist and then to rise up to the surface all the time holding the breath—is no easy joke. Besides, mind you, the huge column of water above you will be exerting a terrific pressure on your body. You will be interested to know that the pressure on the sea surface is 15 lb. per square inch of your body and this increases by 15 lb. more for every 10 metres depth. It is because of this beginners in diving bleed through the nose and ears. Further the diver has to keep a vigilant watch all round to escape man-eating sharks that might lurk among seaweeds in the immediate vicinity. All these must be precisely performed within 1½ minutes.

If by wrong judgment a diver overstays, he collapses at the bottom. Such expert *Sangu* divers are called 'Kuzhial' in Tamil; usually a 'Kuzhial' is a robust person, with broad shoulders and dark complexion. Because of the great risk involved in this profession, old divers are not willing to train their sons in this. As a result, the divers' population dwindled to an alarming extent. On account of handsome wages and greater accommodation, ration and medical facilities introduced

in the 1947-48 fishing season, there was a great influx of divers from all parts of the East Coast and since then we have on an average 340 divers working in the fishery.

Daily routine.

By daybreak, all divers assemble in cheerful mood after having a hot meal and before 7 a.m. they set sail. Usually a morning land breeze carries the canoes at three to five knots speed towards the fishing spot. When there is no wind, the Fisheries department arranges a free and quicker towage through the departmental motor launches maintained for the purpose.

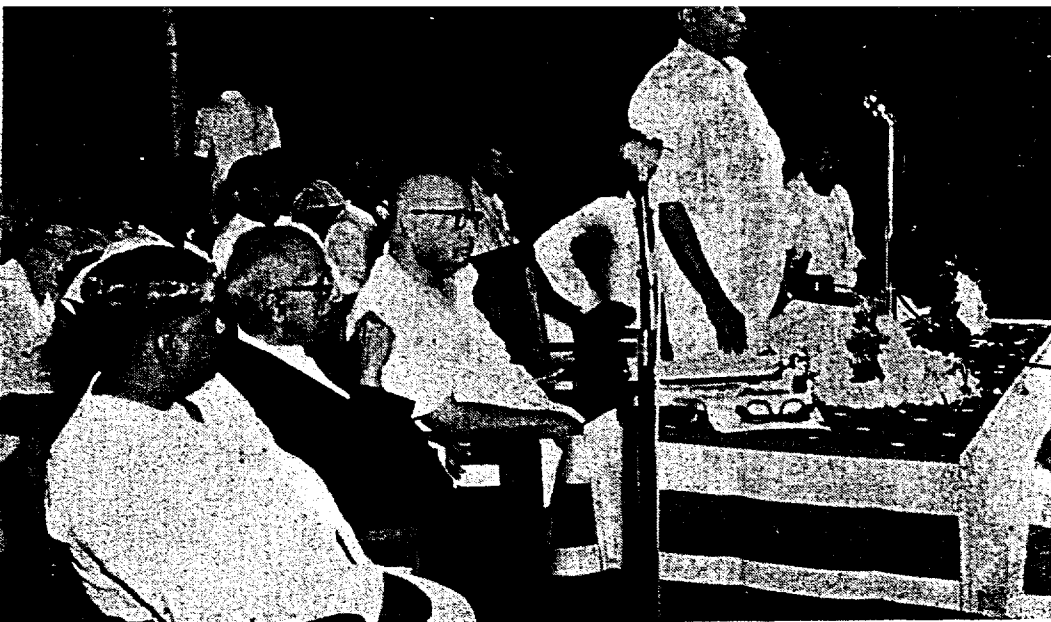
To know the direction in the high seas when the landmarks are totally out of sight and to reach a particular spot where *Sangu* are plenty is not an easy job. Good deal of nautical and navigation knowledge is essential. The diver who is illiterate has his own rule of the thumb method in locating fishing grounds. One would be surprised to see a diver reaching the same spot hits away from the coast without the aid of charts and instruments. Such an expert is locally known as 'Paramandadi'. He is paid daily wages by the Government to guide the fishing fleet to different regions. 'Paramandadi' sails ahead of other canoes and stops at a place suitable for diving. The *Sangu* grounds are marked by means of red flags tied to long bamboo poles to help in easily reaching the next day even without the help of 'Paramandadi'.

Naked diving.

Divers reach the fishing spot by 10 a.m. Majority of the divers are Catholic Christians; they offer a word of prayer before exposing themselves to heavy natural odds for the day. A diver strips himself of all clothes but for the tight loin cloth and fastens a net-bag to his waist to keep shells while crawling at the bottom.

He thus jumps into the sea and keeps clinging to the canoe till the thodai lets out a long rope with a stone sinker tied to it. The diver slips one foot into the loose knot near the stone sinker and leaves the boat and descends quickly being pulled down by the heavy stone-sinker. On reaching the bottom, the diver quits the stone which is at once hauled up by the thodai for use by another. The diver briskly crawls about straining his eye in the dim light at 60 feet depth in search of brown lumps denoting shells. While a diver is thus under water, his fellow divers keep a watch to see whether he is back on the surface in time. Usually before 90 seconds he can be seen rising to the surface a little away from the canoe. It is amusing for onlookers from a boat to see how a diver looks like from about 10 feet depth. He appears just as a dark spot in the blue water and after a few seconds he looks roundish with short stumpy limbs like a turtle and quickly floats on the top like a manikin (because of refraction phenomenon).

He delivers his catches to the thodai and takes rest for some time by clinging to the side of his canoe. Diving is thus repeated by all the 340 divers which mean that they literally comb the sea bottom for shells. Among the Travancore Malayalee divers, Mohammadan divers from Ramanathapuram and divers from Arabia, the local 'Parawa' Christian divers are the best.



Handloom week was celebrated in Madras in the second week of February. The Chief Minister, Sri K. Kamaraj presided over the celebrations on 8th February 1959 (left).

The Chief Minister at the Handlooms Exhibition (below).



HANDLOOM WEEK IN THE CITY



The Governor at the Exhibition on 15th February 1959.

Prizes were distributed to the best designs and productions in Handlooms. The Minister for Industries is inspecting a cloth entered for the competition.



Sri Lal Bahadur Shastri, Union Minister for Industries, visited the Handlooms Exhibition on 14th February 1959.



A Producer of a prize winning cloth receives the prize from the Minister for Industries.

Sheep Breeding Research Station, Chinnasalem

DR. D. PATTABIRAMAN, GMVC., AIDL., Director of Animal Husbandry, Madras.

Sheep Farm is located at Chinnasalem, 6 miles from the village of Chinnasalem on the Salem-Cuddalore main road. The farm extends over an area of 1,501.14 acres of land of which 886.88 acres of land are in Salem district and the remaining 614.26 acres are in South Arcot district. The breeding of black woolly sheep has been prevalent in this area for some-time past but due to lack of knowledge of modern methods of sheep husbandry there has been a deterioration both in the quality and quantity of wool obtained. It was therefore considered necessary to improve this black woolly variety of sheep in the area where manufacturing rough cumblies as a cottage industry is a source of income for the shepherds. The main object of this farm is therefore to improve the quality and quantity of wool from the sheep that exist at present in and around the area and also to educate the sheep-breeders of the locality in the modern methods of sheep husbandry.

As all the lands comprising the farm remained dry, waste and uncultivated for a long period of years it was not surprising that the entire area presented an appearance of desert at the time of taking over. Considerable precautionary measures were therefore necessary before resorting to large-scale cultivation of fodder grasses. As a preliminary to the commencement of agricultural operations specimens of all available grasses in the area were collected and subjected to

identification by the Systematic Botanist, Agricultural College, Coimbatore. Some representative soil samples were also collected and analysed. An analysis of the local grasses has revealed that awns are produced at maturity and that they cause much damage to the sheep especially affecting the eyes. It has therefore been decided to eradicate all the local grasses completely and replace thereby nutritive and harmless grasses such as Kolukattai, Blu Baffal, Love grass, etc. With this object in view an experimental plot of land has been carved out in the area and the cultivation of Kolukattai and the Blu Baffal has been commenced. The results are very encouraging and are bound to prove fruitful. Besides the above an area of 80.23 acres has been brought under cultivation under rainfed conditions. Maize, fodder cholam and horsegram have been raised in the area. Unfortunately there is not a single good well in the entire area to meet the requirements of water-supply for the livestock. An old well has been further deepened and it is being used now for irrigating the experimental plot of land for growing different types of grasses. With the availability of an engine and a pump-set and by renovating two other wells in the area it is hoped to bring a large area under cultivation so that the farm can be made self-sufficient as far as the fodder requirements are concerned.

Since there were no trees in the whole area efforts are being made to plant avenue and fodder trees on



The foundation stone for a bridge at Kottur in the City was laid by the Chief Minister.
The photo on left shows the site for the bridge.

both sides of the newly formed road and so far about 5,000 trees have been planted. Internal roads to a length of about three miles have been formed.

The length of the farm boundary is about ten miles and live fencing on the raised bunds with Kalli and Killuvai plants have been introduced to an extent of 3,200 metres. In addition Prosopis Juliflora has also been introduced in the area as live fence. The lie of the land in the farm is very undulating and even the little rains that are received are drained off causing considerable soil erosion. In order to prevent soil erosion and to conserve soil mixture gully ploughing, contour trenching and bunding have been taken up. At present ten big deep gullies have been plugged up, contour trenches to a length of 488 metres have been dug up and contour bunds to a length of 1,334 metres have been raised. There were no buildings whatsoever in the area at the time of taking over. The farm is situated in the driest part of the district. To tide over the consequent extreme heat four temporary sheds have been constructed to house the sheep at present. Plans and estimates for the construction of pucca buildings has been drawn up and the construction work is in progress.

Livestock.

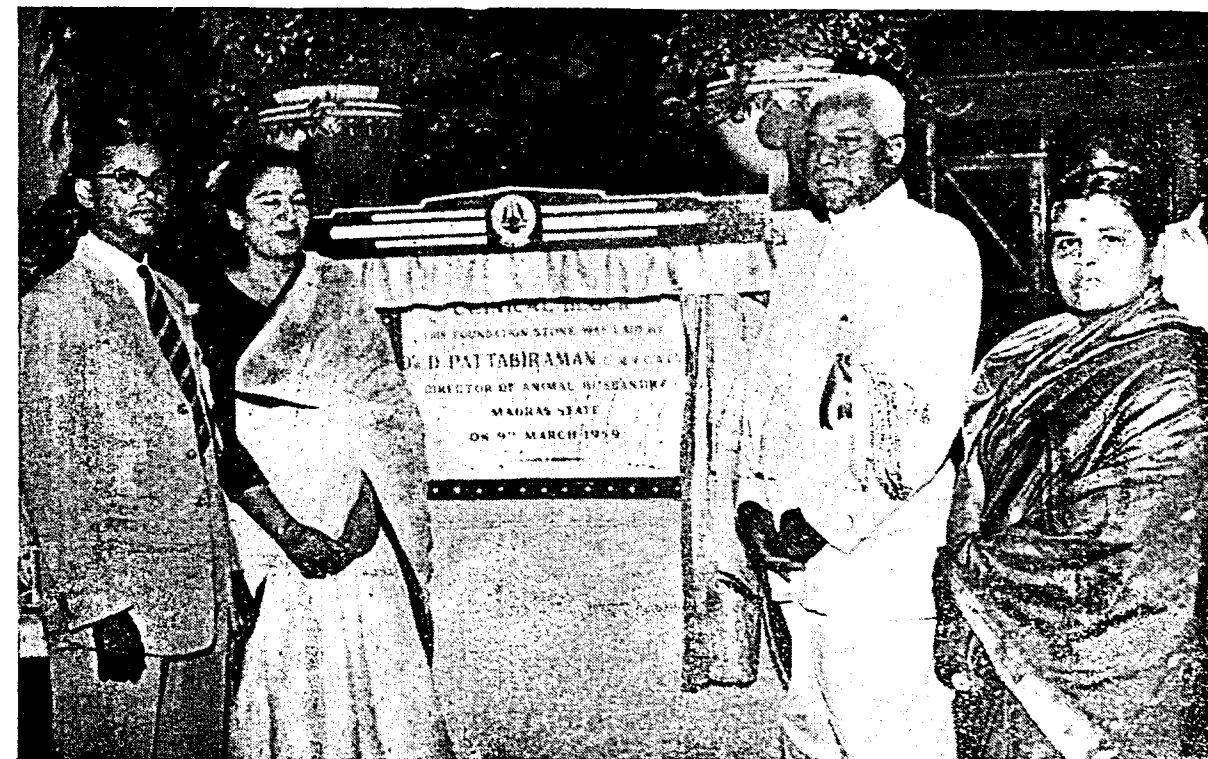
Since the Sheep Breeding Research Station, Chinnasalem, is in the centre of the black woolly sheep breeding

area of South Arcot, Salem and Tiruchirappalli districts, 255 ewes from the above districts have been purchased as foundation stock, mainly to study the behaviour and adaptability of different strains of black woolly sheep from different breeding tracts stationed at this farm. In addition for grading work 4 Bikaner rams from the Livestock Research Station, Hosur, have also been introduced for mating the ewes. There are at present 79 graded lambs consisting of 31 ram lambs and 45 ewe lambs at the farm in addition to the foundation stock.

At present the local sheep get only grazing in the farm area. Concentrates are supplied only to the Bikaner rams. The concentrates consist of rice bran and groundnut cake. Sterilized bonemeal and common salt are also given as a supplement.

A few young and literate workers in and around the area are being picked out and trained in dosing, working, shearing and cleansing of wool and sent out as flockmen to other areas. The shepherds from the surrounding villages frequent the farm and obtain information regarding sheep husbandry and fodder production. The creation of this farm has undoubtedly whipped up the enthusiasm of the shepherds in the area and it is hoped that before long the farm will become the nucleus for breeding an excellent quality of black woolly type of sheep.

This farm was inaugurated by Sri M. Bhaktavatsalam, Minister for Agriculture on 11th November 1958.



The foundation stone for the Clinical Block of the Madras Veterinary College was laid by the Director of Animal Husbandry, Dr. D. Pattabiraman on 9th March 1959.

Arabian divers speak a funny Tamil and use a nose-clip to prevent entry of sea water into their nostrils while working under water.

Accidents do sometimes occur.

Sharks create a scare now and then. A death due to shark bite creates such a panic among divers that they suspend the fishery indefinitely. A series of masses in local churches, pujas in temples and prayers in mosques alone can win the divers back to work.

Accidents spread gloom over the divers' camp and the officer has to quickly arrange for funeral expenses and adequate cash compensation for the families. There is a single instance in which what ought to have been a great calamity was averted by the nerve and heroism of the diver concerned. He is the leader of the divers. He was caught unawareness by a monster shark at the sea bottom. He fought it with all his might and dragged it to the surface and swooned. His fellow divers rushed him to the hospital. Timely treatment saved his life. He feels proud to-day to show the 18-inch long and half inch deep scar on his back to visitors. He is the best among the 340 divers and in 1948 he was paid Rs. 93-8-0 for a single day's catch.

Carving industry.

A well-established cottage industry exists in Bengal in cutting, carving and lacquering Sangu ornaments. Sangu is first of all polished, using acids. It then presents a shining appearance. Jewellery made out of it will appear at first sight as genuine ivory products.

Bangles, rings, beads, pendants, buttons, ear-drops, religious emblems and a score of other dainty articles are made out of Sangu. Skilful lacquering enhances the charm of these ornaments and they are popular in Bengal, Bihar, Orissa and South Madras.

A shell is prepared (for cutting bangles) first by removing the columella so that sawing may be easy. The septa are then shattered. The shell is now open from end to end. The cutter then drives two short stakes of unequal length into the ground, leans against the longer stake and presses his toes against the opposite smaller stake and keeps his knees apart and grips the shell between his feet and carves out dexterously bangle after bangle. The carving saw he uses is a deep crescentic clumsy iron blade carrying many serrations. This blade has to be sharpened off and on. A good workman cuts out 100 bangles a day. Further chiselling, drilling, polishing and lacquering follow to make the bangles really beautiful. For lacquering, crystals of Cinnabar are ground to powder and mixed with shellac.

Sangu bangles are becoming increasingly popular in Bengal and elsewhere, mostly because of Indian tradition and culture. Of late, brooches, tie-pins, hat pins, buttons, images of Gods, religious symbols and national emblems manufactured out of Sangu are becoming popular. Huge Sangu polished well with different designs carved out on the surface and coloured red, blue and green are the best paper weights and curios I have ever seen.

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A Soviet goodwill delegation led by M. A. A. Andryev, Member of the Supreme Soviet Presidium, visited Madras State in the month of February.

In this photo the leader is seen with the Chief Minister of Madras who welcomed him on his arrival at the airport.

SOVIET GOODWILL DELEGATION



Greeting the Citizens of Madras at the Citizens reception at the Rajaratnam Stadium.



M. Andreyev being greeted by Chief Secretary to the Government of Madras, Sri. W. R. S. thianadhan.

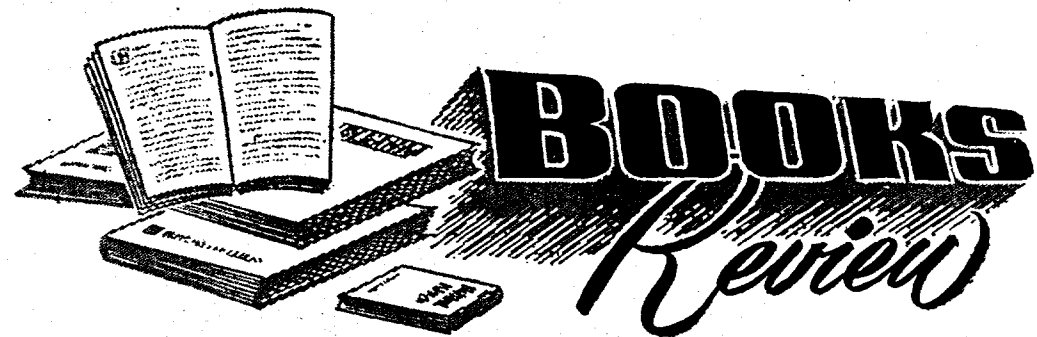
Tanjore Plate and bowl and a Pathamadai mat were presented to the delegation by Mrs. Medhi.



The delegation at the Integral Coxe's Factory.



With Kumari Padmini Priyadarsini who gave a performance of Barathanatyam.



JOURNAL OF THE TANJORE SARASWATHI MAHAL LIBRARY.

In the course of the dozen articles published in this issue of the Journal which will be of equal interest to both the scholar and the aspirant for knowledge, there is food for thought and intellect. The choice of the languages and the subjects of these articles are again such as to cater to a variety of tastes. There are articles in English, Tamil, Sanskrit, Marathi and Hindi, and they are on, from music to philosophy and theology—from Fundamental Science to subjects of applied science and Literature and Grammar. (It is important for the reader to remember here that Grammar exists as a separate subject only in Tamil as Ilakkanam and in Sanskrit as Vyaakaranam—just like any other subject as Physics or Chemistry—Mathematics, History or Geography and distinct from literature—Ilakkiyam or Saahithya.)

Five of the articles, as the Editor has correctly assessed are sure to be of special interest for the research scholars. Of the rest, three are the continuation of old articles as serials and two are new serials begun.

Among the first category of articles the first one is on Music and is titled as "What is a Raaga?" Unfortunately this question is not answered. It is a surprise to note the author conveying to us (in effect) that the question cannot be answered or even offer a definition on what a Raaga is, when he says that "It is indeed a paradox that an Indian who understands full well the concept of Raaga . . . finds himself at sea when he begins to explain what a Raaga is . . .", etc. I call it a surprise because such an admission as quoted above comes from a quarter claimed as the cradle of Carnatic music.

However, here is a definition of a Raaga—and it is also an answer to the question that the title of the article has posed.

"A Raaga is a pattern of sound, scientifically designed and produced so as to bring on the desired effect on the being and the becoming." This explains briefly but fully not only what a Raaga is but also what its purpose is. I hope it will be accepted by the author and the readers.

Sound is the object of the sense of organ to hear. (Hearing with attention and concentration is listening.) Thus, sound can be broadly classified as Savarna and Nirvarna. The Savarna sound conveys a meaning as the words of a language, etc., that one speaks, and will have

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an effect, understanding or reaction on the part of the hearers. The Nirvarna sound is different from this.

But a Raaga—a pattern of sound—belongs to both the categories. It does not conform to the vocabulary of any one language and so it may be understood as a Nirvarna type of sound. And yet, it does produce an effect—an understanding and a reaction on the part of all beings (hearers and listeners alike) man or animal, beast or bird or reptile; and even on the plant life. We are told also of such events as even rocks reacting to Raaga and melting. This is because of the ebb and flow notes of a Raaga—the notes that make the otherwise Nirvarna sound as a Savarna sound in effect. Therefore the pattern of sound of a Raaga is both a Nirvarna-cum-Savarna in one—and we may call it as Ubhayavarna. So far on the fundamental side of the science of music—with reference to a Raaga.

Having regard to the definition of a Raaga given above and with the understanding that it is a Ubhayavarna pattern of sound, one will have to but agree that a proper Raagam will have to be chosen for obtaining the proper and the desired effect on the part of the listeners, whether the being or the becoming.

There will, therefore, be a good deal of technique in the selection of a Raaga for reciting a piece of sahitya such as a verse, stanza or keerthana. In the choice of the various Raagas to the Raagamalika, that the professional sangeetha vidwans sing, this importance relating to the selection of the right Raaga for effectively conveying the text and the spirit of the piece recited or sung is more often forgotten than remembered.

Tracing the history of music from its origin—the seekshaa of the Sama Veda by Narada and its development since then, right down to this day, the author has provided very valuable and detailed information on the intricacies of music and in particular a Raaga.

If the article on "What is a Raaga?" is studied—not read—well-understood and the cud is chewed so that the subject-matter is well-digested and assimilated, it will not be difficult for one to choose the right Raaga for the right purpose.

The second article "Cartesianism and Saankhya Dualism" is another article and is rather a heavy food for thought. The analysis and comparison of the two systems of thought are done ably.

If Saankhyam is understood as Gnanam or knowledge—as Bhagavat Gita has it, and the purpose of the Saankhya system of thought is appreciated as one calculated to impress the fact that Prakrithi the premordial nature is different from Purusha the self and that the changes occurring in Prakrithi ought not to be mistaken as those relating to Purusha, it will not be difficult to follow either the analysis or the comparison between the two systems of thought done so very ably and well.

The article on Ramayana furnishes rich authorities to justify the epic being known as "Saranagathi Saasthram".

Veda Vignanam—the article in Tamil is a thought-provoking one that merits deep consideration and belongs to the section of Fundamental Sciences.

The article on 'Kaikkuththalarisi' in Tamil (hand-pounded rice) is one on the side of applied science. The author tries to convey that the special food value of hand-pounded rice was known to our ancestors and that it can be understood from the mentions made of it in the Vedas. It may also appear as stretching the analogy a little too much.

Dhanvanthari Vaidyam is another article in Tamil on medicine. In this, a rare manuscript in Tamil verse, the diagnosis and treatment of all diseases is published. That the author Dr. S. Venkatarajan has published several such works already is a well-known fact. In this article the author adds his notes and commentary in prose to the text in verse.

The term Nadi is used rather in a variety of senses and is therefore causing a little confusion as also the enumeration and classification of the 72,000 nerves in the body. If the author had but added some sort of a preliminary explanation on these points furnishing a correlation with modern science to the extent possible, the work will have obtained a better value.

The journal does deserve a prominent place in every library and in the shelf of every student of Indian culture and civilization.

M. V. R.

SARABENDRA VAIDYA MURAIGAL—(TAMIL)*

This is a collection of nearly 400 recipes tested and recorded as efficacious by Raja Sarafoji of Tanjore.

Among these tested recipes, there are some recipes of purgatives and the others are for curing diarrhoea, dysentery, sprew and even cases of (clinical) cholera.

One very interesting feature is that, as per the records available, every one of these recipes was tried on sufficient number of cases and the values verified and assessed before the same was accepted. Then at the instance of Raja Sarafoji these recipes were rendered into verses in Tamil and then recorded. This is for the information of those who talk of the need for research on Indian Medicine to be yet done.

At the end of several of these recipes, it is mentioned (as the burden of a song)—"This is one tested and found efficacious by the Raja Sarafoji and given to us". The Editor Dr. S. Venkatarajan, has brought out in print several similar works from the valuable treasures of the Tanjore Saraswathi Mahal (Manuscript) Library. His preface adds much value to the work inasmuch as it furnishes an explanatory note on the place that purgatives have among the Pancha Karmas; and the etiology, the symptoms, the varieties and the prognosis of diarrhoea, sprew and cholera. In this, he has also presented the views of ayurvedic works in Sanskrit on the subject and those of the Siddha works in Tamil, thus bringing on a happy integration of the two popular schools of Indian medicine in South India. He deserves to be congratulated heartily on this. The book is one that unquestionably deserves a prominent place in the library of every physician and every student of medicine. There is the need for the help of a glossary for understanding in other languages the Tamil names of the drugs and plants given in this book. If the Editor will carry this out in his next work, or the next edition of this work, there will be nothing more to be desired by aspirants.

M. V. RAMANUJAM.

*Saraswathi Mahal Publication No. 84. Edited by Dr. S. Venkatarajan, L.T.M., (Regd.) Ayurveda Pandit, Saraswathi Mahal. Published on behalf of the Administrative Committee, Saraswathi Mahal, Tanjore, by Sri S. Gopalan, B.A., B.L., Priced Rs. 5.

ERRATA.

In the January 1959 issue of Madras Information, a few errors have crept in the article "Know Your district—Tirunelveli". They may be kindly corrected with the help of the errata sheet below:—

Page.	Column.	Line.	For.	Correct as follows.
2	1	4	district	districts.
2	1	5	in the United States of Travancore and Cochin.	Delete the line.
4	2	26 and 27	A scheme under investigation	A dam has been constructed across Manimuthar, a tributary of the river Tambaraparani.
5	1	8 to 11	The particulars district.	Delete the lines.
5	1	45	1957	1951
6	2	22 to 26	Cottage, small scale Annexure IV	Delete the lines.

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Arrival on 31st January 1959.

H.R.H. THE DUKE OF EDINBURGH IN THE CITY

At Mahabalipuram.



Being garlanded by the Governor.



Enthusiastic crowds greet the Duke on his arrival.

I. R. H. Prince Philip, the Duke of Edinburgh was in the City on a two-day visit towards the end of January 1959. During his stay in the City, he visited the Central Leather Research Institute, the Integral Coach Factory and Mahabalipuram.



Inspecting a finished coach at the Integral Coach Factory.



Greeting the Chief Secretary, Sri W. R. S. Sathianathan.

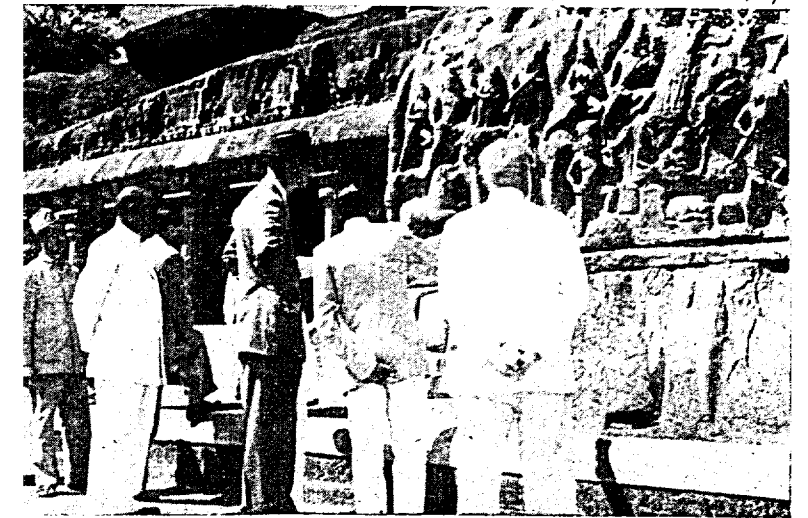


At the Leather Research Institute.



Sharing a joke with the Governor and the Minister for Finance.

At Mahabalipuram.



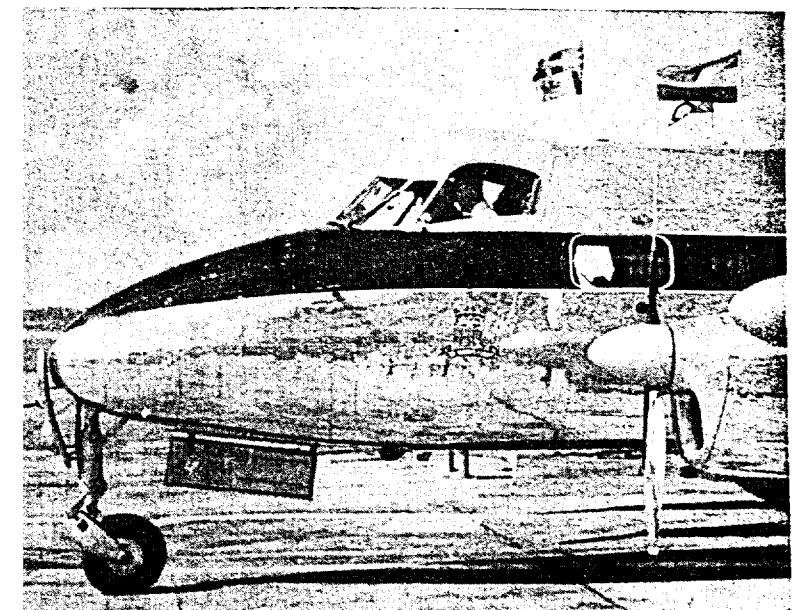
Srimathi Medhi presenting Tanjore Plate to the Duke after the banquet.

Taking leave of the British community in the City.



With Kumari Kamala who gave a performance of Bharathanatya after the State Banquet.

Off to Bangalore.



The Gramasevak

SRI LAKSHMIRATHAN BARATHI, Assistant Development Commissioner.

The Gramasevak has emerged as the latest functionary in the field of rural services. Though the last in the heirarchy of development services of a Welfare State, he like his counterparts in the revenue services of the regulatory State, viz., the village headman and the Accountant, is neither a mere link nor the least important. He is a Suigeneris (unique) and promises to be as lasting and growing in numbers as they are.

India's teaming millions living in over five lakhs of villages needed to be awakened from their age long slumber and stirred into scientific ways of thinking and action. Resigned to their fates they were slaves to the traditional modes of cultivation and subjected to unemployment and underemployment. Ignorance, starvation and disease stalked the country side. To rouse them to some acts of self-effort, self-help and self-confidence and make them earn even a few cents more, would herald a new revolution. Mahatma Gandhi saw all this and responded to the facts of the situation. History made him as much as he made history. His clarion call raised bands of volunteers for village service. Frequent clashes and encounters with an all-powerful alien bureaucracy added pep and adventure to his constructive items of programme through which fresh life was breathed into a dead people and a will to do, sacrifice and even die, began to seize the newly awakened aspirations of a reborn people and the gradual manifestation of such a "Common Will" testified and revealed to the master of the natural blooming of a "National Will". Such an ultimate National Will can alone lead to an establishment of lasting political States both Federal and Regional and formation of Stable Governments.

Ladies' Day was observed during the Handloom Week in February and Srimathi Sakuntala Subramaniam, Srimathi Soundaram Kailasam and Srimathi M. N. Rajam participated in the day's functions.



No wonder he was hailed as the Father of the New Indian Nation. To him at any rate, it was as certain as certainty could be that the State should be born and sustained only by such a "National Will", growing out of the seeds of democracy he has sown.

Though the events in India took a different turn, the Congress Governments became aware that without owning and adopting the work of the Master they had no fair chance of survival. In September 1946, Madras State led by Andhrakesari Shri Prakasam took up directly Khadi and Village Industries, removal of untouchability and rural reconstruction under the aegis of Firka Development Scheme with a lump-sum allotment of Rs. 4 crores. But the new wine had to be put in old bottle. It was left to the genius of the Steel Frame and especially to Sri M. S. Randhawa, I.C.S., to devise a suitable machinery and service for integrated rural development. That was adopted to the needs of the situation here and a revenue firka with a population of over thirty thousands was to be a unit and to be manned by a team consisting of a Firka Development Officer and Village Development Officers.

Meanwhile political power came too soon bringing with it partition and communal fury. Mahatma Gandhi did not hesitate on the eve of his assassination to advise the transformation of the Congress into the Lok Sevak Sangh and the thousands of volunteers into Lok Sevaks. On 27th January 1948 he left as it were, his last testament and a description of a Lok Sevak and his functions as follows :—

- (i) Every worker shall be a habitual weaver of Khadi and must be a teetotaler. If a Hindu, must have abjured untouchability in any shape or form; and must be a believer of the ideal of intercommunal unity, equal respect and regard for all religions, and equality of opportunity and status for all, irrespective of caste, creed or sex.
- (ii) He shall come in personal contact with every villager within his jurisdiction.
- (iii) He shall enrol and train workers from amongst the villagers and keep a register of all these.
- (iv) He shall keep a record of his work from day-to-day.
- (v) He shall organize the villages, so as to make them self-contained and self-supporting through their agriculture and handicrafts.
- (vi) He shall educate villagers in sanitation and hygiene and take all measures for prevention of ill-health and disease among them.
- (vii) He shall organize the education of the village folk from birth along the lines of Nayee Talim in accordance with the policy laid down by Hindustani Talimi Sang.

(viii) He shall see that these, whose names are missing on the Statutory Voters roll are duly entered therein.

(ix) He shall encourage those who have not yet acquired the legal qualification to acquire it for getting the right of franchise.

(x) For the above purposes and others to be added from time to time, he shall train and fit himself in accordance with the rules laid down by the Sang for the due performance of duty.

This Lok Sevak was the pre-cursor of the Grama Sevak.

Later on in consonance with the true spirit, functions and objectives of the Firka Development Scheme, the name of the Village Development Officer gave place to the name of "Grama Sevak". He was really the Lok Sevak described earlier, working on his own merits as a people's man. Many of the suitable constructive workers in the field were roped in and given training. Though the scheme was exposed to lot of criticism, its appeal was so dynamic that it had to be continuously extended to contiguous firkas to meet the popular demand.

Meanwhile this and similar other attempts of rural reconstruction elsewhere, along with the urgent demand for increased production of food crops, led to the inauguration of Community Projects in October 1952. The Project Executive Officers became the co-ordinator at Project Level. The village level worker a multi-purpose all-rounder became the pillar of the Community Projects Administration and was the chosen Government representative of all the development departments at village level.

The very next year in October 1953 as a result of the assessment of the grow more food campaigns, the findings of a high-power committee, paved the way for

the adoption of the Community Development as a method, and the setting up of the permanent agency of Extension Service on a national scale. The whole country was to become a network of blocks of about 66,000 population each, for all development purposes with a team of Extension Workers comprising of a Block Development Officer, Extension Officers representing the several technical departments and ten village level workers. The village level worker thereby became the foundation of this permanent set up and was relied on to bring about close people's participation for all planned development efforts.

In Madras State it was decided there was no more necessity to keep the Firka Development and Community Development services separate and they were merged into the National Extension Service from October 1953 and the village level worker became the Grama Sevak once for all. The Grama Sevak became the common appellation throughout India and the Gramasevikas also joined them on the Home Front.

The Grama Sevak is rightly assessed as the pillar of the National Extension Service and as such is responsible for the success or failure of the scheme. The Community Development Programme and the Extension Services are kept under the searchlight of observation and criticism. The Project Evaluation Organization, the stream of American visitors and experts, the Legislatures, Expert Committees specially set up, the Committee on Plan Projects and the vigilant press besides the numerous conferences and seminars at various levels, continually subject the Grama Sevak to a critical assessment and valuation. A review and re-statement of his duties and functions are frequently made.

Sooner than later it was realized that a National Programme can thrive only as a movement of the people, the urge, initiative and responsibility for making the



This sculpture by Sri D. P. Roy Choudhury, which now adorns the Marina, was unveiled by the Governor, Sri Bishnuram Medhi, on 25th January 1959.

social and economical revolution coming from them. The concept thus once again veered round to a peoples movement and the Grama Sevak being merely the catalytic agency initiating the process of social and economical changes through the method of Community Development. The principle of democratic decentralization had, therefore, to be affirmed and approved. The popular bodies like the panchayats and the panchayat unions are to take over the entire Community Development work in each block and this new service is to work under their charge and responsibility. The position of the Grama Sevak will have to be again reoriented vis-a-vis the panchayats in his jurisdiction and the panchayat union of his block. However he is made conscious once again of his being fundamentally an agent of the people's representative body.

While the Prime Minister attaches the greatest significance and importance to Community Development Programme, critics are not wanting even to-day who would go to the extreme length of scraping it as it is in their opinion a meaningless waste of human energy and financial resources.

The name "Sevakan" in Tamil literally mean one with a heart or spirit for meritorious service and conjures before our mind the line in the old story of the Anklet Silappadikaram "சேவகன் சர்க்களாத செவி என்ன செவியோ" and the song of the recent poet Bharathi, both glorifying the merits of Kannan as servant.

The objectives both long range and immediate are enunciated, programmes and plans are laid down. His duties and functions, their content and meaning are all well defined. The methods and techniques are taught. He is fully subject to strict discipline. He is expected to attain the proficiency of a model farmer and an exemplary citizen. He is constantly to be conscious of his role as an "Extension Worker". While all this may give him a clear picture of his role and may make his task definite and easy, he may not stop with this. His is a mission that cannot rest on its oars in the mere fulfilment of all these, but one, that has further to transcend all these, in furthering a movement and in initiating a process of transformation of the social and economic life of the villages. But what those social and economic changes are, and how the people are to transform themselves, are not easily defined and dictated to by others outside. The Grama Sevak will have to identify himself with the people and begin to think and act vigorously along with them in a scientific manner and be a part in the bloodless revolution that has to come about.

Will the Grama Sevak be fired with this mission and scientific zeal? If so, the degree and extent of his success in this mission will ultimately be the touchstone of the due fulfilment of his role as a Grama Sevak and if he is successful, he ensures a permanent and lasting place for himself and his service. Then the view expressed by Mr. Arthur Raper, Consultant, Community Development Division of the United States Government that the creation of the Grama Sevak will go down in history as one of the greatest social inventions of the present era will become true.

Ponnadai for the Queen

An exquisite Khadi shawl woven with hand-reeled silk yarn and lace threads was sent as the Madras State Government's present to Queen Elizabeth, through the Duke of Edinburgh when he visited Madras on 31st January last. The shawl was handed over to the Duke by the Governor of Madras at a function arranged in honour of the visiting Prince at Raj Bhavan at Guindy, Madras.

The shawl, which has the figure of Ashok Chakra on its borders and a beautifully worked out creeper and flower design on its body, was woven on the handloom by a weaver of Tirubhuvanam near Kumbakonam. This weaver comes of a family of weavers who have, for generations, been weaving such brocades with intricate designs. It takes fifteen to twenty days to weave a shawl of this type and the process of weaving, from the preparation of the harness to the elaborate, intricate and painstaking job of translating the design on the cloth calls forth great skill and patience. To make this shawl 3 yards in length and 54 inches in breadth, it requires 6.5 tolas of silk and 34.13 tolas of lace. The weight of this shawl is 41.2 tolas.

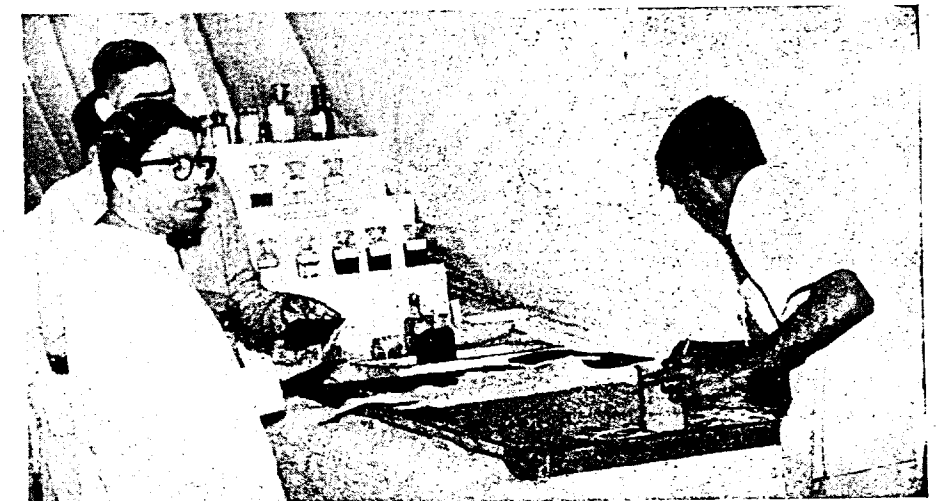
It is the time-honoured custom in Tamil Nad to present such shawls (called "Ponnadai" in Tamil meaning cloth of gold) to distinguished persons. The shawls are worn by the recipients on ceremonial occasions. If the recipients are ladies, the shawl could be used as a stole or a wrap or for regal purposes; it may serve as a train also.



The Governor Sri Bishnuram Medhi presided over the Annual Day Celebration of Sir Thyagaraya College, Washermanpet and gave away the prizes.



The Governor at the C.L.R.I. is seen viewing with interest some of the articles produced out of Leather.



The Minister for Finance visited the C.L.R.I. and is seen interested in a process of Finishing leather.

The Chief Minister addressed a meeting of the Hides and Skins Merchants Assn. at the C.L.R.I.



18)

THE
CENTRAL
LEATHER
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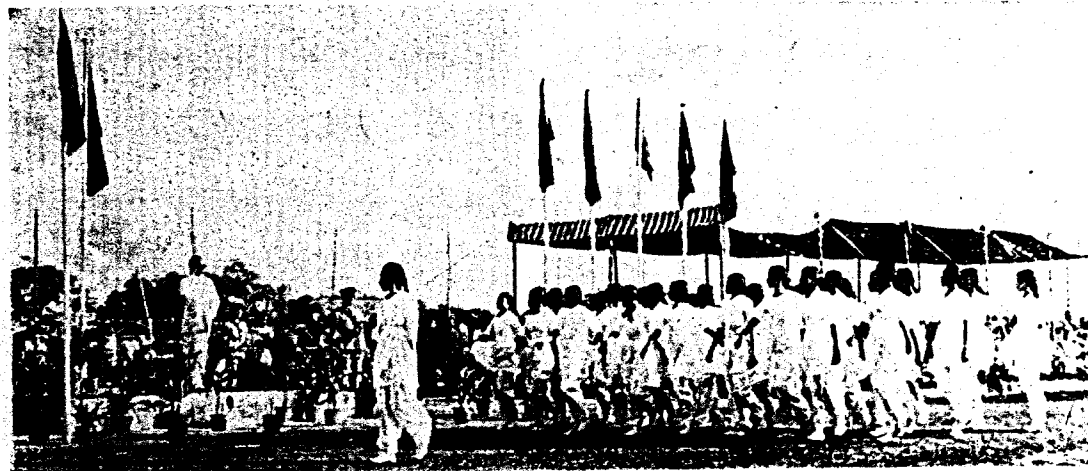


INDIA'S DEFENCE MINISTER IN THE CITY

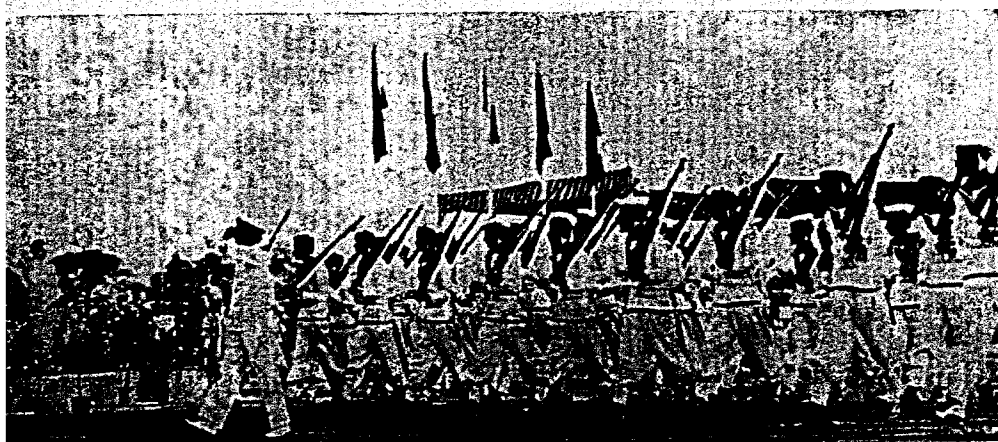


PLAN PUBLICITY WEEK IN THE CITY

Sri V. K. Krishna Menon, India's Defence Minister was in the City in February. During his stay in the City he took salute at the combined parade of the city N.C.C. and A.C.C. units and also addressed the Parliamentary Assn.



The Five-year Plan Publicity week was celebrated in the City on 22nd and 23rd February. A procession was taken out in the streets of North Madras to the Theyayaraya College Grounds where an exhibition showing the progress attained during the Plan period was held. At the Public Meeting presided over by Sri C. Subramaniam, Minister for Finance and Information, the different aspects of the Plan were explained and the public were to show their unstinted asked co-operation for the success of the Plan. Later, a Villuppattu and a play importance of the Plan were performed.



Top.—Arriving at the Island Grounds for the parade.

Above and left.—Taking the salute at the March past.

Below.—Addressing the members of the Parliamentary Assn.

Top.—The Finance Minister at the Exhibition.

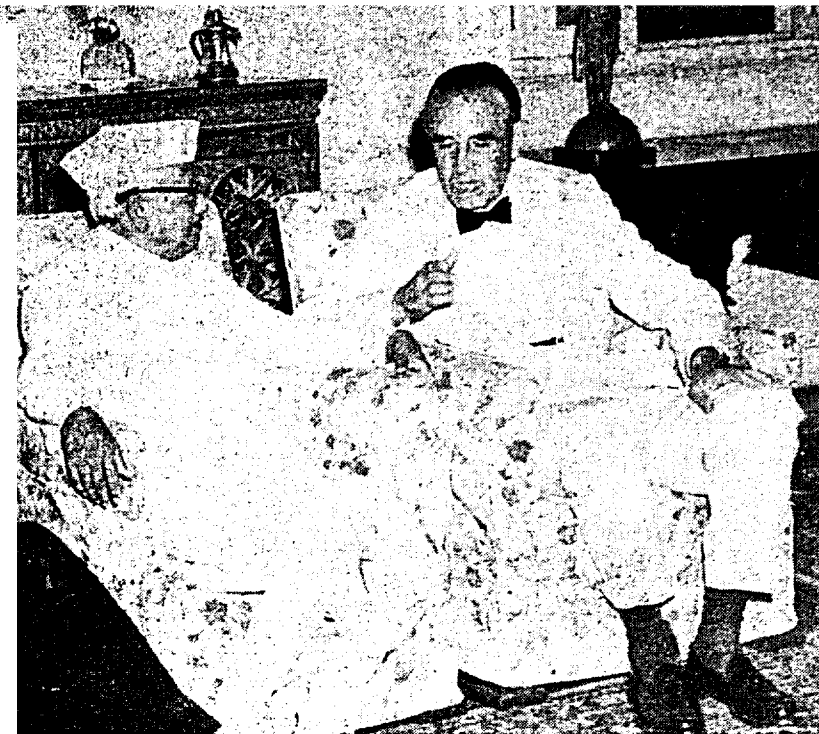
Right.—Dance by school children.

Below.—Villuppattu by Sri Sundaramurthi and party.





**REV. MARTIN
LUTHER KING**



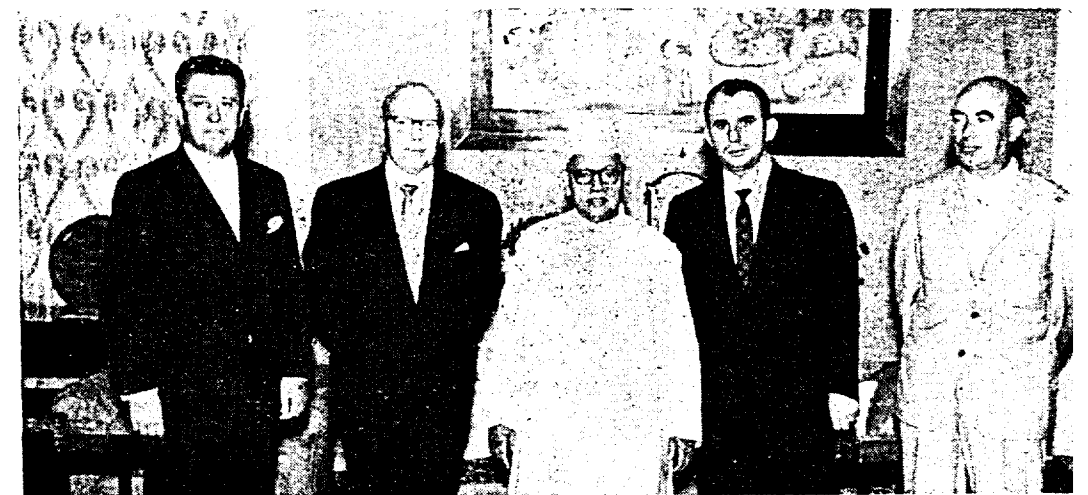
Mr. Averell Harriman, Former Governor of New York called on Sri Bishnuram Medhi, Governor of Madras during his visit to the City in February.

The Rev. King called on the Chief Minister at the Secretariat.



The Rev. King and Mrs. King with the Minister for Finance.

Radio Editors from West Germany who were on a tour of India visited Madras in February. This photo was taken when they called on the Governor of Madras.



Rev. King addressing the gathering at the Srinivasa Sastri Hall.



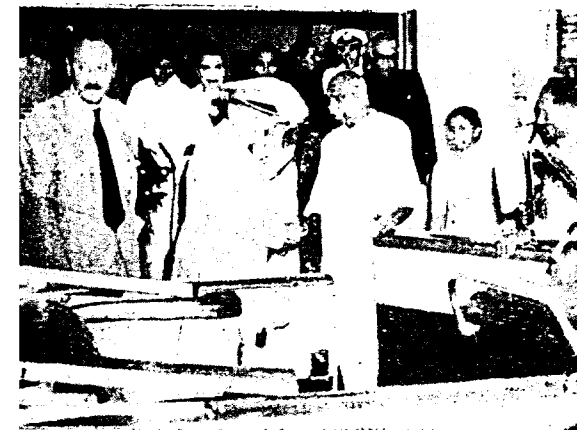
The Governor greeting Rev. Martin Luther King Jr. who called on him during his visit to the City.



50



The toast.



al Tito being greeted by the Chief Minister on his return from Delhi.

187



The Marshal and Madame Broz at Mahabalipuram.

MARSHAL TITO IN TAMILNAD

Marshal Josip Broz Tito, President of Yougoslavia, accompanied by Madame Jovanka Broz during his visit to India in the second week of January, spent three days in Tamilnad. They visited Mahabalipuram, 35 miles from Madras, and Madurai and Tiruchirappalli down South.

They were greeted on their arrival at Madras by the Governor and Chief Minister aboard the Presidential Yacht.



Marshal Tito being greeted by the Chief Secretary, Sri W. R. S. Sathianathan.



At Mahabalipuram.

In the Sri Meenakshi temple at Madurai they were received with temple honours and taken to the Sanctum Sanctorum. A turban of silk cloth was tied round the head of the Marshal according to the Tamil custom greeting of guests and the Tilak was placed on the forehead of Madame Broz.

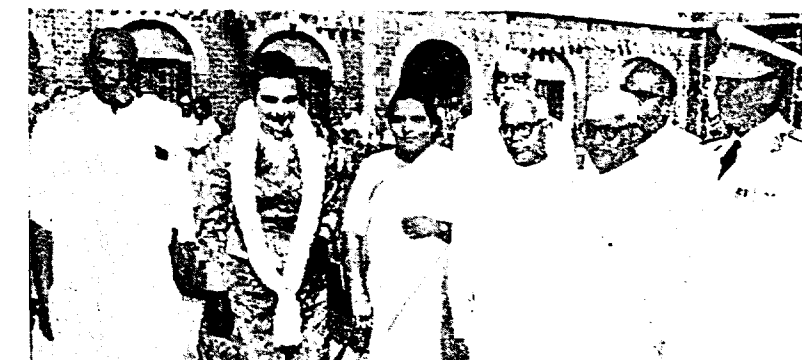


At Mahabalipuram enjoying a tender coconut.

The Chief Minister and Madame Broz at the State Banquet.



The Marshal taking leave of the Governor, Chief Minister and other Ministers at the Madras Harbour.



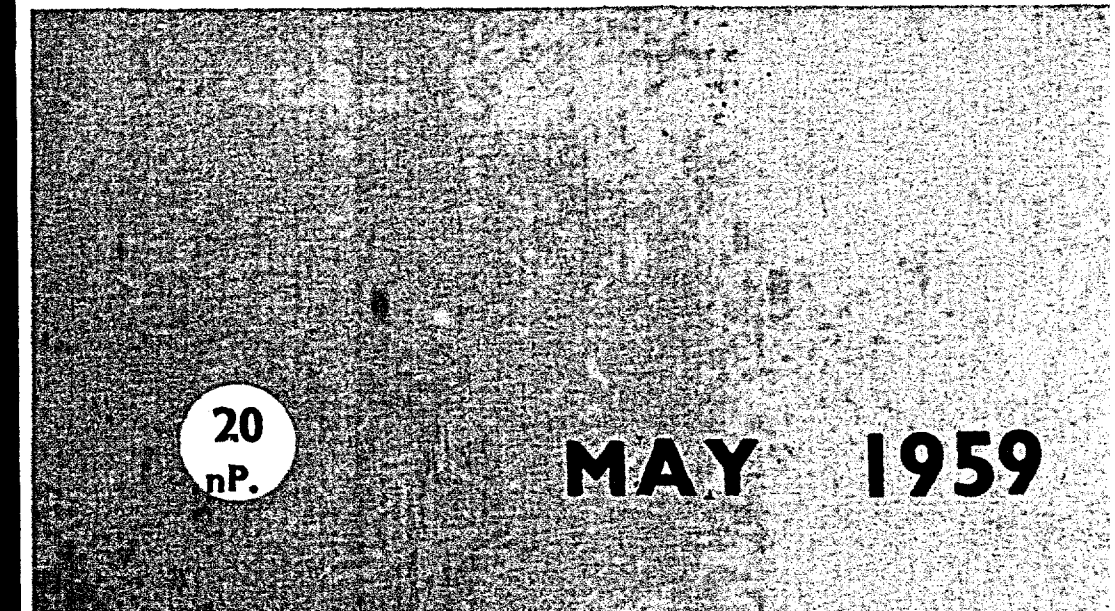
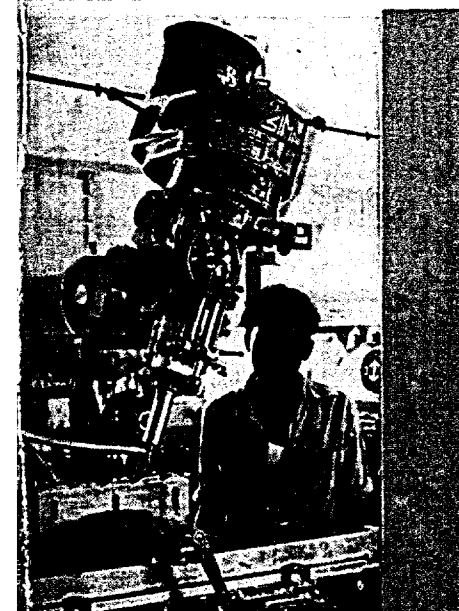
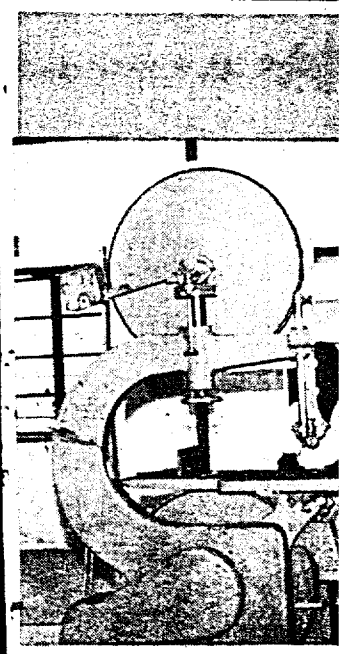
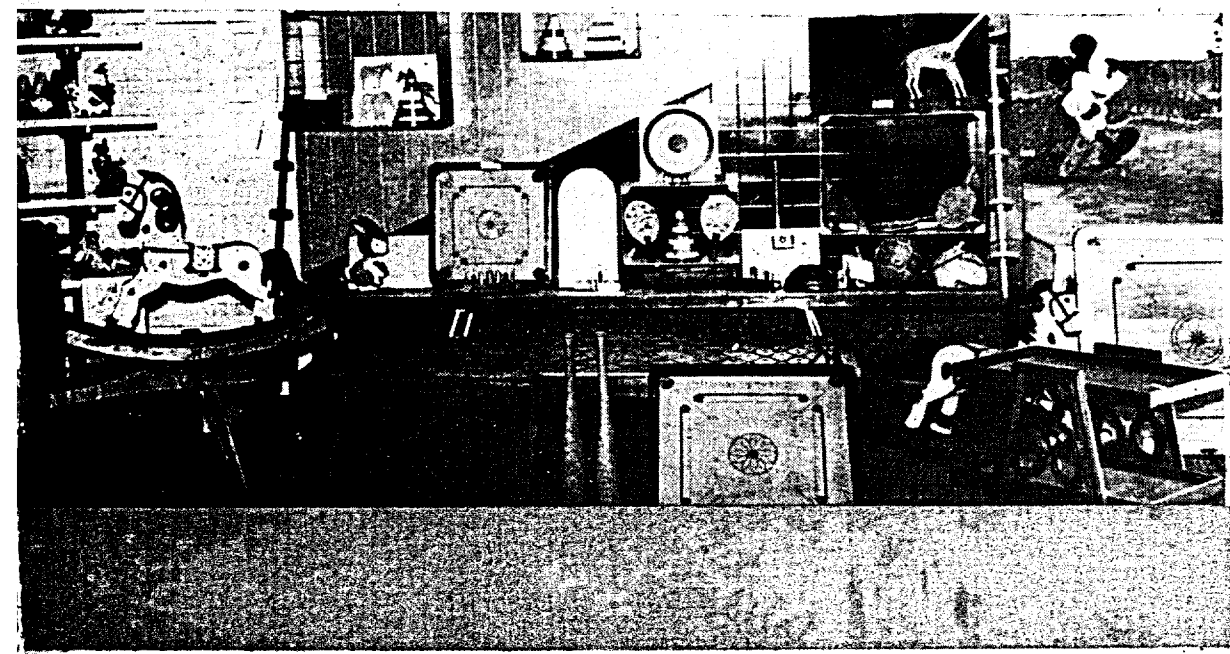
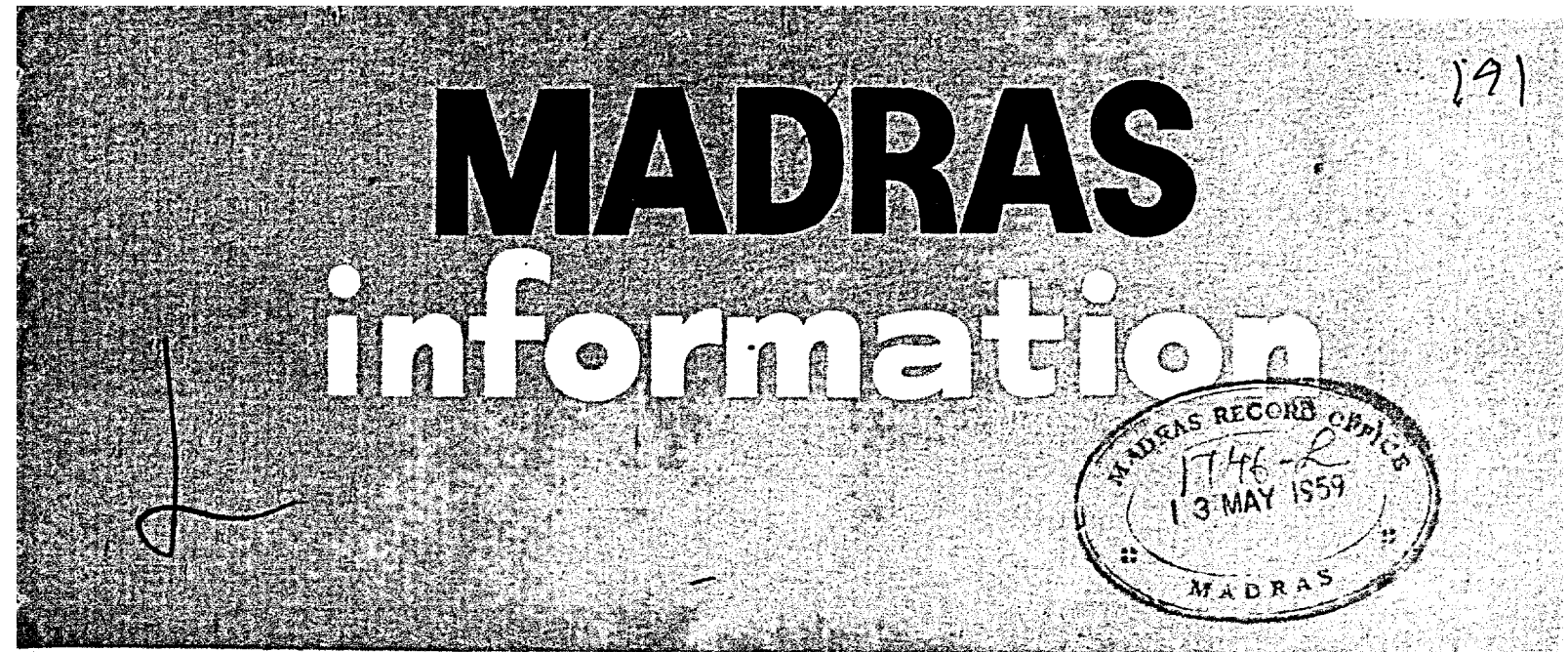


Film strip projectors were presented to the Indian Council of Child Welfare by the United States Information Service. The Union Minister for Communications, Sri S. K. Patil, received them on behalf of I.C.C.W. from Mr. A. L. Funk of the U.S.I.S.

The Chief Minister inaugurated a Small Savings Drive at Coimbatore on 2nd February 1959.



A U.N. Study Team on Community Development visited C.D. Projects in the State in January 1959. Photo shows the visitors being greeted at the air port by the Additional Development Commissioner, Sri M. G. Raja Ram, I.A.S., and others.





The Red Cross Centenary Exhibition was inaugurated by Dr. Radhakrishnan, Vice President of the Republic.



The State Veterinary Council was inaugurated by Dr. A. L. Mudaliar, Vice-Chancellor, Madras University. Sri M. Bakthavatsalam, Minister for Home and Agriculture, presided. This photo shows the Members of the Council.



*"We Seek to Serve
and Not to Compete"*



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This month's Cover:

The role of small industries in a developing economy cannot be overemphasised. The development of small industries, because of their labour intensive character, is the first and easiest step for a predominantly agricultural economy in its march towards industrialisation. In the years ahead when heavy industries come to be established in Madras, these small industries will serve as well-knit feeder units. Over the last three years, Madras State has spent the entire 5-year allotment under the Plan, in establishing a variety of small industries. On the cover of this month are found two views of the machines set up in the units of the Industrial Estate at Guindy and a photo of some of the products of the Wood Work Unit.

MADRAS information

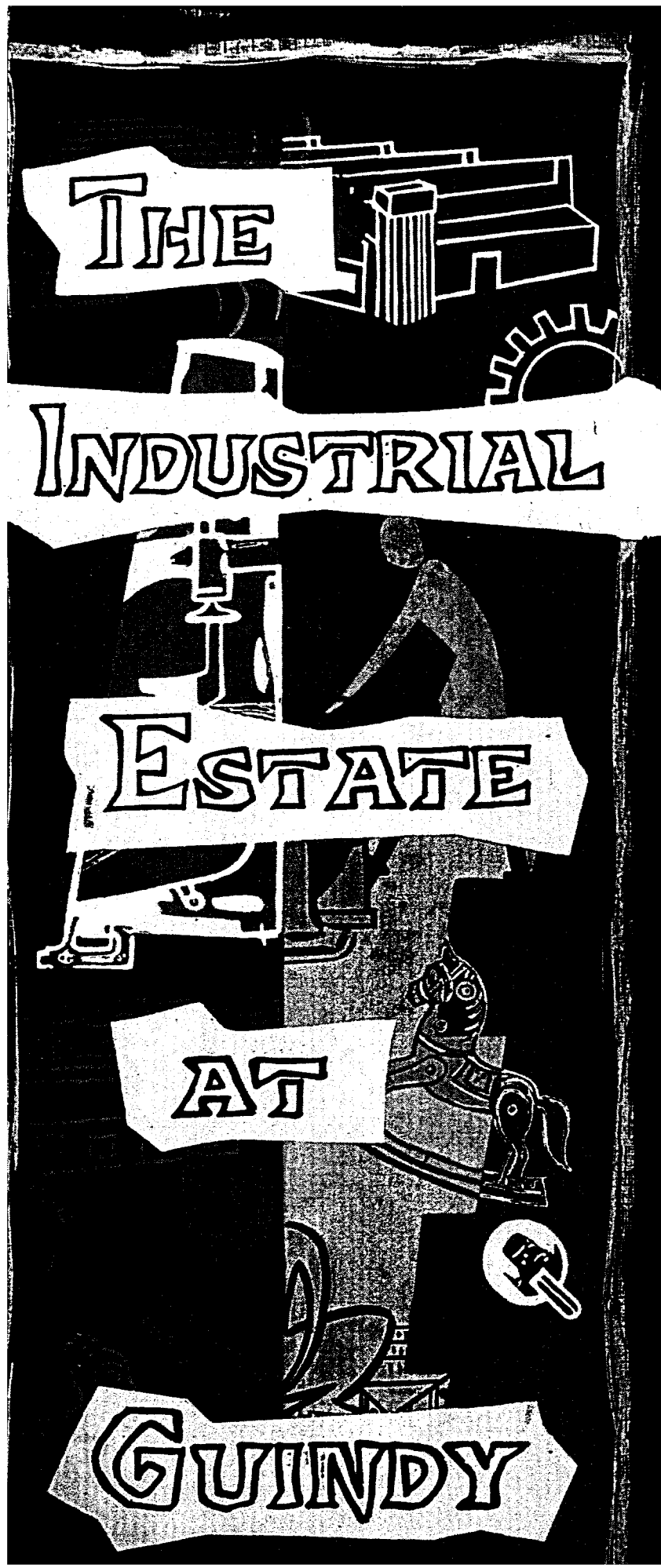
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[The articles published in Madras Information may be freely reproduced.]



Just a year ago the first phase of establishment of the Industrial Estate and the Government Service Units was inaugurated. At that time, 52 Factory Units besides several Government Service, Production and Training Centres had been completed and made available for industrialists and some of them had started production. As there was further demand for factory space after all the 52 Units had been effectively occupied, steps were taken to acquire additional land and construct more Factory Units. Twenty-six additional Units have so far been completed and they have also been allotted during December 1958. The new allottees have occupied them promptly and started the erection of their machinery and some have already gone into production. Since there is a scramble for space in the Industrial Estate, the construction of the remaining 19 Units envisaged in the scheme is being proceeded with and it is hoped that by the middle of 1959, they will also be completed and allotted to some of the pending applicants. With these, this scheme for providing 97 Factory Units planned in an area of about 70 acres would be complete. In order to meet the demand for accommodation the acquisition of a further extent of 150 acres of land adjoining this Estate for future development is under active consideration.

As a part of the Estate programme, essential services such as electricity, water-supply, canteen, first-aid post, rest shed for workers and post office had already been provided and arrangements are now under way for the construction of Information Centre and administrative block, fire station, bank, transport office, recreation centres, etc. There have been some criticisms that in some of the Industrial Estates in the country, more money than was necessary had been spent on offices, garages and other constructions not directly related to the production of goods and that many of the Factory Units are either lying vacant or have been filled in with common place industries which do not really need any special encouragement or assistance from Government. Particular care has been taken from the very beginning to see that the factory buildings intended for housing private industries with essential services and service centres came up first and the secondary services such as administrative block, etc., are taken up only after the Estate is well established and that expenditure on them is regulated with a view to economy consistent with efficiency. Special care has also been taken to screen the numerous applications for allotment of factory space after physical inspection wherever necessary and select only such of those manufacturing industries whose products would lead to reduction in imports or increase in exports or meeting the increasing local demands. The more important items of manufacture by the new allottees occupied by 26 Factory Units inaugurated on 14th February 1959, cover H.T. accessories electric motors, railway parts requiring Argon Arc Welding, bolts and nuts, wire mesh, drop forgings, machine screws, copper conductors, P.V.C. wires and cables, lamp shades, thin walled engine bearings, typewriter parts,

SRI T. K. PALANIAPPAN, I.A.S.,
Director of Industries and Commerce.

diesel engine parts, etc. Special attention has been paid to locate in this Estate as many as possible of the Government Common Facility, Training and Production Units in order to give real service and assistance to the small industries that are housed here. Two such Units, the Pressure Die-Casting Unit and the Common Lease Shop were inaugurated on 14th February 1959.

Pressure Die-Casting Unit.

The Government Pressure Die-Casting Unit has been set up at a cost of Rs. 9.69 lakhs with a view to serve as a model and also to meet a part of the requirements of the industry and trade. Die-casting is being adopted to the production, in bulk, of small and medium size parts where accuracy and uniformity are essential. Though this new technique of die-casting is daily assuming greater importance in the Industrial field, no appreciable progress has so far been made in our State in this direction. With improvements that have been made in die-casting alloys and die-casting machines and materials, it is now possible to use die-casting for many purposes in machine construction with considerable reduction in cost. Three machines with the capacities of 60 tons locking pressure, 100 tons and 200 tons each have been installed in the Unit.

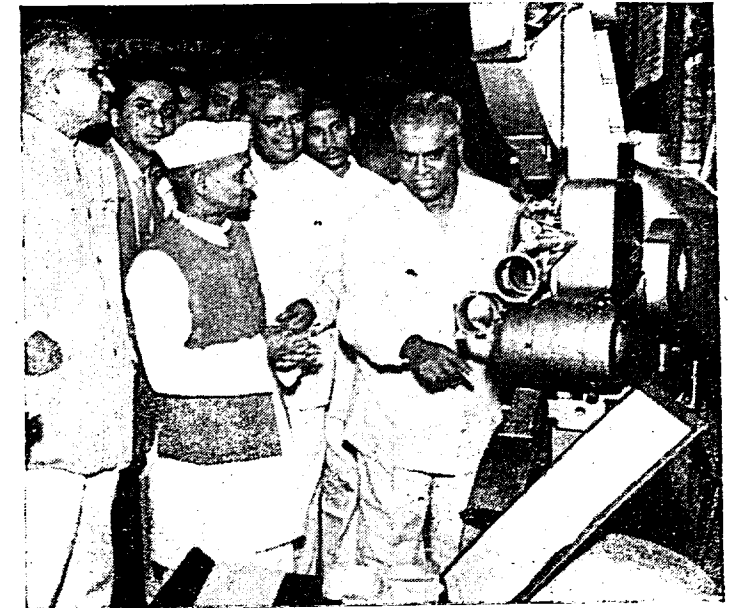
Common Lease Shop.

The Common Lease Shop is intended to afford facilities for hiring out highly specialised machines to the needy small industrialists in this Estate for short periods in order to encourage them in certain specialised lines. We are very grateful to the Technical Co-operation Mission for having made a generous gift of 36 modern and costly machines. The sum of Rs. 2.35 lakhs we have provided for this scheme is for meeting freight and handling charges for bringing the machines from the U.S., for the purchase of additional minor tools and fittings, the construction of a building and meeting pay and allowances of the technical staff to run the shop. The machines in this Common Lease Shop include tool room machines, foundry equipment, general purpose machines and specially heavy machines suitable for making railway parts, etc.

Besides these two units, it is proposed to set up a Forging shop for which the machinery has already arrived and in another building which is nearing completion, an up to date foundry. Appreciating the needs of the labour employed in the factories housed here, it is proposed to put up 160 tenements under the Industrial Housing Scheme, at a total cost of Rs. 5.60 lakhs and out of these 80 have been completed and provided with necessary amenities and are being allotted for occupation. Each of these tenements constructed with cement hollow blocks costs Rs. 3,500 including the cost of land and development.

Industrial Training Centre.

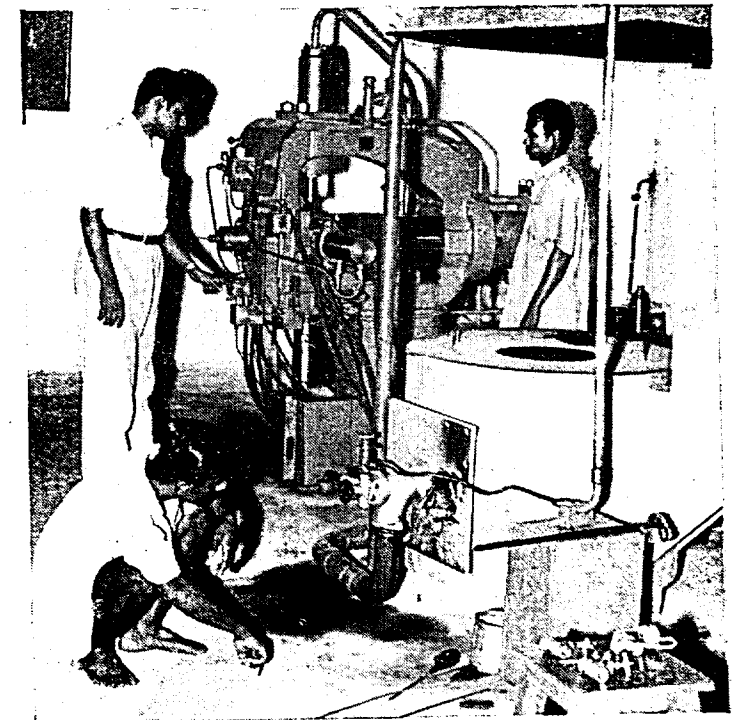
The Government of India, in the Labour Ministry and the State Government have been paying special attention to the development of a number of Industrial Training Institutes in order to meet the growing demand for technical personnel to the craftsmen level. The Training Centre at Thyagaroyanagar was functioning in a rented building. Now it has been provided with permanent buildings and work sheds and additional



The Union Minister for Industries, Sri Lal Bahadur Shastri, inspecting a machine in the Common Lease shop.

equipment at a cost of Rs. 10.55 lakhs. The permanent buildings have been put up in the Estate campus so that the trainees could grow up in a proper industrial and technological atmosphere. An additional 112 seats have now been provided and also the scheme of evening classes has been implemented for training per year 200 workmen actually employed in industries. A Servicing

(Continued on page 13)



A Hydraulic Hammer.

Industrial Estates and Industrialisation

SRI C. V. V. CHETTI,
Administrative Officer, Industrial Estate, Guindy.

During the Second Plan period, with its emphasis on the industrialization of India, various steps have been taken to develop Large Scale, Medium Scale, Small Scale, Cottage and Village Industries. The Industrial Estates have their bearing mainly on the development of small scale industries.

While it cannot be denied that there should be large scale industries in any country for its advancement industrially, the importance of small scale industry either as an ancillary to large scale industry or as an entity by itself cannot be overstated. In many of the industrially advanced countries, it is realized that for the proper development and expansion of large scale industry, the assistance of small scale industry is very necessary; nay, one may even go a step further and say that the wholesome development and growth of any large scale industry is linked up inseparably with the flourishing of several small scale industries which are of invaluable assistance to the large scale industries. For any large scale industry to manufacture all the items it requires from beginning to end will not only mean sinking of an enormous amount of capital, but taking on itself all the other problems inevitably linked up in such an all-inclusive undertaking. For instance, there is the problem of a place for the construction of a plant of enormous size, the problem of obtaining the right type of skilled and supervisory labour, the problem of obtaining raw material, not to speak of the fact that in such a giant organization it will be difficult to carry out extensive research in any particular field for the development of the product. These factors have rightly weighed with the industrialists abroad and the development of a large number of small scale industries each of which concentrates mainly on the production of just one or a few items of the components required for the large scale industrialists, has had many salutary effects such as a higher degree of specialization and perfection of the product with the attendant benefits in price, quality and quantity. It enables a small entrepreneur to set up a business without fear of much competition and evince a degree of enthusiasm which it will not be possible for an organization with several irons in the fire to have. On the basis of results like these, a place for small scale industry has indisputably been established in the industrial activity of any progressive country. These facts have been realized and accepted by our country also, resulting in accord- ing a fairly important place for the development of small scale industries in the Second Five-Year Plan.

The idea of the Industrial Estates appears to have originated in the United Kingdom even before the Second World War. This step appears to have been

taken there in order to pump new life into industrially depressed or distressed areas, where the percentage of unemployment was high. There are several ways in which assistance can be given to the small scale industries. One of such ways is by the establishment of the Industrial Estates. It is only during the last year or so, that the public in India have been hearing of the Industrial Estates. Perhaps before that period most people may not have been aware of any estates other than the Estates for Tea, Coffee and Cardamom, etc. Like the estates for agricultural products which are fairly extensive in area, the Industrial Estate also has to be extensive in order to accommodate a large number of industrial units.

The Industrial Estates in India are located in the following places: Delhi, Allahabad, Agra, Kalyani, Rajkot, Mysore, Gauhati, Visakhapatnam, Jaipur, Quilon, Trichur, Madras, Virudhunagar, Hyderabad, etc.

A small scale industry has been defined by the Government of India as an industry with an investment not exceeding Rs. 5 lakhs, and employing 50 persons with power or 100 persons without power. Several such industries and even smaller ones have grown up all over India in a quite a surprising manner at places or areas which are quite unorthodox, unhealthy and anything but suitable for the proper growth and progress of such an industry. In starting such industries no thought appears to have been given either for the establishment of the industry on proper well-thought-out lines or for its subsequent development and expansion. If one examines such an undertaking, it will not be difficult to find that the industry has not been properly planned and organized whichever angle one may like to view it from. To build up an industrially advanced India on such a foundation of bad planning will mean a very hard path to progress. It is here that the Industrial Estates have come to play a very important part and for which there can be no substitute. The object of starting these Industrial Estates is partly to wean away such industries which have grown up in a very slipshod manner to more ideal conditions which will be favourable for their healthy growth. Also for the small industrialists, the problem of finding finance, in spite of the fact that the State Government, the Union Government and various other financial institutions have come forward offering their liberal unstinted aid, is still a very stupendous one. The Industrial Estates, which have been set up by the various State Governments in the states with the assistance of the Central Government have overcome to a very large extent the initial difficulties of the small

industrialists, in finding a place to start their workshop, in finding the finance to purchase the land and to put up the buildings, in having to run about and obtain licences for putting up buildings and getting approval of Inspector of Factories or various other departments, to get the industry started. All these take plenty of time and energy and for the small industrialist, with no big organization of his own, and will mean such an enormous drain on his personal time and energy, that perhaps, after attending to all these items of work, very little time or energy will be left for doing other and equally important items of work connected with his undertaking.

Several considerations have to be taken into account before selecting a site suitable for the Industrial Estate. A few of these are:

The availability of power supply, availability of water supply nearness to industrial areas, existence of good roads, or feasibility of making good roads, facilities for procuring raw materials, skilled labour, etc.

In view of the fact that the success and popularity of the Industrial Estate, will depend to a very large extent on the proper selection of the site, it is necessary that great thought and care should be bestowed on these items. Next to selection of sites, are planning of buildings, roads, etc. As the Industrial Estate would contain several types of industries, in order to make it popular, the requirements of the various types of industrialists have to be considered. It will also be necessary to comply with the provisions of Factories Act and Rules. Overcrowding and the development of industry in an unhealthy manner have to be prevented by the proper planning of these estates.

It will be easy to justify the establishment of these Industrial Estates from various points of view. First and foremost, as has been already stated, the initial worry of finding the capital and the work involved in the purchase of land, construction of buildings, etc., are substantial savings to the industrialists. The industrialists have an advantage of being grouped together in a common place, where several types of industries are located. It will, therefore, be possible for them to get certain items of work done, for which they have themselves no facilities and there will thus be the saving of time and labour in finding out a suitable place for carrying out such processes. In short, there will be a pooling of resources. It leads to better understanding and co-operation between the various industrialists, resulting in cutting out unhealthy and cut-throat competition. Most of Industrial Estates are bound to have facilities such as a Post Office, a telephone system, a banking institution, a canteen, a fire station, a hospital, etc. They could also have a store from which supply of raw materials and other essential requirements could be had. Service centres which have very costly machinery installed in them, which will be beyond the reach of an ordinary industrialist, could also be started for rendering manufacturing facilities for the industrialists. These are a few of the advantages that one could visualize as possible. It may

be that, as time goes on, several other facilities and advantages could be worked out by the mutual co-operation of the various industrialists and the State Government.

Like all new things, which take some time to catch on, with the exception of a few places, where these Estates have been very popular, a lot may have to be done to educate the public in the advantages of these Industrial Estates and their ultimate good to the Nation. In the long run, however, there can be no doubt whatsoever as to the success, the popularity and their contribution to the industrialization of the country.

Checking Posts under Sales Tax Act

The Government have directed the setting up of ten checking posts under the powers accruing from the Madras General Sales Tax Act, 1959, in the following places: at Red Hills on the Northern Trunk Road; at Kadaperi-Tambaram, Chingleput district, on the Southern Trunk Road; at Poonamallee on the Western Trunk Road; at Ganganamkuppam, Pondicherry-Cuddalore border; at Marthandiehavadi on the Tindivanam-Pondicherry road; at Gangarampalayam on the Villupuram-Pondicherry road; at Kandaigoundanchavadi, Coimbatore district, on the Madras-Calicut road; at Ranipet on the Bangalore-Madras road; also at Hosur on the same road and at Katpadi on the Chittoor-Cuddalore road. By a notification appearing in the 25th March issue of the *Fort St. George Gazette*, the date 1st April 1959 has been fixed as the date for the new Sales Tax Act to come into force and the delegation of assessing and examining powers among the officers of the Commercial Taxes Department have been published in detail.

Listing and Preservation of Historical Records

The Regional Committee of the Indian Historical Records Commission has decided to compile a list of manuscript records which are of historical value in the possession of some of the libraries of Madras State.

The Committee is particularly interested in locating and listing valuable manuscript records of historical importance in the possession of individuals and institutions, and if need be, in arranging for their preservation from decay and deterioration from natural causes. The Committee would also arrange for their mending, if necessary, and for their preservation at the Madras Record Office, should the owners of the records be willing to part with them.

Further information on the subject might be elicited from the Convener, Regional Committee for Survey of Historical Records, Presidency College, Madras-5.

Some Aspects of Factory Inspection

SRI V. BALASUNDRAM, I.A.S.

Up to the end of the 19th century, there was no State control over the conditions of employment in any industrial concern. The employers were free to do what they liked with the result that labour was exploited to the fullest extent possible. Hours of work were inordinately excessive, rates of wages unduly low and other conditions of employment as bad as they possibly could be. With the growth of the industrial population and the development of industries, the need for regulating the conditions of work in factories was first recognized. The first Indian Factories Act was passed in 1881. With the increase in the number of factories, various amendments were subsequently made to the Factories Act. After the formation of the International Labour Organization, its conventions became the guiding factors for improving the working conditions in factories and other industrial establishments. The new reforms introduced by the Government of India Act, 1935, established provincial autonomy in the provinces. The Indian National Congress which won the elections with large majority initiated a policy with a view to securing to the industrial workers a decent standard of living, hours of work and conditions of labour in conformity, as far as the economic conditions in the country permitted, with the international standards, suitable machinery for the settlement of disputes between employers and workmen, protection against the economic consequences during sickness and unemployment and the right of workers to form unions and to strike for the protection of their interests. This policy was implemented and several legislative measures for the protection and welfare of workmen and for regulating their working conditions were passed from time to time. With the advent of Independence, labour welfare has been fully recognized as an integral part of social welfare and the above policy has been further elaborated and enshrined as the directive principles of State policy in the Indian Constitution.

The various Labour laws now cover and afford protection to a large majority of industrial population in this State. One of the important labour legislations is the Factories Act, 1948, which seeks to regulate labour in factories with particular reference to their health, safety and welfare.

Industrial Health.

As regards Industrial Health, the following summary of an analysis by Dr. E. R. A. Merryweather, a senior Medical Inspector of Factories in the United Kingdom will be of interest.

Industrial health, if it is to be approached in a scientific way should be regarded as a composite subject comprising the health, safety and welfare of man in his

working environment. Problems of industrial health therefore require for their solution services of Doctors, Engineers, Chemists, Physicists, Psychologists, Welfare and Personal Experts, Dieticians and other specialists. It is very necessary to study the individual environment of every worker not only during day but also during nights. The Factories Act and the rules thereunder lay down guiding principles in regard to the health of the industrial workers. A personal and close study of every aspect of health conditions in local factories is a condition precedent to a proper understanding of the problems of industrial health. Such a special knowledge combined with close observation will go a long way in helping those concerned in successfully and satisfactorily solving industrial health problems.

Approached from this angle an average factory has (1) buildings, (2) machinery, (3) electrical gear, (4) materials used and manipulated and (5) personnel.

Under the first item, viz., buildings, the main points to be observed are (1) cleanliness, (2) space, (3) general ventilation, (4) lighting, (5) drainage and floors, (6) sanitary conveniences, (7) washing accommodation and (8) cloak room, mess rooms, etc.

Machinery and electrical gear cause most frequently accidents in factories and the prevention of such accidents is discussed below under "Safety Provisions".

Materials used and manipulated are responsible for health risks in industry. Although the recognition of medical risks in industry is obvious, it takes a long time to realize the effects of some dangerous poisons, dusts, etc., on the worker, in view of the fact that such effects are insidious and slow in action. Substances vary much in their capacity in causing ill-health and in their mode of action and some give warnings before they strike and others none at all. However, by close study and observation certain risks can be identified and the possibilities of others noted. Materials used in factories may be either solids, liquids or gases. They may produce dusts, fumes, gas and rays which may be inhaled, swallowed, absorbed by or attack the skin and cause harmful effects.

The personnel, i.e., the workers in the factory are the most important and indispensable component. Since a worker spends about one-third of his life in his working environment, the points discussed above have a continuing and cumulative effect on his life and consequently on the quality and efficiency of his work. Dust, gas, fumes, abnormal temperature, bad lighting and other influences exert their maximum effects on the workers in such circumstances. The points to be noted in a factory are therefore (1) general environment of the worker and any general influence which will militate

against his optimum efficiency and well-being, (2) special environments of the workers and any exposure of them normally or by accident, (3) dusts, fumes, gas and other deleterious influences, and (4) the nature of these deleterious factors and their potentialities for harm and their mode of action.

Remedial measures should include a standard of protection which should be sufficient to prevent disablement due to the work during an average working lifetime and prevent any shortening of the expectation of life from the same cause.

In accordance with these criteria, proper and adequate special measures of protection and prevention in addition to the general measures mentioned previously such as adequate space, general ventilation, lighting, etc., should be taken. Such special measures for protection should include (1) substitution of innocuous materials for noxious, (2) enclosure and mechanization, (3) regularized exhaust ventilation, (4) vacuum cleaning or wet cleaning, (5) smooth non-absorptive floors and surfaces, (6) avoidance of extremes of temperatures, (7) prohibition of food and smoking in work-rooms, (8) protective clothing including protection of the eyes, (9) special first aid measures, (10) respirators, breathing apparatus, (11) periodical medical examination, (12) alternative employment and restriction of length of continuous exposure to the risks, (13) exclusion of women and young persons from work in certain process and (14) education of the personnel (especially the young workers).

Safety Provisions.

The prevention of accidents in factories is of vital importance because they interfere with production, bring pain and suffering to the worker and his family, waste man-power, spoil material and cause disorganization and waste of time. Various provisions (sections 21 to 41 and rules thereunder) exist in the Factories Act, 1948, for safeguarding machinery and ensuring safety for the workers. Accidents may be classified as machinery accidents and non-machinery accidents.

Machinery accidents may be due to failure of the plant itself, by the breakdown of machinery, explosion of boilers, etc., or it may be due to the general body of the machinery in which workers are caught and trapped from which they come off worse. In the second case the machinery itself does not break down but the construction and nature of the machinery are such that there is danger of workers being caught and entangled in the process.

Non-machinery accidents occur in the ordinary normal human ways while machinery accidents are mutilating accidents. Non-machinery accidents are minor ones such as falls on the heads, hits by falling articles, injuries in handling hard tools, stepping on striking objects, etc. But such accidents, though minor in nature, may lead to a large number of fatal cases. Apart from proper training, protective clothing, goggles, screen, helmets to protect eyes and face, gloves and hand-protectors, protective boots and steel caps are

some of the things used by workers for safety. Optimum temperature is also suitably regulated to prevent accidents in the case of light workers as well as heavy workers. It is considered that delicate colouring of machinery parts, e.g., pipe line, etc., and the walls and ceiling is a good method to prevent accidents. A psychological method is to train the workers and make them determined not to get into accidents. Posters which are attractive and humorous, not gruesome, help the workers to realize the dangers of accidents. Such posters should be semi-technical and snappy and should be positive. Some of the devices for safeguarding machinery are (1) fixed or adjustable guards, (2) interlocking devices, (3) sweep-away guards, (4) instantaneous stop mechanism, (5) double hand-controls, (6) reversing mechanism, (7) automatic or remote feeding system, (8) mechanical appliances to replace any operations, (9) clutches, and (10) safety devices in the designing of the machine itself.

A successful campaign against accidents in factories should comprise (1) support of management, (2) centering safety work in one responsible person, (3) establishment of safety committees, (4) inspections and investigations and (5) propaganda and statistics.

In spite of the fact that considerable improvement has been made in safeguarding machinery by means of statutory regulations, administrative action, greater interest on the part of employers and manufacturers, accidents are still common in factories. Legislation alone cannot solve the problem; but safety organizations within the industry and in each factory set up in co-operation with employers and workers can go a long way in preventing accidents. A safety officer whose duty it will be to enlist co-operation of managers and foremen, to educate and train workers in safety, to investigate dangerous practices and unguarded parts of the machinery, to collect statistics of accidents and generally to be in touch with safety committees, is very necessary in every factory. He should be assisted by a safety committee which should be set up in each factory and should consist of representatives of employers and workers (representing various departments in the factory).

The function of a safety committee is to create and maintain interest in the workers in the matter of preventing accidents. The committee should investigate accidents and see that dangerous parts of machinery are guarded; that machinery is kept in good condition always and give judicious publicity of accident cases, etc., by display of posters and by collecting and maintaining reliable statistics about accidents. Atmospheric conditions and bad lighting and the indifference and ignorance of the workers may also cause accidents. One of the most important items of work that should be done by Factory Inspectors is the prevention and investigation of accidents and prosecution in accident cases.

Labour Welfare.

The importance of labour welfare cannot be too strongly emphasized. While labour welfare generally

refers to all matters affecting health, safety, comfort and well-being of workers, it is now particularly associated not with those arrangements which are specially directed towards the problem of accidents and the establishment of healthy working conditions in factories but with those measures intended to secure comfort and general well-being of workers.

The problems of industrial fatigue with its bearing on production should be subjected to scientific research. Legislative measures such as the Factories Act, etc., were passed to improve the welfare conditions. Joint consultative machinery like the Works Committees were established in many factories. The appointment of welfare officers in important individual factories has contributed towards the improvement of labour welfare in those factories.

Some of the important items of work that should be attended to in order to ensure labour welfare in factories are as follows:—

Drinking water.—Wholesome drinking water from the public main or other approved source should be provided for factory workers at accessible points. The water should be in clean vessels with sufficient number of cups or glasses with which to drink and there should be facilities for washing the cups, etc., in drinking water. A healthy and convenient method is to arrange for water to be delivered in an upward jet.

Washing facilities.—Washing facilities should include soap (preferably in the form of liquid, powder or jelly) and towels or other means of cleaning or drying, e.g., hot air driers. Circular washing fountains with water from an overhead tank flowing in jets from a central pipe controlled by mechanical means will enable a number of persons to wash at the same time. Proper drainage arrangements should be made for the removal of dirty water.

Baths.—Baths should be provided in some dangerous trades like chemical works, lead works, oil-cake mills and sugar factories. Soaps, preferably in tabloid forms, and clean towels are essential. Foot baths are necessary particularly in cotton textile factories in view of the fact that workers in those factories do a lot of walking and standing in dirt and dust and hot floors.

Cloak room facilities.—Cloak room facilities should include a separate peg or locker (with the name of the worker and his work number noted) for the worker, space for changing, provision for drying especially in wet weather, the whole cloak room being kept clean, well-ventilated and lighted.

Sitting facilities.—These are essential especially for women and girls working in factories for taking advantage of opportunities for resting. The need for sitting facilities is felt especially in cotton textile factories where space is limited. Several kinds of seats can

be conveniently provided such as canvass folding seats, strap seats, tip-up seats and wooden seat, which may serve as box also.

First Aid.—The benefits of effective first aid service for industrial workers are obvious. Apart from alleviating suffering, the workers who meet with slight accidents are enabled to return to work almost immediately in comfort and with a sense of security and the minor accidents are prevented from developing into serious injuries. The first aid box or cupboard should be in readily accessible places. A qualified person should be in charge of first aid. A regular hospital service with trained medical men or nurse is common in the factories in industrially advanced countries.

Protective clothing.—The supply of protective clothing is of vital importance. Apart from preventing the workers' clothes from becoming soiled, it should protect them from excessive dirt, acids and other dangerous solutions. The protective clothing should be designed according to the nature of work done. It should, however, be light and pleasant and capable of being easily washed.

Mess rooms and canteens.—It is undesirable to allow workers to have their meals in the workshop and amidst machinery, materials, dust, etc. Separate and suitable mess rooms, equipped with necessary furniture, drinking and washing facilities should be provided. Canteens should be generally well-equipped and should serve wholesome hot meals at reasonable rates.

Creches.—With a view to enabling women workers with children to attend to their work without being worried by children, creches should be provided in factories where women workers are employed. A trained nurse should be generally in charge of creches and a high standard should be maintained in not only affording general comfort to children but also in the matter of feeding them and generally attending to their needs and requirements.

Recreational facilities.—Adequate amenities should be provided for the recreation and entertainment of the workers. The amenities should include music, concerts, radio equipment, indoor and outdoor games, periodical excursions and other cultural activities.

Welfare of Ex-Servicemen

As Army, Navy and Air Force have become a permanent feature of the country, the Government decided to place the Soldiers', Sailors' and Airmen's Boards on a permanent footing as otherwise, the cause of the ex-Servicemen, their dependants and the families of serving personnel would suffer a great deal. Ex-Services Centres built at Cuddalore, Vellore, Tanjore, Tirunelveli and Coimbatore soon after the last war, serve as focal centres of welfare activities of the District Soldiers', Sailors' and Airmen's Boards. The centres afford rest and recreation, besides serving as a venue for meetings, conferences and rallies conducted for the Ex-Servicemen. Besides, these five District Ex-Services Centres, a Soldiers' Club has been constructed at Krishnagiri, Salem district. As these centres have been of great use to the Ex-Services personnel and to the visiting Services personnel, the Government have decided to construct a few more centres at Srivilliputhur, Salem and Tiruchirappalli at a cost of Rs. 1.20 lakhs, out of the balance of War Fund collections available with the District Collectors. The construction of the centre at Salem has already commenced and that of the centres at Srivilliputhur and Tiruchirappalli will be taken up shortly.

An Ex-Services Centre for the Madras City has been a long-felt need, as a number of Ex-Servicemen of the mufassal come to the City for various purposes and are stranded for the reason that there is no place of shelter for them. The Government, therefore, ordered the diversion of a sum of Rs. 75,000 from the surplus War Fund collections in the districts of South Arcot, Madurai

and Tirunelveli for the construction of an Ex-Services Centre in the City of Madras. A sub-committee has been constituted for expediting the construction of the centre.

As the Ex-Servicemen are drifting away from one another due to force of circumstances, the Government are exploring the possibilities of holding rallies for Ex-Servicemen in each district with the view of bringing them together and availing of this occasion to disseminate information regarding their welfare and suggest to them how best they can help themselves in seeking assistance through District Soldiers', Sailors' and Airmen's Boards. It is hoped that this way of 'getting together' will promote a healthy understanding among the Ex-Servicemen who have a great influence on the environs in which they live."

The Secretary of the Madras State Soldiers', Sailors' and Airmen's Board, Sri D. D. Anugraham, then presented his report for the year 1958 which, among other things, stressed the fact that 7,243 Ex-Servicemen were enrolled on their register. The City Board was able to induce donations to the tune of Rs. 31,500 during the year. The State Board obtained hospital treatment for 68 tuberculosis cases, 47 leprosy cases and 363 other cases among indigent Ex-Servicemen in 1958.

[Excerpts from the speech of Sri R. Venkataraman, Minister in charge of Ex-Servicemen at the 30th Half-yearly meeting of the Madras Soldiers', Sailors' and Airmen's Board held on Wednesday forenoon in the Cabinet Room, Secretariat.]

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Hand-Tools Service Centre

S. BALASUNDER,
General Superintendent, Hand-Tools Unit.

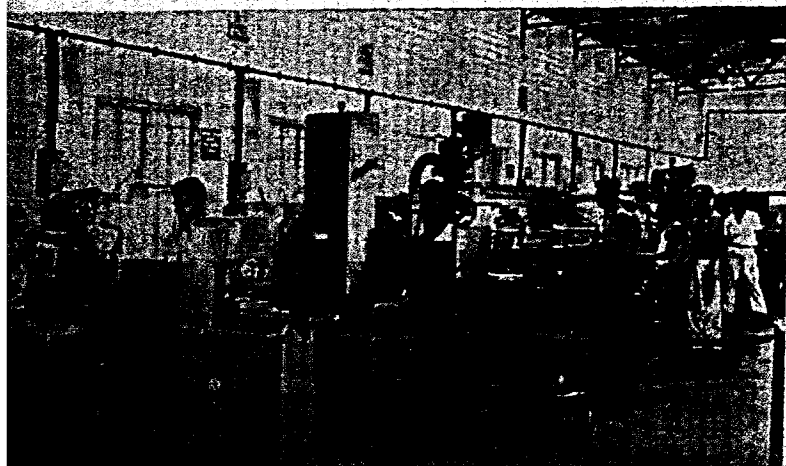
Among the numerous buildings at the Guindy Industrial Estate stands the Hand-Tools Unit which is the Key industry for the development of many modern manufacturing Industries. This is one of the series of Common Service Centres started by the Department of Industries and Commerce under the Second Five-Year Plan. Many specialists contribute to the moulding of a modern industry. Research Engineer brings forth new ideas. Design Engineers develop ideas into workable devices. After a product has been approved, the Production Engineer is responsible for furnishing the plans for production and the physical means for executing them. This Service Centre offers a unique combination of services which was hitherto beyond the reach of Industrialists in the small scale sector. As small industries cannot afford to buy costly special purpose machines, this unit offers the service of such machines to industrialists. The Hand-Tools Service Unit comprises of two major sections—

1. The Tool Room.
2. Heat Treatment and Forge Shop.

The Tool Room.

The growth of industry has necessitated profound changes in the quality and precision of manufactured goods. It is said that even as late as the 16th Century, the legal definition of "the foot" in Germany was the average length of the left foot of 16 men as they emerged from Church on a Sunday! The development of entire new industries are based absolutely on the ability to achieve precision in mass production which has to be maintained in the neighbourhood of 1/1000 of an inch. Manufacturing process needs specialised tools, jigs and fixtures in addition to the standard machine tools available in production departments.

Precision Grinding Machines



A 'Jig' holds the component securely and at the same time guides the cutting tool. It may be small and easily manipulated by hand; or heavy and clamped to the machine table. A 'fixture' holds the component firmly in position during the machining or similar operation but does not guide the tools. These devices are intended to make duplicate parts and interchangeable work at a reduced cost. The use of jigs and fixtures practically does away with the fitting by cut and try methods and permits the employment of unskilled operator as the jig is designed "fool-proof".

The Tool Room which is an indispensable shop in the modern manufacturing process provides the following for industries:—

1. Cutting Tools.
2. Special type machine tools.
3. Jigs and Fixtures.
4. Gauges.
5. Dies for Sheet Metal.
6. Dies for Forging.
7. Dies for Metal Castings.
8. Pattern for Permanent Moulds.

The following machinery are used for machining parts to planned dimensions in this shop:—

1. Tool and Cutter Grinder (Swiss Make).
2. Cylindrical Grinder (German Make).
3. Surface Grinder (English Make).
4. Turret Milling (Italian Make).
5. Universal Milling (Russian Make).
6. Shaping machines (Italian and Indian Makes).
7. Jig Boring Machine (Swiss Make).
8. Hydro-Copying Milling (Swiss Make).
9. Lathe (Indian Make).

A special feature of this tool room is the installation of a Hydro-Copying Milling Machine (costing nearly Rs. 2 lakhs) and the Jig Boring Machine (costing nearly Rs. 1 lakh). In the hydro-copying machine, a master pattern or die can be reproduced in steel by a special adaptation of a vertical Milling device. The Jig Boring Machine can give an accuracy of 0.00004 of an inch (1/1000 of a milli-meter). This latest model jig boring machine has been made by the *Societe Genevoise* whose machines have a worldwide reputation for accuracy. This machine is kept in an air-conditioned room to maintain its accuracy.

The grinding machines utilize an abrasive wheel revolving at high speed to cut material. It is the only method of cutting such materials as hardened steel. It produces finishes that are extremely smooth and accurate with little pressure. Cylindrical grinders are precision grinders for round surfaces. Surface grinders are meant for plane surfaces.

Heat treatment and Forge shop.

Heat treatment of metals is the science of heating metals in suitable atmosphere to desired temperature and cooling them in the medium of air or oil or water to get the required physical properties such as hardness, toughness, etc. By manipulating the variables like temperature, atmosphere, rate of heating and cooling, quenching medium, any desired property can be imparted to the selected steel. These controls are perfected by the development of metallurgical science. Heat treatment actually existed many centuries ago in a mysterious ritual form. It may be of interest to note that the famous 'Damascus Swords' were heated to the colour of the rising sun and were quenched by plunging them into the belly of a fat Nubian slave!

This Unit has provided the following equipment to achieve this purpose:—

1. Muffle furnaces.
2. Convection furnaces.
3. Saltbath furnaces.
4. Annealing boxes.
5. Cyanide bath.
6. Pickling tanks.
7. Tumbling machine.
8. Sand blasting equipment.

"Salt bath" means a bath compounded by melting one or more chemical salts to form a liquid medium for immersion of the material to be treated. The chemical nature of such baths varies according to the temperature at which they are to be used.

"Tumbling" is a process carried out by placing a number of articles in a round or hexagonal barrel and rotating them either by themselves or with some suitable medium.

"Pickling" means removal of scale from steel and cleaning by immersion in a diluted acid bath.

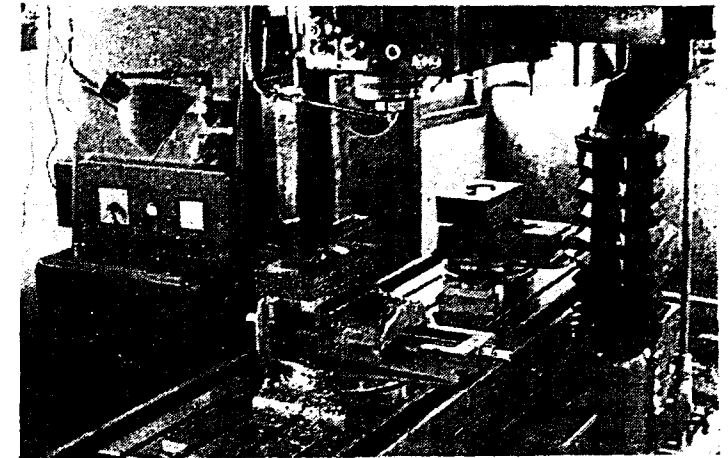
"Sand blasting" operation consists of blowing a jet of sand mixed with air at the article to be treated. This process removes dirt and leaves the surface smooth and polished without damaging the metal.

Forge shop.

"Forging" may be described briefly as the part of manipulating metals that have been heated until they are more or less plastic by means of hammering or squeezing. A forged material nearly always has better mechanical properties than a cast one, the difference being usually marked as regards toughness and impact strength. This shop is equipped with:

1. Drop Hammers (German make).
2. Pneumatic Hammers (German make).
3. Punching and Shearing Machine (German make).
4. Power Press (English make).

"Drop forging" when a number of forgings have to be made to the same design, the time required per piece can be reduced by making up special tools for drop forging. In this process, the finished shape of the forging is obtained by stamping a hot block of metal between an upper and a lower block of metal or die, in



Hydro-Copying Milling Machine

each of which an impression has been formed, the combined impressions being equal in shape to the forging required. The lower die block is usually fixed and the upper one is lifted up and allowed to fall on the metal which is placed on the lower die. The operation is done on the machine called drop hammer. This shop will actually undertake production work of components in mass scale for industrialists. Many hand-tools, surgical instruments, and machine parts are the products of a forge shop.

As in many new ventures, there may be many handicaps at the initial stages due to shortage of technical personnel, raw materials and skilled operators. However, the unit is bound to surmount all these hurdles in course of time and keep up the Service work at an efficient, economic and enviable level. It is our fervent hope that Industrial Entrepreneurs from small scale sector should take the maximum benefit from this Unit. The Hand-Tool Service Centre may prove to be the beacon on the path of industrial development in the State of Madras.

A delegation of Press men from Malaya visited the City in March. Photo shows the delegates on their arrival at the Madras Airport



Pressure Die Casting Unit

Sri S. Chellasami,
General Superintendent, Pressure Die Casting Unit.

With a view to supplying the component parts required by the various Engineering Industries both in the Guindy Industrial Estate and elsewhere, Government sanction was accorded in September 1957 for the establishment of a modern and economical Pressure Die Casting Unit in the Industrial Estate, Guindy, at a total estimated cost of Rs. 9.68 lakhs. No small-scale Industrialist has so far taken to this venture, though the need is keenly felt. Die Cast parts are used in the following industries:—

- (1) Automobile.
- (2) Business machines.
- (3) Home appliances.
- (4) Electrical equipments.
- (5) Toys and models, etc.

No other single fabricating technique has contributed more to the economic and industrial development and the higher standard of living of the twentieth century.

The age old method of casting molten metal is by gravity pouring into sand moulds, which have to be destroyed for removing cast part. The search for a permanent mould that could be used to produce parts in quantity started from the Middle Ages, and in the last century was evolved the process of gravity pouring of molten metal in iron moulds, constructed in two halves and opened and closed mechanically. The next logical step was to improve accuracy and appearance of cast parts by the application of pressure to force the molten metal into strong steel moulds, instead of merely relying on gravity pressure. The metal was forced into the mould by means of a piston and cylinder immersed in liquid metal. The resulting castings were observed to be close-grained, homogeneous and dense.

The first commercial applications of die casting were mainly for such items as automobile bearing, produced from tin and lead base alloys. As the process gradually became an important factor in metal fabrication, it has been adapted to other and more useful alloys having better mechanical properties, though the problems con-

A view of the Unit.



The Union Minister for Industries and the Chief Minister viewing some of the products of the Pressure Die Casting Unit.

needed with the casting technique multiplied with the higher melting points of these alloys.

For producing satisfactory and structurally sound castings of the higher melting point alloys of aluminium, magnesium and copper, the cold chamber process has been developed. In this method all possibilities of alloy contamination or 'metal pick up' are completely eliminated, as the operating parts are kept relatively cool and the alloy is in contact with the plunger and the cylinder for only a short duration. A modern cold chamber machine obtained for the Industrial Estate is illustrated in photograph. It is a hydraulically operated, and self-contained unit, and completely automatic in action, the motive power being obtained from an electrically driven high pressure oil pump.

The machine consists of a fixed front plate over which is mounted the vertical shot cylinder, the sliding plate, a crosshead and an end frame all connected together by adjustable tie-rods. The power unit is housed at one end; the sliding plate, crosshead and end frame are connected together through links and pins and provide the motion for opening and closing the die. The closing pressure must be sufficient to keep the die closed while the metal is being injected into the die cavity. The various operations are briefly explained below.

The molten metal is poured into the cold chamber by a ladle. Immediately after the pouring operation, the plunger is advanced, it seals the port and forces the metal charge into the locked die under a pressure of about 60,000 pounds. There is always enough metal to more than fill the die cavity, the excess metal being in

the form of a slug is ejected with the casting. The operations take place automatically by push-button control and in the correct sequence.

The functions of the automatic working cycle are electrically interlocked, so that one function will not begin until the previous one is satisfactorily completed. Uniformity of casting and maximum speed of operation are ensured thus. Pressures and temperatures are regulated automatically, the die remains closed for a pre-determined length of time while the cavity is being filled with molten metal, and then opened in accordance with a definite time schedule. This ensures solidification of the molten metal before the die opens, and removal of the casting immediately after solidification. If the dies are opened the casting may be distorted before the metal in the die has solidified, the casting may be distorted when it is ejected; if allowed to remain in the die cavity after solidification, the shrinkage that occurs will seriously stress the internal structure of the casting.

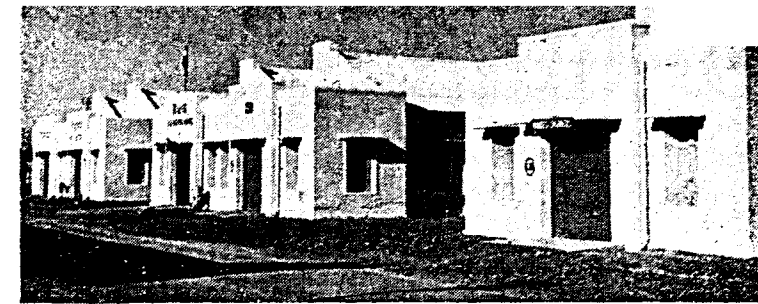
A smoothly working casting mechanism is not, in itself sufficient for the production of satisfactory die cast components. The other basic requirements are (1) a properly designed and constructed die of suitable heat and shock-resisting alloy steel, (2) a suitable alloy—its composition conforming to standard specifications and (3) an efficient furnace for melting of the alloy, installed close to the casting machine.

The die casting technique has the following advantages as compared with the other processes—stamping, forging, etc:—

- (1) Speed of production—The number of shots possible with a modern die casting machine depends upon the material; it is high with the low-melting-point alloy and lower with the higher-melting-point alloys.
- (2) Complex shapes can be made that would be difficult to obtain by the other methods.
- (3) Inserts of other metals and various shapes can be used in the die casting.
- (4) Thin sections can be used.
- (5) Superior strength and better mechanical properties of die castings as compared to castings produced by the other methods.
- (6) Die castings can be produced to closer dimensional tolerances than is possible with the other processes, resulting in a corresponding saving of machining time and materials.
- (7) Die castings have a better appearance—they can be plated, painted or chemically coated after only a buffing operation; in many cases even this operation may be unnecessary.

The time factor and toll cost involved would appear to be somewhat of a disadvantage in this process. Time is required for designing and fabricating the die, trying it out and determining the best casting conditions to produce the most satisfactory castings.

It is confidently expected that this new service will give a good fillip to the Small Industries in our State and afford increased opportunities for training of our young technicians.



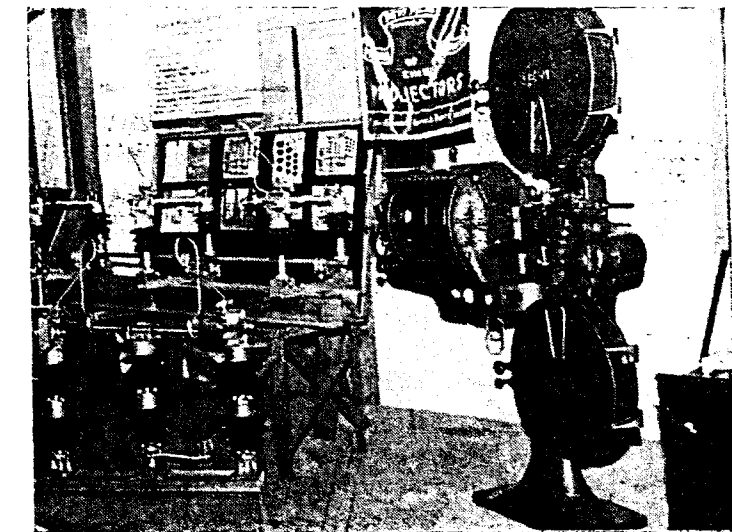
Some of the Units at the Industrial Estate.

(Continued from page 3)

Corporation and an Industrial Co-operative for supplying raw materials, etc., needed by the Industries have also been set up.

Thus other Government industrial schemes have been so integrated with this Industrial Estate programme so as to give the maximum beneficial results towards the development of Small Scale Industries. But then, the tremendous difficulties and delays in obtaining machinery and raw materials—imported or indigenous—are seriously hampering not only the progress of setting up new Small Scale Units but even the very functioning of established Units which are not able to produce even a fraction of their installed capacity. These difficulties have been damping the enthusiasm of many an entrepreneur and are putting the State Directorate of Industries and Commerce to extraordinary stress and strain in having to dole out the dwindling quotas against the ever mounting demands of the numerous industries and consumers. In the context of the present difficult foreign exchange situation, it is of course not easy to resolve these difficulties completely. It looks as though further establishment of new Units of the certain types of industries will only aggravate the difficulties, leading to the starvation of one and all such industrial units. It is hoped that the situation will ease and we will be able to get our requirements without much trouble.

[From the speech delivered on the occasion of the inauguration of the additional units in the Industrial Estate at Guindy.]



Insulator and a Cine Projector—some of the products of the Industrial Estate.

The Ruling Thought

It is proposed to publish a series of articles on Co-operative Farming in this journal with a view to providing some food for thought on a subject which is being discussed currently throughout the country. This is the first instalment of the series and does not reflect in any way the policy of the Government.

The division of the people into the "haves" and the "have-nots" dates back to Plato. That division has not still been wiped out, despite the advance of time, anywhere, except perhaps, to a large extent, in Communist countries where human beings have but been reduced to soulless creatures and cogs in the vast machinery of the State. Communism is, therefore, a *bête noire* to those who value freedom of thought and expression and especially to Indians who can boast of a spiritual heritage which has received a paean of praise from many a thinker of noble and great thoughts.

No disagreement can, however, exist over the fact that the distance between the fortunate few and the unfortunate many should be shortened. To the poor God comes, said Mahatma Gandhi, only in the shape of bread and butter. If we ponder over this statement, we can very well realize the importance and urgency of ameliorating the plight of the poor. No poor man lives. He

A Co-optex Silk House for the exclusive sale of all Silk Cloth produced by Member Societies of the Madras State Handloom Weavers' Co-operative Society was declared open at Mylapore on 20th March 1959 by Sri R. Venkataraman, Minister for Industries.



just exists. He just vegetates. If the blessings of material comforts are next to nothing to him, the blessings of spirituality are no greater to him. He too should enjoy spirituality. His style of life must be improved. For this, his standard of life should be raised.

Our spiritual heritage cannot also approve of the actions of those who are going in Rolls-Royce when their next-door neighbours are without a bullock-cart, nay, when they are wallowing in the mire of indigence. They should help them. Only then would the content of the spiritual heritage have been lived by the rich.

But the profit motive that rules the society seems to be too much even for our spiritual heritage! It acts as a stumbling-block in the path of the betterment of all, though it acts as a spur on the part of the individual for greater endeavour; but it is, more often than not, disastrously acquisitive in character. The pages of history, from time immemorial, prove this up to the hilt. It helps the rich to grow richer and make the poor grow poorer. This state of thing should not be allowed to exist for long.

The doctrine of *laissez faire*, preaching that "every man for himself and the devil take the hindmost" and "that the State should keep the ring, while the individuals fight" had been weighed in the balance and found wanting. Almost as a reaction to this extreme type of individualistic philosophy, Communism has been embraced by some countries as the panacea for all the ills. But the thinking India could not adopt this philosophy of life because it is no unmixed blessing. It has, therefore, been struggling to forge a method to suit its own genius. And it has stumbled upon the socialistic pattern of society as the way out. It may or may not be the *sarvaroga nivarani* for all the ills afflicting our land but there seems to be no better method in sight.

The State has to intervene in the fields where only a few individuals try to feather their own nests, not very much caring for the interests of the vast masses of people. The Government knows full well that the tentacles of the State should not be octopus-like. They should not strangle social liberty. At the same time the Government would have failed in its duty had it not devised ways and means "to prevent", to use the words of John Stuart Mill, "the weaker members of the community from being preyed upon by innumerable vultures."

The Government has, therefore, to steer clear of the Scylla of totalitarianism and the Charybdis of extreme type of individualism. Needless to say that cautious approach is being adopted over the delicate question of the power which can be legitimately exercised by the

State over the individual. No wonder, the Government progressively expands the public sector but not at a break-neck speed.

The Government have to bestow greater attention on agriculture too because India is predominantly an agricultural country where cultivation is carried on by the rack-rented, debt-ridden peasantry on minute-scale uneconomic holdings. It is the basic industry and provides employment to about 100 million people. It contributes fifty per cent of our national income.

According to the latest Census (1951) figures, out of a total population of 356.7 million, 249.1 million or about 70 per cent depend for their livelihood on agriculture. Out of this, 44.8 million or 18 per cent are landless labourers and another 31.6 million or 12 per cent do not wholly or mainly own any land.

The minute scale of Indian agriculture can be seen from the facts that 83 per cent of the holdings in Uttar Pradesh are below 5 acres, so also are 64 per cent in the Punjab, 49 per cent in Bombay, 71 per cent in Bengal. In Madras, 74 per cent of the holdings have an average area of 2.4 acres only.

The average yield per acre of agricultural products in India is comparatively poor. Average production of wheat per acre in India is about 700 lb., while it is 1,918 lb. in Egypt, 1,713 lb. in Japan, 898 lb. in China. As regards rice, production of India is about 750 lb. per acre while it is 3,444 lb. per acre in Japan, 2,998 lb. per acre in Egypt, 2,433 lb. per acre in China and 2,185 lb. per acre in United States of America. This bespeaks the backwardness of India's agriculture which by the way is due no less to the growing lack of soil fertility as to the medieval technique of agriculture and an almost complete lack of capital to be employed in it.

It is, therefore, imperative that the Cinderella-like treatment accorded to agriculture in the past should be given up for good, and increasing attention should be paid to it by the Government. Of course, agriculture is a jealous mistress. But if she is tackled successfully, then a large slice of our national problems would have been solved. Only during recent years is agriculture receiving proper attention on a nation-wide scale and with funds, previously not thought of. The rapid growth of the population throws into clear relief the magnitude of the problem.

If these peculiar conditions of Indian agriculture and its overwhelming importance in the scheme of national economy are taken into consideration, then there is "no choice", to use the words of the Prime Minister, "but to change India's social organization to broadbase opportunities through the field of co-operation in agriculture." The success of the co-operative movement in Madras which can be traced to the ideas on rural credit put forward by Sir William Wedderburn and Justice Ranade has inspired the Government to put forward fresh proposals for its reform. Since 1940 the handloom industry has benefited much from co-operation in Madras which has now about 1,000 co-operatives embracing about

44 per cent of the looms. What has happened in the handloom industry can very well happen in agriculture too with a little more attention being paid to it.

Then there can be no doubt that obedience to the law of co-operative endeavour in agriculture will bring about a silent revolution in the structure of society and augment agricultural efficiency and agricultural production, the struggle for mutual service taking the place of struggle for existence.

In the next issue:

TYPES OF CO-OPERATIVE FARMS

Tamil Development Council Additional Members

The Government have nominated the following as members of the Madras State Tamil Development and Research Council:—

Vidwan Aiyamperumal Konar, representing the Tiruchirappalli Tamil Sangam, Tiruchirappalli.

Sri R. Kulandaivelu, M.A., Director of Information and Publicity.

Sri K. Santhanam, 'Sundara', Rajaji Nagar, Pallavaram.

Sri G. R. Damodaran, Principal, P.S.G. College of Technology, Peelamedu, Coimbatore.

Sri T. A. V. Nathan, Editor, *Tamizh Nadu*, Madurai.

Sri A. G. Venkatachari, Assistant Editor, *Dinamani*, Mount Road, Madras.

Sri Anbu Ganapathy, Secretary, Presidency Tamil Teachers' Association, Pachaiyappa's College, Madras.

State and All-India Trophies won by the students of the Madras Veterinary College were formally presented to them by the Ministers for Finance and Agriculture. This photo shows the Minister for Finance presenting shield to a student.



A Milk Colony for Madras

SRI M. BAKTHAVATSALAM,
Minister for Agriculture.

The reorganisation of the milk trade in the City of Madras has been engaging the attention of Government from time to time. Several experts had given their suggestions but nothing tangible was done in the past. In 1953 the Government constituted an expert committee under the Chairmanship of Dr. A. L. Mudaliar to go into the question of the milk supply position in the City. The committee recommended among other things that the City cattle from the congested areas should be evacuated and settled in colonies to be formed on the outskirts of the City in conjunction with the sewage farms to be developed by the City Corporation.

According to the census conducted by the City Corporation there are now 2,200 milkmen in the City who keep about 15,000 milch-cattle. It is possible that there are many more cattle maintained in the City without registration to avoid payment of municipal taxes. The City cattle population may, therefore, be safely taken as over 20,000. They are kept in insanitary cattle sheds located in the congested parts of the City. Not only the health of the cattle housed under such insanitary conditions but also the health of the people living in the surrounding areas is adversely affected. The quality of milk produced under such insanitary conditions is also unwholesome.

The breeds of cattle in this State are neither extensive nor important from milk-yield point of view. However to meet the needs of the public a very large number of high grade and freshly calved animals are imported by the trade from the breeding tracts of other States like Andhra, Madhya Pradesh and Punjab. These animals after their stay in the City become partly or wholly unfit for further economic use. For several reasons the trade is not able to look after them properly. The calves do not get any chance to survive beyond a few weeks of their birth. The milkmen in the City have only a temporary interest in their cattle as casual producers of milk. The dry cattle do not return back to the breeding tracts in good condition. There is no steady inflow of good cattle. If suitable measures are not taken in a comprehensive scale there is every danger of milk becoming even more expensive than now and more and more scarce. The quality of the market milk is also far from satisfactory and neither the producers, nor the consumers appear to be satisfied with the state of affairs prevailing in the trade. Adulteration of milk is rampant and quality control measures are almost non-existent.

It is clear from the foregoing account that only if the milch cattle are moved out of the City and settled in better and natural rural surroundings the quantity and quality of milk supply to the City can be improved.

It is with the above-mentioned object in view that the Government decided in principle to establish a milkmen's colony on the outskirts of Madras City and accorded sanction for the acquisition of about 600 acres of land at Madhavaram Village about 7 miles from Madras. A Milk Committee under the Chairmanship of the Chief Engineer (General), Public Works Department was constituted to work out the detailed plans and estimates and submit a comprehensive milk scheme to the Government. The Committee accordingly drew up a scheme to colonise 4,000 cattle at an estimated cost of Rs. 123,77,000.

The salient features of the scheme are as follows :—

(1) The City cattle will be moved out of the highly congested areas of the City like Georgetown, Washermanpet, etc.

(2) Four thousand cattle of good quality will be provided with accommodation in the cattle colony at Madhavaram Village near Madras City. Accommodation for the cattle and residential quarters for the cattle owners will be provided in the colony and a nominal occupation charge will be levied. Milkmen who seek admission into the colony will be admitted in units of 10 cattle each. Besides milking sheds, accommodation for all suckling calves and 20 per cent of dry stock will also be provided in the colony.

(3) The fodder required for the colony cattle will be supplied from the adjacent sewage farm which is now run by the City Corporation.

(4) Free veterinary aid and artificial insemination facilities will be provided for the cattle in the colony.

(5) All the milk produced in the colony will be purchased by the Government at a price which will have to be mutually agreed upon.

(6) A central dairy with up-to-date plant and machinery and a quality control laboratory will be set up in the colony for the processing of 150,000 lb. to 200,000 lb. of milk a day.

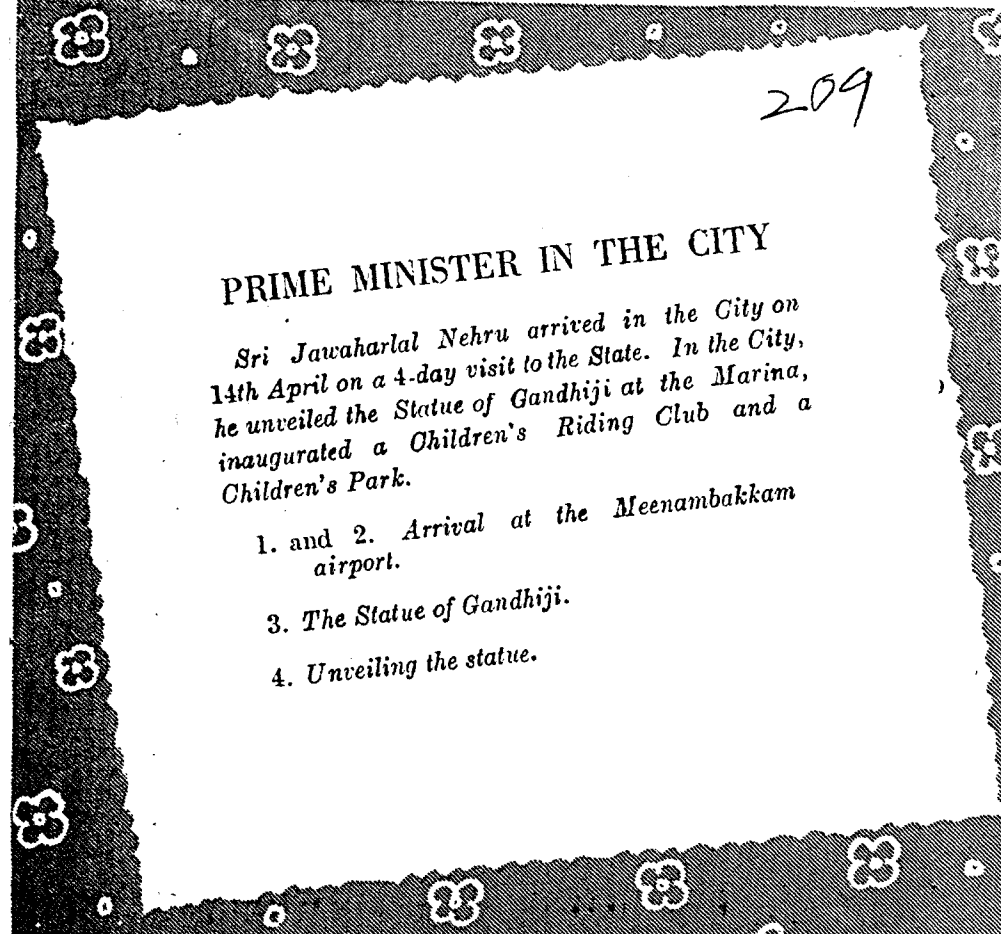
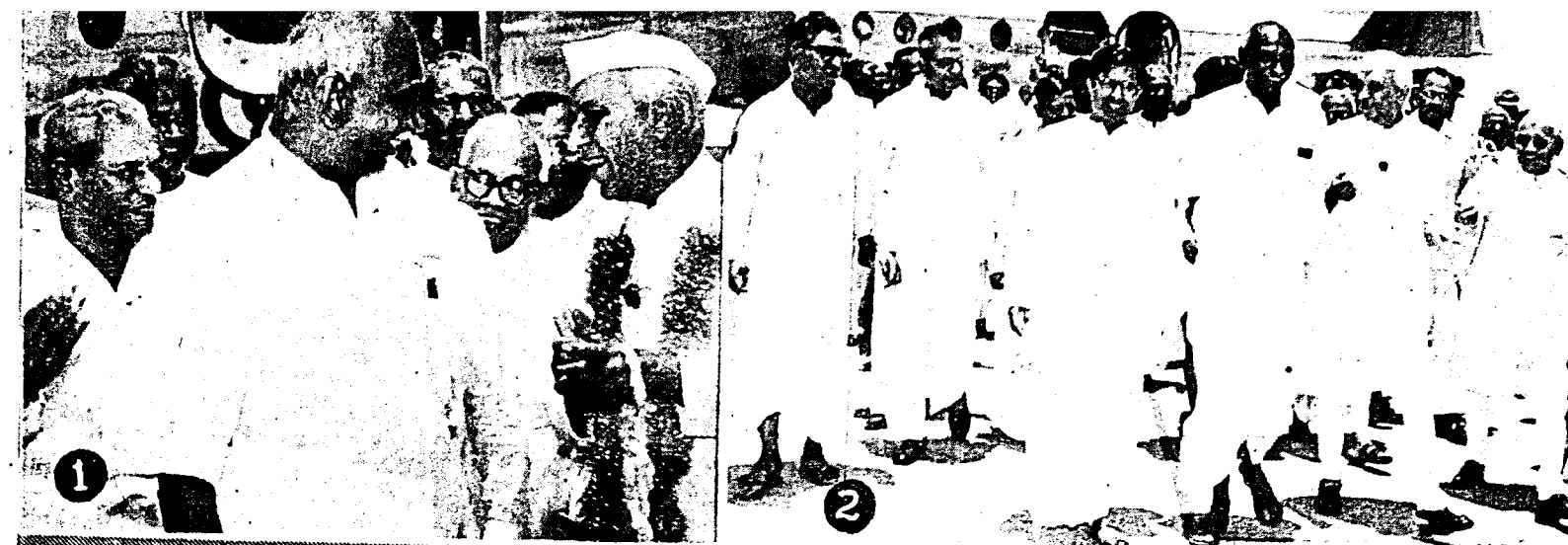
(7) Besides the milk produced in the colony, the Central Dairy will also receive milk from rural areas collected mostly through village co-operatives.

(8) All the milk received at the Central Dairy will be subjected to quality tests and payments to producers will be made on quality basis only.

(9) The Dairy will process separately cow's milk, buffalo milk and toned milk. The processed milk will be supplied to the public in sealed bottles through Government Depots and authorised delivery boys.

(10) The entire working of the scheme will be ultimately controlled by a Statutory Milk Board.

(Continued on page 38)



PRIME MINISTER IN THE CITY

Sri Jawaharlal Nehru arrived in the City on 14th April on a 4-day visit to the State. In the City, he unveiled the Statue of Gandhiji at the Marina, inaugurated a Children's Riding Club and a Children's Park.

1. and 2. Arrival at the Meenambakkam airport.
3. The Statue of Gandhiji.
4. Unveiling the statue.



CITY ENGAGEMENT

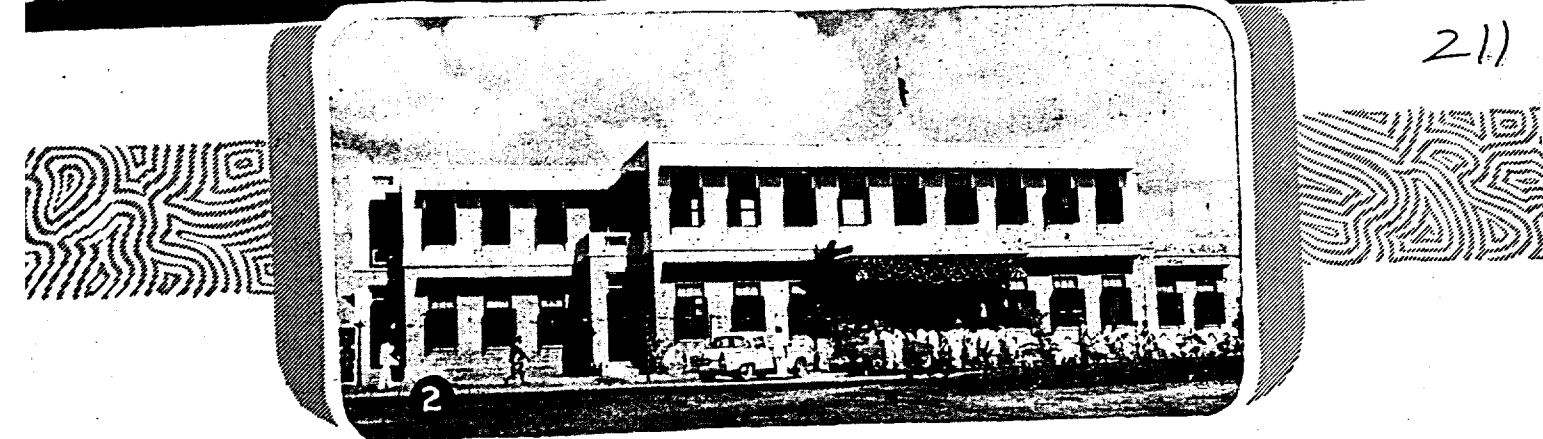


1. Riding at the Children's Riding Club.

2. and 4. At the Children's Park.

3. Receiving from Sri Sivaji Ganesan, a donation of One lakh of rupees towards the Mayor's Mid-day Meal Fund.

5. Greeting a member of the Children's Riding Club.

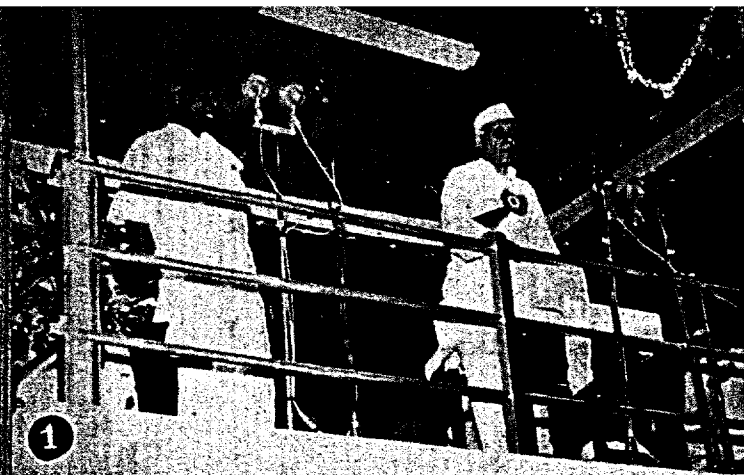


PRIME MINISTER'S TOUR

Enthusiastic crowds greeted the Prime Minister at all places he visited in the course of his tour in Tamil Nad. At Thekkur in Ramanathapuram district and Adaikkalapuram in Tirunelveli district the Prime Minister participated in the School Improvement Project conferences.

1. Greeting the crowd gathered to cheer him as he drove past a bridge at Manamadurai.
2. The school building at Thekkur.
3. and 4. At the School Improvement Project Conference at Thekkur.





1. At the public Meeting at Tuticorin.



2. With the pearl divers at Tuticorin Pearl fishery.



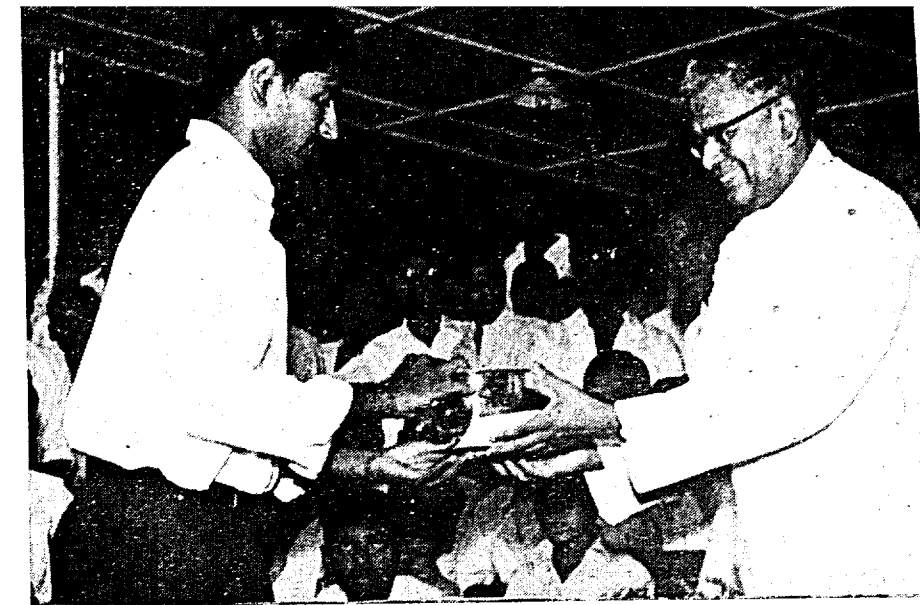
and 4. Unveiling the portrait of Sri Kumaraswami Raja at Rajapalayam.



5. At the Industrial Estate at Madurai.
6. Tete-a-tete with the Chief Minister at Adaikkalapuram.



STATE TRANSPORT EMPLOYEES SPORTS



The Annual Sports of the Madras State Transport Employees was held in March. The photographs show Sri. R. Venkataraman, Minister for Industries and Nationalised Transport, distributing prizes.

Below : Finish of the Lemon and Spoon Race for the girls.



College Education

Tamil as Medium of Instruction

Government have had under consideration the question of medium of instruction in colleges for a long time now. It was decided long ago that, as stated in the Government's memorandum submitted on the report of the Official Language Commission, it should be an objective of educational policy to bring about the progressive development of the regional language for use as the medium of instruction at every stage of education, not excluding the highest. The policy of Government in the matter has been stated thus in the answers given to the Questionnaire of the Official Language Commission "to adopt the regional language or mother-tongue as the medium of instruction at the secondary stage and also to make possible the adoption of the regional language as the medium of instruction at the University stage." But Government have not been unaware of the difficulties in implementing the latter part of this policy chief of which are the great paucity of the necessary literature in the various fields of knowledge and the paucity of teachers qualified to teach in the language. In the Memorandum submitted by the Government to the Official Language Commission, the attitude of Government (which was endorsed by leaders of all parties in the Legislature) was formulated as below :—

"There is a conflict requiring reconciliation, between two different objectives, viz., the need for raising higher educational standards and the need, also, to develop the potentialities of the mother-tongue as the vehicle of culture. The Government of Madras have not yet taken a decision on how this reconciliation is to be effected. Present indications are that the answer will have to be found.

First, in making a distinction within the field of higher education between scientific and professional education and education in the "Humanities", and, on the basis of this distinction (a) taking active steps to bring about an early change in the medium of instruction in colleges so far as the latter is concerned; and (b) continuing to use English as the medium of scientific and professional instruction in colleges, at any rate, without change until 1965; and

Secondly, while continuing to maintain English as the Second Language and subject of compulsory study in Secondary Schools, to undertake all practicable measures for improving the efficiency of instruction in the study of that language."

This question was discussed by the newly constituted Tamil Development and Research Council where the view that a beginning should be made with Tamil as the medium of instruction in the reorganized B.A. degree courses found almost unanimous acceptance.

The question has been further discussed with the Vice-Chancellors of the two Universities in the State and their advice taken. As a result of these discussions, Government wish to reaffirm explicitly their policy in the matter as set out in the Memorandum presented to the Official Languages Commission and declare that English will continue to be the medium of instruction in respect of all University degree courses except the reorganized B.A. degree courses and that no change in this respect will be considered, until the two following conditions are satisfied, viz., (i) the change-over should be demonstrated to have been successful in respect of the B.A. degree courses; and (ii) an agreed decision on the nature of the changes (if any) to be made in respect of any other University degree course should be taken on a co-ordinated basis for all Universities in India.

The medium of instruction of the reorganized B.A. degree courses in the State will accordingly be changed to Tamil. It is obvious that the best time schedule for this change will be one which will link it with the reorganization of Secondary Education. This is due to commence in the academic year 1959-60 and the first batch of pupils admitted to the new VIII standard during that year will complete—the new XI standard in the Higher Secondary School (as the equivalent of the Pre-University Course in Colleges) in 1962-63. Those students of this batch who are declared eligible for admission to the B.A. degree course, will therefore constitute the first batch of pupils for whom instructions will be available in the Tamil medium in the Colleges of the State. That is to say, the change will be made from English to Tamil as the medium of instruction in the B.A. degree course during 1963-64 for the first year of the course, during 1964-65 for the second year of the course and during 1965-66 for the third year of the course. At the end of the Third Five-Year Plan, the first batch of pupils will get their B.A. degrees after completing their entire education in schools and college with Tamil as the medium of instruction.

It will be open to private colleges to continue to provide English medium instruction in the B.A. degree courses even after this change-over is effected; but no grant will be payable by the State Government in respect of such courses.

Government wish to make it clear that the study of English as a subject will continue in the new Tamil medium B.A. degree courses and emphasize that the standard in this subject will be, as it is at present, the same as in Part I of the reorganized B.Sc. degree courses.

In order to commence the change-over during the year 1963-64 all necessary preparations will have to be completed before the end of 1962-63. The adequacy of these preparations should be demonstrated by the fact that those who have made the preparations have actually succeeded in providing the instruction in Tamil successfully for all the three-years of the B.A. degree course; Text books, Technical Terms, Instructional machinery and procedure should be evolved in the actual process of imparting instruction in the Tamil medium. To this end, a "Pilot College" will be organized. The change-over will be introduced in the first year of the B.A. degree course during the year 1960-61 in the "Pilot College" and extended to the Second year and Third year in the same College. In the process of imparting instruction in the Tamil medium in this college, all the preparations necessary for the change-over to be made throughout the State during the year 1963-64 will also be carried out. Government have decided that the Government Arts College, Coimbatore, will be the "Pilot College" where the change-over will be introduced in 1960-61.

Government are anxious that the pupils taking the Tamil medium B.A. degree course in the Pilot College in 1960-61 should not entertain the apprehension that their future prospects will be adversely affected thereby. To this end, Government wish to give the assurance that these pupils will not only have equal opportunities with others in regard to admission to post-graduate courses, employment under the Government of India, etc., but will also be given special preference in the matter of selection to suitable appointments under the State Government and in quasi-Governmental agencies.

To advise them on the implementation of this policy and to plan the various preparatory measures to be undertaken in order to introduce the Tamil medium in the Pilot College in 1960-61, Government appoint a committee to be known as the 'College Tamil Committee' consisting of the following members:—

1. Sri G. R. Damodaran, Principal, P.S.G. & Sons Charities, College of Technology, Peelamedu—Chairman.
2. Sri V. A. Devasenapathi, Reader in Philosophy, University of Madras.
3. Sri K. R. Appalachari, M.A., L.T., Principal, V.O.C. Training College, Tuticorin.
4. Sri S. Velayudhan, Chief Professor of Economics, Presidency College, Madras.
5. Sri T. P. Meenakshisundaram, Head of the Department of Tamil, Annamalai University, Annamalai Nagar.
6. The Principal of the Government Arts College, Coimbatore,

and three other members to be co-opted by the Committee. Sri V. Kannaiyan, Secretary of the Tamil Development and Research Council, will be the Secretary of the Committee. The necessary staff to assist the Committee in its work will be appointed in due course.

The Committee will consider the following points and advise Government on them :—

(i) The mode of selection of pupils for the B.A. degree courses in the Pilot College. It is necessary that pupils should be chosen from every district and should be the best among those, who, being eligible for admission to the B.A. degree course decide to take that course.

(ii) The selection of staff to conduct the new courses—The staff of Professors and Lecturers for the various subjects of the B.A. courses in the Pilot College should be specially got together so as to comprise an organized team which will be competent to impart instruction in the Tamil medium. Even though the Pilot College will be a Government College, the selection of staff for these courses need not be confined to people in Government service and the choice should be from as wide a circle as possible so long as the persons chosen possess the qualifications prescribed by the University. The Committee might prepare a list of suitable persons to take up the various subjects of the B.A. course from which Government could choose the members of the staff to run the new courses.

(iii) Preparation of text books and lecture notes for the new courses.

(iv) Technical terms to be used in the new courses—As far as possible, well known international terminology should be used subject to such adaptations as may be necessary. Well known Tamil terms may be used but it would be desirable in such cases to have the international terms also indicated in brackets.

(v) Any other matter relevant to the conduct of the Tamil medium B.A. courses.

The Committee will be free to consult all persons whose advice and opinion in the matter will, in its opinion, be useful. The first report of the Committee may be submitted to Government in three months.

Dr. U. Krishna Rao, Speaker of the State Legislative Assembly, addressed the members of the Madras Branch of the Parliamentary Association on the impressions of his visit to some of the Parliaments in the Commonwealth.



Glazed Pottery of Karigiri

SRI E. N. NARAYANASAMY,
Assistant Director of Industries and Commerce, Vellore.

The art of making pottery is as old as Civilization itself. It is difficult to say which people discovered the unique properties of clay first. What could have held the attention of the primitive man or invited his investigations more than this raw material found in such abundance with such sensitiveness to manipulation and responsiveness to touch?

Pattern of life in our villages shows that at one time they were self-sufficient units. Like the weaver, the blacksmith, the carpenter and other artisans, the potter also was an essential inseparable part of the village society. With the cheapest raw materials and crudest tools and equipments our village potters even to-day produce not only articles of utility but also wares of great charm—perfect in form and design. However, the village potter unfortunately has been unaware of the development the industry was making outside with the result that he finds to-day a shrinking market for his wares. At the same time modern factories spring up catering for the present day needs in ceramic wares and the potter finds no place in them as he has neither the useful knowledge nor the required training. The industry in its turn has been unable to tap the resources of the traditional skill and craftsmanship of our village potters. Can we reconcile this situation, the situation in which Pottery industry develops without potters? Can something be done to make the village potter the backbone of the developing Pottery Industry? Can the traditional potter be trained and his craftsmanship and skill made use of to produce articles to meet the present day demands? This problem invites immediate attention.

This article endeavours to give some idea of the potters of Karigiri whose traditional glazed pottery wares have earned a name among art lovers. It may not be out of place here to mention in passing something about the Ceramic Industry of which glazed pottery forms only a part.



Fig. I.



Fig. II.

The word 'Ceramics' is of Greek origin, having been derived from the word 'Keramos' which in Greek means 'burnt stuff'. Later the word came to be applied to non-metallic and it became synonymous with fired clay wares. But the Ceramic Industry in its modern sense may be said to include the following branches: White-ware, heavy clay product, refractories, abrasives, glass, enamels and cements. Actually the industry as known to-day is a group of many smaller industries which are distinct and separate and are only grouped together for convenience. In spite of wide variation in the process used and the materials employed in these industries they are all treating silicates or closely allied oxide materials by the use of heat for the purpose of producing useful products.

Karigiri is a small village in Madras State which has now become famous for its decorated Pottery. This village is three miles north of Katpadi Railway Junction on the Southern Railway. The glazed Pottery Industry here is said to have been in existence for the past several generations. There are at present six families of potters in this village and the legend goes that they are all the descendants of one 'Sanyasi Udayar' who is said to have been engaged as a craftsman by the Nawab of Arcot (18 C.A.D.) who used to camp at his Karigiri Fort quite often. The ruins of this fort are still in existence near Karigiri village. It is said that this Sanyasi Udayar was specially engaged by the Nawab for making hukkas and other articles for him. This has slowly developed and the potters now make many types of decorated glazed articles of traditional design. Bowls, jars, khojas, etc., of bright colour and ornate beauty are among them. They reveal in them traces of Muhammadan culture of the times. The present generation is the most benefited through wide public patronage and efforts of Government to improve their craft.

The manufacture of glazed articles by these potters makes an interesting study. Their pottery, till about seven years back, were being made of white 'Namakatti', a substance traditionally used by a certain section

of the Hindu community for putting caste-marks on their foreheads. Namakatti is a type of impure calcareous clay which turns plastic when mixed with water. Of late these potters have started using a whitish clay occurring near Karianthangal in Chingleput district, which is about 60 miles from Karigiri. This clay works out cheaper to the potters than the 'namakatti' they used to buy locally at exorbitant rates. The whitish clay is made plastic with addition of required amount of water, well kneaded into a dough like mass and articles shaped on ordinary potters'



Fig. III.

wheel. When the articles are in leather-hard condition, several designs and motifs are worked on them by the use of ingeniously devised hand-tools and implements. Various forms of decorating are resorted to at this stage. Then the articles are drier in shade and after complete drying, they are baked to low temperatures of about 400-500° C. which process is known as 'biscuiting'. With this processing, the articles attain sufficient hardness to enable them to be handled easily. Biscuiting wares are then coated with 'glaze' usually coloured either green or blue.

Glaze is a ground mixture of several oxides of minerals and chemicals which, when applied on clay wares and heated up to suitable temperature, melt and cover the surface and give a glossy finish. Raw lead which fuses at a very low temperature is the main constituent of the glaze used by Karigiri potters. The glaze materials are ground in their own homes on grinding stones (ammis) and then applied on the biscuiting wares.

After the application of glaze, the articles are again baked to temperature of about 800° C. in a crude form of a kiln, adopting a process of burning which is as old as the history of pottery in this village and which has not undergone any change so far.

The illustrations shown above will help the reader to understand the various stages of building up this interesting kiln and the manner the articles are fired to develop the gloss. Figure 1 shows how the articles are placed on crude forms of 'stilts' or otherwise known as 'props', giving the minimum points of contact so that the glaze on melting may not stick to the supports. Sometimes the glaze is also scraped off at the points of contact. Then, three small pipes, specially made for the purpose, are placed around the articles to be fired, which serve as pedestals for a big size broken pot to rest upon and cover the articles as shown in Figure 2. The

broken pot serves the same purpose as saggars do in modern ceramic factories. They prevent the articles from getting discoloured by the smoke during the firing process. Fuel, mainly cowdung cakes and straw, is then stocked all over in sufficient quantity which is judged by experience, so as to obtain the required temperature to melt the glaze. Finally, the stock is plastered with ordinary earth, as illustrated in Figure 3 and the kiln which was built up to methodically is then lit up. Fuel gets burnt and the glaze melts at the highest temperature attained in the kiln. The entire stock, after complete burning of the fuel, reduces to the size as seen in Figure 4. Allowing for a day's cooling, the kiln is broke open to remove the glazed articles.

Pottery of Karigiri, though remarkable for its simple technique of production evolved by the villagers years ago, has many drawbacks in them. The potters make only few designs evolved years ago and no attempts are made by them to produce new types or improve on old ones. Only blue and green are the colours used by them and they are ignorant of materials that can produce other colours and shades. Their products also have certain technical faults. The main fault is that the glaze is not scientifically compounded and so, the glaze and the body do not fit properly resulting in the defect known as 'crazing'. Again glaze coating is not uniform causing deep shades where the glaze is thick and light where it is thin. The body is also highly porous and the articles are very fragile.

To obviate the technical defects and to give a fillip to this traditional craft, the Department of Industries and Commerce, Government of Madras, with the assistance from the All-India Handicrafts Board, have worked out a scheme for the development of Karigiri Pottery. Under the scheme, an improved type of rectangular down-draught kiln, at a cost of over Rs. 2,000, was built at Karigiri for biscuiting and glaze firing the articles. This kiln which is a permanent structure will facilitate greater control of firing operations and provide for higher and more uniform distribution of temperature inside it. The kiln can be used for biscuiting the body first to a temperature of 700 to 800° C. and then for glaze firing to a temperature of 1,040° C. or over if necessary. Coal will be used as fuel. The department has also started an experimental centre situated in the premises of School of Arts and Crafts, Madras, for conducting a systematic study of the

(Continued on page 30)



Fig. IV.

Drink More Milk Campaign

SRI V. BALASUNDARAM, I.A.S.,
Registrar of Co-operative Societies.

Milk is one of the few foods which can be consumed in its natural state and which possesses also all the essential ingredients of food required for an "Ideal and balanced diet". Milk is made up of water, proteins, fat, sugars, minerals and vitamins in the right proportions. Though some pulses and grains supply a quantity of vegetable proteins, it is necessary also that an adequate quantity of animal protein is provided for in the human diet. Milk is a good source of such animal protein and it is of special significance to those who are vegetarians. The bulk of the population in India comprises of vegetarians and hence the consumption of milk as a necessary article of diet is of vital importance. But at present, the *per capita* consumption of milk in India and especially in the Madras State is far below the normal standard laid down by nutrition experts. Increased and wider consumption of milk by the people is urgently needed.

In order to achieve increased consumption of milk, there should be not only increased production of milk but it should be made available at rates within the means of the common citizen. Though India has a large cattle population, a fourth of the World Cattle Population, the output of milk is poor and according to the law of supply and demand, milk has acquired a scarcity value and consequently not cheap enough to reach the lower groups of the people. This two-fold problem has been receiving special attention of late. Besides proper feeding and maintenance of animals, special steps are under way to improve their breed so as to yield more. Milk Co-operatives and Cattle Breeding Societies have been formed in large numbers in this State to tackle these problems and under the Second Five-Year Plan, a marked advance has been made in the production of more milk. We have at present 696 Milk Supply Societies, 20 Milk Supply Unions engaged in milk production. On account of the special attention given to this matter, the milk production in the State which stood at 39,200 Madras measures per day as on 1st April 1956 has risen to 52,667 Madras measures per day at the close of the year 1958-59. There are 16 societies engaged in improving the breed of the cattle. The process is doubtless slow, but it has to be tried and implemented patiently.

Besides increased production, co-operatives have to devote their attention to the building up of the market and make people "Drink More Milk". In the first place, the milk drawn from the animals should be processed and pasteurized to make it safe for human

consumption and also to retain its qualities for a longer time to meet the exigencies of the market. Secondly, the machinery required for effective marketing of milk to a wider section of the people should be built up and adequate facilities provided for this purpose. Thirdly, intensive propaganda is needed to rouse the consciousness of the people in the matter of increased consumption of "milk" compared to the other beverages available in the market.

In the matter of processing of milk, the Madras Co-operative Milk Supply Union was the first to instal a pasteurization plant in 1939 and it is now handling daily about 16,000 lb. of milk for pasteurization and supply in the Madras City. Under the Second Five-Year Plan more such pasteurization schemes have been included for implementation. The Kodaikanal Milk Supply Union undertook the installation of a pasteurization plant of 60 gallons per hour capacity and it was installed in the first year (1956-57) of the Plan. Another pasteurization scheme for the Coimbatore Co-operative Milk Supply Union has been taken up in 1958-59 for execution and it is expected that a plant for Madurai will be taken up in 1960-61. There are also similar schemes awaiting implementation through the Tiruchi-Srirangam and Salem Milk Supply Unions and an additional plant for the Madras Milk Supply Union, which may perhaps be included in the Third Five-Year Plan. Chilling of milk is yet another way to facilitate handling of larger output and three schemes under the Second Five-Year Plan are under consideration. To facilitate the speedy transport of milk in bulk from the newly opened production centres to the factory, a scheme for the purchase of two milk vans for the Madras Milk Supply Union has been included in the Plan and sanctioned. Government advances are also available for the purchase of vans wherever needed.

As regards building up of the market, it is necessary that adequate facilities should be provided to cater to the needs and requirements of the consumers at all times and make the milk available round the clock. For the Madras City, a scheme for the opening of 10 depots in addition to the existing 54 retail depots, duly equipped with coolers so as to stock milk and sell, is under consideration. Further, with a view to getting the milk distributed in time, it is proposed to equip the Union with 12 lambrettas. In the mufassal Unions necessary action is being taken to augment the number of sales depots

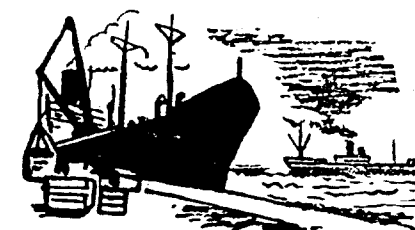
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TWO Great BENEFITS

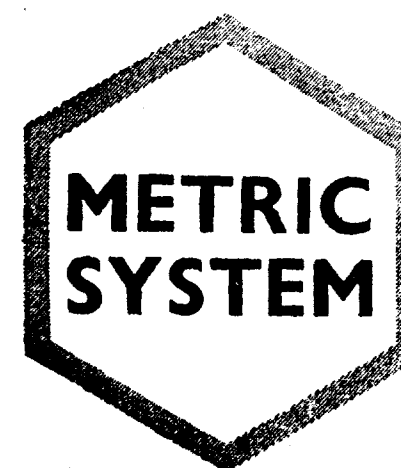
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ISSUED BY THE GOVERNMENT OF INDIA

Cooperative Dairying

SRI M. A. HAFEEZ,
Joint Registrar of Co-operative Societies, Madras.

No Industry is as akin to agriculture as "Dairying". It is a natural off-shoot of it. Next to land, cattle is the primary asset or the working capital of the ryot. The cattle provide organic manure for the land and enrich the soil. They are used on the land for ploughing and draught purposes, while the female-stock yield milk which is consumed not only by the ryot and his family but the surplus marketed to others. In a country like India, mechanized agriculture is yet the exception and hence cattle will continue to be all-important to agriculture for many more years to come. While there is a possibility in the distant future of replacing the work-bullocks by agricultural machinery, it would be impossible to replace or eliminate the milch animal. On the contrary, there is bound to be greater and greater demand for the milch cattle so as to provide more milk for the growing needs of the country. "Dairying" will thus continue to be as important as it has been hitherto.

"Co-operation" gives all the motive force to the sound organization of the dairying industry. As it stands at present, in the vast majority of villages, the industry is carried on individually in a disorganized fashion, leading to no economic benefit ultimately. Co-operation is the right solution for this and it has been recognized on all hands that "Dairying" should be organized and stabilized as a virtual and live industry in the co-operative way. The common ryot does own one or two milch animals along with his pair of plough bulls, but this does not enable him to run the dairy industry on economic lines. In the first place, he needs credit to go in for the right type of milch animals and also build up an adequate stock to run the industry on economic lines. The credit should be easy, not costly, repayable in reasonable instalments consistent with the income derived from the industry. Next, there should be sound management of the animals, i.e., proper breeding, scientific feeding and provision for salvage of dry stock. Further, the milk produced should be got marketed at a profit and should there be any surplus, it should be got converted into such by-products as would not result in loss. All the aspects of the industry demand a high degree of technical skill, not always available with the common ryot in Madras.

Early organization of the industry on co-operative basis is therefore called for. In Madras, efforts in this direction date back to the twenties of this century when milk supply co-operative societies intended for the milkmen producers and to improve their economic status came to be started. A cluster of such societies were formed round about Madras City in the District of Chingleput and also in the Madras City and these were federated into the Central institution, called the Madras Co-operative Milk Supply Union which came into being

in the year 1927. It made a small beginning with 48 Madras measures of milk per day and in due course, it formed many more such feeder societies and stepped up its daily production to 6,691 Madras measures. To-day the Union has as many as 131 feeder societies with an average daily production potential of 9,000 Madras measures. In the other parts of the State too, the gospel of co-operation spread and similar Milk Co-operatives and Unions came to be formed. We have now as many as 565 Milk Supply Societies and 19 Unions in the State exclusive of the Madras Milk Supply Union and its feeder societies.

Provision of Credit.

The first and foremost problem has been to provide the requisite credit to the ordinary agriculturist to own milch cattle or replace the dry or worn-out stock. During the early years of the formation of the milk co-operatives, Government came forward and provided loans free of interest for the purchase of milch animals from the year 1945-46. This concession continued up to 1951-52 when such loans were replaced by interest bearing loans at 3 per cent. The rate of interest was increased in subsequent years and now the rate is 5½ per cent per annum. Under the Second Five-Year Plan, greater attention is bestowed to provision of more credit to the milk co-operatives so as to enable their members to purchase and own milch animals. During the first year of the plan (1956-57), Rs. 7 lakhs were disbursed as loans, in second year Rs. 8 lakhs and in the third year Rs. 10 lakhs to the co-operatives. These loans are now being supplemented also by the loans made available by the District Co-operative Central Banks. Under section 17 (4) (c) of the Reserve Bank of India Act, the District Co-operative Central Banks are eligible for drawing upon the Reserve Bank Credit for financing Milk Co-operatives for enabling their members to purchase milch animals. The District Central Banks have therefore been requested to avail of this facility and make the required credit available to the societies at a rate of 4½ per cent which would enable the latter to lend to the ultimate borrower at a rate not exceeding 6 per cent. The normal credit limit per individual for such loans is restricted to Rs. 250 and in special cases to Rs. 500. Where the societies need larger loans on behalf of the members, who desire to go in for high-bred animals, the individual credit limit could be got enhanced even up to Rs. 1,000.

Breeding Programme.

While providing more credit facilities, the purchase of the right type of milch animals by the members

should be controlled effectively so as to give the maximum results. The members should be given the proper guidance for the selection of the right animals suited to the breeding tract so as to gain the double object of improving the local breed and also increased milk yield. It would be impossible for the individual ryot to undertake any breeding programme himself. No doubt, the guidance of the Animal Husbandry Department is available for improved breeding. Key Farm Villages are being opened in the breeding tracts under the Government of India Scheme. Artificial Insemination Centres are also being opened wherever needed. However, co-operative effort in this direction is also necessary to bring about a more voluntary urge on the part of the members to take to breeding schemes and also exercise an educative influence on the members. Co-operative Cattle Breeding Societies have been formed at 16 centres in the Madras State of which, 4 were established under the Second Five-Year Plan with 14 stud bulls (6 bulls and 8 murrabi buffalo bulls). A scheme for integrating the activities of the Cattle Breeding Societies with the Milk Supply Societies has recently been introduced in the area of operations of these Cattle Breeding Societies at Uttiramerur, Semmanangur and Tudiyalur, according to which, select members of the Milk Supply Societies working in their jurisdiction will be advanced loans of Rs. 500 each for the purchase of high-bred heifers and on condition that the members hand over their first male bull-calf to the Cattle Breeding Society on payment of a nominal amount of Rs. 50. During the last two years of the Second Five-Year Plan, 8 more Cattle Breeding Societies would be established at suitable centres to gain the above objective.

Handling of Milk.

Next, we have to devote our attention to the scientific handling of the product of the Industry, namely, milk, and the marketing of it to the best advantage of the producer members. At the stage of milking, special attention should be devoted to common milking under effective supervision, pooling and assembling of milk in hygienically cleaned milk cans. The Milk Co-operatives in Madras have become quite accustomed to these innovations and the quality of milk is assured, even though the system of pricing of milk on the fat content has not yet come into vogue. The system of chilling milk after it is pooled has not yet been introduced. There is a proposal to start "Chilling" at Singaperumalkoil which is one of the centres at which the Madras Co-operative Milk Supply Union pools its milk drawn from the villages.

Milk is a highly and easily perishable article of food. It is also a fertile medium for the rapid bacteriological activity which is responsible for the spoilage of milk. Some bacteria are also responsible for the spread of diseases through milk. In order to make the milk free from such bacterial contamination, the system of pasteurization has been recommended. Under this system, milk is subjected to a heating and cold treatment under the H.T.S.T. method, i.e., milk is heated to 161° F for 15 seconds and immediately cooled to 40° F.

Pasteurization thus makes milk safe to drink and prolongs its keeping quality. Under this scheme of pasteurization, the Madras Co-operative Milk Supply Union was the first to instal a pasteurization plant in 1939. Next, a batch pasteurizer of 60 gallons per hour capacity at a cost of Rs. 0.32 lakh was installed by the Kodaikanal Co-operative Milk Supply Union in the first year of the Second Five-Plan with Government of India aid and as a result of this, the Union has raised its production capacity from 60 Madras measures per day to 220 Madras measures per day at present. The dairy machinery also provides for equipments for butter and cheese manufacture and this also helps the Union to convert all surplus of milk into butter and cheddar cheese for which there is great demand in the country. Another proposal for the installation of a pasteurization plant H.T.S.T. 440 gallons per hour capacity is for the Coimbatore Co-operative Milk Supply Union at a cost of Rs. 8.33 lakhs. Arrangements are underway to get the dairy buildings ready and place an order for the plant which has to be imported from abroad.

Handling of milk requires also certain hygienic equipments and transport of milk through vans. A scheme was prepared for this under the plan on behalf of the Madras Co-operative Milk Supply Union and steps were taken to equip the Union with a transformer and an electrical can washer with a capacity for washing 6 cans at a time.

All these improvements have assisted the milk co-operatives in the State in the matter of augmenting their production, handling it in a hygienic way and processing it wherever necessary. At the close of the third year of the present Plan, Madras State had 696 Milk Supply Societies and 20 Milk Supply Unions working with a daily average production of 52,660 Madras measures as against 581 Milk Supply Societies and 19 Unions and a production of 39,200 Madras measures per day at the commencement of the plan.

(Please turn over)

Srimathi Lourdhammal Simon, Minister for Local Administration, presided over the 69th Anniversary Celebrations of the Hindu Theological High School, Mint Street, Madras, on 1st April 1959 and distributed prizes to the students.



Yet another important factor needed for the stabilization of the industry is the provision of insurance for cattle; both the draught and the milch animals. Cattle insurance is not only effective as a means of making good the loss through death of animals, but it also reduces the incidence of disease and number of deaths. It will also help both aspects of cattle improvement, viz., feeding and breeding, and thereby by dairying industry will be helped. The Indian Council of Agricultural Research have recently forwarded a Pilot Scheme of Cattle Insurance for the consideration of the State Governments and to share the cost of the scheme at State level on 50:50 basis. When this scheme is implemented it would go a long way to impart a sense of security to the dairying industry.

Milk Marketing.

Milk co-operatives are essentially producers' organizations intended primarily to promote the interests of the milkmen producers. But at the same time, they cannot assume the position of a monopolist and dictate their terms to the consumer population at whatever price they desire. The price factor is all important to sustain the industry on the one hand and to draw the co-operation of the consumer. It is necessary therefore to set up an organization—like the Milk Marketing Board of England—with adequate representation of both the producer and the consumer interests, so as to even out the differences that might possibly exist. This arrangement together with more of intensive marketing organization and sales promotion, it should be possible in the near future to augment the *per-capita* consumption of milk in the Madras State which is at present as low as 4 oz.

Together with increased milk production, the milk co-operatives in Madras have increased their marketing side too, both in the matter of marketing fluid milk and also the by-products. More milk bars have been opened at busy centres, supply of hot milk on Railway platforms has become a normal feature while ice-cream parlours are opened according to the seasonal requirements of the customers.

(Continued from page 25)

different types of bodies and glazes which could be adopted by Karigiri potters. A suitable body composition has already been standardized which is a great improvement on the types of low-fired porous body that is being used by the potters. Different coloured glazes, like deep yellow, blue, chocolate, green and black have been tested and standardized. New designs in keeping with modern trends have been evolved and several items like ash-trays, jars, flower vases, wall brackets, fancy toys, etc., are being produced. As envisaged in the scheme, six potters on a stipend of Rs. 50 per mensem each were recently given intensive practical training at the Ceramic Institute, Gudur, in all the techniques of production of imported items of ceramic articles. They were also trained in the operation and control of the

down-draught kiln similar to the one built for them in their village. Further, in order to give more confidence in operating the kiln, an experienced kiln fireman has also been appointed at Karigiri. The six potters have been supplied with improved tools, standard glazes and body mixture, etc., worth about Rs. 250 each free of cost in addition to the free use of the kiln and free services of the fireman referred above.

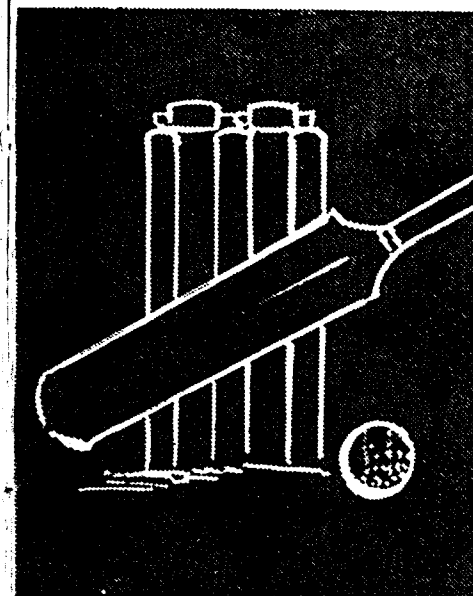
An industrial co-operative has also been organized with these potters as members and financial assistance in the form of reserve fund grants, share-capital grants and working capital loans have all been given. Proposals for providing these potters with dork sheds, free of cost, were also underway.

All these efforts of Government at revitalizing this traditional craft at Karigiri have helped to create a new zeal among the craftsmen. It is hoped that these potters and their descendants will long continue to cherish the memory of late Sanyasi Udayar—the originator of glazed pottery at Karigiri and that the village will continue to be known for its art pottery.

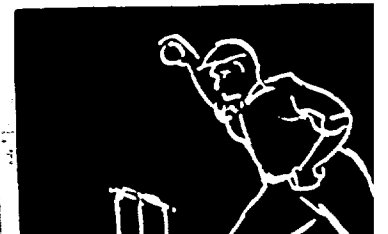
(Continued from page 26)

and milk bars for the sale of more milk and milk by-products in addition to the house delivery of milk by cycle vendors. Coolers have been installed in some centres to sell rose-milk and ice-cream. A well-organized marketing machinery, with all the necessary equipments, particularly milk packed in fine labelled bottles is bound to catch the eye of the consumer. The price factor is yet another important consideration. With increased production and a fall in the general level of prices in due course, particularly of the cattle-feed-stuff, the market price of milk is also likely to go down and come within the reach of the common man.

Intensive propaganda to bring home to the people, the tremendous value of "milk" is called for. Audio-visual equipments are necessary to demonstrate to the public the importance of "milk" in the daily diet of the people, particularly of the growing children, expectant mothers, the old and the decrepit. A special scheme for the purpose is proposed to be included in the ensuing Third Five-Year Plan. In the United Kingdom 80 per cent of the milk produced in the country is consumed in the fluid form. The Milk Marketing Board, constituted with the representatives from all regions of the country, has become a unique institution working in close co-operation with the Government. The Board is responsible for fixing the price of milk and for its fair and efficient distribution. Similar organizations started in our State would help to achieve the objectives and expand the market for fluid milk. Under the future socialistic set up of our country, the co-operatives will be called upon to play a significant role not only in building up the production of milk in the State to the best advantage of the producer but also in its distribution to the ultimate benefit of the consumer.



Legislators' DAY





Legislators' Day Sports were held on 27th, 28th and 29th of March. On 27th, a Cricket match was held between the Governor's XI and Chief Minister's XI. The photographs on the previous page show the Chief Minister, Finance Minister and others in action.

Legislators' Day

*Top Row : Fancy Dress Competition in Progress.
Above : Women's Musical Chair, Breaking the pot and putting the shot. Sri Rashid pulling a car with his teeth.
Below : Tug of War, and Prizes being distributed by the Chief Minister.*



Improvement of Environmental Sanitation

Research-cum-Action Project

Dr. S. Subbiah and Dr. Isaac Joseph.

The Research-cum-Action Project is essentially an Action Project. The need of the moment is a study with action in rural areas with a view to improve health conditions. Everyone knows that in India more than 80 per cent of people live in villages. Many people live in villages with a population between 600 and 1,600. The purpose of the Research-cum-Action Project is to study conditions in villages of this size, with a view to improve environmental sanitation. There are three Research-cum-Action Projects now working in India, one at Poonamallee (near Madras), the other at Singur (near Calcutta) and the third at Najafgarh (near Delhi). These Projects are financed by Ford Foundation and are run by our Governments.

Education or learning, aims at people having chances to acquire certain experience, which will make them change their attitude and behaviour. For this we must see that :

1. Adequate information or knowledge is furnished.
2. People have motivation.
3. People get experience.

Education aimed at improving health habits, should cater to these three aspects. This is attempted in the Health Education work now being carried on in the Research-cum-Action villages, in selected areas of Chingleput district.

Preliminary work.

It is found necessary to do a certain amount of preliminary work in these villages before launching the Health Education programme. Village Level Workers from the experimental villages were first given a seven days' intensive training at the Research-cum-Action Project, Poonamallee. Selected Health Inspectors were also trained for three days at Poonamallee, in the techniques of Health Education. The essential principles involved in the Health Education programme were given to them in a series of steps, consisting of practical work and discussion sessions. Demonstrations which can be held under village conditions were arranged at Poonamallee. Practice in the use of Audio Visual Aids for Health Education was given. Audio Visual Aids produced after pretesting in neighbouring villages were also given to them.

Flash-Card Stories, Filmstrip Stories, Films Posters, Pamphlets, Tape Recorded Dramas, and Puppet shows were used.

To begin with, the Village Level Worker contacts village leaders individually. He talks to them about the village, the Health conditions in the village, achievements of the village, habits now prevalent in the village, problems in the village, and whether improved habits are likely to solve certain problems in the village. During his conversation, he uses questions as a method to encourage the village leader to think about the problems in his village, achievements of his village, and possible solutions to these problems.

The Village Level Worker interviews the different kinds of leaders in the village individually in the same way, to prepare the stage for the next step. He contacts official leaders like the Village Munsif and the Panchayat Board President, leaders among the elders—leaders among young persons, religious leaders, school teachers, leaders in Cheri, leaders among occupational groups and agricultural workers, etc.

Group discussions.

As a next step, these leaders are invited to meet in a group. The problems of the village are brought up for discussion. In such discussion groups, certain demonstrations are arranged, e.g., demonstrations of flash-card picture stories by the Village Level Workers, or the performance of an actual experiment showing how flies carry disease, demonstration of living flies from the village itself, and how food gets contaminated, and how diseases like dysentery, worms, diarrhoea, cholera, etc., spread in villages. The fact that such diseases are caused by living agents, which are voided in the faeces by persons who suffer from them, is thus brought home to the villagers by these demonstrations.

At this stage, the local village death registers are consulted and particulars of persons who died of dysentery and diarrhoea, cholera, etc., during the last one year or more, are brought to the notice of the village leaders, to help them to realize the magnitude of the problem of water-borne and soil-borne diseases, and the fact that all these can be prevented by simple methods, only if people have the will to do so. Likewise, the number of deaths among children under five years, in a year, is shown up as another indicator of the loss to the village, by causes, which with a little effort on the part of the villagers, can likewise be prevented. Comparative infant mortality rates in other countries are then exhibited, to help them appreciate the acuteness of the problem. It is a fact that every year in India two million die of infectious diseases of intestinal origin. The enormous economic loss on account of such

mortality and morbidity from bowel diseases, is indeed a striking feature which when brought home to village leaders, produces a reaction in them. By this time, the leaders get sufficiently motivated to plan for some kind of action to prevent such diseases. The Social Education Organizers guide the Village Level Workers in carrying out such group discussions. Similarly, group discussions are organized among women separately with the help of the Woman Social Education Organizer and the Health Visitor and Maternity Assistant. Thus, all available professional workers are invited for some of the discussion meetings, so that people can hear from them direct.

Planning action.

Now the village leaders form a main committee to plan a programme for their village. They form small executive committees for each area of the village to educate other people. The members of these committees use flash-card stories and posters to explain to their people how diseases are spread in the village and how they can stop such diseases and how they can promote their health. They contact individual families and explain these points, though specially prepared pamphlets which are distributed to all the families.

Exhibitions and demonstrations.

An exhibition is organized usually in the village school. Villagers now have a chance to actually see what they discussed till now.

Models of latrines are then shown to demonstrate the different parts of the latrine. They see now how they can have latrines in their houses at very moderate cost. They now learn that Government have decided to help them by a subsidy, by giving the essential parts of the latrine up to three-fourth cost. The poorer Harijans get further help up to 90 per cent of the cost of a latrine, thanks to the Harijan Welfare Department.

Side by side with the above activities, the children at school learn the above principles, through school flash-card stories, a series of school activities and school exhibitions. Latrines have now been provided in these schools, so that children can practice what they learn. The school teachers have been given special training for a day with practical demonstrations and discussions by the Research-cum-Action Project Team. This training camp was conducted at two centres with the active co-operation of the District Educational authorities. Action schedules were discussed with teachers in these schools so that children can learn about latrines by actually using them in the proper manner. "How to use a latrine" is demonstrated. Latrine models have been built by school children. School children also demonstrated the latrine idea by action songs and dramas. They wrote short descriptions of what they saw at the exhibitions.

Public meetings.

As a reinforcement to the above activities, public meetings are held at which the committee members report on their activities. Talks by professional workers, i.e., Doctor of Primary Health Centre, Health Visitor,

Health Inspector and Social Education Organizer and others help to keep the education programme going, so that villagers have a chance of getting really educated. Educational work is given to as many villagers as possible, so that they can have some learning experience. Professional workers offer necessary guidance to this process of education which is by no means an easy job. But current events show that patient and hard work does yield results in the long run. The stage is now set for the construction phase.

The construction phase.

With the above activities under way, people start asking for latrines. The Block Health Inspector arranges to give them the essential parts of the latrine at subsidized rates. The Village Level Worker helps him. Construction Committees are formed in each village. They help in the distribution of these materials, collection of other materials required for latrines and also explain to other villages the details of latrine construction. Village masons are now given training by the Engineer and construction work is started. The Block Junior Engineer and Health Inspector also train masons and villagers in construction of latrines as the work progresses. Masons are paid by Block Development Officers on the training day.

Now the villagers are in a position to carry on construction of more latrines. In many villages it is a pleasant sight to see the enthusiasm of villagers in this useful activity.

"Use meetings" are now organized to stress the use of latrines. Use-cards are given to all the families who construct latrines. Problems of how to get water in scarcity areas are presented through appropriate agencies.

Panchayats are requested to help schools to get water. In one village where there is acute water scarcity, the Assistant Engineer, Rural Water-supply Scheme, explained to villagers how to secure water-supply under the Rural Comprehensive Water-supply Scheme.

Village Leaders' camp at Poonamallee.

The Research-cum-Action Project Team felt that as an aid to the promotion of the educational programme in the Community Organization villages, it would be a good thing if the leaders of a few villages are brought to Poonamallee and given an experience in the use of latrines and in using discussions and health education material to promote the village education programme. It was expected that they would be initiated to formal habit changes like using latrines as there would not be any alternative to this while staying at the Research-cum-Action Project Campus at Poonamallee. To this end, a two days' camp for Village Leaders for both men and women was organized at Poonamallee in April 1958.

The education of villagers is a slow process and the "habit change" is expected to take a long time. However, the trend in our experimental villages is encouraging. We are working in a field where it takes time to get visible results.

Syllabus for Tamil Typewriting Examination

The Government have adopted a syllabus for testing the typists trained in Tamil Typewriting at the Central Training Institute, Madras, on the completion of the course. The syllabus is as follows :—

I—FIRST PAPER.

Speed Test :

To typewrite a passage of 540 words in double line spacing. Special attention must be paid to accuracy and neatness. Time—15 minutes. (100 marks).

Note.—Five strokes (excluding the use of space bar and shift key) will be counted as a word.

Presence of more than 4 per cent errors or omissions may be taken to indicate that the standard has not been reached.

II—SECOND PAPER.

This paper is intended to serve as a test of the candidate's knowledge of spelling, punctuation, printer's corrections and abbreviations and shall contain five questions covering the following :—

(a) To type correctly from rough and unarranged drafts in manuscript (lithographed) two questions not exceeding 540 words of official or commercial correspondence, Government Orders, Proceedings, Memoranda, Notices, Legal documents, etc., involving advanced commercial terms, display and correct arrangement of the component parts—headings, subtitles, marginal and foot-notes, quotations, etc. (45 marks).

(b) To type two advanced statistical tables and tabular matter (40 marks).

(c) Display work (15 marks).

Note.—All the above questions will be in manuscript and will consist of rough and unarranged matter. The candidates will be asked to take not more than three carbon copies for one of the questions.

Time.—Two hours.

The examinations will be conducted by the Commissioner for Government Examinations, Madras. Candidates already qualified in English typewriting by the Higher Grade will be exempted, from passing the practical test. The typists trained at the Central Training Institute may appear thrice for the examination, without payment of fees. The other Government servants, except those who are employed on emergency basis, may also appear for the Lower or Higher Grade Examination in Tamil typewriting conducted by the Commissioner for Government Examinations thrice, without payment of fees. The typists, who undergo the training in the Central Training Institute shall apply through the Secretary, Official Language Act Implementation Committee for the first time only, for appearance, without payment of fees. Those who are unsuccessful in their first attempt and other Government servants, who desire to appear for the examination shall submit their applications through the concerned Heads of Offices.

(Continued from page 16)

The Milk Scheme, in short, aims at giving assistance on the right lines to the producers to enable them to do their business on a properly regulated basis. Assured of a steady market and a guaranteed reasonable price, the producers will be enabled to concentrate on the production of milk of good quality at cheaper cost. The Government themselves will undertake the processing and distribution of milk thereby giving a guarantee to the consumers as to the purity of milk supplied. The control of the quality of market milk which is rather lax at present will be rigidly enforced under the new arrangements.

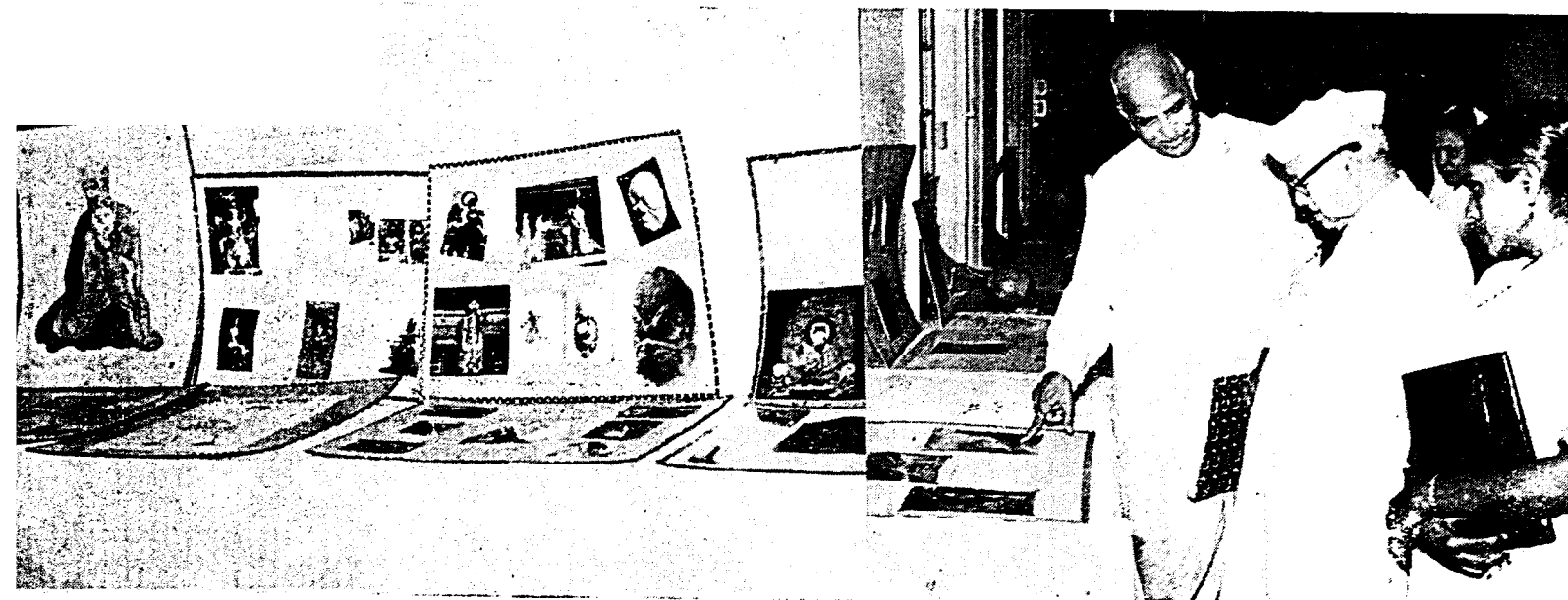
The Madras Dairy and Milk Project, which has been drawn up with the abovementioned objects in view, has been included as a Plan Scheme. The entire capital cost of the scheme will be obtained from the Union Government by way of loans and grants under the usual pattern of assistance by the Centre to the Dairy Schemes of the State. The Government of New Zealand have offered a gift of £215,000 for the plant and machinery required for Central Dairy. The scheme is well under way. The buildings for accom-

modating the first unit of 500 cattle are nearing completion.

Considering the importance of a safe and satisfactory supply of milk to a large population in Madras City and in view of the measures to be taken for augmenting production, collection, processing and distribution of milk, the Government have recently formed a separate department with a Milk Commissioner as its head to tackle efficiently the milk supply position in the City.

The implementation of the Madras Dairy and Milk Project can best be achieved only by the close co-ordination of all the interests involved and only with that view an Advisory Board has been constituted by the Government representing the different interests of the milk-trade. I heartily welcome you all to the first meeting of the Board and look forward to your counsel in all matters that may arise from time to time. I have no doubt that with your co-operation and advice the project will be implemented according to schedule and the milk-supply position in the City reorganised on sound lines.

[From the speech delivered at the meeting of the State Milk Advisory Board on 11th April 1959.]



An exhibition of "Indian Gods in Japan" was held at Raj Bhavan in March by Bikshu Chaman Lal. Photo shows the Bikshu explaining the significance of the exhibits to the Governor.



Sri V. T. Sambandan, Minister for Health of the Federation of Malaya, visited Madras recently. Photo shows Sri Sambandan being received on his arrival at the Madras Air Port.

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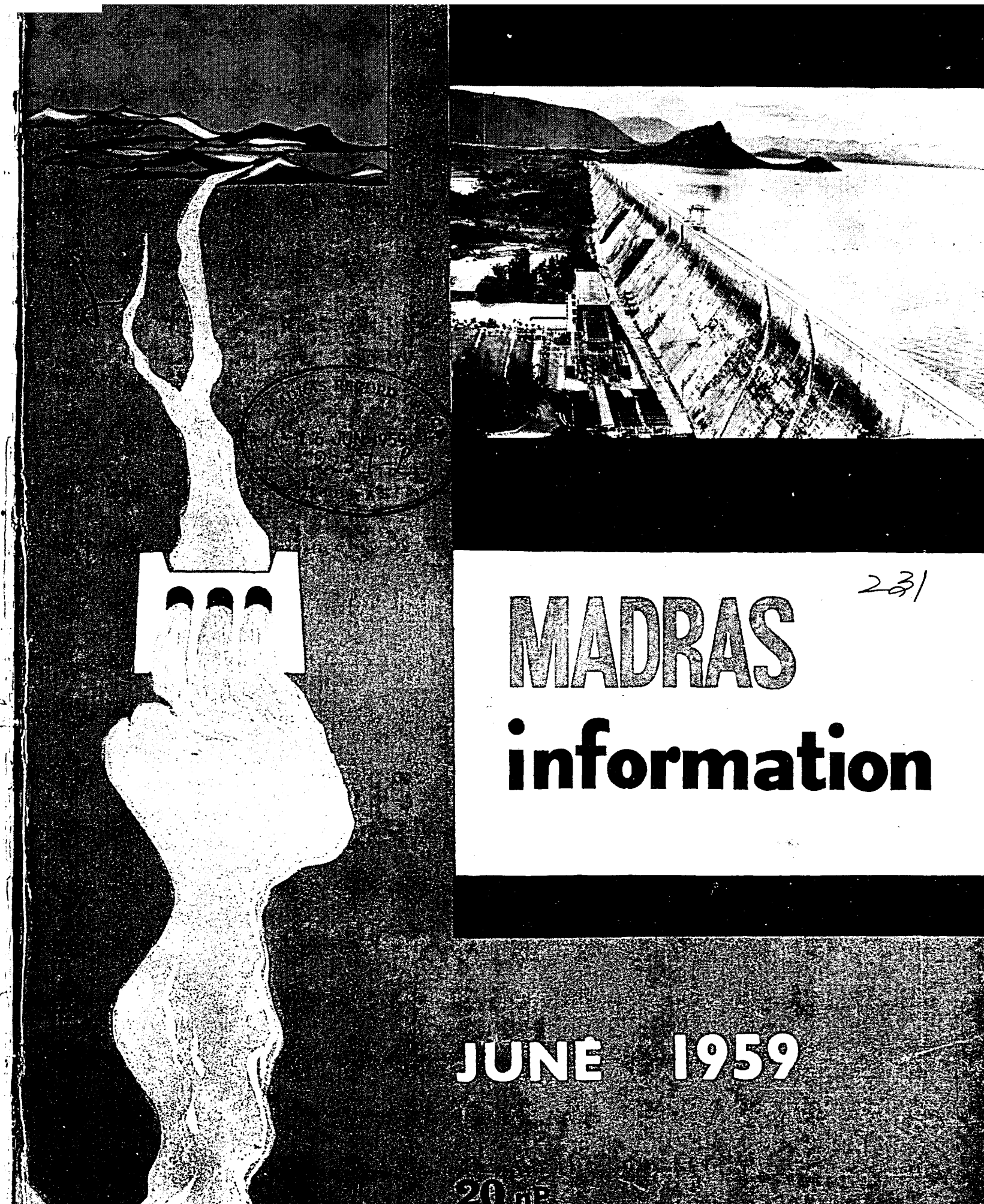
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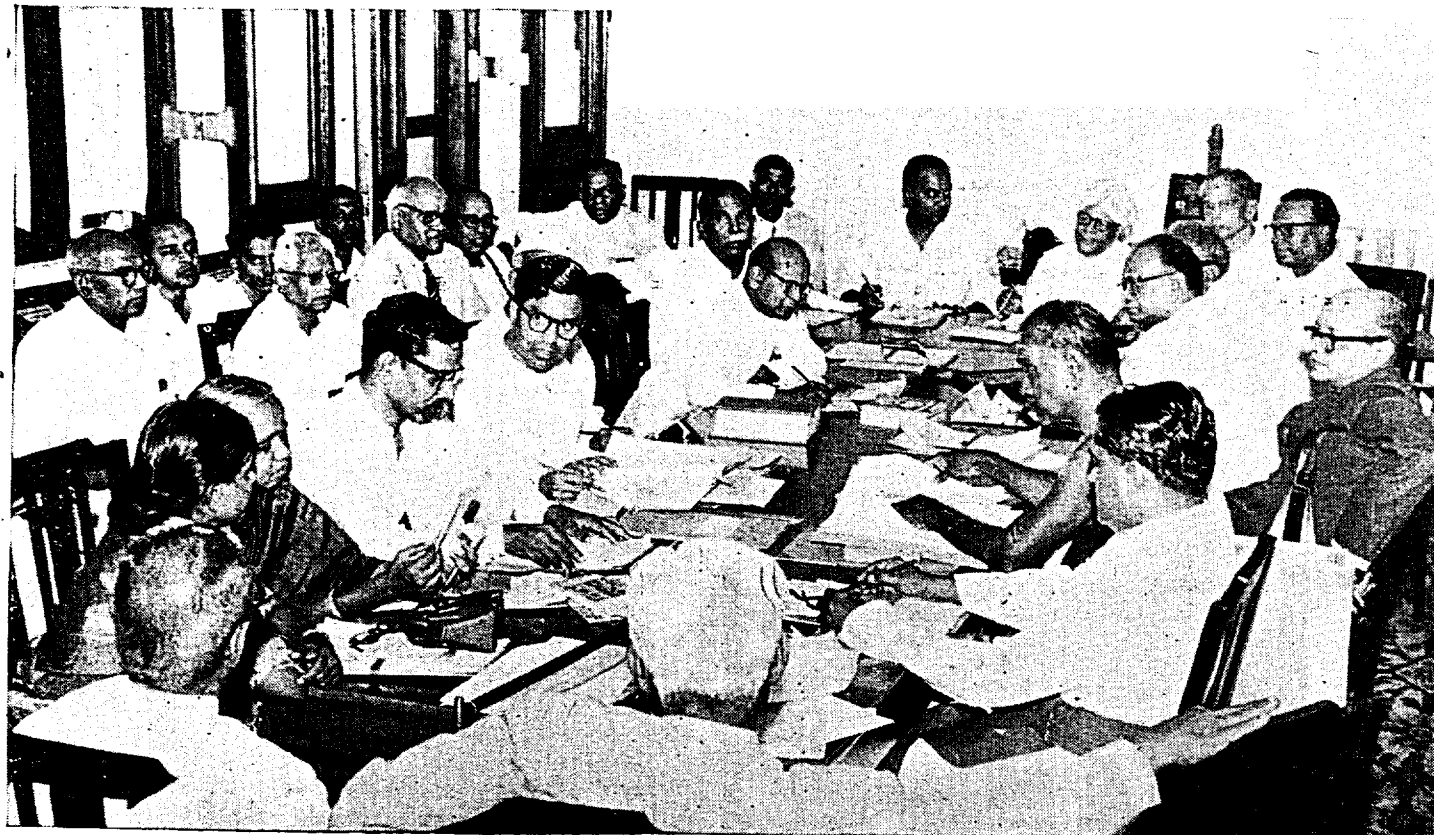
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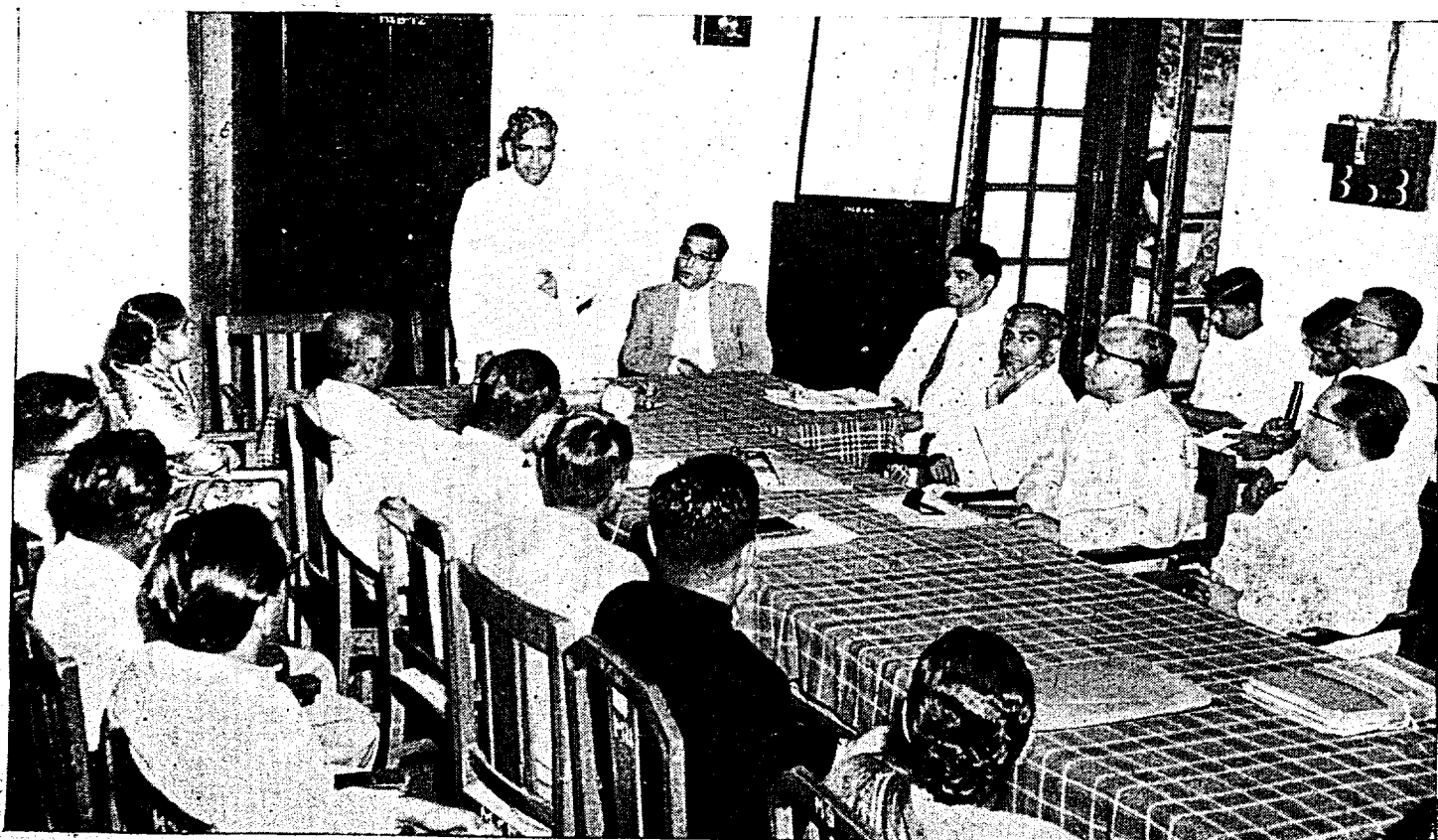
GOVERNMENT OIL FACTORY, CALICUT

(A Kerala Government Concern)





The First Meeting of the Tamil Development Council was held on 8th April 1959, Sri C. Subramaniam, Minister for Finance and Education, presiding.

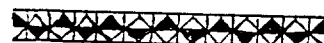


A Conference of Employment Officers in the State was held at Madras on 17th April. Sri. R. Venkataraman, Minister for Industries and Labour, is seen delivering his inaugural address.

"We Seek to Serve
and Not to Compete"



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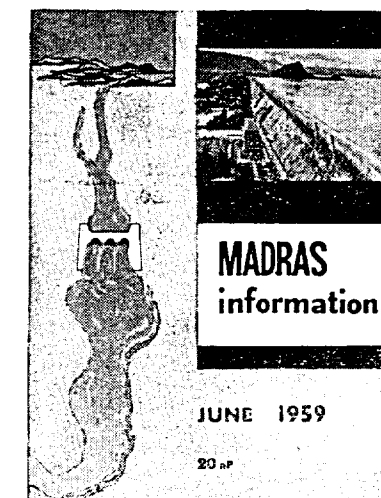


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This month's cover:



Madras State has harnessed all its rivers for Irrigation and power. This is a unique achievement which this State can well be proud of. On the cover of this issue you find a view of the Mettur Dam across the Cauvery.

MADRAS
information

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All the Rivers Harnessed

The ancient kings of South India evinced keen interest in providing irrigation facilities and vied with each other in building reservoirs, anicuts and channels. Almost every catchment basin in the South, however small, still bears traces of having been bunded across and even some large projects now stand in testimony of the enlightenment of those kings. The Grand Anicut across the Cauvery which is a marvellous piece of engineering even to-day is attributed to the period of King Karikala Chola (about 4th century A.D.). The Uyyakondan channel which takes off from the Cauvery is an interesting ancient work ascribed to Raja Raja Chola I. A large number of stone anicuts and channels across the Thambaraparani in Tirunelveli district were built in the days of the Pandya kings.

During the British Regime their first attempt was to improve the existing indigenous works before taking up construction of new projects. They also built new barrages and weirs across major rivers, e.g., the Lower and the Upper anicuts across Cauvery, the Sathiatope, the Pelandurai and the Toludur anicuts across the Vellar, the Palar anicut across the Palar, the Srivai-kuntam anicut across the Thambaraparani, etc. They also built storage works such as Periyar, the Papanasam and the Mettur reservoirs.

In the post-war years, the problem of maintaining our growing population even at its present subsistence level has assumed staggering proportions. In order to grapple with the alarming food situation, the Government has to don the mantle of universal provider with the apparently inexhaustible water resources. India's history, as in ancient times, is being made in the valleys and basins of her rivers. Under the pressure of vital needs, big and small schemes irrespective of their financial considerations were launched under the First and Second Five-Year Plans. The schemes generally contemplate of cooping up large flood flows of rivers, though occurring only for a very limited period in reservoirs formed by building dams across the rivers and thereby bringing greater areas under the plough. Nine such schemes were taken up during the First Plan at an estimated cost of about Rs. 29 crores to benefit about 334,000 acres. Of these, the Lower Bhavani, Mettur Canals, Araniar and the Cauvery Delta Drainage Improvement Schemes were almost completed in the First Plan period itself or early in the Second Plan period. The remaining five schemes were continued during the Second Plan period and have since been completed. Of these, the Sathanur, Krishnagiri and Amaravathi Projects were completed and brought to beneficial use during the year 1957.

The Grand Anicut.

At about 16 miles below Upper Anicut, the rivers Cauvery and Coleroon are linked by Ullar. This Ullar, which must have been a breached course of the Cauvery

(draining the floods of Cauvery into Coleroon) appears to have created some difficulty in maintaining the required supply in Cauvery. This difficulty was surmounted by the Chola Kings in about the second century by building up the Grand Anicut across the Ullar. It was built by the Raja Karikala Chola and dates back to second century A.D. The anicut formerly consisted of a solid mass of rough stone in clay, 1,080 feet long, 40 to 60 feet in width and 15 to 18 feet high, stretching across the outlet in a serpentine form. "The old dam" effectively withstood the floods of 1,600 years by the mere inertia of its materials. Its main function was to retain the supply in Cauvery and its branches and pass the surplus into Coleroon. A portion of the crest was in oghee shape while the rest was with steps.

In addition to the construction of the anicut, the Chola rulers seem to have constructed flood embankments to the Cauvery and dug a number of channels and canals from the river thus laying a firm foundation for the pattern of irrigation that is obtaining now. Even though there was a steady progress under irrigation in this area, history does not record any further spectacular work. On the other hand, the whole system suffered deterioration owing to quarrels and internecine wars among the rulers. When the British took over Tanjore from the Maharattas in 1800, the irrigation works were in a badly neglected condition and the supplies received in the Cauvery were found totally inadequate and sporadic. It was, therefore, their first responsibility to look into the problems of delta and put it into proper order. In 1804, Captain Coldwell repaired the Grand Anicut and provided dam stones on the crest and at the same time raised the river embankments above the Grand Anicut, thus forcing more water into Cauvery. During subsequent years, the embankments of various rivers and channels in the delta were repaired and extended.

To protect the Grand Anicut foundations from scour, a bed regulator was constructed for a length of 1,100 feet from the nose between the anicut and the scouring sluices on the upstream side with the object of deflecting the low water course away from the anicut towards the Vennar Regulator and thence to the scouring sluices.

As an outcome of the record flood of 1924, which was calculated to be of the order of 475,000 cusecs at the Upper Anicut, a road dam or byewash was constructed in the low padugai at about a mile upstream of the Grand Anicut on the left bank of Cauvery to serve as an escape for high floods. In the event of any extraordinary flood, this byewash would surplus about 98,600 cusecs into Coleroon, ensuring safety of the work at Grand Anicut to a considerable extent.

The Grand Anicut or "Kall Anai" as locally called in Tamil, is a name loosely applied to a group of works

which comprise (i) Grand Anicut proper, i.e., the dam with the lift gates constructed across Ullar (described above), (ii) a group of scouring sluices, (iii) a group of regulators at the heads of Cauvery and Vennar which irrigate the old delta, and (iv) the new head sluice of Grand Anicut Canal constructed in the early thirties of this century. A small shrine dedicated to Shri Hanuman, the guarding deity, is located in the middle of the anicut. This shrine attracts considerable number of pilgrims.

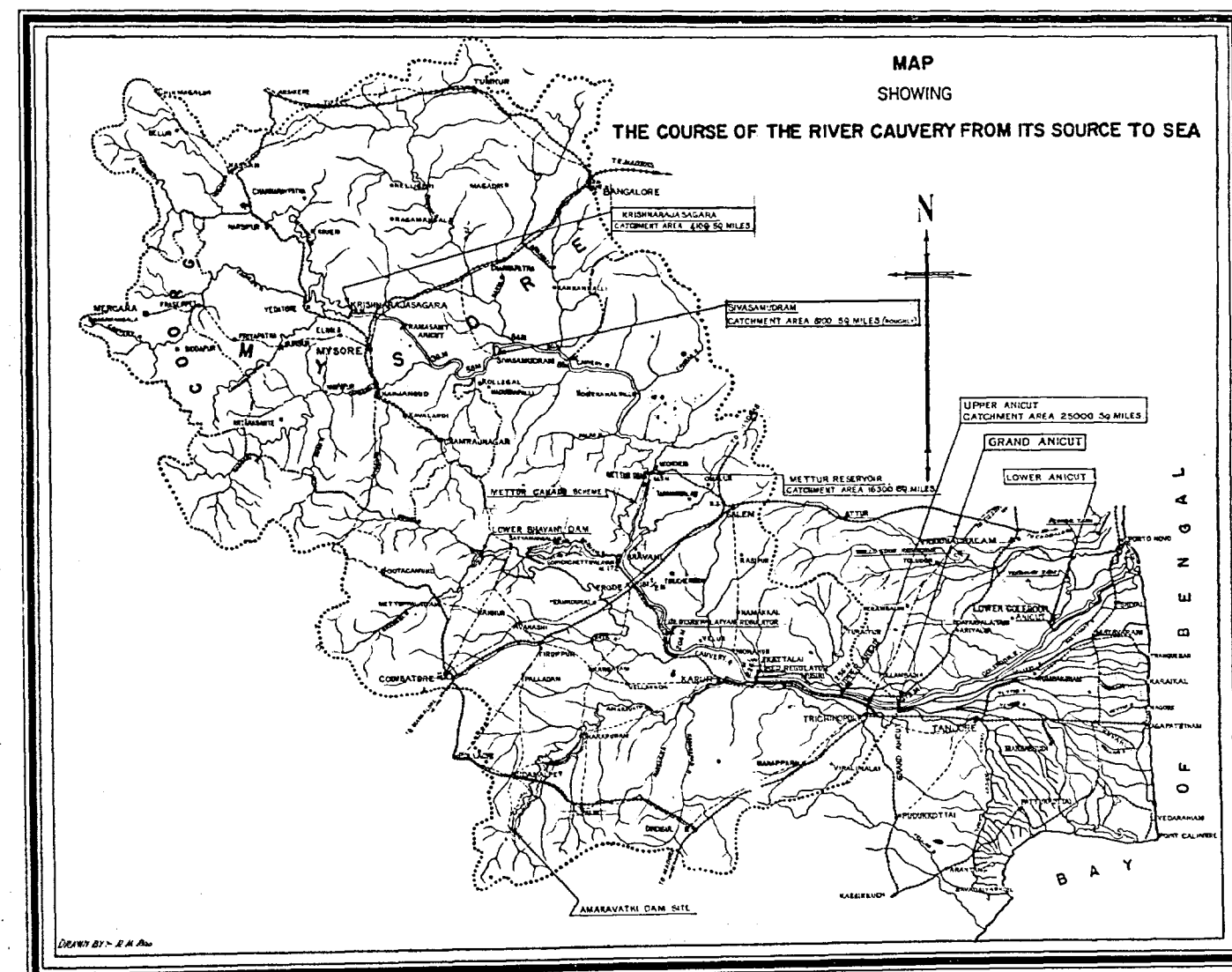
In the First Five-Year Plan the following schemes were taken up at a total cost of Rs. 28.91 crores to benefit 334,200 acres new and 130,000 acres of existing on which supplies were stabilized:—

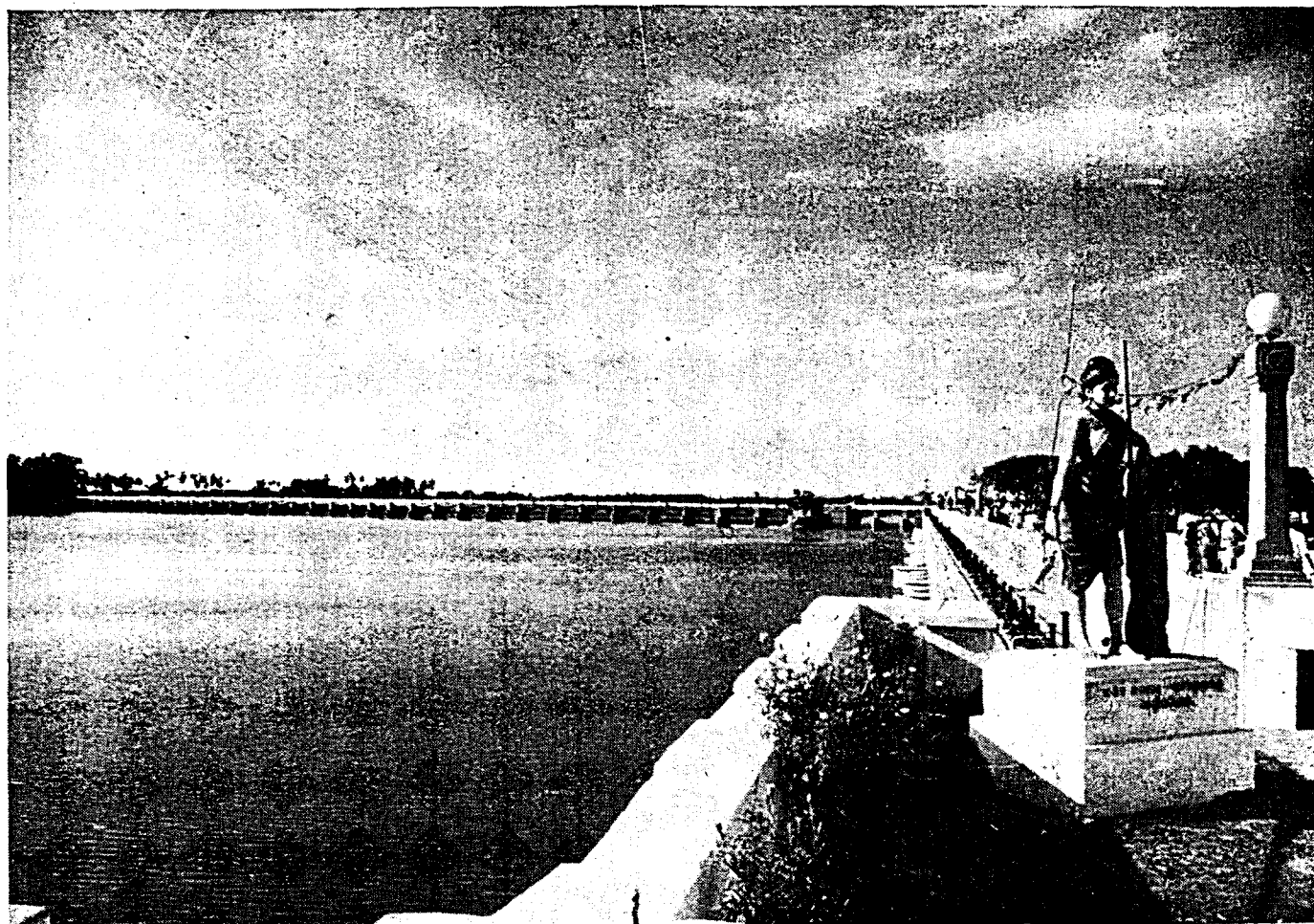
1. Lower Bhavani Project.
2. Mettur Canals Scheme.
3. Cauvery Delta Drainage Improvement Scheme.
4. Manimuthar.
5. Araniar.

6. Amaravathi.
7. Vaigai.
8. Sathanur.
9. Krishnagiri.

Of all these projects, the Lower Bhavani Project is the largest and costs about Rs. 10 crores. The project comprises a reservoir of about 30,000 m.e.ft. across Bhavani river about 20 miles below Mettupalayam, to benefit 207,000 acres in Coimbatore district for cultivating cotton on half of the area and irrigated dry crops on the other half in rotation. The main canal is 124 miles long taking off from the right side of the reservoir. An area of 195,000 acres was thrown open during the year 1956-57 and the actual cultivation was 172,000 acres.

The next major project is Manimuthar in Tirunelveli district. A reservoir across the Manimuthar river, 3½ miles upstream of its confluence with the Thambaraparani has been constructed. The capacity of the





A view of the Grand Anicut.

reservoir is 5,500 m.c.ft. On the right side a new canal 28 miles long is excavated to feed a large number of precarious rainfed tanks for irrigating through them about 20,000 acres. However the reservoir is mainly intended to benefit 83,000 acres of existing irrigation under the Thambaraparani system, which is subject to frequent failure due to dearth of water. The reservoir which cost about Rs. 505 lakhs has come into use in 1957-58.

The Mettur Canals Scheme located in Salem district consists of a canal from below the High Level sluice of Mettur Dam to irrigate 45,000 acres in Salem and Coimbatore districts. The design of offtake is so made that supply can also be tapped from the low level sluices of Mettur Dam when necessity arises. The canal on the west side of the river is 27 miles long. At about the fourth mile of the west side canal, a branch takes off and runs for about 39 miles after crossing the Cauvery by a pressure aqueduct. The proposal is to allow paddy and irrigated dry crops in rotation in alternate years. In any year 50 per cent of the area will grow paddy and the balance, irrigated dry crops in successive alternate blocks. The cost of

the scheme is Rs. 183.00 lakhs. The work on the scheme has been completed. An area of 18,000 acres was given water for irrigation during 1955-56 and 31,500 acres in 1956-57. An area of 42,500 acres has been thrown open during the season in 1957-58.

In the Cauvery delta successful irrigation could not be done in many places due to drainage difficulties. The improvements contemplated under Cauvery Delta Drainage Improvement Scheme was to ensure better yield by relieving submersion of the areas under several drains.

The Araniar Project in Chingleput district is a small project costing about Rs. 104 lakhs. This consists of a reservoir across the Araniar river four miles west of Nagalapuram village and a pick-up anicut at Surutapalli 11 miles downstream of the dam. Canals take off both from the reservoir and from the anicut to benefit a new area of 3,000 acres and to stabilise supplies and also raise a second crop to the extent feasible on existing area of 13,600 acres. The construction has been completed. During 1956-57 supply was issued to 5,700 acres under Surutapalli anicut.

The Amaravathi Reservoir Project in Coimbatore district consists of a reservoir of 3,600 m.c.ft. capacity across the river Amaravathi. The dam is partly of masonry and partly of earth. A canal takes off from the left and runs for 40 miles to irrigate 15,000 acres. The existing irrigation of 32,000 acres under the river will also be assisted during periods of scarcity. The project was completed in 1958.

The Vaigai Reservoir Project in Madurai district has a capacity of 6,800 m.c.ft. This is across the Vaigai river to catch and store the surplus waters diverted from the Periyar lake. The dam will be partly in masonry and partly in earth. The new irrigation under the scheme is 20,000 acres. A canal 22 miles long has been excavated to the right side of the Peranai regulator to irrigate 10,000 acres. The remaining 10,000 acres are in the fringes of the Periyar delta and will be served by improving the existing Periyar canals. The project has also been designed to hold up the surplus waters of Vaigai river which were going to waste, and to release the waters to stabilise existing irrigation under the Vaigai. The scheme has been completed during 1958-59.

Sathanur Reservoir Project.

The reservoir is across the river Ponnai near Sathanur village in North Arcot district and has a capacity of 4,600 m.c.ft. with provision for increasing it to 8,100 m.c.ft. ultimately. The stored water will be let from the reservoir and picked up at an anicut across the river $4\frac{1}{2}$ miles downstream. Irrigation will be by a canal 22 miles long from the left side of the anicut. The area to be benefited is 20,000 acres including 3,300 acres existing irrigated lands to which supply will be stabilised. The anicut was completed in 1956 and water was allowed for 1,150 acres in October 1956 and for 12,000 acres in October 1957.

Krishnagiri Reservoir.

This reservoir of 2,400 m.c.ft. capacity is across the Ponnai in Krishnagiri taluk in Salem district. The dam is partly of masonry and partly of earth. Two canals take off, one on the right and another on the left to irrigate about 7,500 acres which include 2,240 acres of existing wet. The ultimate ayacut under this reservoir has since been increased to 9,000 acres. The construction was completed in 1957.

Under the Second Five-Year Plan besides continuing the execution of the seven incomplete schemes of the First Plan, the following new schemes have been included:—

1. New Kattalai High Level Canal Scheme.
2. Pullambadi Canal Scheme.
3. Vidur Reservoir Project.
4. Schemes for diverting west flowing rivers (Parambikulam-Aliyar Project).

New Kattalai High Level Canal Scheme.

The proposal is to excavate a canal 86 miles long from a head sluice located just to the right of the offtake of the leading channel of the South Bank Canal

above Kattalai Bed Regulator across the Cauvery. It will irrigate 8,622 acres of dry lands directly under the main canal and 12,000 acres under the existing tanks of which 8,723 acres are existing wet lands. The total cost of the scheme is Rs. 156.65 lakhs.

The excavation of the canal is in progress in about 35 reaches in the first section of 40 miles. Thirty-seven bridges and 28 cross-masonry works have been taken up and work on these items is in full swing.

Pullambadi Canal Scheme.

This scheme consists of a new canal 54 miles long from above the Upper Anicut at the head of Srirangam Island on the left bank of the Cauvery. The scheme will benefit 22,114 acres in Lalgudi and Udayarpalayam taluks of Tiruchirappalli district of which 13,283 acres come under tanks and 8,831 acres direct irrigation. The total cost of the scheme is Rs. 142.43 lakhs.

The excavation of the canal in about 40 reaches in the first section of 25 miles is in progress. Fourteen cross-masonry works and six bridges are in progress.

In the case of cross-masonry works and bridges, about 70 per cent of the total work is proposed to be completed. Seventy per cent of the tank formation work and 50 per cent of land acquisition will also be completed.

Vidur Reservoir Project.

The project comprises a storage reservoir of 550 M.c.ft. across the river Varahanadhi about half a mile west of the Vidur village in Tindivanam taluk of South Arcot district. The river drains an area of 501 square miles at the proposed dam site. The reservoir will be formed by a dam constructed partly in masonry and partly in earth. The scheme will benefit a total extent of 3,200 acres including an extent of 1,000 acres in Pondicherry State situated at the end of a new canal taking off from the earth dam at the left flank. The length of the canal in the Madras State limits will be about ten and a half miles and about three-quarters of a mile, in the Pondicherry State limits. The cost of the scheme is Rs. 67.49 lakhs to be shared in the proportion of 11 : 5 between the Madras and the Pondicherry States.

The work has just been started. The following works have been programmed for the year 1958-59:—

- (1) Forming approach road to dam-site;
- (2) Construction of residential and non-residential buildings at dam-site;
- (3) Excavation of foundation of starting works; and
- (4) Excavation of main channel.

Neyyar Second Stage.

The Neyyar Project comprises the construction of a gravity masonry dam across the Neyyar river in the Kerala State at a place called Chempilamodu about 19 miles south-east of Trivandrum. The water thus

impounded will be utilized for irrigation of 34,100 acres by means of two channels one on either side. The right side channel 21 miles long will irrigate an area of 15,000 acres lying entirely in the Kerala State. The left side channel 24 miles long will irrigate 19,100 acres lying partly in Kerala and partly in Madras State limits.

The first stage of the project comprising the construction of the dam and the right side channel has been completed at an estimated cost of Rs. 143 lakhs. The second stage comprising the construction of the left side channel system at a cost of Rs. 105 lakhs is programmed to be taken up during the Second Five-Year Plan period. This channel up to the 24th mile runs in the Kerala State and thereafter, in the Madras State. The actual area that will be benefited in the Madras State is about 10,000 acres in Vilavancode taluk of Kanyakumari district.

The channels and the distribution system lying in each State will be excavated by the respective State. Including the proportionate cost of the dam and the headworks provided by the Kerala State, the Madras share of cost of irrigating the 10,000 acres in their

limits is about Rs. 92.28 lakhs. A sum of Rs. 27.07 lakhs has been provided in the Plan towards the cost of the scheme.

The channels in the Madras State are being realigned and redesigned to suit the boundary limits and the revision of designs made by the Kerala State and the work will be taken up shortly for execution. Preliminaries such as forming roads, construction of buildings, etc., are however already in progress.

Schemes for diversion of west flowing rivers (Parambikulam-Aliyar Project).

The Project contemplates the utilization of the waters of the Parambikulam river and other tributaries of the Chalakudi river which have their origin in Madras State and which after flowing over considerable distances in both the Madras and the Kerala States fall into the Arabian Sea. Two reservoirs will be formed on the Sholiar and one reservoir across each of the rivers Parambikulam, Peruvuripallam, Thanukadavu and Tekkadi. While the dams on the Sholiar river will be

in the Madras State, the dam across the Parambikulam river will be in the Kerala State within three miles of the Madras border. The other dams are in the Malabar district in the Kerala State. The total catchment area of the rivers above the dam-site is 182 square miles (159 in Madras and 23 in Kerala State). Out of the total yield of 32,400 m.c.ft., only 31,000 m.c.ft. is proposed to be stored in the reservoirs. In addition to the above, reservoirs will be formed on the Aliyar (a tributary of the Bharathapuzha) and the Palar river (a tributary of the Aliyar) to impound the yield from their own catchments and also to serve as additional storage works for the present scheme. These reservoirs will be interconnected by tunnels and open channels. The total length of the tunnels will be 5½ miles.

Contour canals for a total length of about 27 miles will be excavated from Sarkarpathi to the Palar and also from the Sholiar to the Parambikulam river. Pick-up weirs will also be provided at the crossing of the Aliyar.

Power will be developed at the exist of the tunnel connecting the Sholiar and the Parambikulam, at Sarkarpathi where the waters are delivered from the tunnel from Thunakadavu reservoir, at the crossing of

the Aliyar by a contour canal and also at Aliyar Dam. The total power output will be 121,000 K.W. of installed capacity.

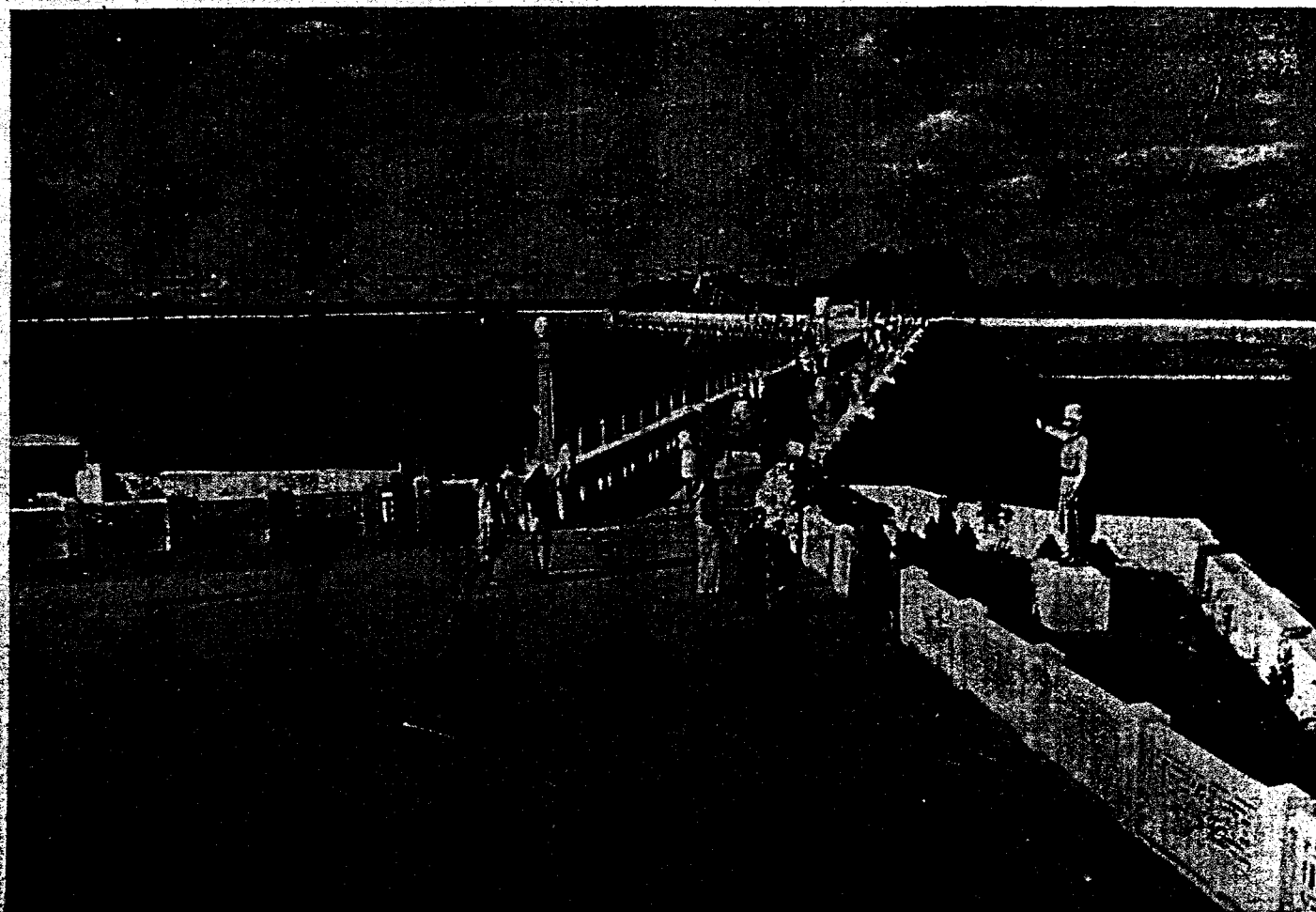
Irrigation canals will take off from the Aliyar and the Palar reservoirs and will irrigate a new area of 2.5 lakhs of acres in Pollachi, Dharapuram and Udumalpet taluks of the Coimbatore district.

The total cost of the project inclusive of powerhouse and generators but excluding transmission lines will be Rs. 32 crores.

An agreement has been arrived at with the Government of Kerala for taking up the scheme, as the river Parambikulam in its lower reaches passes through that State.

Khadi

Two lakhs forty-one thousand four hundred and sixty-six yards of Khadi worth Rs. 6,22,828.19 were produced and Rs. 7,32,762.36 worth of Khadi were sold in this State during the month of March.



Another view of Grand Anicut

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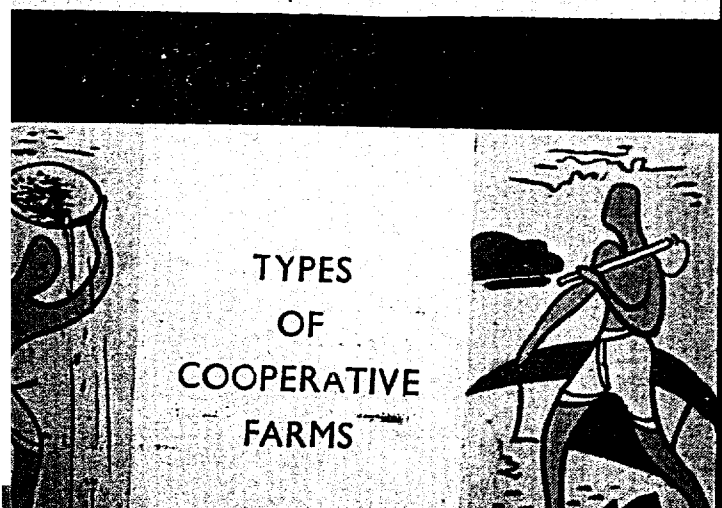
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COOPERATIVE



FARMING



TYPES
OF
COOPERATIVE
FARMS

The anxiety of the Government to increase agricultural production and augment agricultural efficiency gave them an acute headache. They had to devise ways and means to cure this. The co-operative farming promises to come in handy for that purpose.

The Indian National Congress Party, therefore, passed a resolution in Nagpur which says: "The future Agrarian pattern should be that of co-operative joint farming in which the land will be pooled for joint cultivation, the farmers continuing to retain their property rights, and getting a share from the net produce in proportion to their land. Further, those who actually work on the land, whether they own the land or not, will get a share in proportion to the work put in by them on the joint farm.

"As a first step, prior to the institution of joint farming, service co-operatives should be organized throughout the country. This stage should be completed within a period of three years. Even within this period, however, wherever possible and generally agreed to by the farmers, joint cultivation may be started."

The proclamation of this principle has provoked vehement criticisms from various quarters. But it should be noted that it did not descend on the nation like a bolt from the blue. It has been in the air from the twenties. Gandhiji himself had been for this. He says, "I firmly believe that we shall not derive the full benefits of agriculture until we take co-operative farming. Does it not stand to reason that it is far better that a hundred families in a village cultivate their lands collectively and divide the income therefrom than to divide the land anyhow into a hundred portions? And what applies to land equally applies to cattle."

What exactly is co-operative farming? The term implies different things to different persons. It can, however, be defined as the co-operative operation of land, labour and capital for better production purposes on the basis of each for all and all for each. It stands midway between the ordinary type of better farming co-operatives under which these three instruments of production are left to individual operation and collective farming of the Soviet type where land and capital are nationalized and members simply get paid for work done.

There are four types of co-operative farming:—

- (1) Co-operative Collective Farming Society;
- (2) Co-operative Better Farming Society,
- (3) Co-operative Joint Farming Society, and
- (4) Co-operative Tenant Farming Society.

The classic example of collective farming is that of the U.S.S.R. Violence had its full sway there and the people were dispossessed of their lands. The Society holds lands by free-hold or on lease-hold. The lands are cultivated on the society's account by its members who are paid wages. The yield belongs to the society. The profits, after meeting expenses, are divided as in every other co-operative society and the members are

given a bonus on the wages earned. Here private ownership is abolished for good. Needless, to say, therefore, collectivisation is an anathema to those who enjoy the blessings of freedom. "It is better to be a Socrates dissatisfied than a fool satisfied", said John Stuart Mill, passing animadversion on the hedonistic philosophy of Utilitarians headed by Jeremy Bentham. And we can say that it is better to have an empty stomach under a democratic regime than to have a loaded stomach under a regime wedded to collectivisation. Moreover, collectivisation is not suited to India, where individual ownership has existed from time immemorial and feudal landlordship as in Russia is practically unknown.

A co-operative better farming society can be defined as a society designed to introduce improved methods of farming. In this neither ownership nor cultivation is joint. Its members agree to follow a plan of cultivation laid down by it; but they are independent of one another in other respects. They may, however, agree to joint purchase of seeds and manure, joint sale of produce and other joint efforts and the society may help them in these directions.

A co-operative joint farming society is one in which small landholders pool their lands and entrust them to the administration of the society. They then work on the pooled lands in return for wages from the society which sees to the cultivation of the land on its own account according to modern agricultural methods. The income from the pooled land, less expenses, constitutes the profit of the society. Each member is entitled to a share in the profit in proportion to the value of the land contributed by him. This recognizes individual ownership in the land. Each member will also have to pay for any improvement made in his plot of land.

A co-operative tenant farming society owns land by freehold or on leasehold, but the land is divided into small holdings, each of which is leased to an individual cultivator who is a member of the society and settles on the land with his family. He pays to the society rent for his land, if the lands are leasehold; and revenue and other assessment, if the lands are Government lands alienated to the society. He cultivates the land on his own account and retains the profits thereof himself. The society assists him in his cultivation by supplying credit, seeds, manures, implements, etc., and by marketing his produce.

From this description of the various types of co-operative farming, it can be noted that though it bristles with many difficulties, they are not insurmountable. A very important aspect of co-operative farming in a country where, to quote Sir Horace Plunkett, "it is not a spontaneous growth but a Government policy" is the strength and training of the Co-operative Department. Sir Malcolm Darling's report last year and that of the Canadian expert Mr. Laidlaw pointed out several remedial features in the Government training schemes. Nearly all the recommendations have been accepted, which would definitely tend to mitigate the magnitude of the problems, involved in implementing the Nagpur resolutions.

There are, however, people who feel that co-operative farming would prove the thin end of the wedge leading to communism while some others consider the co-operative farming ideal utopian. Despite all this, it would be a great success if everyone, high and low, rich and poor, official and non-official, works like one possessed, without self or stain and, in the words of the Prime Minister, "goes from field to field and peasant to peasant begging them to agree with it."

[In the next issue: "PROS AND CONS."]

Buffer Stock in Rice

To arrest the upward trend in the prices of foodgrains, especially paddy and rice, the Government have decided to build up a buffer stock of 2 lakhs tons in terms of rice units from the main harvest.

The work of procurement and distribution to consumers later, through fair price shops will be done by the co-operatives.

The Government have also fixed maximum prices for the sale of the several varieties of paddy and rice in the State in wholesale transactions of more than 10 maunds at a time. Any sale at rates higher than those notified is an offence and the offender is liable to imprisonment for a term extending to three years and is also liable to fine.

The Government of India have issued the Madras Paddy (Export Control) Order, 1959, and the Madras Paddy (Transport Restrictions) Order, 1959. Under the Madras Paddy (Export Control) Order, 1959, no person shall export or attempt to export from any place in this State to any place outside the State except under and in accordance with a permit issued by the State Government or any officer authorized by the Government. Under the Madras Paddy Transport Restriction Order, 1959, no person shall transport or attempt to transport or abet the transport of paddy by road, rail or sea from any place in the district of Tanjore to any place outside that district except under and in accordance with a permit issued by the Grain Purchase Officer having jurisdiction over the place from which the paddy is to be transported.

Relief for Ex-Servicemen

Ex-commissioned Officers, their families and dependants who are in financial distress can seek assistance from the Flag Day Fund, Army Headquarters, Accountant-General's Branch, New Delhi. Prescribed application forms can be had from the Secretary of the District Soldiers', Sailors' and Airmen's Board concerned. Completed applications should be submitted to the Army Headquarters, New Delhi, through the District Soldiers', Sailors' and Airmen's Board of the district concerned.

RIGHT MAN FOR THE JOB

SRI R. VENKATARAMAN, Minister for Industries and Labour.

The Organization of a free Public Employment Service owes its origin to an I.L.O. Convention as far back as 1919. The last global war brought the problem of unemployment into focus and the result was the recommendation of the Philadelphia Convention in 1944 which *inter alia* restated "the need for full employment and raising the standards of living, the employment of workers in the occupations in which they can have the satisfaction of giving the fullest measure of their skill and make the greatest contribution to the common well-being". The 'right for work' flowing from this Convention has been enshrined in our Constitution as well. It is, therefore, in the fitness of things that the Government of India, particularly after the attainment of independence in 1947 accepted this recommendation in principle and organized a net-work of Employment Exchanges.

After independence in 1947, the country addressed itself to the issues of national and economical reconstruction. The demands of a growing economy have been so great that the employment service had to be reviewed in the light of the increasing needs of the community. To carry out these readjustments and to fit the Service into a scheme of effective action, the Government of India set up an Employment Service and Training Schemes Reorganization Committee. Realizing the need for a sustained National Employment Service in the country, the Committee recommended the transfer of the administration of the service from the Centre to the States. In November 1956, this decision was given effect to. Thus, the National Employment Service became a part of the State Administration set-up. This change has helped an intensive reappraisal of the problems and much headway has since been made.

The State set-up of the National Employment Service has a Director as the Chief Executive, who is the Labour Commissioner himself. At the Headquarters, he is being assisted by a Deputy Director and an Assistant Director and two officers to plan and execute the manpower schemes. On the day of transfer of administration, the Field Offices consisted of 12 District Employment offices. In March 1958, another District Employment office was opened at Nagarcot to cater to the needs of the people of the Kanyakumari district. To-day, there is an Employment Office in each district in the State in charge of a trained Employment Officer with complement of staff.

It is gratifying to note that there has been a steady increase of work since 1950. Registrations of applicants, placings of candidates vacancies, the number of

employers using the Exchanges and the number of applicants on the Live Register have steadily increased from year to year. The increase has been marked from the period of the transfer of the administration to the State Government. All this confirms the useful role that the Employment Service plays in the economic life of the State. Though the increase in the number of applicants remaining on the Live Register during 1957-58 is a melancholy picture, the fact remains that the Service is commanding greater confidence of the community. The increase in the number of placements and the increase in the number of employers using the Service indicate the growing awareness among the employing public about the utility of a rational institutional system of recruitment. I only hope that this small beginning will grow from strength to strength and the traffic in the employment exchange will draw more employers and more vacancies.

The function of an Employment Service is something more than routine. Dealing as it does with manpower problems, it is sensitive to changes that occur from time to time. The service has to be dynamic and should keep pace with the trends in the employment market. The International Labour Organization recommendation of 1944 and later the Shiva Rao Committee emphasized this new dynamism inherent in the employment service and advised the implementation of essential manpower schemes without which placing activity will largely remain placid and pointless.

The Scheme to collect employment market information is basically a continuing study of the employment market. The programme envisages a study of the relationship between supply of and demand for labour, the changes in the level of employment, occupations, in which shortage is experienced, labour turnover and other factors that affect the employment market from time to time. The collection of data is done in each district and periodically are a market reports are presented. This would enable a reasonably correct assessment of the conditions that obtain in the employment markets at local, regional and national levels. The Scheme will also enable the planners to forecast the future trends in the employment market on the basis of which, manpower and employment policies could be adjusted. Thus, this market intelligence will make a very valuable contribution towards a full employment policy which remains the force of our development plans and the fulcrum on which the welfare of the people rests. The Scheme has been in force

for about a year in the State and valuable materials have already been collected. Two quarterly reports about the Coimbatore Employment Market have been published and they contain a fund of information which cannot be lost sight of by the employers, employment seekers and the planning authorities.

The Scheme relating to the Occupational Research and analysis is being developed through the co-operation of technical experts and workers, industry and Government. It attempts to standardize the definitions, skills and functions of the different occupations. The end product of the scheme is the publication of a comprehensive occupational dictionary. In a country like ours, where different nomenclatures for the same occupations are prevalent, the standardization of occupations will organize and marshal occupational intelligence on a more rational and knowledgable basis. This scheme also prepares National Classification of Occupations, Career Pamphlets, Occupational Field Reviews, Occupational Specifications and Interview Aids and Handbook on Training facilities. The utility of these materials to the Employment Service in particular and to the career master, educational institutions and other vocational guidance centres in general cannot be overestimated.

The scheme to impart vocational guidance and adult counselling to school-leaving adolescents and adults whose occupational adjustments leave something to be desired, is particularly concerned with the conservation and utilization of the available manpower resources to maximum extent possible. In other words, it aims at the development of our labour force, so as to achieve the optimum level of production and sustain the maximum level of economic activity. When it is fully developed, it will help in elimination of manpower wastage.

The principal objectives of our economic development are—

- (1) to increase the national income which would raise the standard of living;
- (2) rapid industrialization with emphasis on the development of basic industries;
- (3) a large expansion of employment opportunities; and
- (4) a more even distribution of economic power.

These are inter-related. In a country, where there is relative abundance of manpower, expansion of employment opportunities becomes an important objective in itself, within the framework of certain basic social values and purposes. A balanced pattern of industrialization, therefore, requires a well-organized effort to utilize manpower for increasing the national wealth.

Creation of employment is tied up with investment. In fact, employment is one of the major considerations in determining our pattern of investment. The creation of employment opportunities, however, cannot be approached merely in overall terms. The problem needs to be broken up into terms of sectors, regions and classes. Diversification of the industrial pattern, a suitable policy on location of industries, special measures to assist cottage and small scale industries, maintenance of high level of economic activity, provision of

adequate training facilities, measures to promote occupational and territorial mobility of labour, development of competent techniques of recruitment and personnel management are elements in the programme of creating new employment on a requisite scale.

Continued growth of national income and employment require simultaneous development over the whole range of our economy. It is exactly here that the Government attaches great importance to the development of the National Employment Service, as a machinery providing effective answers to these problems that come incessantly in the employment market. No doubt, employment offices cannot create employment opportunities but the fact it can, through its placement service and through its market intelligence, provide the materials, is a measure of its importance in the national economy. It is only through an effective employment service can territorial and occupational mobility of workers be ensured, hiring practices improved and recruitment techniques rationalized. In other words, the employment service provides the machinery which alone could bring order and system into an otherwise chaotic employment market. Our employment policy, therefore, attaches a good deal of importance to the development of the national employment service and to make it an effective instrument for regulating the market and achieve the optimum results.

Placement is not the only function of the employment service, though it is an important aspect of its work. More often matching of workers with the jobs is construed as a mechanical operation. Nothing could be farther from the truth. With the growing complexity of our economic life and with the recruitment of workers from as wide a range as possible, placement has become more or less a professional task calling for technical perfection and an intimate knowledge of the intricacies of the jobs and men. As you know, the wrong man in a job is a double tragedy. It is neither good for the man nor for the industry. To have an efficient placement service, one's horizon must be as wide as possible. This would mean a complete knowledge of the area as well as the population thereof. It is, therefore, of supreme importance that the National Employment Service, in addition to its placement work, should continue to map out the area systematically and keep its knowledge of the people of the place current. Manpower planning and surveys conducted with reference to industries and level of skills will enable us to strike norms for major industries with particular reference to the different occupations required to man them. It will indicate the input-output ratio in each industry and also help to arrive at the exact relationship between a given unit of resources and the determined amount of production. When such a relation and relationship is established, planning will be easier and more effective over a period of years. Perspective planning has now been accepted as a central theme of our development particularly with reference to our manpower. These norms under certain conditions will help us to plan for the future with greater objectivity.

[Excerpts from the speech delivered at the first meeting of the State Employment Advisory Committee, Madras.]

Propagation of Fish Culture in Rural Areas

DR. P. I. CHACKO, Fisheries Marketing and Information Officer.

It was fifty years ago that the Madras Fisheries Department commenced a programme of conservation of the aquatic resources of the State. Though the early years were devoted to an investigation of the conditions of the fisheries of the East and West Coasts, the cultivation of useful fishes was soon taken up and quickly attained large proportions. The first fish farm was established in the year 1909. As the importance of the work became increasingly evident year after year, more farms, hatcheries and nurseries have been established and new kinds of fishes have been added to the output.

Water Sources.

Making the best use of every acre of water is the foundation of a sound conservation programme. Where a suitable waterspread exists, no better use can be made of it than to develop it for the production of an ample supply of protein and vitamin rich food, namely, fish. This is especially true at the present time, when food production is more important than ever, and a well-balanced diet is essential to improve the people's health. Fresh fish taken at any time from a readily accessible pond can form an important part of the country's diet. Most villages have ponds, tanks and wells which, if properly utilized by farmers, would provide both pleasure and profitable returns.

Technique.

The technique of fish-pond management is simple and consists of (1) selection and preparation of the pond, (2) selection and stocking of the fish, (3) feeding the fish and manuring (4) care of the fish and (5) reaping the crop. All kinds of ponds, whether perennial or seasonal, could be utilized for the culture of fish. In the case of semi-perennial waters, there is need for digging a subditch for the fish to retreat during the summer months. The outlets, if any, should be properly screened to prevent the fish from escaping through them, especially during the monsoons. Control of the growth of vegetation, both emergent and submerged, is also necessary. While the removal of water-hyacinth and grasses is advisable, tender plants like Hydrilla, Vallisneria, etc., should be retained. They serve as food for the fish and also help to aerate the water. A certain amount of surface vegetation is necessary to provide shade for the fish; but in no case should it be allowed to cover the entire water surface. The enemies of the fish, such as snakes, tortoises and frogs, should be eradicated either by repeated netting or by drying the pond completely.

Fresh-water Species.

Fresh-water fishes that are best suitable for culture in ponds are the major carps such as the Catla, Mrigal,

Rohu, Kalbasu, Fringe-lipped Carp and the White Carp, all of which are quick growing, reaching a size of 1½ to 3 feet in the first year. But these fishes breed only in rivers during the rainy season. The factors affecting their spawning are rainfall, cloudy weather, floods, cool temperature and moderate flow of water. The breeders often congregate in shoals in selected favourable areas and shed their reproductive elements. The fertilized eggs on absorbing water swell up to a size of 4 to 5 mm. in diameter and float at the top layer of water as glistening bodies. As they get drifted down the rivers, development takes place, and the larvae are hatched out within 18 to 24 hours. The rivers are therefore the main sources of fish-seed required for transplantation into departmental farms and public waters. For the systematic location and exploitation of spawning grounds of carps, special River Survey Units are maintained by the department since 1942.

Salt-water Species.

The water of river-estuaries is brackish owing to tidal influence. This aids the immigration of many species of sea fishes into fresh waters by gradual adaptation to the transitional conditions. Many sea-fishes resort to this area for breeding purpose. The fauna and flora of the estuaries are very rich and provide food for the fishes and consequently produce a valuable fishery. The estuaries abound in prawns, shrimps, crabs, oysters, clams and whelks. The young of estuarine fishes such as the Pearl-spot, mullet, Milk-fish, Bekti, Indian Salmon and the Rock perch could be easily acclimatized and reared in fresh waters. In recent years such acclimatization has been practised on methodical lines.

Exotic Species.

Valuable exotic foot fishes such as the Gourami (Java), Mirror Carp (Prussia), Golden Carp and Tench (Europe) and Tilapia (Africa) have been introduced, and they are found to thrive and breed in the State waters. These imported fishes are now being distributed in different waters in the upland and lower elevations. Fingerlings of Gourami, Mirror Carp, Tilapia can now be supplied to the public in large numbers. A popularization scheme for these species is in progress in many of the districts. Taken as a whole it would seem that the introduction of alien fishes was a good investment. The cost was only a few thousands of rupees and the returns are now worth many thousands.

Demonstration Centres.

With a view to assisting pond owners and prospective fish farmers, Rural Fishery Demonstration Centres have recently been opened in the State to survey all cultivable waters and their fishery resources and to organize

demonstration farms for facilitating fish seed distribution and for imparting instruction on fish-farming to interested ryots. To make every acre productive of the crop that can yield best, the farmer will want to stock properly and manage his pond for a good crop of food fish. Fishlings are sold at the demonstration centres at nominal rates.

Fish Seed Supply.

The public have commenced to show great interest in fish culture. The growing demand for fish-seed is suggestive of the great popularity of this enterprise of the Fisheries Department. In 1957-58, 3½ crores of fish seed were distributed in the various inland waters in the State.

Researches.

The aquatic environment provided by a pond or tank is rather complicated. Yet it lends itself readily to investigations and management. The plants and animals in a pond are dependent, directly or indirectly, upon the gases and mineral nutrients in the water and in the soil that forms the bottom of the pond. The composition of plant and animal species may be altered by selective removal or addition and by other management practices. The fertility may be increased by adding fertilizers. Hence for the systematic utilization of the various inland waters, it is necessary that useful conclusions are obtained through a broad-based programme of fresh water hydro-biological research. The life history of species of fishes of economic value should be understood from beginning to end, but no less requisite is it to know the histories of the animals and plants upon which they feed or upon which their food is nourished, the history of their enemies and friends and foes of their enemies and friends, as well as the temperatures and other physical and chemical phenomenon of the waters in relation to migration, reproduction and growth. In pursuance of this policy, the Fisheries Department maintains a Fresh-water Biological Station at Bhavanisagar for the prosecution of researches on rural pisciculture. The results of work so far done at this station have been of considerable practical value in promoting breeding and culture of several species of fish in varied types of waters.

Production achieved.

There are four lakhs of inland waters in Madras State and the total production from these in 1957-58 is 40,300 tons. By more intensive piscicultural operations, the production can be increased considerably. It is expected that fish-farming will soon become one of the main rural industries in the Madras State, for fish constitutes a basic food resource and an important and necessary item of diet which is just as vital in many instances as agricultural products.

Metric Scales for Fish

The Government have directed that all fish-curing yards in the State may be provided with weighing machines with metric system. The Director of Fisheries has been authorized to convert some of the

existing machines into the new system and also to buy a few new ones. A total expenditure of Rs. 6,000 has been provided for this purpose to be incurred during 1959-60. The Government have also sanctioned another sum of Rs. 35,000 towards the cost of remodelling the fish-curing yards in Kanyakumari district in order to provide for protected storage facilities at the site.

Employment Situation in Madras State in March 1959

The employment situation in the Madras State during March 1959 did not show any significant change. While the districts of South and North Arcot, the Nilgiris, Ramanathapuram and Tanjore showed unfavourable employment trends, Coimbatore, Kanyakumari, Salem and Chingleput recorded some improvement. The situation in the other districts remained almost static.

Fifteen thousand seven hundred and forty-seven registrations have been reported as against 15,947 during the previous month. Vacancies notified during March were 2,565, compared to 2,937 in February. Similarly placings also decreased from 2,607 at the end of February to 2,230 during March 1959. On the other hand, the number of employment-seekers on the active rolls of the Employment Offices showed an increase from 115,322 at the end of February to 118,353 at the end of March 1959. There has been no significant change in the occupational pattern of the Live Register.

While the pressure of applicants on the employment market continued to increase, there were local shortages of suitable personnel to fill vacancies. Demand for Engineering and Medical Graduates, Draftsmen, Nurses, Health Visitors and Precision Tool-makers persisted in the districts. On the other hand, some of the shortages were only local, such as Earth Moving Machine Operators in Kanyakumari, Pipe-line Fitters and Chemist in the Nilgiris, Machineman in Tanjore; Boiler Attendant in Coimbatore and Social Workers and Salesmen in Tiruchirappalli district.

The manpower schemes in the State continued to progress satisfactorily. The State Occupational Information Unit has since completed original work relating to "Other Professional and Technical and related workers". Field work is in progress with regard to the occupational group of "Draftsmen and Science Engineering Technicians". The Employment Market Information Programme completed the fourth round of enquiry during the month. The Coimbatore Market Report for the quarter ended 30th September 1958 has since been finalized. Preparatory work to start on the fifth round has been completed. The response of employers, based on voluntary co-operation, has been encouraging. The Youth Employment Service attached to the District Employment Office, Madras, rendered vocational guidance to 778 youths, of whom 13 were guided individually. Close liaison has been maintained with interested agencies in the field of employment and training.

Small Savings

The new ideology

SRI M. SHANMUGAM, Special Officer for Small Savings, Government of Madras.

The intensification of the Small Savings Movement was taken up as part of the State Development Programme during the year 1957-58. The call for savings evoked generous response from the citizens of Madras State and a total net small savings collections of 7.85 crores was recorded in the year—an all-time high for Madras State. This was the measure of the people's support for this voluntary democratic movement. The creation and grooming of a closely-knit rural agency force in reinforcement of an existing thin agency squad heralded the Small Savings Drive in the State. It may safely be estimated that the satisfying message of Small Savings had been successfully carried last year to over 6 lakhs of homes in Madras State, considering that over 8½ lakh numbers of savings certificates were sold during the period of the State Drive. The creation of a favourable savings climate through the dissemination of plan consciousness and of the virtues of thrift has really been the core of the State effort. A wave of public enthusiasm greeted the movement. The media of song, villupattu, film, discourse and drama contributed variously to the rapid mobilization of rural savings for the first time in the history of the small savings movement which had remained hitherto as mainly an urban middle class movement. Cinema slides, hoardings, posters and scheme literature proclaimed the small savings movement in all places of public resort. State officials, non-official leaders of public opinion, the Women's Savings Campaign and the National Savings Organization worked ceaselessly to put Small Savings on the State map. The Mobile Postal van with commendable pioneering zeal carried the Post Office Savings bureaux to the homes of simple folks and thereby endeared the movement to the rural population. Purposefully conceived and well-directed publicity calculated to educate people in the value of thrift, self-reliance and public co-operation naturally proved a mystic source of mass persuasion. The participation of organized industrial labour through management co-operation in Coimbatore—yet another first in Madras State—will doubtless serve as a beacon for expanded participation of labour all over the State in the movement.

The concept of thrift as a way of life is basic to the Savings Movement; it is its mainstay. Monetary and economic discipline expressed in the popular saying "Take care of the pennies and the pounds will take care of themselves", constitutes cardinal savings doctrine.

He who will not economize will agonize said the wise Confucius. It was Benjamin Franklin who proclaimed—"Frugality is an enriching virtue. I was once lucky enough to find it in a wife who thereby became a fortune to me". It is not, however, to be mistaken that the Small Savings Movement seeks to enthrone or glamorize the miser in place of the spendthrift. The Movement seeks to educate people in the virtue of prudently husbanding one's resources with a view to obtaining maximum value therefore. In this sense thrift makes for organized living and is a specific for the all too common malady of perpetually running out of cash. The practice of thrift requires effort and such effort predicates strength of mind for resisting temptation to spend thoughtlessly and therefore contributes to the moulding of character. The Small Savings Movement is thus in effect a thrift crusade. The stimulation of thrift might in itself constitute nation-building activity.

The Small Savings Movement places reliance for the first time in Indian history on the Small Savings of the many rather than on the large surpluses of the few. The amassing of a sizeable segment of the public debt in the hands of myriads of individuals or broad-basing the internal public debt is facilitated and this makes for a purposeful trend towards an egalitarian society. The Movement is therefore the vehicle of the socialistic pattern of society and affords documentation of its translation in terms of Economics. The countless men and women of small means in the country are enabled to acquire a stake in the country. It offers people the invaluable sense of belonging and of being partners in enterprise. The Small Savings of the little men and women, of you and I, at first but a trickle soon forms into a gushing stream to irrigate national economy. The Movement is, therefore, an apparatus of social engineering, a sociological process and is an expression of a major swing in social philosophy. By bringing the bulk of the people into the channel of capital formation, the Movement transforms itself into a potent instrument of capital finance. The Movement fosters public interest and participation in national development. The Savings Service extends a standing invitation to every citizen to become a co-sharer in the country's prosperity. Put differently, it is an exercise in co-determination for, given the co-operation of the people, scarcely a goal is impossible of achievement. It is no eccentricity of philology to say that the Small Savings Movement represents the ideology of the common man. After all,

Co-operation in Printing Industry

SRI V. BALASUNDRAM, I.A.S., Registrar of Co-operative Societies, Madras.

The application of the co-operative method to the printing industry began as early as 1919, but it did not make much headway as in other fields of economic activity in which co-operation was introduced particularly in the field of rural credit. After the first co-operative printing works was started in the year 1919, at Madras the second was started only in 1927, at Tanjore. The press at Coimbatore is one of the two co-operative printing presses started in the year 1933, the other one being Pudukottah Printing Press. For 14 years after this society was started, there has been no activity in this direction in this State till 1947 when the Salem Co-operative Printing Works was registered. Thereafter, two other co-operative printing works were started one at Madurai and the other at Vellore in the years 1951 and 1953, respectively. To these seven co-operative printing presses in this State, one more was added when a part of the Travancore-Cochin State was included in our State consequent on the State reorganization.

There are eight co-operative printing presses with 2,655 members (both societies and individuals). They have a paid-up share capital of Rs. 2.30 lakhs and they own machinery worth Rs. 3.68 lakhs. They execute printing, binding and other works to the value of Rs. 6 lakhs per annum.

Co-operative printing presses in this State have been formed as consumers' organizations. With the phenomenal expansion of the co-operative movement, the growth in the number of societies and the variety and

volume of their transactions there is bound to be a corresponding increase in the demand for various kinds of books and forms, stationery, etc. The many sided growth of the movement must naturally give increased business to the co-operative printing presses. Each district must have at least one co-operative printing press to serve the needs of all the co-operative institutions in that district. I hope that in each of the districts, in which there is no co-operative printing press, steps will be taken to form one.

I am happy to see that this press has a uniform record of good service for the last 25 years. Started in 1933 with 31 members and with a paid-up share capital of Rs. 2,160, this press has maintained a steady progress, a membership now being about 700 and a share capital about Rs. 55,000. While the value of works executed in the first year amounted to Rs. 3,500, this press is now able to turn out work to the value of about Rs. 2¼ lakhs. This press has earned a name for the fine quality of printing and binding and every one has been impressed by the excellent standard and workmanship which has been steadily maintained. This press stands as an example for other co-operative printing presses in the State and I congratulate the Board of Management, present as well as the past, and the officers and the workers who have contributed to the growth and efficient working of the press.

[Extracts from the speech delivered on the occasion of the Silver Jubilee celebrations of the Co-operative Printing Press at Coimbatore.]

this is the Age of the common man. In a country with a bountiful population such as ours, one can easily visualize the almost staggering financial possibilities of such an ideology. The democratisation of savings and the new-found status of the small savers as the pillars of State credit are the inevitable consequences of the Movement. Small Savings affords to every citizen howsoever humble the psychological satisfaction of equality of sacrifice.

The Small Savings Movement helps to fight and check Inflation. It emphasizes the need to compress consumer spending and to siphon away excess purchasing power in the hands of the people into creative channels. This helps to stabilize the purchasing power of the currency and to hold the price line. Consumer spending sprees are to be contained. The Movement advocates the avoidance of waste of all kinds and the postponement of discretionary expenditure so as to achieve larger satisfaction from such expenditure at a more favourable date. It emphasizes the need for some kind of fiscal dieting for securing the continued economic health of the individual

The Movement well recognizes that austerity in consumption is a prime need and promotes the habit of wise spending. But with a development programme giving rise to a whole set of small new incomes the curtailment of consumption is no easy task. It is unfortunate that while there are a host of ways to spend money, there is but only one way to save it, and that is by not spending. Small Savings offers a solution and an avenue.

The Movement buttresses respect and reverence for the small coin in the realm by focussing public attention on its snowballing potential.

The Small Savings Movement partakes of the dual qualities of protective and productive saving. It gathers in savings and renders them fruitful. By saving primarily for one's self and near ones, it incidentally ensures for the benefit of society as a whole. Small Savings like the quality of mercy is twice blest; it blesseth him that gives and him that takes.

May your Savings grow.

Madras Coral Fisheries

SRI V. D. SPURGEON, Deputy Director of Fisheries, Madras.

It is common knowledge that sea covers three-fourths of earth's surface. But the sea is so vast that one cannot easily comprehend its magnitude being 140 millions of square miles in area. To a layman the sea appears as a huge barren waste. But the largest animals and the tallest plants grow in it. Millions of organisms in varied shapes, sizes and hues live in the unfathomable depths. Almost every life in the ocean is of commercial importance. The food fishes like Seer, Pomfret, Cock-up, Jew-fish, Bombay-duck and Leather-jacket, oil yielding ones like Whales, Sharks, Cod and Sardines, chemicals like Iodine, Salt (sodium chloride) and Algin, precious objects like Pearls, precious Coral, Pearl essence, sponges, agar-agar, ambergris, turtle-shell, conch shell, etc., are all wealth from the sea. Of these *Coral* is not much spoken of in India much less in our State.

What is a Coral?

In early times, *Coral* was taken for a seaweed. Naturally the elegant branches of the stem planted in the sandy bottom misled the early workers. Due to advancement of marine science it is now definitely known that *Coral* is an animal. A *Coral*, though outwardly appears to be a single individual bears a great number of organisms—the polyps—held together by Calcareous secretions. The *Coral* does not seek light but is capable of living in great ocean depths as well as in shallow margins around Islands carrying out all the normal work of an animal.

Different kinds of Coral.

There are varieties of *Corals*. These are classified by marine biologists into different families according to their underlying likenesses. Among them are fan-shaped, pen-like, cup-like, mushroom-like, brain-like, horn-like, claw-like and flower-like *Corals*. These varieties never fail to impress even a casual observer. *Corals* with elegant spreading branches and others with geometric designs are not uncommon. The colouration of pink, yellow, green, brown or purple is yet another fascination of these lovable creatures. There is an almost infinite variety in form and colour among *Corals*.

Important Coral Fisheries.

Important *Coral* beds lie on the Algerian and the Tunisian Coasts. Near Sicily also good *Corals* are reported to be available. The control of *Coral* fisheries in the Mediterranean passed hands among western powers in early times. *Coral* fisheries on the North African Coast were highly renowned in the middle ages. In the Red Sea there is black *Coral* Fishery. The Japanese *Coral* fishing industry is known to be of high

standard. Many of the Pacific Islands are formed entirely of *Coral* rock. The great Barrier Reef consists of gigantic masses of *Coral* rock fringed by living *Coral*.

Uses of Coral.

Of course precious *Coral* is for jewellery. The working up of *Corals* into ornaments is an Italian Art. It is said that there are 600 establishments in Italy for *Coral* ornaments. *Corals* are mostly cut into beads to be strung as necklaces, bracelets, armbands and rosaries.

As said above *Corals* display all fancy shapes, sizes and colours. As such they are excellent articles for decorating drawing rooms, public halls, private apartments, and to serve as paper weights and curios.

In Turkey *Corals* are employed freely for many objects such as pipes, weapons and the trappings of horses. *Corals* are popular in North Africa with the exception of Egypt. Persians set them in amulets, necklaces and garters. They make a religious use as gifts to the dead as *Corals* are believed to keep evil spirits aloof from their bodies. The clever trader is often able to exploit the ignorance and superstition of local population to his advantage. While perfect *Corals* were exported to China for use as buttons in caps, tons of worm-eaten beads found a ready market in India because certain people were led away by a blind belief that the evil spirits took up their abode in the little cavities of worm-eaten *Corals*. Thus what was worthless in China and elsewhere found a market in India.

While the *Coral* used in jewelry is only one species, there are scores of others among *Corals* which also have certain commercial importance. Because the main component in the body tissues of *Corals* is Calcium Carbonate (lime) the *Corals* can be made to yield this important chemical for various industrial purposes.

Coral Fishing at Tuticorin.

At Tuticorin on Tirunelveli Coast *Coral* Industry is steadily gaining ground.

The Gulf of Mannar, peculiarly enough, has many Islands along the Tirunelveli and Ramanathapuram Coasts. These are of *Coral* origin. *Coral* colonies having existed in these spots from time immemorial have grown thick and massive. To these were added sea debris and sand. Thus slowly these colonies formed themselves into Islands and are seen opposite to Pamban, Kilakari and Tuticorin in our State. Because they are *Coral* in origin, they are veritable sources of Calcium Carbonate.

In Tuticorin within about three and five miles from the shore are the Hare and Church Islands, respectively.

Over the Islands and up to two fathoms (12 feet) depth around the islands broken bits of *Corals* are commonly met with. The fishermen call such loose and broken bits of *Corals* as "Challi". Unskilled fishermen who cannot go to deep water for *Coral* fishing, and children gather the "Challi" along the shore and in neck deep water. One hundred men and children are engaged throughout the year in this collection. Nearly 5,000 boat loads of "Challi" are brought ashore in a year for treatment.

The second type of *Coral* is known as "Kadayal" (medium sized). The third kind is called "Nuraikal" (large sized) meaning thereby "stones with bubbles of air". The second and third varieties are not simply picked out but have to be hammered and broken loose from large *Coral* colonies at a maximum depth of 6 feet and have to be hauled up to the canoe. This is hard labour. Here the fishermen have to know diving as well, as heavy blocks of *Coral* are hammered and broken loose all the time holding their breath and remaining at the bottom without being themselves lifted up to the surface on account of natural buoyance. This busy fishing goes on all the year around. Seventy canoes are engaged with 7 crew and fishermen-divers in each. The *Coral* fishing canoes measure 36 feet in length 9 feet in breadth and carry a full load of 2 to 3 tons *Corals* at a time. The crew and divers belong to the famous Baratha Christian Community to whom we owe much for the advancement of fishing Industry and Navigation in the South. The sail used in *Coral* canoe is lug type. In the afternoon the canoes set their sail and return to the shore opposite Tuticorin Pearl and Chank Fisheries Office in Theresapuram area. On the shore numerous coolies quietly unload the "Catches" for the day. The "Challi" and "Nuraikal" are sorted out and separately heaped. The latter is dexterously stacked in the form of huge cubes and rectangles as the unit in purchase and sale of *Coral* is a cubic yard. The selling price is noted below:—

Challi	..	..	Rs. 2-8-0 per cubic yard.
Kadayal	..	..	Rs. 4-8-0 per cubic yard.
Nuraikal	..	..	Rs. 6-9-0 per cubic yard.

Coral Lime Manufacture.

As the "Challi" is dead and deteriorated limbs of *Coral* colonies, is easy to calcine. Hence it is wholly consumed for manufacture of lime. About 15 cubic feet of "Challi" is put into a lime kiln at a time and the top layer of "Challi" completely covered with mud in the form of an apex of a cone and fire kindled from the bottom of the kiln. It takes three days to get completely calcined and requires Rs. 40 worth of coal cinders. Three to four days time is allowed after complete burning for the lime to cool down.

The kiln is 9 feet high and measures 12 feet across the mouth. There are 40 kilns of this type at Tuticorin. All kilns work all round the year except for a short break in rainy weather.

The "Chunamb" so manufactured is not pure white. Hence good results cannot be expected in white-washing. Mostly *Coral* "Chunamb" is used in making mortar. Tuticorin is rapidly expanding in population, industry and area. To meet the increased demand for constructing dwelling houses, factories and Mills mortar is greatly

needed for which *Coral* "Chunamb" alone is available. The chunamb is sold at Rs. 3 per "Lasthri" (each lasthri is about 192 measures).

Coral in place of brick.

The "Nuraikal" because of its hardness cannot be quickly burnt for lime. Hence it is used in place of granite and brick for big constructions. The *Coral* chunks can be had in all sizes and shapes. And so house constructions, erection of compound walls, metalling of roads and building of culverts are carried out conveniently with *Corals*. In Tuticorin it is a peculiar sight to see the compound walls of offices and factories, the sides of dwelling houses, the revetment of roads and tops of culverts, exhibiting the shape and size of *Corals* and sometimes even the "polyps". By looking at the huge compound wall running around Fisheries Office one can form a correct opinion of the different types of *Corals* obtainable in the depth of Tuticorin sea. The cheap way of raising a compound wall is simply to stack large *Corals* at the bottom and smaller and lighter ones at the top without mortar or cement in between stones. In Rameshwaram and Kilakarai also some constructions are out of *Corals*.

The *Corals* meant for construction purposes are usually stacked in the open air and allowed to remain exposed to sun and rain for about a year. This is obviously to wash the salt from the *Corals*. *Corals* used straight away from the sea make the plaster and white-washings to fall off rapidly. It is an impressive sight to see the north beach of Tuticorin to be full with *Corals* of various types neatly arranged in huge blocks in several rows—some to be bleached by sun and washed by rain and others ready for sale. It is estimated that the annual output of "Nuraikal" is 3,000 tons or 800 cubic yards of Rs. 50,000 worth.

Future for Coral Fishery.

The demand for *Coral* for lime and house construction is ever increasing at Tuticorin. To cope up with the large market the *Coral* fishing industry has to grow. There is scope for more canoes joining this fishing and more divers finding well paid employment in this line. There being no middlemen to exploit, the *Coral* fishermen stand to great profit. Nearly 500 coolies are employed in transporting *Corals* from the canoes to shore, in stacking them in rows, in filling up the kilns feeding the fire, carrying "chunamb" to carts and so on. About 490 crew and fishermen go to sea for *Coral* fishing. Nearly 20 carts and cartmen wait at the shore to transport the lime and *Corals* to town. The *Coral* fishing industry at Tuticorin has a bright future.

Tuticorin occupies an enviable position in the matter of marine products of commerce. There is the progressive fishing industry with Pablo boats and Nylon nets, there are again Pearl and Sangu fisheries with modern *aqu lung* under trial besides there is the most rich salt production around Tuticorin. Turtles are caught. Thus *Coral*, fish, pearls, sangu, salt, turtle, etc., are exploited from Tuticorin sea.

Thus more things are got from our sea than you could dream of!

Service Civil International

R. PALANIAPPAN.

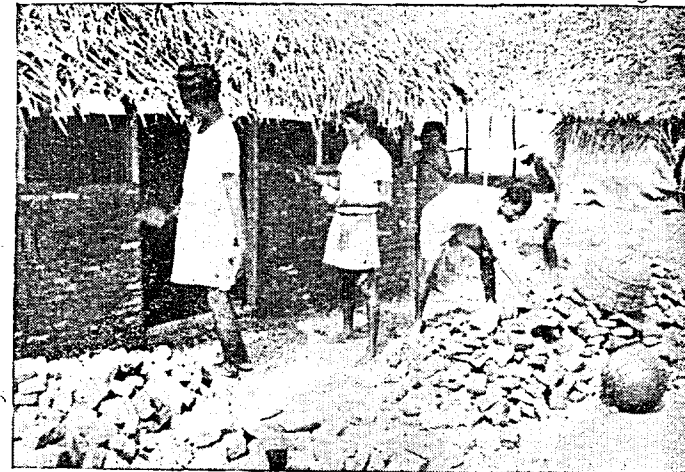
In undertaking the Pilot Welfare Extension Project (Urban) at Cherian Nagar, Tondiarpet, under the auspices of the Central Social Welfare Board, Service Civil International, Madras Groups, have embarked on a slum rehabilitation experiment of considerable significance. Like many of the modern cities, Madras has its own problems with slums. Typical among these is 'Karimeducheri', the slum near Madras Harbour where 320 families comprising of 395 adult males, 403 adult females, 304 boys and 239 girls (of whom 103 and 36 are school going) live under sub-standard conditions without any semblance of even the most elementary hygiene and sanitation. Most of the people are sweepers, cartmen, rickshaw pullers and harbour labourers. Three hundred and thirty-four of the men are employed regularly and the rest earn their livelihood as daily labourers. Average income per family works out to be Rs. 60 per month.

These families are being shifted to the Cherian Nagar where the Corporation of Madras have provided the site extending to 110 grounds together with such amenities like road, light, water-supply, sewers and individual flush-out latrines. Model huts each on plots of 20 feet by 40 feet are at present being constructed for 200 families who are being shifted from Karimeducheri to Cherian Nagar where already 200 families from other slums have been rehabilitated. These huts are being put up by the people themselves with the assistance of Service Civil International volunteers, the Corporation providing three-fourth of the materials required for the construction, the balance being met by the people out of their own resources.

A playground has been built for the children of the settlement and has been equipped with swings, see-saw,



A hut under construction.



Building huts.

chutes, etc. Amenities for playing football, volley ball and basket ball have been provided and games are being regularly conducted under the expert supervision of trained volunteers.

Besides this constructional work, Service Civil International, holds weekly film shows, pre-primary class every Wednesday at 7 p.m. with 30 children to start with and adult education class every Thursday at 7 p.m. with 20 people. Sewing classes for tailoring and embroidery are being held every Friday and Saturday with 15 women in each batch. This has been made possible through the kind gift of four sewing machines by the 'CARE' organization of America. Two lady teachers with adequate technical training and experience have volunteered their services for this purpose. These classes have proved to be very popular and there is a long list of waiting candidates desiring admission. With the recent donation of two more machines by the 'CARE' the frequency of the classes has been doubled.

Moreover, Service Civil International have been able to obtain free gifts of a large quantity of powder milk and wheat from Catholic Relief Service of United States of America through All-India Catholic University Federation. Out of these a cup of hot milk is being provided every day to the children, old people and expectant mothers numbering about 250. Wheat is being distributed to the most needy, every Sunday.

First Aid is being rendered by the Service Civil International Group through the kind co-operation of the local doctor and serious cases are referred to the nearby hospital with which the group has a working arrangement. The whole project is based on the

(Continued on the next page.)

Key Village Supplementary Extension Centre

Dr. D. PATTABIRAMAN, Director of Animal Husbandry, Madras.

The All-India Key Village Scheme for cattle development aims at the improvement of cattle wealth by the adoption of scientific methods of breeding, feeding, management and disease control in compact areas. A key village block is a group of contiguous villages with a population of about 5,000 cows and she buffaloes of breedable age. All the entire males in contact with this group are castrated by the enforcement of Livestock Improvement Act. An efficient, natural or artificial breeding service is provided for these female stock from approved and pedigreed breeding bulls of descript type. All the animals in the area and in the surrounding areas are vaccinated during appropriate periods for protection against endemic contagious diseases. Provision has also been made for treatment of day-to-day ailments of cattle. Attention is paid to improve the managemental practices and also to provide adequate and balanced feeding. Schemes for improvement of feeds and fodder resources are undertaken to make the areas self-sufficient. Marketing of Livestock and livestock products through co-operatives is also included in the programme of work.

As per the above programme, fifteen key village blocks were established under the scheme in the First Plan Period for this State. It has been proposed to have eighteen more blocks during the Second Plan Period, of which twelve blocks have so far been established in this State.

Since the key village blocks have been established from 1952-53, a considerable number of pedigree breeding bulls required for grading up of non-descript cattle are made available in these compact areas, and in order to utilize all such bulls produced in the key village areas, the Second Five-Year Plan provides for the establishment of 41 supplementary extension centres in this State. The programme of cattle development in these supplementary Extension Centres will be the same as that of the Key Village Scheme, except that there will be no artificial insemination and instead more number of bulls of approved type will be stationed in these areas for natural services. Fifty breeding bulls are located in each supplementary Extension Centre area which consists of about 5,000 cows and she-bulls of breeding age. As per the phased programme under the Second Five-Year Plan so far 17 supplementary Extension Centres have been established in this State.

During the year 1958-59, four supplementary Extension Centres have been sanctioned, one each at Vasudevanallur in Tirunelveli district, Vallianai in Tiruchirappalli district, Tiruchengode in Salem district and Valparai in Coimbatore district. The centre at Vasudevanallur in Tirunelveli district was formally inaugurated on 4th August 1958 by the Hon. Minister for Home. Out of the 50 bulls, 25 Kangayam and 25 Murrah buffaloes to be located in the area, 25

Kangayan bulls and 3 Murrah buffaloe bulls have so far been supplied and arrangements are being made for supply of the remaining bulls. These bulls are entrusted to the custody of selected custodians and a subsidy of Rs. 30 per mensem is paid towards its maintenance. The Madras Livestock Improvement Act will be enforced in this area and the breeding will be completely controlled through natural service by bulls in the area. The follow-up of services, verification of calves born, treatment of cases, castration of scrub bulls, prevention of contagious diseases, etc., are being attended to. Necessary qualified staff are posted to work in this area. The establishment of this supplementary extension centre is expected to help greatly the grading of local non-descript cattle in the area and thereby improve their efficiency for work and milk yield.

(Continued from the previous page.)

principle of 'self-help' and the services rendered are Cosmopolitan in the coverage in the sense that the beneficiaries are not restricted to any caste or sect or religion.

Service Civil International Group are in 'over-all' charge of the whole project and work through an executive as well as a Consultative Committee, which enjoy the active co-operation of the Corporation of Madras, International Fellowship, Rotary Club and Lions Club of Madras, besides the students' organizations of some of the local colleges. A team of volunteers from Switzerland, Sweden, France, America and Japan are participating in the camp. Now a mixed group of 18 is taking active part in the Summer Work Camp which was inaugurated by Mrs. Bishnuram Medhi under the Presidentship of Sri Medhi, Governor of Madras.



Sewing class.

Employment Service

SRI V. BALASUNDARAN, I.A.S.

The National Employment Service originally established by the Government of India and brought under the administrative control of the Government of Madras since the 1st of November 1956 has steered through another year of progress in all aspects of its work. The Service which began its placement activities with twelve District Employment Offices located at the headquarters of each district extended to the newly-formed Kanyakumari district for which a District Employment Office was opened at Nagercoil on the 1st of March 1958. The Employment Offices were actively engaged in registering applicants of all categories. Special attention has been given to highly qualified, supervisory and technical personnel and also women. New techniques of Industrial and Occupational Classifications, which the Service has made a special study of, have been adopted in the process of registering applicants. During the year, the Employment Offices registered in all 173,517 applicants, recording a conspicuous increase over the figures of last year. Apparent as it is, there is a growing awareness among the employment seekers to resort to the Employment Offices for finding jobs. During the year, 24,278 persons were placed in employment. Predominant factors of the placement were that nearly 200 applicants of highly qualified supervisory personnel and 3,404 applicants belonging to Scheduled Caste and Scheduled Tribes have been placed in suitable employment. The placement figures relating to women are no less encouraging, as 3,432 have been placed in suitable employment. The Employment Offices have shown a steady progress in that they have been able to place a considerably large number of applicants this year as against 22,073 during 1957.

Vacancies notified to the Employment Officers have also shown a steep rise confirming the fact that employers are becoming more and more exchange-minded. During the year, 29,556 vacancies have been notified to the Employment Offices, of which 24,319 have been filled up leaving only 5,237 vacancies, against a majority of which, applicants have been recommended and the result awaited, leaving a narrow margin of vacancies cancelled by the employers due to various reasons.

The patronage of the employers is also significant in that 9,214 employers used the Employment Offices in the State during the year as against 8,193 in 1957. The demand from the private sector has all along been very small. However, the Employment Officers have been carrying out a systematic programme of contact with the employers in the private sector in order to

explore more avenues of employment. Vacancies notified from the private sector indicate that the demands for technical personnel are on the increase. Effective steps have been taken to clear the vacancies on a State and country-wide basis, so that suitable applicants might be drawn from any part of India to meet the requirements of the employers. In spite of resorting to Vacancy and Labour Clearing all over the State, it has not been possible sometimes to supply the required number of technical personnel in shortage categories. However, it is hoped that with the increase of facilities for training and apprenticeship in the State, more technical personnel will be available to the employers.

The problem of placing applicants does not resolve itself only into a paucity of employment opportunities. Quite apart from this limitation, the Employment Officers are baffled by many other difficulties which in the main arise from certain patent and latent drawbacks on the part of the applicants. When opportunities are a few, the applicants hold reservations of their own which stand in the way of their being placed suitably. These reservations are pronounced in the matter of choosing jobs which call for greater stress and strain. Immobility is another factor that stands in the way of the applicants securing jobs at the earliest. Besides failure on the part of applicants to observe formalities and fulfil procedural conditions renders their placement all the more difficult and complex.

Since the advent of the Service, the Employment Offices have been primarily functioning as a placement machinery. Until recently, their work in the main has been one of finding employment for those registered. But with the growing needs of the State and the changes in its manning patterns, it has become necessary for the Employment Offices to specialize in the modern techniques of placement. In order to make the Service more scientific and systematic, three schemes have been introduced under the Second Five-Year Plan. These schemes relate to Occupational Research and Analysis, Collection of Employment Market Information and Youth Employment Service and Adult Counselling. Commenced in August 1956, the Occupational Research and Analysis carried out by a Unit set-up at the State Directorate at Madras with an officer specially trained for the work has made steady progress. During the year this Unit has conducted original work in regard to five groups and 35 families of occupations allotted to the Unit. As a result of field study and discussion with the employers, draft definitions in respect of 374 occupations covering the above groups and families of occupations have been prepared.

The collection of Employment Market Information is carried out by a State Employment Market Unit attached to the State Directorate of the Service and Field Units attached to the Employment Offices in the districts. During the year, the public sector has been surveyed in all districts except the Coimbatore district where the public and private sectors have been covered. The quarterly rounds of enquiry conducted have been completed for three quarters up to the end of September 1958. The quarterly report of the Coimbatore Employment Market for the period ending March 1958 has been released in November 1958. The other quarterly reports are under preparation and will be released shortly for the information of the employers, employment seekers and institutions. The programme of surveying the private sector in all the districts will be taken up in course of time.

The Scheme on Youth Employment Service and Adult Counselling orientates the placement work in the State, in that the youths of the State are being guided vocationally to choose occupations and careers to suit their ability and aptitude. Adults have also been counselled in the choice of careers. Though there may not be adequate opportunities for every one that seeks counsel to choose the occupation for which he is most fitted, the programme of vocational guidance and adult counselling opens a vista of deploying applicants in surplus categories into various avenues of employment, so that the congestion in common place occupations may be relieved to a great extent. The Youth Employment Service started at the District Employment Office, Madras, has been effectively functioning since March 1958. The Unit, in charge of an officer specially trained for the work, has so far given group guidance to 8,350 youths and individual guidance to about 122. It is expected that this programme will in course of time be extended to other areas also, so that the youth of the State may be benefited by the service in the choice of careers.

The National Employment Service can be effective not merely by its own resources and techniques but by the advice and co-operation of the employers and others interested in the problem of unemployment. In order, therefore, to enlist the assistance of the representatives of employers and employees, District Employment Advisory Committees had been constituted in each district except in the districts of Tanjore and Kanyakumari, where the Advisory Committees will be constituted shortly. It is also proposed to constitute a State Employment Advisory Committee at the Headquarters at Madras.

The Employment Service is an employment finding agency. It has no scope to create employment. However, with the implementation of the Second Five-Year Plan, the consequent increase of the employment opportunities in the State and the application of the techniques which have stood the tests of the International Labour Organization, it may be possible for the Employment Service to play a more vital role in the manpower planning and the economy of the State.

Superannuated Teachers

The Government have passed orders that school teachers who reach the age of superannuation during the middle of the school-year may be allowed to continue till the date of closure of the school for the summer vacation in order to ensure continuity of staff. Accordingly teachers employed in all schools under the control of the Education Department and under public managements who reach the age of superannuation during the middle of the school-year will be continued in service on re-employment terms till the date of closure of the school for the summer vacation, provided their work and conduct are satisfactory and they are physically fit to continue in service.

In so far as the schools under private managements are concerned, the Director of Public Instruction has been requested to commend the above to all the managements of aided institutions in the State, for suitable action.

Use of Improved Implements by potters. Training Centre for K.Puram

The Government have approved a scheme for the development of Pottery Industry in K.V. Kuppam Block, North Arcot district. The object of the scheme is to bring fifteen potters families in K. Puram village, K.V. Kuppam Block, North Arcot district, into the co-operative fold and to give training to each family for a period of one month in the use of improved implements and in the manufacture of useful household articles suitable for local needs. The training will be imparted by a Master Potter. The scheme involves an expenditure of Rs. 1,000 recurring and Rs. 3,070 non-recurring.

Formation of Youth Clubs

The Government have sanctioned an expenditure of Rs. 15,500 for starting 30 Youth Clubs in areas around the Rural Extension Training Centres where Gramasevaks undergoing practical training. According to the scheme the Rural Extension Training Centre should organize Youth Clubs in surrounding villages with a membership of 15 to 20 per club to serve as Models for the Gramasevak trainees and thus enable them to organize such clubs in villages where they are posted. The Ford Foundation will meet the entire recurring expenditure during the first year, half during the second year and one-third during the third year. Half the recurring expenditure during the second year and two-thirds during the third year will be met by the State Government. At present there are seven Rural Extension Training Centres in this State and two of them at Bhavanisagar and S.V. Nagaram are expected to form five Youth Clubs each, while the rest will organize four each.



No bad Eggs in Summer.

One of the perils of the long and oppressive summer season in India is the damage it does to perishable food-stuff like fruit, vegetables and eggs, resulting in a loss amounting to crores of rupees to the country.

A great deal of thought, therefore, has been given by scientists to devising suitable techniques for the preservation of foodstuff. Quite a few of these devices, employing cold-storage and other techniques, are today widely in use both in industry and homes. In fact, during the last few years, India has built up a considerably large cold-storage and food preservation industry.

News of further advance in this field comes from the Indian Veterinary Institute at Izatnagar, where the Institute's Poultry Research Division has developed a cheap and effective method of preventing eggs from turning bad in summer.

The method bears the difficult-sounding name of 'thermo-stabilisation' but, in actual practice, is quite simple. All that it involves is a 30-minute immersion of eggs in water, the temperature of which is maintained at 54.5 degrees centigrade.

Eggs intended for thermo-stabilization should not be very stale nor too fresh; only those of good quality should be used. These are first placed in a wire-basket which can hold about 200 to 250 eggs of the standard size. The basket is then lowered into a bucket containing water at a temperature of 54.5 degrees centigrade. The eggs are kept for 30 minutes in water, which is maintained at the required temperature by continuous flow of hot water from a tank placed at a raised level. Then, they are taken out and cooled immediately by placing the basket in running water or in a bucket, with water changed three to four times, till they reach the room temperature.

Eggs treated in this way have been found to remain edible for 10 days even in the hot summer months of Northern India. The principle behind this treatment is very simple. Eggs get bad in summer because of embryo development. Immersion in hot water destroys the embryo, thus rendering the eggs imperishable and 'vegetarian' destroying at the same time the stigma that attaches to eggs as non-vegetarian food.

The obvious advantage of this method is its utter simplicity and inexpensiveness, when compared with

costlier methods like cold-storage. This makes it easily applicable in Indian villages, where individual owners of small poultry farms generally supply the bulk of India's egg production.

India now produces Vitamin 'A'.

With the establishment of plants for the production of synthetic crystalline vitamin 'A' by two well-known firms of pharmaceuticalists at Bombay recently, India becomes the sixth country in the world to undertake commercial synthesis of this vitamin. Together, these plants will be producing 15 million mega units. This quantity, it is expected, should be sufficient to meet the present demand for cheap and good quality vitamin in the country.

Production of vitamin 'A' is a matter of great significance to India's public health programmes. Vitamin 'A' deficiency is widespread in the country and is next only in importance to protein deficiency. The availability of vitamin 'A' in adequate quantities should help in raising the nutritional standard of the people.

The impact of this development on pharmaceutical and food industries is also bound to be considerable. The availability of vitamin 'A' in a wide range of forms and types will certainly facilitate the work of food technologists, pharmaceutical chemists and workers in the veterinary field. It will also help the pharmaceutical industry to put in the market a variety of vitamin preparations in which vitamin 'A' is an important constituent.

Vitamin 'A' is widely used in the preparation of food for infants and invalids, and in the enrichment of such popular foodstuffs as vanaspati, butter, ghee and bread. Besides, it may also find other uses, of which increasing the productivity of livestock is one.

Tapioca Macaroni is a good substitute for Rice.

A pilot plant set up at the Central Food Technological Research Institute, Mysore, for the production of tapioca macaroni from a mixture of tapioca flour, groundnut flour and wheat semolina marks a significant advance in food technology.

It was some years ago that a systematic study was initiated at the Mysore Institute to develop nutritious non-cereal foods which could replace rice and wheat. It was a necessary move in the gradual change to be brought about in the eating habits of the people.

Among the principal raw materials selected for processing were tapioca flour and groundnut flour. A unit was set up at Trivandrum, where they succeeded in developing a process for the production of round 'synthetic' grains from a mixture of 85 parts of tapioca flour and 15 parts of groundnut flour.

Further studies were undertaken to explore the possibility of modifying the nature of tapioca dough so that the final product could look like rice. This was meant to be a concession to popular psychology, which wanted a rice-substitute to look like rice. The pilot plant now set up at the Mysore Institute marks the successful completion of these studies and the beginning of actual utilisation of the new process on a commercial scale.

Paper can be made from Chirwood.

Pilot plant investigations conducted at the Forest Research Institute, Dehra Dun, have shown that easy-bleaching pulps with satisfactory strength properties can be obtained in good yields from *chir*, a tree which grows abundantly on the outer Himalaya and Sivalik ranges and also in the valleys of principal Himalayan rivers.

Being a long fibred wood, *chir* is particularly suitable for admixture with short-fibred pulps. It is at present used for the manufacture of sleepers.

Logs, ten to twelve feet long, cut from trees of about 25 years of age, were selected for investigations. *Chir* waste, left after making sleepers, being more economic than log wood, was also used.

The *chir* wood so collected was made to undergo a series of operations, including chipping, digesting the chips at high temperature, treatment of the pulp so produced with bleaching powder and other chemicals and, finally, colouring, pressing and drying the pulp. A series of tests were carried out on the paper made from this product; and the paper was found to have good formation, strength, brightness and other properties.

Easier method for making Idli.

From Mysore comes a piece of good news for the lovers of South Indian food, particularly of inimitable *Idli*.

In the laboratories of Central Food Technological Research Institute, where research has been going on for some time on ways and means of raising the nutritional value of Indian food, they have been able to develop a simplified method of making *Idli*, without

having recourse to wet grinding, which most *Idli* makers at present practise.

In the new method, finely ground blackgram flour is mixed with water and made into a paste. The paste, after being allowed to ferment for six to eight hours, is mixed with par-boiled rice semolina. This mixture is further allowed to ferment for another 12 hours after addition of more water. The dough so produced is ready for giving soft and spongy *Idli*, with just the right amount of acidity.

Moreover, at Mysore they have been able to produce a composite *Idli* flour, containing all the fermenting materials. Efforts are now being made to make this flour easily available for kitchen purposes to consumers in those parts of the country where *Idli* constitutes a major item on the menu.

Brassware Industry in Nattarasankottai

The Government have sanctioned a scheme for the establishment of a Brassware Training-cum-Production Centre at Nattarasankottai in Kaliarkoil Block, Ramnathapuram district. The scheme has been so designed as to not only give a fillip to the development of brassware industry in the area but also in the process, to benefit the artisans engaged in the industry. It is proposed to give training to ten persons in this trade for a period of one year. During the period of training, the trainees will be paid a stipend of Rs. 30 per mensem each. The Government have sanctioned an expenditure of Rs. 11,000 non-recurring and Rs. 20,400 recurring. The Block Development Officer, Kaliarkoil, will be in administration charge of the Scheme.

State Transport

Sri T. Srinivasan, I.A.S., took charge as Director of State Transport in April 1959.

Madras City.

The fleet strength in the month of March was 470. Special buses were operated to Covelong, Tiruppurur and Guindy in connection with Festivals and Races. An average number of 340 buses were operated per day. Total collections for the month amounted to Rs. 15,36,315 and 11,952,984 passengers were carried and 1,175,019 miles were covered. Between 13th January 1959 and 24th March 1959 twenty-two new Leyland Comet type buses were pressed into service replacing old buses.

Kanyakumari Branch.

The fleet strength was 93 and an average number of 64 buses was operated per day and the monthly collection amounted to Rs. 3,05,053.03. A total of 325,310.2 miles were covered and 1,078,484 passengers were carried.

Specials brought in Rs. 18,732.34 after covering 16,847 miles with 44,129 passengers.

Nylon In Fishing

SRI V. D. SPURGEON, Deputy Director of Fisheries, Madras.

From time immemorial, man has been trying hard to invent things with a view to make his life on this planet worthwhile. This inventive human spirit, while it had been responsible for many useful discoveries, has of late also unleashed terrific possibilities for destruction of mankind in the form of nuclear and thermonuclear bombs. With reference to this stage in negative advancement of science politicians call our present time as "Atomic Age!". But speaking only about the creative side of modern science, it can be equally claimed that ours is an age of *nylon*.

The discovery of *nylon* has revolutionized the textile industry. Till now the textile industry all over the world was practically dependent on *natural* fibres. *Natural* fibres can be of two kinds, viz., *animal* and *vegetable* origin.

Animal fibres are those such as *wool* and *silk* and *vegetable* fibres are those like *cotton*, *coir* and *hemp*. Barring five types of fibres there was nothing else in the world till recently for textile industry. With the world population increasing by leaps and bounds, the demand for textile fibres is very acute and with world population ever spreading out on the surface of the globe, the area brought under plough for cultivation of food is increasing. These two adversely affect the world output of *natural* fibres such as *cotton*, *silk*, *wool*, *coir* and *hemp*. Therefore, scientists and industrialists strove hard and accomplished what is regarded as almost a miracle in the discovery of *synthetic* fibre by widely known name of *nylon*.

Composition of nylon.

Nylon is a superior textile fibre produced by chemical synthesis from coal-tar and limestone. While it is difficult for us to believe that such strong, beautiful and silky fibre as *nylon* comes out of coal-tar and limestone, the fact remains that the fibre is out of these two "impossible combinations". While there is an old proverb in Tamil to say that it is impossible to make fibre out of stone, the time has now come to prove its fallacy and that really *nylon* is out of limestone!

Nylon under different brands.

The chemical process for manufacture of *nylon* is difficult for the man in the street to understand. But he is ready to appreciate the fine texture of the finished product when it emerges out of the rayon or nylon factory. After the last war each leading nation in the world took to *nylon* manufacture seriously and to-day they have put their commodities in the market under different trade marks. U.K. has put it under the names of *Nylon*, *Terylene* and *Kenlon*; U.S.S.R., *Kupron*;

Japan, *Kuralon*; Germany, *Perlon*; and U.S.A. *Nylon*. Soon other nations too might follow with their own *synthetic* fibres.

Nylon in textiles.

Nylon textiles are popular in the market. *Nylon* slack shirts are in great evidence in Madras and *nylon* saris are adorning women. The secret for this sudden popularity of *synthetic* textile clothes is because the public have realized their manifold advantages. They are light, attractive, comfortable to wear, longstanding and available in scores of shades and designs to suit the pocket of rich and middle class alike.

Nylon in fishing.

Rot-proof fishing nets and ropes have long been a dream of the fishermen, but, to-day they are within the reach of Madras fisherman. The application of *nylon* to fishing nets and ropes has brought a revolution in the fishing industry. It is now rapidly replacing other conventional types of fibre like *cotton*, *coir* and *hemp* and has become the ideal material for net making throughout the world. Why should *nylon* come to be used rapidly in the field of fishing nets and ropes? In what respects are *nylon* nets superior to conventional nets?

Frequent enquiries are received by the Fisheries Department from the public to let them know all about *nylon* fishing nets. In the following paragraphs the various important aspects of *nylon* fishing nets are briefly explained:—

Rot proof.—Fishing nets made from *natural* fibres like *cotton* and *hemp* are subject to rapid deterioration under water. Outside water also living organisms like bacteria, fungi, white-ants, dermestid beetles, silver fish, moth feed on *natural* fibres. These organisms are present to a smaller or larger extent in fresh water, sea water or storage rooms. Sea salt also destroys nets made of *natural* fibres. But *nylon* nets are completely rot proof. There is no deterioration even after repeated immersion for long periods in fresh water or sea water. They may be stored away whilst wet without the slightest damage from mildew or fungus.

Exposure to sunlight and weathering.—Nets made of *natural* fibres like cotton require to be dried in the sun after use. Exposure to sunlight weakens them. Still drying is quite necessary to protect them from fungus, white-ants and whose harm is greater than sunlight. But *nylon* nets need not be dried after use. Sun drying only exposes them to unnecessary risk. Deterioration to *nylon* nets from sunlight is much slower than in the case of *natural* fibre nets like cotton nets. *Nylon* therefore relieves fishermen of the troubles of drying nets, anti-decay treatment of nets and above all mending the holes in nets. Time, labour and money

spent on drying and anti-decay treatment can be diverted to actual fishing operations. Thus *nylon* nets make possible the lengthening of fishing hours.

Strength.—*Nylon* nets have tremendous strength. *Nylon* is twice as strong and half as heavy as aluminium. Wire of the same size is equally strong to a type of steel wire of the same size. Even when wet, *nylon* retains about 85 per cent of its original strength. It withstands heavy loads with a very little elasticity.

Resistance to abrasion.—*Nylon's* abrasion resistance is more than ten times of the abrasion resistance of cotton and silk.

Owing to high resistance to abrasion and enormous strength fishing nets made of *nylon* are less subject to mechanical damage.

Thus a *nylon* net will give a very long life. Practical experience has shown that under normal fishing conditions a *nylon* net will last anything up to eight times the life of a *natural* fibre net.

Light in weight.—*Nylon* nets are extremely light—size for size the lightest in the world. If two nets of the same strength are made, one of *nylon* and the other of cotton, the *nylon* net can be far thinner and lighter than the cotton net. This light weight of *nylon* greatly

facilitates the handling of nets. In other words, it helps to lessen in a large measure manpower required for fishing operations.

Resistance to temperature.—*Nylon* nets are unaffected by extremes of temperature. *Nylon* retains full strength even in frost and its melting point is 490 degrees Fahrenheit. *Nylon* does not easily catch fire. It retracts and melts when flame is applied to it. If the heat of the flame is sufficiently intense and the application prolonged it may support combustion.

Low absorbency.—*Nylon's* low absorbency results in little change in its weight when wet and also means that the fibre dries extremely quick. *Nylon* hardly absorbs water as shown below:—

Nylon	..	..	..	..	..	6.7%
Cotton	..	..	..	..	..	43.9%
Silk	..	..	..	..	..	18.7%
Manila hemp	..	..	..	..	..	34.4%

A *natural* fibre net thoroughly saturated in water is 120 per cent to 150 per cent heavier than when dry, whereas a *nylon* net is only about 60 per cent heavier. The handling of the nets is therefore easier.

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Transparency.—Nylon nets are almost invisible in water. It is certain that the reduced visibility produces much heavier catch often as much as 300 per cent greater than the catch obtained with cotton nets. To explain further, in view of the invisibility of the nylon nets fishes easily get caught in nets. But in the case of other conventional nets, owing to their visibility fishes often fight shy of approaching them.

Elasticity.—Nylon nets have just the right elasticity to gill fishes. The basic nylon yarn stretches up to 20 per cent without breaking. After normal stretching it recovers completely so that mesh sizes remain the same. Further when trapped, fishes struggle hard in the nets, the elastic nylon gives allowance to their movements without getting easily damaged.

Transparency and elasticity of the yarn used for fishing nets, especially gill nets, have significant bearings upon the catch. This is why larger catches are guaranteed by using nylon nets.

Knot stability.—When nylon nets were first introduced, there used to be complaints that knots in nets easily slip because of the smooth surface of the twine and mesh size gets altered. Putting double knots—one opposite to the others—offsets this trouble. Now special techniques have been devised to prevent slippage. They include inventions like *Thermoset* type twines and *Bonded* type twines. By a special process, the coefficient of friction has been increased in nylon fish net twines and this has made possible to make knots of excellent stability.

Resistance to oil fumes.—When cotton nets are used on board oil-burning ships they get degraded rapidly by the acidic diesel fumes. But nylon is unaffected by such fumes.

Maintenance.—Maintenance of nylon nets is easy. They require no drying and no anti-rot treatment. They may be simply piled up while still wet. Nor is it absolutely necessary to remove sea bottom tit-bits that stick on to the nets, because they are unaffected by fish and bottom debris. Nylon nets look after themselves!

In a nut shell.—It won't be an exaggeration if it is said that the best fishing nets and ropes are those made from nylon or other synthetic fibres that are in the market under different trade marks. To sum up their merits, they are strong, rot-proof, durable and easy to handle. They do not stretch out of shape and they dry quickly. In addition, they are not easily visible beneath the water and as a result, when they have been used larger catches have often been reported. Nylon net means that time previously spent unprofitably on mending conventional gears, preserving them or drying them can now be spent much more profitably on actual fishing itself.

Because of these merits, nylon nets are now rapidly displacing those made of cotton, hemp and coir and revolutionizing the fishing industry.

At first, it may be thought that the nylon net is rather costly in comparison with that of the cotton net. If the above merits are taken into account, it will be

readily realized that great benefits will accrue from the use of nylon nets in the long run.

Nylon means longer life to nets and larger catches to fishermen.

In our country.—Use of nylon has extended to fishing industry comparatively only very recently in India and still majority of the fishing population have not come to see nylon and reap its manifold benefits in actual fishing operations in the high seas or placid waters in inland areas.

Government of Madras, through Fisheries Department, has started introducing nylon nets among fishermen and the nets are fast gaining popularity. Groups of fishermen and Fishermen Co-operative Societies are given these nets on subsidy and credit basis. One-third value is free and the balance of two-thirds value repayable in easy monthly instalments out of the profits realized in sale of daily fish landed. With the introduction of nylon fishing nets a new and brighter chapter is opened in the Madras Fishing Industry.

Waste Turned Into Wealth

The ten million tons of paddy husk available in our country every year, need not remain a waste, agricultural experts point out.

A good, yellowish, powdery manure, rich in plant foods, can be prepared from this waste product.

The manure contains, the experts point out, one per cent nitrogen, 1.6 per cent phosphoric acid, one per cent potash and 2.9 per cent calcium, and will be a welcome addition to our half-starved soils.

The method of converting paddy husk into manure is simple, and can be followed by any farmer.

The husk is spread in the cattle-shed in a ten-inch layer. Over this, about nine inches of paddy straw or any other litter is spread.

The top layer is renewed from time to time. But not so the husk layer. It remains there for about six weeks, after which it is removed and put into a pit and composted.

After about nine months, the paddy husk forms an excellent compost, ready for use.

Assistance for Tirunelveli Fishermen

The Government have sanctioned an expenditure of Rs. 26,800 towards the grant of loans and subsidies to fishermen through their co-operatives at Sippikulam and Tuticorin as fishing along the Tirunelveli district coast has been very poor this season with the result that the fishermen families have been hard hit. Of the sanctioned expenditure Rs. 11,250 is to be utilised for giving short-term loans repayable in one year for the purchase of yarn and nets, while Rs. 6,550 will represent the subsidy to be paid to the fishermen co-operatives for selling the nets at less than their cost price.

Tips to Farmers

Picking and Packing Cotton

Some farmers obtain a good price in the market for their cotton, which most farmers do not.

A good price or a poor one depends very much on how clean you pick and pack your cotton.

Cotton experts stress that all farmers should develop "clean habits" in handling their cotton. Then they will be able to get more profits from their produce.

The "clean habits" are—

When cotton bolls burst, pick your cotton with care so that no dry leaves or other foreign matter gets mixed with it.

Net dry the picked cotton in the open and clean the *kapas* so that all insect-damaged bolls are separated.

Before ginning, ask the gin-owner to clean the gin. Insist on getting back the seed and lint separately. And, important, see to it that your cotton lot is not mixed with others' lots.

Still more important, if you grow both *desi* and American cottons, have them picked, ginned and pressed separately.

Remember, if you mix a good cotton with an inferior one, you will get the price of the inferior one for both.

Don't ever try watering or adding foreign matter for getting more for your cotton. People who do that always lose.

More Eggs per Year

Watch out for the pullet that starts laying eggs early. Because, the earlier a pullet starts laying, the better will be her total annual egg production.

This is what experts of the Poultry Division at the Indian Veterinary Research Institute at Izatnagar say.

Another finding at the Institute, which will be of interest to all poultry-keepers is this: if you want to have good-sized eggs, select your breeding stock, especially females, with an eye to their body weight.

A 24-week old White Leghorn pullet should weight 3-1/2 pounds, and a Rhode Island Red 4-1/2 pounds. Such birds usually lay standard size eggs, a dozen of them weighing 24 ounces or more.

If you are in the table egg business, here is another useful hint from Izatnagar.

It is economical to keep the birds of Rhode Island Red and White Leghorn for only ten to twelve months from the time they laid their first egg. This is so because in the second year, the number of eggs laid goes down by a fifth.

Cotton Diseases can be checked

Many of our farmers are now following some simple precautions for checking the diseases of the cotton crop.

They are now careful not to stock the cotton stalks after harvest if there had been an attack from one or more diseases on the crop. They pull out the stems immediately after harvest and burn them. Along with the stems, they also destroy all shed leaves, flowers and bolls.

Research has found new varieties that resist attack from Wilt, a common disease of cotton in many areas. But for other diseases like Blackarm and Root Rot, no disease-resistant varieties are yet available, and hence the farmers will have to take other measures to check these diseases.

Inter-cultivating a legume like *moth*, which covers the soil and prevents the soil temperature from rising, is one good way of checking the Root Rot disease. Patches in which the disease has appeared should also be isolated, and in these cotton should be rotated with some other crop.

For Blackarm and Anthracnose diseases, treating the seed with a chemical before sowing has given good results.

In all cases where a disease has appeared, it pays farmers to show the disease-affected plants to the Agricultural Officer of the area so that he may identify the disease and suggest how it can be controlled.

Improving Your Poultry Flock

May be it's a little slow process, but the crossing of the males of the improved poultry breeds with *desi* females is a good method of improving poultry, especially in our villages.

For this purpose, males of the White Leghorn or the Rhode Island Red breed could very well be used. These breeds are famous for giving more and larger eggs than *desi* birds do.

By using these breeds for crossing with your *desi* hens, you "grade up" your flock.

The cross-bred chickens have better livability; they do not lose the setting and brooding habits of the *desi* mother. So also, they get the instinct of protecting themselves from their natural enemies.

The cross-bred chickens will have a better body-size and egg size and higher egg-production.

All Central and State Governments' poultry farms stock the birds of the improved breeds for supply to poultrymen.



The Rt. Rev. Dr. Thomas, Bishop of Tuticorin, is handing over a gramophone to the Prime Minister.

THE ADAIKALAPURAM CONFERENCE

The Prime Minister, during his tour of Tamilnad in April, participated in the School Improvement Conference at Adaikalapuram in the Tirunelveli District.

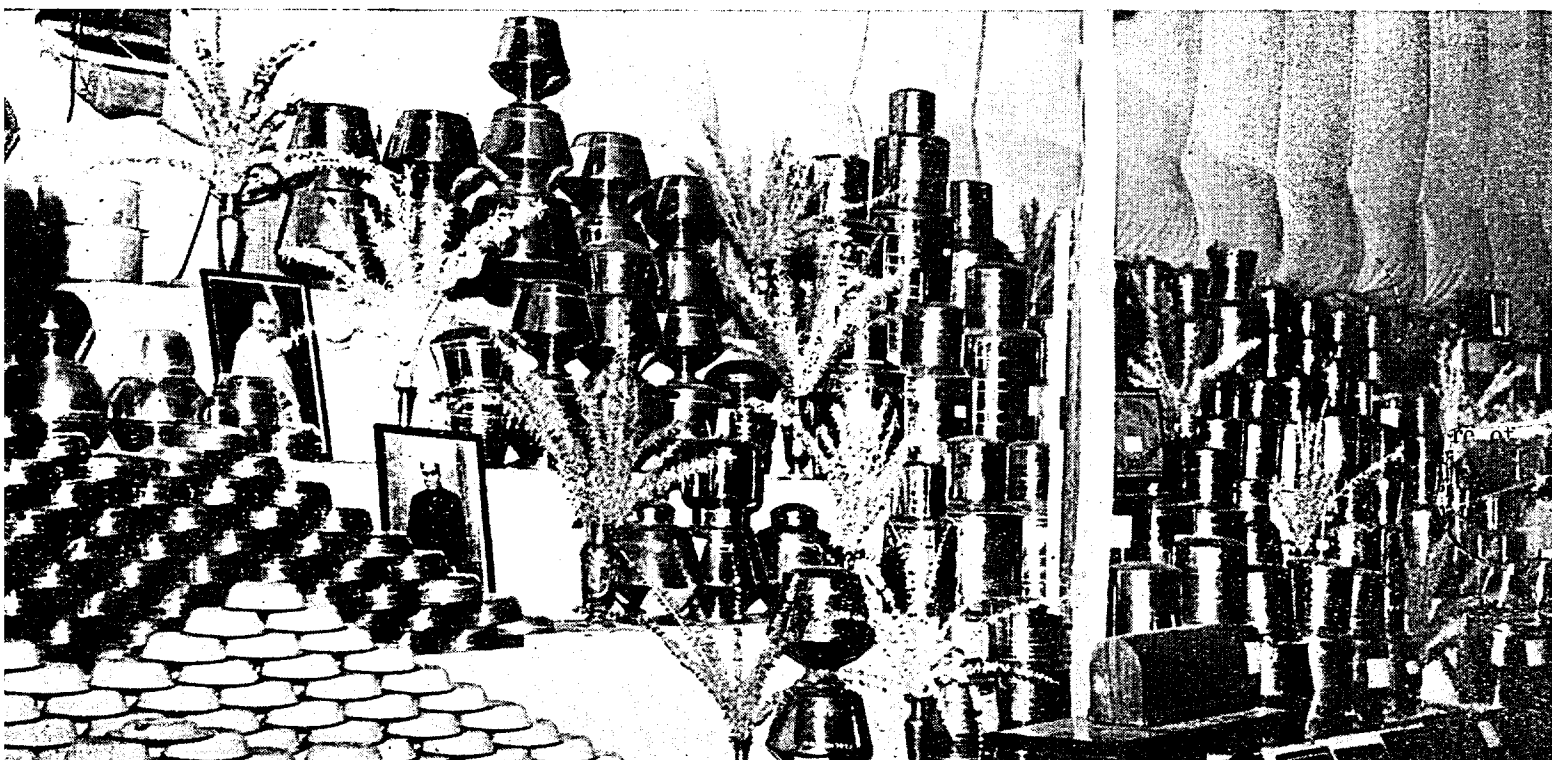
This conference is considered to be unique in the sense that it was planned and executed by 777 teachers of the Tiruchendur Range. Sri R. M. Ganapathi, a teacher of Kulasakrapattinam presided over the conference which was inaugurated by Smt. Mabel Frederick Samuel, also a teacher of Christianagaram.

Twenty-seven thousand eight hundred and seventy-six people contributed cash and kind worth Rs. 12,72,002 for the 3,509 sub-projects undertaken by the schools. One hundred and sixty-two elementary, 11 secondary and 4 training schools are benefited by this conference.

Smt. Kanthamma Sundaravadeva inaugurated the exhibition organised in connection with this conference.

The Prime Minister, the State Minister for Education and the Director of Public Instruction addressed the gathering.

Some of the vessels and utensils donated by the public.



Free Elementary Education

Maintenance Grant to Schools

The Government have partially modified the previous order regarding fee-levying schools and non-fee-levying schools along the decisions of the State Education Advisory Committee and pass the following orders:—

The principle laid down in the previous order shall be implemented and there shall be only two categories of elementary schools—(i) aided non-fee levying and (ii) non-aided fee-levying.

The fee-levying schools which decide to change over to the non-fee levying basis will be paid grants for 1959-60 on the following basis:—

(a) Full teaching grant as usual.

In respect of schools which now pay their teachers at rates higher than the approved scales of pay, the teaching grant will be assessed on the basis of the actual pay of the teachers or pay calculated on the scale of pay admissible in Government service, whichever is less. Any school claiming to pay its teachers now at rates higher than the approved scales of pay will be put to strict proof of the fact before the Director of Public Instruction. The disbursement of salaries of teachers in all fee-levying schools which become non-fee-levying,

will be made by Government direct with effect from the academic year 1959-60.

(b) Maintenance grant as hitherto, but subject to a maximum of 20 per cent (as against the present 15 per cent) of the teaching grant provided that claims to more than 15 per cent of the teaching grant will be examined and disposed of by the Director of Public Instruction.

From 1960-61, grants-in-aid to elementary schools will follow the decision taken by Government on the recommendations of the Education Grants Committee in the matter.

Government reiterate their earlier announcement that they will see to it that no teacher goes without employment and no child without facilities for elementary education as a result of the implementation of this policy. Teachers retrenched as a result of this policy, if any, will be absorbed in local body service. If any school is closed down as a result of the inability of the management to continue under the conditions now laid down by Government, the Government will consider the application of any private society or body to be allowed to run the school or, in the alternative, will arrange for the local body concerned to take over and run the school.

Review of Rural Development

A meeting of the Rural Development Board held in the Committee Room in the forenoon of 8th May 1959 with Sri W. R. S. Sathianadhan, I.C.S., Chief Secretary, presiding, reviewed the progress of the Second Five-Year Plan Schemes, the Community Development Programmes and Local Development Works. In view of the fact that quite a few Primary Health Centres opened in the State could not function owing to dearth of qualified doctors, the Rural Development Board was of the view that the Graduates of the College of Integrated Medicine may with advantage be employed to fill these vacancies. The Board was of the view that this recommendation should be pressed for the consideration of Government of India. The Board observed that the execution of the programme through the Block Development Agency in the execution of special Minor Irrigation Programmes within the Block area. This would mean that the Engineering Supervisors who are attached to each Block could be allowed to prepare

plans and estimate for small schemes and also supervise the works in the process of execution and record measurements thereof. The Supervisor will however, continue to be under the general control of the Superintending Engineer and will abide by his instructions, while at the same time, the Block Agency will be fully aware of the progress and execution of such Minor Irrigation Works. This would effectively associate the people with this programme.

After discussing in great detail the question of making the Block, as the unit of administration in all aspects, the Board agreed to the idea in principle and suggested that this proposal should be worked out in greater detail ascertaining the views of Heads of Departments as also of Secretaries to Government. The Board also observed that the integration of the departmental budget of the Block level with the Block budget and the execution of the programme through the Block agency, which will bring about economy in the use of staff, should be borne in mind.



The Chief Minister and the Home Minister with Sri Shanker Pillai at the exhibition.



From France.

SHANKER'S WEEKLY INTERNATIONAL DOLLS EXHIBITION



From Austria.



From Persia.

Plan Schemes in the State

(STATE COMMITTEE'S REVIEW)

The State Development Committee which met on Tuesday afternoon in the Cabinet Room, Secretariat, with Sri K. Kamaraj, Chief Minister, presiding, undertook a general review of the Five-Year Plan Schemes and discussed the progress of expenditure to see how far Madras State will be able to fulfil its target as per Plan outlay.

The Committee took particular interest in assessing the utilization of irrigation facilities under major and medium irrigation projects. A sum of Rs. 904 lakhs has been spent during the first three years of the Plan on irrigation schemes, out of a total outlay of Rs. 1,233 lakhs. The irrigation potential that has been created has been fully utilized. However, in order to ensure that not a drop of water impounded at such high cost is allowed to stagnate, the Committee directed that within three weeks a bill should be ready empowering the Government to dig field channels wherever the construction of such channels is the responsibility of individual ryots but have not been dug and recover the cost from the ryots. The Committee was informed that the New Kattalai High Level Channel is likely to be completed by June this year.

Fifteen schemes of desilting-cum-reclamation of tanks have so far been undertaken in the State during the Plan period. This being a new scheme undertaken on an entirely new idea, the Committee ordered a close

examination of the schemes already completed, so that further schemes can be taken up in full confidence. The expenditure under Special Minor Irrigation Programme under which small irrigation schemes costing less than Rs. 10 lakhs each are undertaken by the Agriculture Department was reported to have already reached the full Plan period target. The Committee, therefore, authorized the department to carry out more such works to the full capacity of the department.

While reviewing the Plan schemes for large and medium industries, the Committee recommended the appointment of a Working Group for preparing blueprints of heavy industries which can be included in the public sector schemes of the Third Plan in the State. The Committee was informed that the entire five-year provision of Rs. 333 lakhs under the Small-Scale Industries has been spent and as such the Committee ordered that schemes under this head to the tune of another Rs. 1 crore might be undertaken during the remaining two years of the Plan.

Regarding village housing projects, in National Extension Services and Community Development areas, the Committee felt that, in order to bring about more effective co-ordination of all housing schemes, this scheme might also be brought under the purview of the State Housing Board.

Promotion Scope for Health Inspectors

The Government have created ten temporary non-gazetted posts of Personal Assistants to District Health Officers for all the districts except Madras, The Nilgiris and Kanyakumari. Wherever Personal Assistants to District Health Officers are posted the post of Assistant District Health Officer will be kept in abeyance. These posts have been created in order to afford opportunities of promotion to the cadre of Health Inspectors. At the same time, the Government have also directed that 10 per cent of the sanctioned strength of Health Inspectors in the State be declared Selection Grade which qualifies them for increased initial pay. At present only 7½ per cent of the Health Inspectors are eligible for promotion to the Selection Grade. Suitable candidates from among Selection Grade Health Inspectors will be promoted to act as Personal Assistants to District Health Officers. These orders have been issued on representations made by the Madras State Health Inspectors' Association.

Training of Gramasevikas

In order to meet the demand for trained Gramasevikas, the Government have sanctioned the opening of two more Home Science Wings in the State, and also the expansion of the training capacity at the two existing centres. The two new Home Science Training Centres each capable of training 40 Gramasevikas are to be opened at S.V. Nagaram, North Arcot district and at Pattukkottai, Tanjore district. The S.V. Nagaram Home Science Wing will commence from 10th July 1959, while the Pattukkottai Centre will start from July 1960. At present there are two Home Science Wings at T. Kallupatti and Bhavanisagar, each capable of training 25 Gramasevikas. The Government have directed that the training capacity of these two wings may be expanded from 25 to 40 for the future courses. The next course at these centres, will start from July 10, 1959 when forty candidates will be admitted at each of these centres. During their period of training, the Gramasevika trainees are paid a stipend of Rs. 45 per mensem and after training two Gramasevikas are posted to each Block.

A Table Tennis Tournament was held under the auspices of the Secretariat Association on 8th May. Sri W. R. S. Sathianadhan, Chief Secretary to Government, presided while Smt. Sathianadhan gave away the prizes.

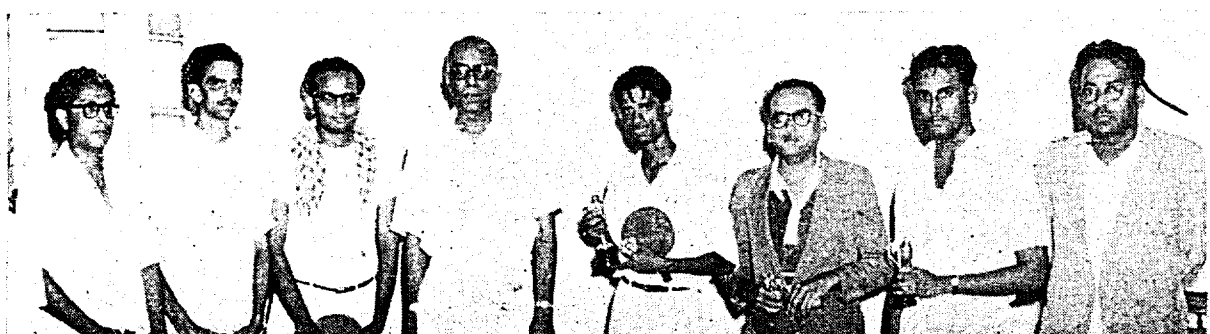


The President is seen congratulating the winners (Right).



Smt. Sathianadhan giving away the prizes.

The Chief Secretary and the President of the Secretariat Association with the winners and runners up.



Under the Scheme for the Welfare of Policemen's Families, a Mautler Sangam and a Balar Sangam were inaugura'ed at the Police Camp at Avadi on 27th April, by Srimathi Kuppuswami, wife of the Deputy Inspector-General of Police. Photo shows the Chief Guest and others at the Ambur Charka Unit of the Mautler Sangam.



A 32-Member Delegation of the Madras Police Force left Madras to participate in the Police Cultural Meet at Nainital under the leadership of Sri Kuppuswami, Deputy Inspector-General of Police.

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These kind words-

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and a cheer to the dejected boy-
only a Doctor could tell his patient
with confidence. But
his advice to put the boy on Stayfit
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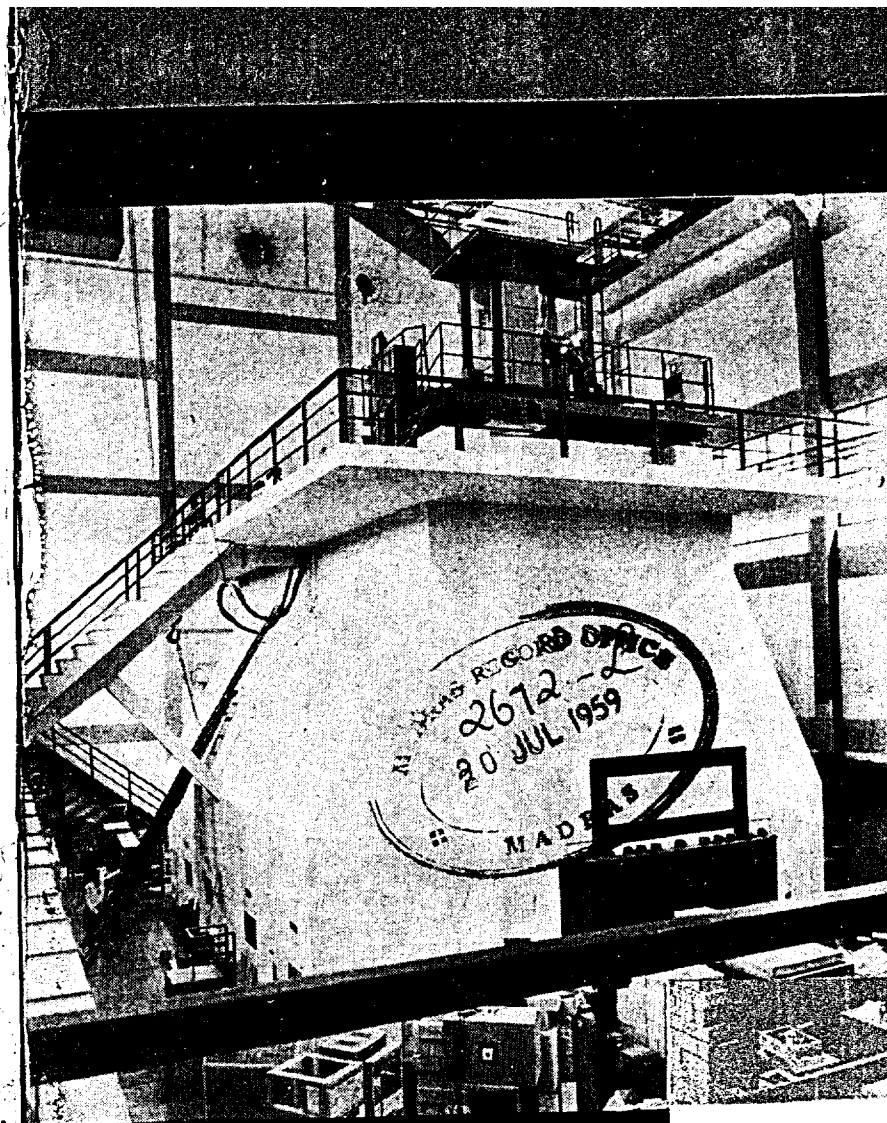
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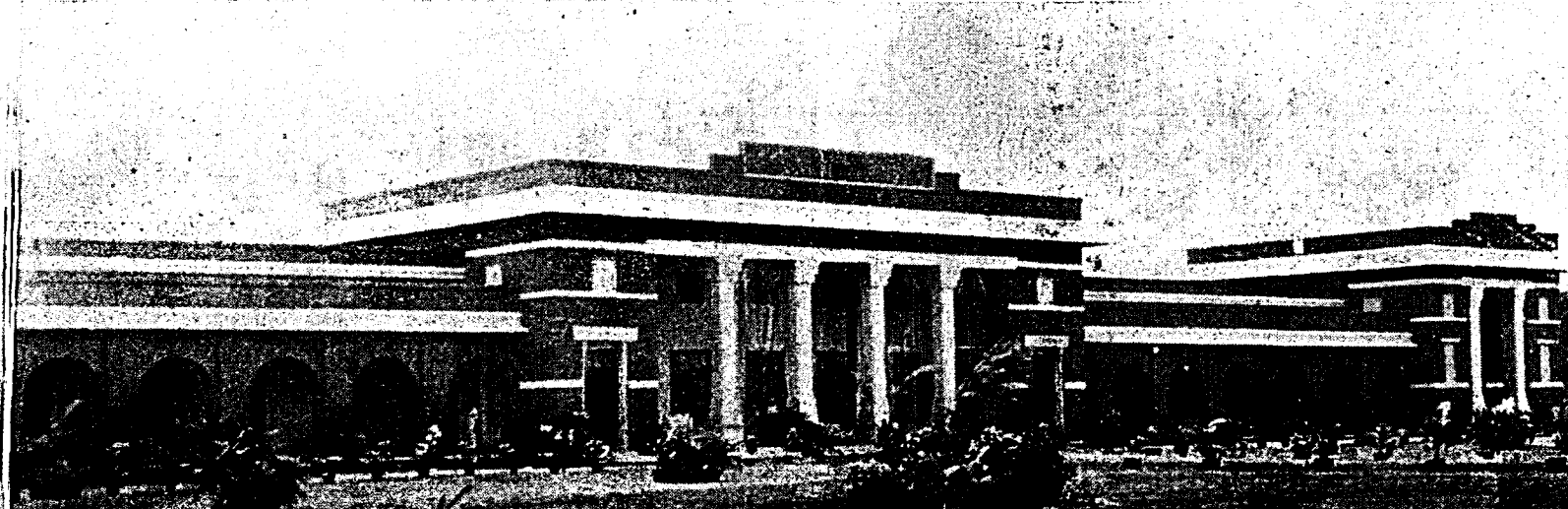


COIMBATORE AGRICULTURAL COLLEGE

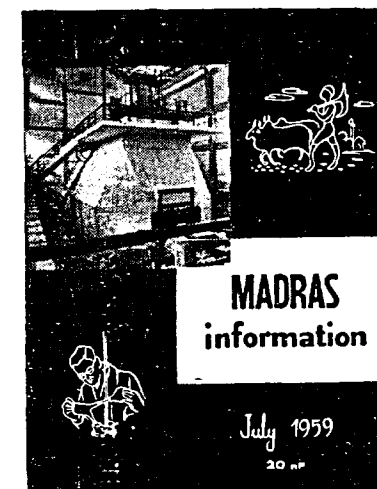
*"We seek to Serve
and Not to Compete"*

*Sri Nehru declared open the
Agricultural College Jubilee
buildings at Coimbatore on
May 29.*

*The photograph at the
bottom shows a view of the
new building. Above and
right: The Prime Minister
inspecting some of the
exhibits and charts.*



This month's cover :



The Reactor, Apsara, at the Atomic Energy Establishment at Trombay is seen on this month's cover. This small sized reactor, which costs Rs. 35 lakhs is producing radio isotopes which are already being extensively used by Indian agriculture, medicine and industry. Apsara is the nation's principal facility for training personnel in reactor technology and for fundamental research in physics, engineering and biology which require the use of strong fluxes of ventrons.



MADRAS
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Atomic Power Programme for Madras

The supply of limitless power has always been an inventor's dream. To-day, that dream may be approaching reality. Indian Scientists are well on the way to making this dream come true. Work on this is proceeding slowly but steadily and surely. At present, the work is in the research stage. A few years of research and experiment should necessarily precede before we could supply our homes and factories with cheap electric power from nuclear power stations.

In Britain.

In the quest for power from the atom, India is basing its research on the results of experiments conducted in Britain, the United States and Canada. Britain boasts of the first full-scale nuclear power station in the world. This power station at Calder Hall has two nuclear furnaces which produce the heat for an otherwise conventional power station. This has been operating for nearly two years and has given less trouble than is usually experienced with a conventional power station. Based on the experience gathered in building the power station at Calder Hall, four more powerful stations are being built in Britain. By 1960-61, they will be producing between them about 1,400 mega watts of electricity. Britain has got an ambitious programme to produce 25 per cent of its electricity from nuclear energy by 1966 and half of its requirements by 1975.

In U.S.A.

In the United States, the Shipping-port Atomic Power Plant was commissioned in May 1958. This is the world's first large-scale atomic reactor devoted exclusively to generating commercial electric power. This plant, at full power, generates 60,000 kilo watts of electricity enough to supply the residential needs of a community of 250,000 population. During a 24-hour period, the smokeless and virtually noiseless

atomic power plant burns atomic energy equivalent to 3,000 tons of coal. Pressurized-water type of reactor is in use here and the heat is produced here by split atoms. Four more larger atomic-electric plants are being established in United States and they are scheduled for completion in 1960. Different types of reactors are being constructed in these power stations. This system of trying out different reactor types is to find the best and cheapest way of generating nuclear electricity. Altogether, a total of more than 700,000 kilo watts of atomic electric generating capacity will be installed in America by 1960.

Canada has two power reactor projects in progress. Here too, the process is still in experimental and research stage. The Canadian Government offered to help India to set up a high-flux reactor of the NRX type. The decision to proceed with this joint project was taken in August 1955 and work started in February 1956. The reactor is expected to go into production early next year.

The Atomic Energy Commission.

India's scientists started the research on Atomic Energy from 1954. In 1948, the Atomic Energy Commission was established as an advisory body and six years later a separate department of the Government of India with the full power of a Ministry came into being. In March 1958, the Indian Government decided to set up an organization with full authority to plan and implement the various measures relating to the development of atomic energy on sound and economic principles free from all non-essential restrictions or needlessly inelastic rules. Thus the advisory body set up in 1948 has been replaced by a Commission with full execution and financial powers.

Research in India.

The Atomic Energy establishment at Trombay was formally inaugurated by the Prime Minister on 20th January 1957. This is India's first nuclear reactor and the first in Asia, outside the Soviet Union. This is of the swimming pool type. Since the establishment of the department of Atomic Energy in August 1954, research into, and development of the peaceful uses of atomic energy, have made important advances. A greatly expanded programme is envisaged, under which India is to produce all the basic materials required for the utilization of atomic energy and to build a series of atomic power stations which will contribute increasingly to the supply of electric power.

In the Engineering Division of Trombay establishment, reactor feasibility studies were made on fuel cycles and a phased atomic power programme based on indigenous nuclear fuel to suit India's resources. To make use of the plentiful supply of thorium available, a three-stage programme has been considered. In the

first stage, natural uranium power reactors produce plutonium. This plutonium is used with thorium in second stage power reactors to produce uranium 233, which is fissile. In the third stage, uranium 233 is used with thorium in power reactors which breed slightly more uranium 233 than they consume. Possible rates of growth of installed atomic power capacity were evaluated.

The feasibility of different reactor systems for power generation has also been looked into, and heavy water and beryllium oxide moderated gas cooled reactors have been studied quite extensively. Another reactor system which has been looked into in some detail is the organic moderated and cooled reactor. Organic moderators offer a number of advantages, such as a high boiling point and good heat transfer properties, and thus do not require the use of vessels capable of withstanding extremely high pressures; they also do not present any serious corrosion problem. The engineering design and economics of organic moderated reactors suitable for use with natural instead of enriched uranium are being studied. For this purpose, the deuterization of the organic moderator is also being considered.

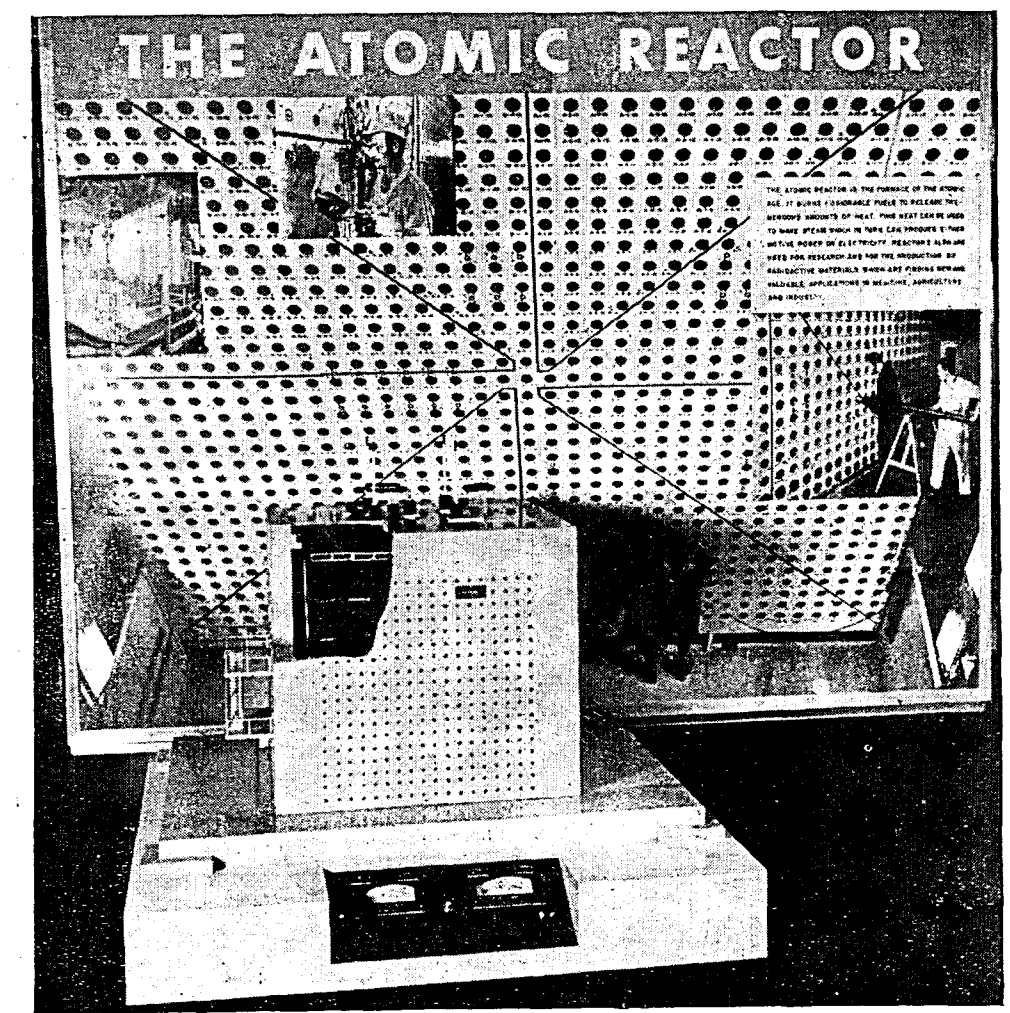
Nuclear materials.

In the first instance nuclear power is to be produced from natural uranium in India. But it is proposed to

base the generation of nuclear power as soon as possible on thorium rather than on uranium. This country can well afford to do this while other nations are trying for alternative methods. For, India is blessed with an abundant and rich resources of thorium. There are large reserves of nuclear fuels, including 500,000 tons of thorium and 30,000 tons of uranium. The "black sands" of the Kerala Coast contain ilmenite, garnet, monazite, quartz, rutile and other minerals. The monazite content of these sands is 5 per cent. The monazite sands occurring on the Kerala Coast are estimated to contain over 2,000,000 tons of the element. This monazite has a thorium content of 8 to 9 per cent. The highest in the world, and also contains over 0.3 per cent of uranium, which in view of the size of the deposits, makes it an important source of uranium.

Mineral resources of Madras.

Apart from the sands of Kerala, monazite occurs in the sands of Kanyakumari district in Madras State. Deposits of heavy minerals consisting of monazite, rutile, ilmenite and zircon have been discovered in the sand dunes of Sathankulam, those of gulf of Mannar beach, and the Kudirmala Reserve Forest in the Tirunelveli district. According to preliminary examination, the heavy minerals of these three dune deposits appear



The Atomic Reactor is the furnace of the atomic age. It burns fissionable fuels to release tremendous amounts of heat. This heat can be used to make steam which in turn can produce either motive power or Electricity. Reactors also are used for research and for the production of Radio-active materials which are finding new and valuable application in Medicine, Agriculture or Industry.

Power from the Atom

In a conventional power station we burn coal or oil to boil water which produces steam; the steam turns the blades of a turbine rather like the wind turns the sails of a wind-mill: the turbine drives large dynamos which in turn produce electricity. In an atomic power station exactly the same thing happens except that instead of boiling water by burning coal or oil we boil it by using some of the energy locked inside the atom. This is the only difference. Instead of the conventional furnace in which coal is burnt we have an atomic furnace, called a reactor, in which we generate heat by splitting atoms.

to be similar with regard to their percentage distribution. The Sathankulam sands which have been examined in some detail contain about 9 per cent by weight of total heavies with ilmenite contributing 6.8 per cent, rutile 0.24 per cent, zircon 2.30 per cent and monazite 0.03 per cent. The TiO_2 content of the ilmenite is between 53-54 per cent as at Manavalakurichi.

Among the recorded occurrences of uranium mineralization, mignatite in Coimbatore district and uraniferous allanite and fergusonite bearing pegmatites and the graphitic host rock of Rangapalayam and Karupathevanpatti village in the Madurai district and the deposits at Kullampatti in Salem district are expected to contain significant quantities of ore.

The Case for Madras.

The Madras State Government have, in recent times, been urging the Centre for the establishment of an atomic power station in this State. The State Electricity Board is in correspondence with the Atomic Energy Commission in this regard. The Commission has been made to understand the need for an atomic power station in this State in order to augment the

power already supplied from thermal and hydro stations. At the end of the First Five-Year Plan, the installed capacity of the State Grid was 256,000 k.w. The power demand of the Madras Grid has been steadily on the increase necessitating new schemes to be taken up in succession. During the Second Plan period, large-scale industrial development, both in private and public sectors requiring large blocks of power has been contemplated and many industrial schemes are being implemented. Apart from these, the growing needs of the small-scale industries have to be met. As the power demand is expected to be of the order of 415,000 k.w. in 1960-61 and 600,000 k.w. in 1965-66, new power sources have to be tapped. Power from the atom is the best solution. Even though the initial outlay on the cost of establishing a nuclear power station is high, there is every prospect of there being a reduction in capital cost with the advances made in designing.

Why Atomic Power?

The essential and determining consideration in favour of the atomic power programme is the fact that it will make available a sufficient quantity of plutonium, essential for the more advanced and economical type of reactors of the future. In these later stages of the programme, the capital cost of every additional kilowatt of nuclear power is estimated to be considerably less than the capital cost of obtaining the same power from coal, and even on the basis of present technology the additional capital investment required for nuclear power during the first seven years will be offset by the saving during the following ten years, by which time electricity from atomic power stations may be expected to cost about 2.6 nP. per unit, and thus be definitely cheaper than electricity from thermal power stations (about 4.0 nP. per unit). Indeed, at that stage, nuclear power stations may be competitive with thermal power stations even near coal-bearing areas.

Further, while coal is a wasting asset, the completion of the first stage of power programme would enable the country to move to use of thorium and, at that stage, by the use of breeder power stations provide the means to double the installed electrical capacity every five years for virtually an indefinite length of time if considered necessary and money were available. At that stage, the installation of new electric power would need very much less effort and money than obtaining the same power from hydro or coal. Thus, it is seen that, in the long run, power from the atom is obtained cheaper than from the conventional methods.

Plans of Atomic Energy Commission.

The Atomic Energy Commission has planned to establish 3 nuclear power plants in India before the end of the Third Five-Year Plan. The first plant is expected to be set up near Ahmedabad in Bombay State at a cost of Rs. 45 crores and it is expected to go into operation by the end of 1960. This plant will produce 250,000 kilowatts. The Atomic Energy Commission has also recommended to the Planning Commission the setting up of power plants in Madras and Rajasthan in the Third Plan itself. Since Madras has enough resources

Continued on page 14.

Nuclear Power Programme for India

A paper entitled "A study of the contribution of atomic energy to a nuclear power programme in India" by H. J. Bhabha and N. B. Prasad, was communicated to the Second International Conference on the Peaceful Uses of Atomic Energy at Geneva. The paper envisages the installation of a million kilowatts of nuclear power based on natural uranium by the end of the Third Five-Year Plan, a use of the plutonium produced in a second generation of power reactors of an installed capacity of about 250,000 kilowatts, which would also convert thorium into uranium-233, and a use of this uranium-233 in thorium breeder reactors which would produce more uranium-233 than they consume.

The total capital cost of the programme, including the cost of mining equipment, the cost of plants to extract uranium from ore and to turn the uranium into fuel elements for reactors, the cost of the power stations, and the cost of treating the used fuel elements and extracting plutonium would come in round figures to Rs. 250 crores, spread over the seven years from now

up to the end of the Third Five-Year Plan. While the cost of installing the same amount of power based on coal, including the investment in mining and transport, would be about 40 per cent less, the additional investment in nuclear power during the next seven years is a necessity, if use is to be made eventually of the country's vast thorium reserves.

The proposals of the Atomic Energy Commission were discussed with the Planning Commission last year, and it was decided that a minimum of 250,000 kilowatts of nuclear power should be included in the Third Five-Year Plan. Preliminary work to this end has to start immediately, so that the power station may start functioning by the end of 1964.

The expenditure for one unit of 250,000 kilowatts is expected to be of the order of Rs. 45 crores. This figure is only a broad indication of the order of outlay, as rapid technological improvements are already bringing down the cost considerably in foreign countries.

of nuclear materials, we can legitimately expect the setting up of a nuclear power plant in our State. Further, the enormous demand for electricity in this State also warrants the establishment of an atomic power station.

Power from nuclear fusion.

Apart from production of nuclear power based on natural uranium, Britain's scientists are well on the way to extracting energy from water, with the source of supply as inexhaustible as the oceans themselves. With ZETA, Britain's latest thermonuclear apparatus, they have attained temperatures up to five million degrees centigrade, 800 times hotter than the surface of the sun. They have thus created the intensely high temperatures at which hydrogen atoms will join. This means they have made a major advance towards harnessing the power released by nuclear fusion—the process which provides the heat of the stars.

A rough estimate indicates the potential energy available. A bucket of water contains sufficient hydrogen fusion fuel to replace 1—2 tons of coal. A day's flow of a fair-sized river would provide a country of 50 million people with power for a year or more; the oceans would supply the world's needs for countless millions of years.

The world's reserves of other fuels are relatively limited. Its coal and oil resources may be exhausted within 200 years. Known supplies of uranium and thorium, nuclear fuels for 'conventional' systems, may

be consumed in 2,000 years. Hydrogen power may by that time have become the world's sole source of large-scale energy. What is more, it will not result in accumulations of radioactive wastes like those from fission reactors.

With all these possibilities at our disposal, we can very well expect to have a nuclear power reactor in Madras State. That day is not very far. It is our earnest hope that before the end of a decade Madras will have its first Atomic Power Station.

Training Centre for Printing and Dyeing in Killiyoor Block

The Government have approved a scheme for starting a training centre for printing and dyeing at Palliadi village in Killiyoor block, Kanyakumari district, where there are a large number of weavers co-operative societies. The object of the scheme is to train 12 persons in the art of printing and dyeing for a period of one year and after that period the training centre into an Industrial Co-operative Society. The trainees will be paid a stipend of Rs. 25 per mensem each during the period of training.

The Government have sanctioned a total amount of Rs. 8,600 towards recurring and non-recurring expenditure for the scheme, besides the staff required for the training centre.

Uranium Occurrences in Madras State

Among the recorded occurrences of uranium mineralisation, the following are expected to contain significant quantities of ore:—

Migmatite in Coimbatore district, and uraniferous allanite—and fergusonite bearing pegmatites and the graphitic host rock of Rangapalayam and Karupathevanapatti village, Madurai district, Madras.

Kullampatti prospect in Salem district.—Detailed sampling of surface ore has been completed and the deposit is now ready to be explored by bore-holes.

Tirunelveli district.—Deposits of heavy minerals consisting of monazite, rutile, ilmenite and zircon have been discovered lately in the sand dunes of Sathankulam, and those of the Gulf of Mannar beach, and the Kudirmala Reserve Forest, in the Tirunelveli district, Madras.

According to preliminary examination, the heavy minerals of these three dune deposits appear to be similar with regard to their percentage distribution. The Sathankulam sands which have been examined in some detail, contain about 9 per cent by weight of total heavies, with ilmenite contributing 6.8 per cent, rutile 0.24 per cent, zircon 2.30 per cent and monazite 0.03 per cent. The TiO_2 content of the ilmenite is between 53-54 per cent as at Manavalakurichi.

Reactors in India

Apsara, India's first reactor, will complete 3 years of operation on August 4, 1959. During the past year *Apsara* has been in regular operation and has completed 291,000 kwh. of operation.

The reactor has provided an excellent facility for research in neutron physics, irradiation of specimens required for biological and chemical investigations and training of personnel.

There has been a considerable increase in the demand on reactor time during this year and the reactor was put on round-the-clock operation during the latter part of the year. In the first six months of the year the reactor was operated at an average power level of 18,000 kwh. per month, which in the subsequent six months increased to 31,000 kwh. During the month of November 1958 the reactor reached a new peak of 52,000 kwh.

In addition to shortlived isotopes, small quantities of radio-phosphorus and radio-iodine are being continuously produced and supplied to medical and other workers in various centres in India.

Many new and interesting results have been obtained in the study of low energy nuclear reactions and research in solid state physics. A number of papers based on experiments done at *Apsara* were presented to the Second International Conference on the Peaceful Uses of Atomic Energy organized by the United Nations at Geneva in September 1958.

Designs have been completed for an attached workshop and an emergency dump tank. These should be operating by the middle of 1959. Plans have also been drawn up for air-conditioning the reactor hall so as to improve the working of the electronic equipment.

Zero Energy Reactor for Lattice Investigation

Work on this reactor, which is intended for investigations leading to new designs of power reactors, progressed satisfactorily, and a large proportion of the components have been fabricated, most of them in the divisional workshop.

Work on the building to house this reactor has just started and is expected to be completed by the middle of 1959. All the components of the reactor will have been made by then and will have undergone preliminary testing before final assembly. The reactor is expected to start functioning some three months after the building is ready.

Canada India Reactor

The steel shell of the reactor hall, whose construction had caused considerable difficulties during the previous year, was completed in May 1958. This involved achieving circularity to a tolerance of 1 inch in a shell 130 feet

in height and 120 feet in diameter, and a 100 per cent radiography of all welds. Construction of the pile block started in September and the thermal shields have been placed in position.

The delay loop, which permits decay of radioactivity of process water to tolerable levels before recirculation, has been completed, and the laying of underground pipes connecting it to the reactor has started.

Work on the jetty continued during the year except for the monsoon period. Half of the 3,200 feet jetty has been completed, and the remainder is scheduled for completion before the monsoon of 1959. The caisson, which fits on at the end of the jetty, has been cast in a dry dock and will be ready for floating to the end of the jetty by March 1959.

Contracts have been awarded for an 850,000 gallon pre-stressed concrete emergency water storage tank and a 400-foot high effluent stack, and work has started on both.

The laboratory attached to the Canada India Reactor was redesigned to effect economy, and a saving of nearly 300 tons of steel has been achieved. The design of the attached workshop has been finalised and tenders have been called as soon as working drawings are available.

The design for the rod cutting block, where the active fuel elements will be dismantled after removal from the pile, is in hand, and excavation work has started.

According to the present schedule the reactor is expected to go into operation by March 1960.

Soil Conservation Schemes, Coimbatore district

The Government have sanctioned a Scheme for undertaking soil conservation work in an area of 1,000 acres in Ganapathipalayam and Vanasampatti villages of Udumalpet taluk of Coimbatore district during the year 1959-60. Under the scheme the following soil conservation measures will be adopted :—

- (1) Contour bunding,
- (2) Construction of waste weirs, and
- (3) Gully plugging.

The scheme will be executed by obtaining agreements on stamped papers from the ryots concerned. The scheme will cost Rs. 46,700 and will involve an expenditure of Rs. 3,464 on recurring items per year.

Nuclear Materials

The Chairman of the Indian Atomic Energy Commission, Dr. H. J. Bhabha, has estimated that the total reserves of thorium in India amount to more than 500,000 tons in a readily extractable form in the monazite sands on the West Coast. India's long-term aid was therefore to base the generation of nuclear power as soon as possible on thorium rather than on uranium. Thorium would be used in reactors which breed more fissile material (U233 or plutonium) from source materials (thorium and natural uranium) than they consume.

A plant at Alwaye in South India, to treat the monazite sands on the west coast, has been in operation since 1952. It is owned and run by Indian Rare Earths (Private), Limited—a joint undertaking of the Central Government and the Government of Kerala. In addition to producing rare earths and trisodium phosphate, a cleaning material, this plant produces a cake containing thorium and uranium. This cake is brought to a thorium-uranium plant at Trombay for processing, to produce a very pure thorium salt, and also uranium salt. This plant was built entirely by Indian scientists and engineers and has been in operation since 1955. Its capacity was increased sixfold in 1956.

A small plant to turn uranium concentrates into reactor grade uranium metal has been designed and is under construction. Construction of a plant for the

fabrication of fuel elements is expected to be completed by the end of 1958.

India is one of the world's few producers of beryl, from which the metal beryllium can be obtained. Beryllium has various possible uses in nuclear energy, e.g., canning material. At present annual production is several thousand tons of high-grade beryl. A large pilot plant for producing beryllium oxide pure enough for nuclear purposes, and sintering it into bricks, is being designed. Its capacity will be about 15 tons of beryllium oxide a year, but it will be capable of considerable expansion. Preliminary studies indicate that the cost of beryllium oxide produced in this plant will be lower than the cost at which it is being produced in other countries at present.

India also intends to produce heavy water in quantity. A plant at Nangal in the north is to produce 10 to 20 tons of heavy water annually, together with some 340,000 tons of nitrogenous fertiliser.

Investigations are being carried out to make graphite of a purity sufficient for nuclear purposes from petroleum, coke and coal tar pitch produced in a refinery in Assam.

Zirconium is another metal which has promise as a canning material, and a process for separating it from hafnium has been tested.

Mineral Sand Industry in Kanyakumari District

Travancore Minerals (Private), Limited, was registered in October 1956 with an authorised share capital of Rupees one crore. The subscribed and paid-up capital is Rs. 50 lakhs, which has been subscribed by the Government of India and the Government of Kerala in equal proportions. The Company started its operations from May 1957. The primary product of the Company is ilmenite, while rutile, zircon and monazite are also produced.

The Government mineral concern at Manavala-kurichi, which had passed to the Government of Madras consequent on the reorganization of States, has been taken over by Travancore Minerals (Private), Limited. The Government of Madras has concurred in this change and further action to implement the decision is in progress. The Government of Madras will become a subscriber in the share capital of Travancore Minerals (Private), Limited, through a transfer to it of 5 per cent of the total share capital from the Government of Kerala. Thus the share capital in Travancore Minerals (Private), Limited, will be held by the Government of India, the Government of Kerala, and the Government of Madras in the proportion of 50 : 45 : 5. As a result of this change, the Board of Directors of the Company will now consist of three representatives of the Central Government, two and one of the Governments of Kerala

and Madras respectively, and a Chairman nominated by the Government of India, who is at present Dr. John Mathai. Ilmenite, which is an important product of this Company, continues to be in good demand in foreign markets and measures to step up the export of this mineral are under consideration.

Messrs. National Lead Company of New York, who are one of the biggest purchasers of Indian ilmenite, have offered free of cost the services of Messrs. Carpeo Research Engineering Company, U.S.A., to survey the Indian mineral sand industry with a view to its rationalisation and modernisation, so as to increase efficiency and production. The representative of Messrs. Carpeo recently spent a few weeks in India working in close collaboration with Indian scientists and representatives of the industry.

A systematic marine survey of heavy mineral sands off the Kerala coast is proposed to be carried out by the Atomic Energy Commission with a view to establishing the extent of under-sea deposits and determining quantitatively the various constituents of the heavy minerals. Trial explorations have already commenced for this purpose. If these explorations yield encouraging results, explorations on an extensive scale are envisaged.

CALDER HALL

SIR JOHN COCKROFT.

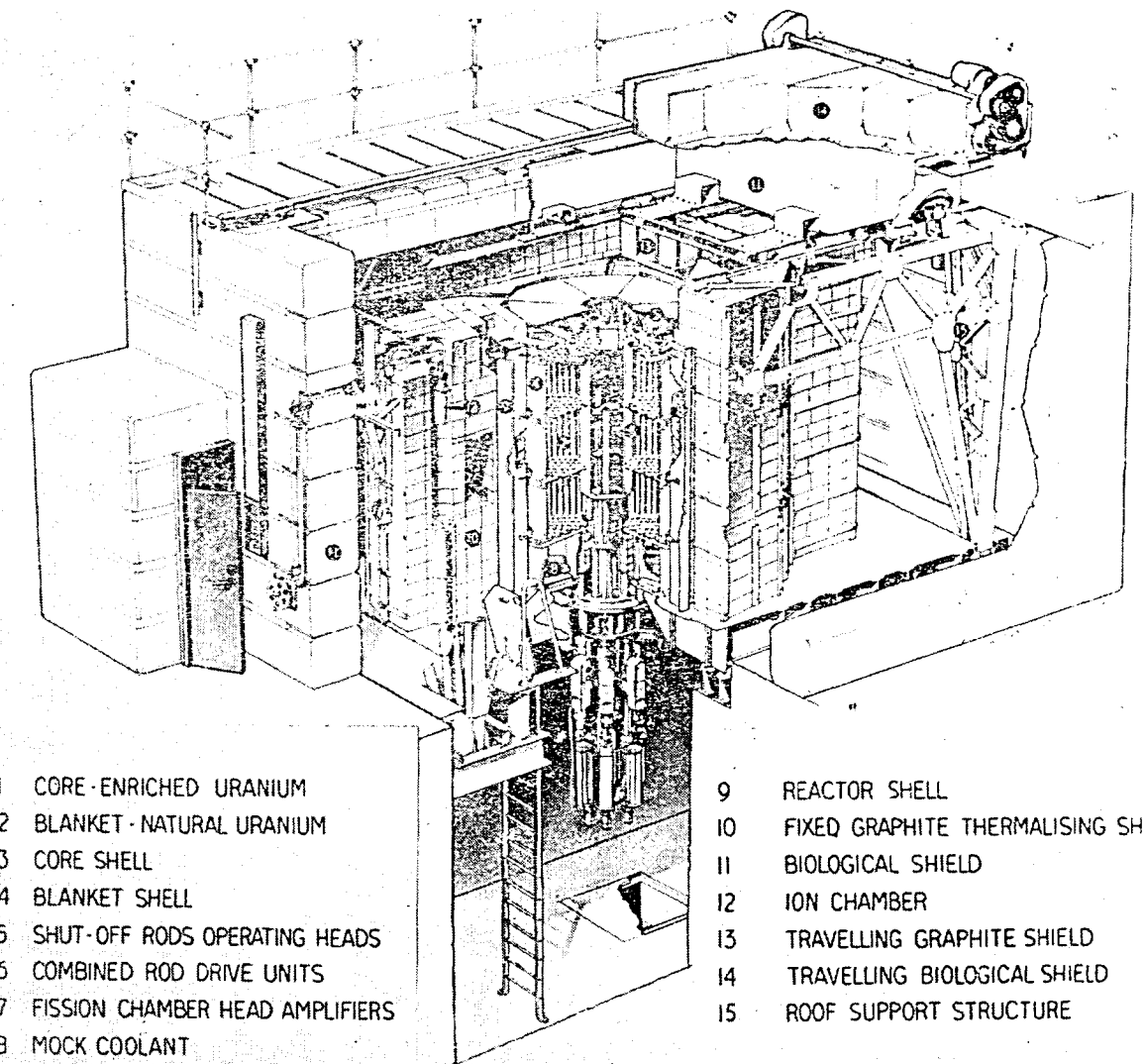
During 1950, we at Harwell turned our attention to designing the first power-producing atomic pile. We called this PIPPA. Two years of intensive engineering study and simultaneous development of technology showed that a nuclear power station could probably be built, which could produce electricity at almost economic prices—we said at less than 1d. a unit. Our Government therefore decided that our Industrial Group should build such a power station, but with the primary objective of producing plutonium—with electricity as a by-product. Three years later, the Calder Hall nuclear power station came into operation, and it now develops over 70,000 kilowatts of electricity.

The Calder Hall power station was, therefore, the world's first full-scale nuclear power station. It has two nuclear furnaces which produce the heat for an otherwise conventional power station. Each furnace consists of a huge steel drum, 37 feet in diameter, containing a graphite pile. The graphite pile consists of

1,200 tons of blocks of very pure graphite. In between the blocks are vertical channels in which are stacked bars of uranium metal sheathed in a magnesium alloy. The chain reaction is started by withdrawing neutron-absorbing control rods, and is controlled by adjusting the position of these rods. The temperature of the uranium is allowed to rise gradually over a period of half an hour and reaches 400 degrees centigrade. The heat which is produced is transferred to tubes of water in heat exchangers by circulating carbon dioxide gas past the hot uranium rods, and then past the water tubes and thence back to the atomic pile.

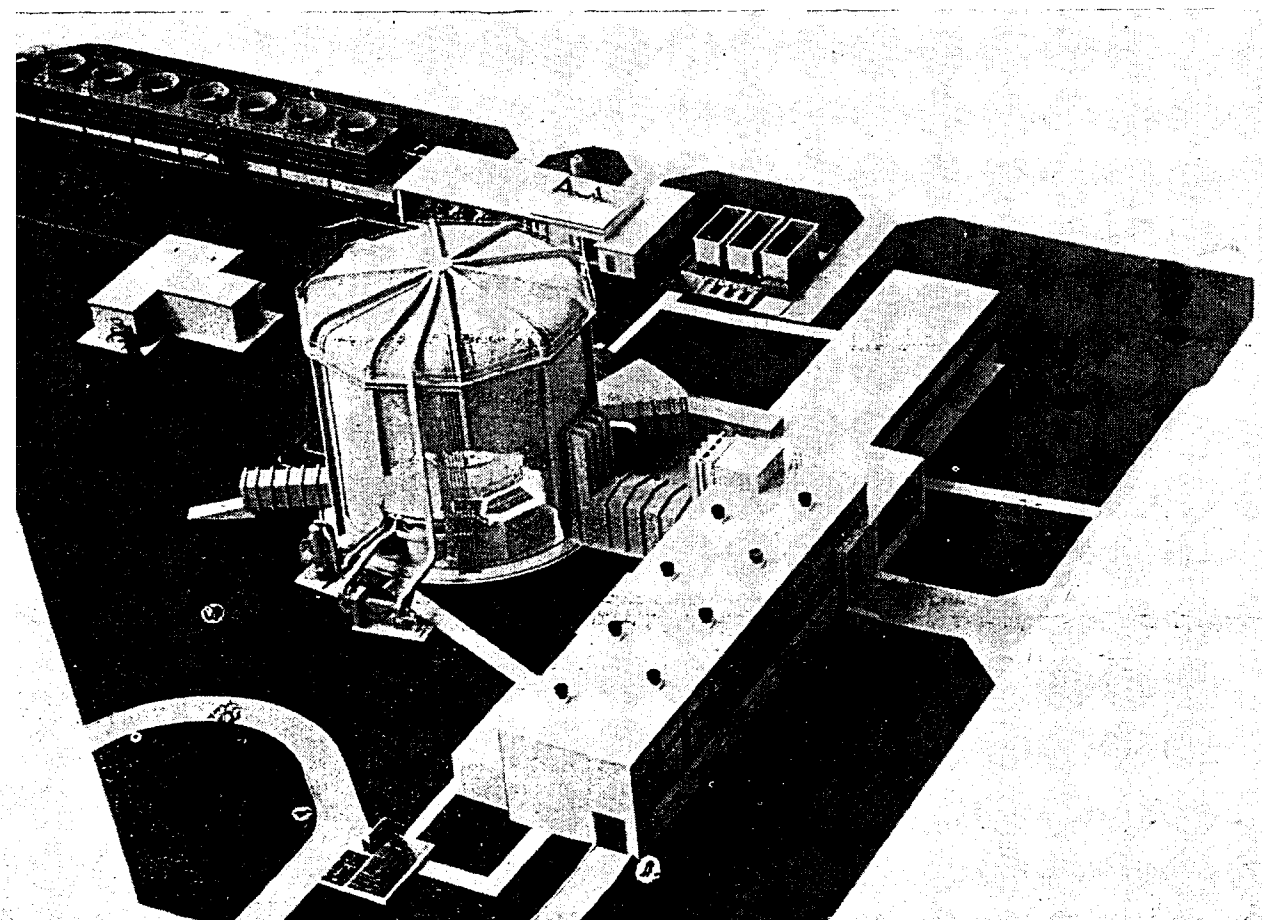
The water in the tubes is transformed to steam, and this passes to steam turbines which drive electrical generators. The power station has operated now for nearly two years, and has given remarkably little trouble—less trouble, in fact, than is usually experienced with a conventional power station. The second of the two furnaces has operated on full load for 90 per cent

A drawing of ZEUS, an experimental fast reactor at the United Kingdom Atomic Energy Establishment, Harwell, Berkshire, England. This reactor is a prototype of the power station reactor now being built at Dounreay, Scotland.



- 1 CORE - ENRICHED URANIUM
- 2 BLANKET - NATURAL URANIUM
- 3 CORE SHELL
- 4 BLANKET SHELL
- 5 SHUT-OFF RODS OPERATING HEADS
- 6 COMBINED ROD DRIVE UNITS
- 7 FISSION CHAMBER HEAD AMPLIFIERS
- 8 MOCK COOLANT

- 9 REACTOR SHELL
- 10 FIXED GRAPHITE THERMALISING SHIELD
- 11 BIOLOGICAL SHIELD
- 12 ION CHAMBER
- 13 TRAVELLING GRAPHITE SHIELD
- 14 TRAVELLING BIOLOGICAL SHIELD
- 15 ROOF SUPPORT STRUCTURE



A general view of a model of DIDO, a heavy water reactor under construction at the United Kingdom Atomic Energy Research Establishment, Harwell.

DIDO

The British Government plans to have at least sixteen nuclear power stations generating electricity for the national grid. In such stations oil or coal furnaces are replaced by reactors, in which atomic fission is made to take place. This fission produces energy which appears as heat, and from there on the process of producing electricity is conventional.

When DIDO was completed in 1956 it had the highest neutron flux of any research reactor in Western Europe, and was used to help to determine the future pattern of Britain's reactors for the generation of power. It will also produce more intense sources of radio-active isotopes for use in medical research and treatment, in industry and in agricultural research.

Britain's first atomic power station at Calder Hall, Cumberland, was opened by Her Majesty the Queen in October 1956.

of the possible time—a higher proportion than most conventional power stations. The reactors are shut down only at week-ends, when the load is light, and then only for maintenance operations on ordinary engineering components, such as pumps.

ZEUS

During the ten years between 1955 and 1965, the British Government proposes to spend more than £300,000,000 in the construction of twelve nuclear power stations, with a total generating capacity of about 2,000 megawatts. By 1965, these stations should be producing electricity equivalent to that produced by about 6,000,000 tons of coal annually. In a coal or oil-fired power station these fuels are burned to raise steam which drives an electric generator. In a nuclear power station the coal or oil furnace is replaced by a reactor, in which atomic fission is made to take place. This fission produces energy, which appears as heat, and from there on the process of producing electric power is conventional. Certain fast reactors, called "breeder reactors", create more atomic fuel than they use. This type of reactor is being built for Britain's new atomic power station at Dounreay, in the north of Scotland.

Four commercial nuclear power stations, all much more powerful than Calder Hall, are now being rapidly built in Britain. By 1960 or 1961, they will be producing between them about 1,400 megawatts of electricity for our electricity authorities. And after that we are going to build at least eight more, so that by 1966 we will be producing a quarter of our electricity from

(Continued on page 21)

Zeta and its Prospects

Zero Energy Thermonuclear Assembly

Zeta which attained five million degrees in a stable discharge at Harwell during August 1957, is the fourth version of the original and much smaller torus fusion apparatus. Costing £300,000, it represents the combined work of scientists and engineers and took 21 months to build. It was expected, at the outset, to attain the relatively modest temperature of one million degrees but pleased its designers with much better results. Its ring-shaped discharge tube, about 10 feet in mean diameter, has a bore of 39 inches, big by previous standards anywhere. (Sceptre III, which

attained four million degrees, was the third version of a fusion machine built at Aldermaston. It has a mean diameter of 45 inches and a bore of 12 inches.)

The peak current used to heat Zeta's gas was a pulse of 200,000 amperes, supplied by a bank of electrical condensers charged to 25,000 volts. This pulse was repeated every 10 seconds, and produced around one million neutrons each time. The scientists are 'ninety per cent' certain that these neutrons derived from true

(Continued on page 33)

Oak Ridge National Laboratory

The Oak Ridge National Laboratory designed and constructed in 1952 a Swimming Pool Nuclear Reactor that proved so useful for nuclear research and so low in cost that it has become a prototype for low-cost research reactors being constructed by universities and industrial firms in the United States. A nuclear reactor of the Swimming Pool type is so relatively inexpensive to construct and so simple to operate that its installation is hardly a major project. It consists of an assembly of fuel elements, together with control rods, measuring devices, and reflector, submerged in a pool of water that acts as a shield and moderator.

The advantages of the Swimming Pool type of reactor are striking, as indicated by the following examples: In addition to cooling and moderating the reactor, the water supplies a foolproof shield for personnel. If the water accidentally becomes contaminated, it can be drained. With 16½ feet of water above the active lattice, gamma rays are attenuated sufficiently so that a person standing next to the pool will receive considerably less than 50 milliroentgens in 8 hours when the reactor is operating at 100 kilowatts. A depth of 3½ feet of water between the reactor and the pool floor and walls will attenuate the neutron flux sufficiently to keep the concrete from becoming seriously activated. The commercially pure aluminium used in the reactor structure has a half life of 2.4 minutes. Thus, if the fuel elements and control rods are removed and the pool is drained, personnel can work on the reactor structure after a waiting period of a few hours.

For research purposes, the pool, in effect, provides an infinite beam hole. Large pieces of equipment can be lowered into the water and positioned against the face of the reactor. The nominal power level of 100 kilowatts can be sustained with convection cooling; higher power levels would be feasible with added shielding and forced-circulation cooling.

The oldest and probably the most widely-known atomic energy centre in the world is a 60,000-acre establishment located at Oak Ridge, in the south-eastern State of Tennessee. Born at the dawn of the Atomic Age, this complex production and research centre has played a major role in virtually every phase of the fast-expanding nuclear programme in the United States. Its achievements in harnessing the atom, producing radioisotopes, developing atomic devices, conducting research and training scientists are recognized in all parts of the world.

Oak Ridge has the greatest variety of atomic research and production facilities ever assembled in one place. Here there are vast plants that separate uranium-235,

the radioactive form of uranium vital to all atomic energy operations. These plants and the area's large research and development facilities, known as the Oak Ridge National Laboratory, are operated for the United States Atomic Energy Commission by Union Carbide and Carbon Corporation. Here also are the Oak Ridge Institute of Nuclear studies, operated by 30 universities in 14 southern states; and the American museum of Atomic Energy, operated by the Institute.

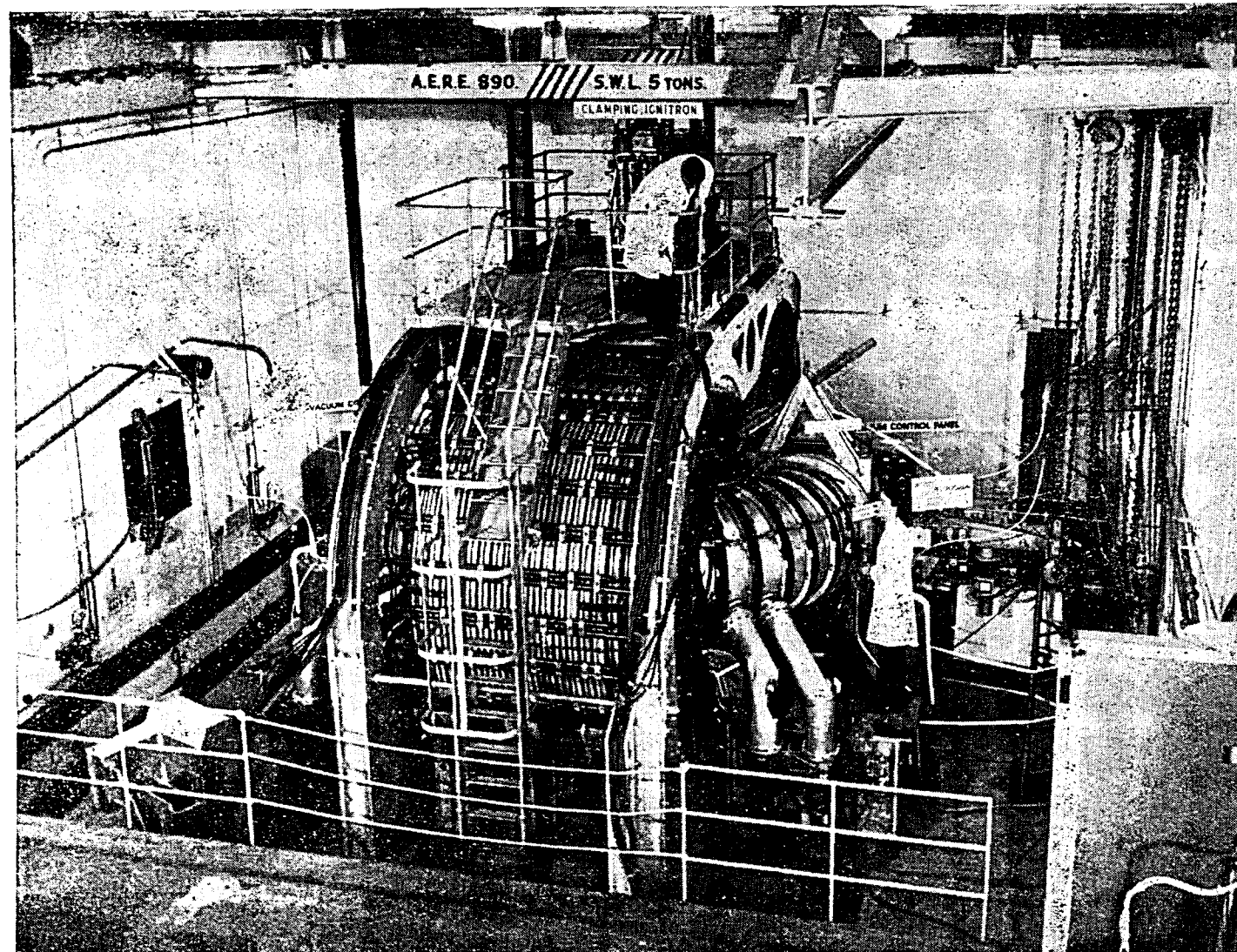
The Oak Ridge National Laboratory is famous mainly for its production of radioisotopes. These valuable products are made in the Laboratory's 2,000-kilowatt graphite pile, the world's first full-scale producing reactor, built in 1943. Originally this machine was utilized to design reactors for the big Hanford plutonium plant. Now the veteran reactor produces more than 100 different types of radioisotopes, which are sold at cost by the Laboratory within the last 10 years, more than 93,000 shipments of radioisotopes have gone to 1,200 institutions in the United States and 4,500 shipments have gone to 250 institutions in 54 other nations. Utilization of these atomic products has been responsible for many of the beneficial atomic developments in medicine, agriculture and industry.

Since its establishment 13 years ago, Oak Ridge has been instrumental in the development of many types of atomic reactors in use to-day as well as others now being built or planned for future construction.

In 1951, the Oak Ridge National Laboratory completed the first "swimming pool" reactor, so named because the 10-kilowatt machine is suspended in a 20-foot-deep pool of water. A replica of this reactor was operated by the United States at the first International Conference on Peaceful Uses of Atomic Energy in Geneva, Switzerland, in 1955 and later was sold to that nation. Many swimming pool reactors now are in operation in the United States, and several are being built there for other nations. The safety and flexibility of this type of reactor makes it extremely valuable for research.

Between 1950 and 1952, Oak Ridge National Laboratory developed and built pilot models of reactors for other U.S. Atomic Energy Commission plants, some of which now are being copied for civilian use.

In 1952 the Reactor Experiment (HRE) was completed at Oak Ridge. During tests it became the second reactor in the world to produce power for production of electricity. In 1954, the HRE was dismantled to make way for construction of an improved model, known as HRE-2 which was completed in 1956



A view of ZETA at the United Kingdom Atomic Energy Authority's Research Establishment at Harwell, Berkshire, England.

but its operation has been delayed by difficulties with corrosion which now are being corrected. This reactor, considered promising for the production of electricity, is extremely safe and so simple in design that it often is referred to as "a pot, a pipe and a pump".

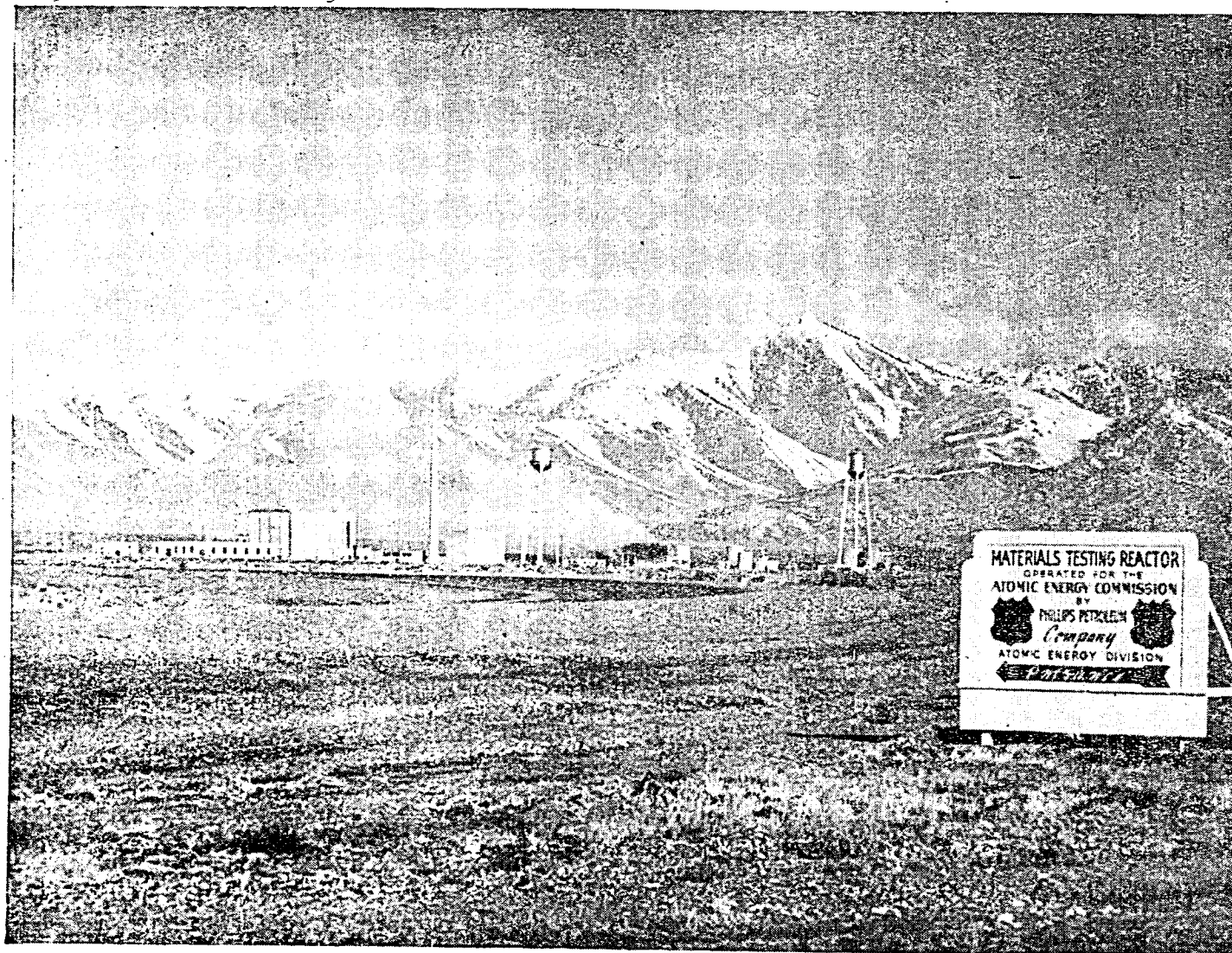
Among many types of reactors now in various stages of planning and development in the Laboratory is an aircraft reactor. The equipment consists of a test reactor and its shielding, which are suspended from four 324-foot steel towers that provide simulated conditions of an airplane in flight. Another reactor under development is a model to be used for basic research and engineering studies.

In addition to its work in designing reactors, Oak Ridge has performed basic research in the development of chemical separation processes; radiation protection,

including disposal of radioactive wastes; reactor fuels; radioactive and stable isotopes, and extensive studies in the fields of biology, chemistry, physics, metallurgy and health physics. The Laboratory provides the most modern equipment available for this research, which is conducted by 3,000 employees and 100 research groups.

More than 5,000 acres in the Oak Ridge area are utilized for agricultural research conducted by the nearby University of Tennessee under contract for the United States Atomic Energy Commission. This programme has resulted in beneficial uses of radioisotopes in horticulture and has provided valuable biological information gained through studies of animals ranging in size from mice to full-grown cattle.

The unsurpassed facilities of the Oak Ridge National Laboratory, plus the knowledge and experience of its



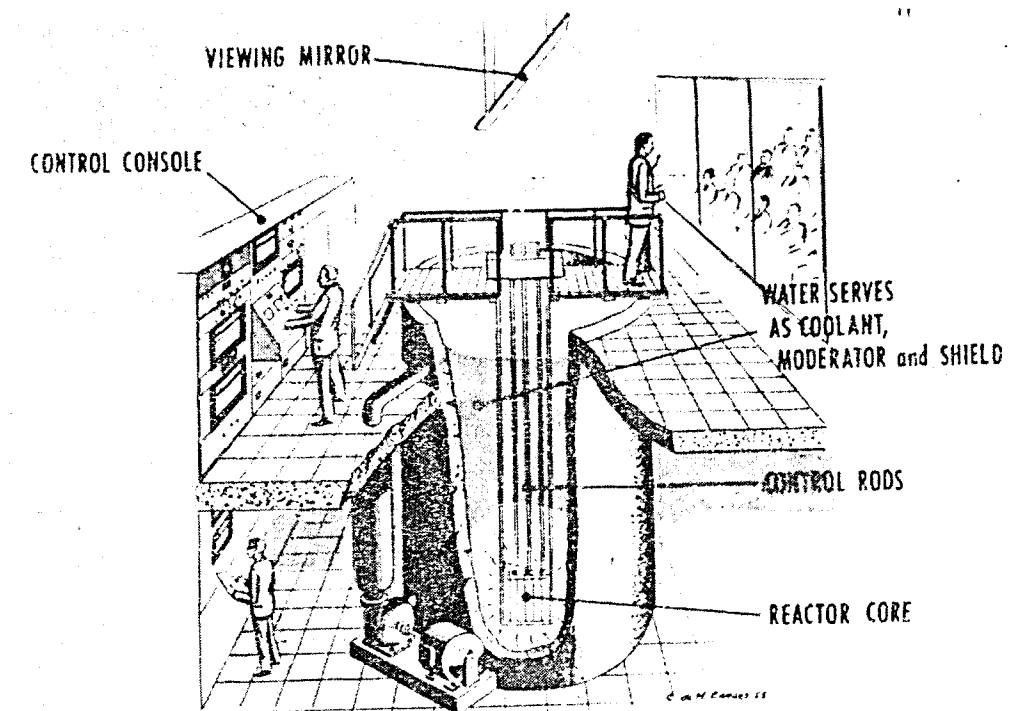
This group of buildings, the largest of which houses the Materials Testing Reactor, is typical of the clusters of structures spread over the 690 square miles at the National Reactor Testing Station. At this station, located on a high plateau in western Idaho, research conducted by many industries and 1,600 employees has contributed significantly to the international "atoms for peace" programme.

staff, are shared with scientists and students. Technicians from industry and graduates of colleges and universities come to Oak Ridge to attend the Laboratory's School of Reactor Technology and to do advanced work in radiological physics, industrial hygiene and other subjects of their choosing.

Much of the educational work at this large establishment is conducted by the Oak Ridge Institute of Nuclear Studies, a non-profit organization operated by 30 universities on contract for the United States Atomic Energy Commission. Thousands of scientists from many nations have attended the Institute's month-long course on the use of radioisotopes, which is offered six times a year. Through a travelling lecture programme and regional seminars, in which Oak Ridge scientists participate actively, the Institute takes atomic knowledge to interested groups in colleges and universities. The

Medical Division of the Institute, which operates a 30-bed hospital, co-operates with 22 medical schools in a long-range programme of investigation into the value of radioisotopes and atomic radiations in the treatment of cancer.

The work of the Oak Ridge Institute of Nuclear Studies includes a concerted effort to educate the general public in atomic energy. At Oak Ridge, the Institute operates the American Museum of Atomic Energy, the only permanent museum of its kind in the world. Each year thousands of tourists from many nations visit the museum to view its 18,000-square-foot display of pictures, diagrams and working models that trace the development of atomic energy. To-day, many of the exhibits are taken in large "atoms for peace" truck trailers to all parts of the United States, where the atomic story is shown to more than 1,000,000 people each year.



PROJECT AQUARIUM - Swimming Pool research reactor

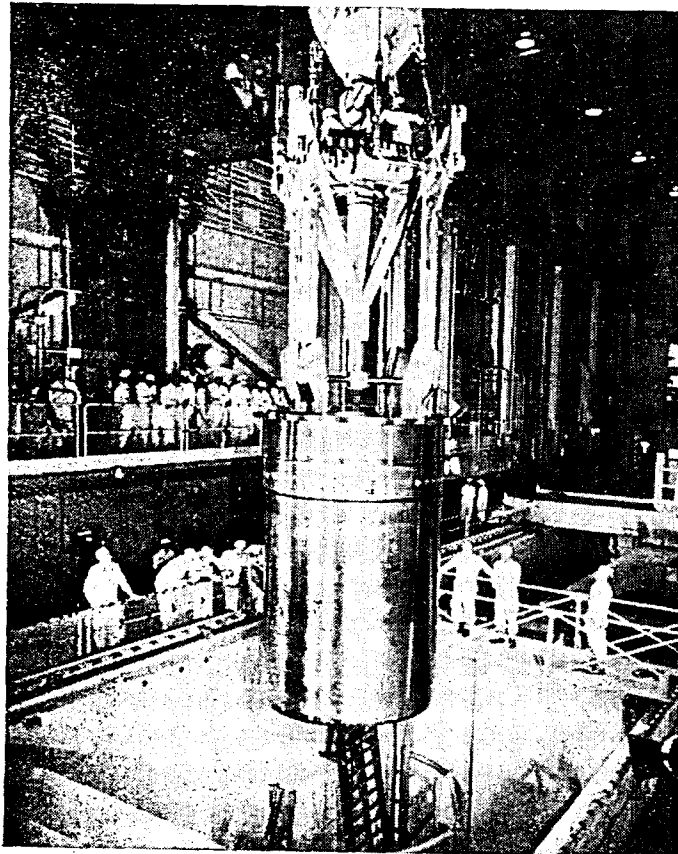
The schematic drawing shows how the "swimming pool" reactor, to be built by the United States at Geneva, Switzerland, for the United Nations International Conference will look when completed. This operating research reactor will be submerged in the tank with water serving as a coolant and shield. The tank is ten feet in diameter and twenty feet deep. The Oak Ridge National Laboratory, operated for the Atomic Energy Commission by Union Carbide and Carbon Corporation, will design and construct the reactor. The reactor will be housed in a temporary prefabricated metal building designed especially to enable the delegates and visitors at Geneva to see the reactor in operation. The swimming pool reactor which is estimated to cost about 350,000 will be part of the technical exhibit being planned by the United States at Geneva.

Shippingport Atomic Power Plant

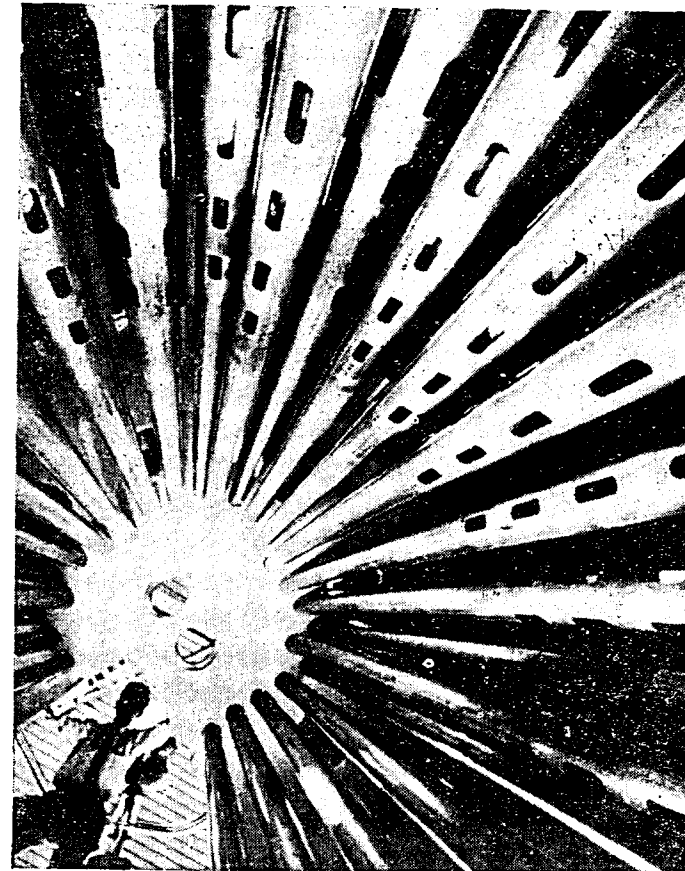
The atomic power plant at Shippingport, Pennsylvania, dedicated by President Eisenhower on May 26, 1958, is the world's first large-scale atomic reactor devoted exclusively to generating commercial electric power.

The atomic-electric generating plant has been in test operation since December. But with the dedication, the power will flow regularly to homes, stores and industrial plants throughout the Pittsburgh area in Western Pennsylvania.

In dedicating the Shippingport facility, President Eisenhower said: "This plant—using the power of the atom to supply electric power—represents what can be done, not only in America, but throughout the world, to put the atom to work for the good of mankind, not his destruction." He reaffirmed his belief that "atomic power will ease mankind's burdens and provide additional comforts for human living."



The 'heart' of the first full-scale atomic power station in the U.S. is lowered into place at Shippingport. It is the \$8.5-million, multi-million dollar atomic reactor core, loaded with fuel consisting of 14 tons of natural uranium and 165 pounds of highly enriched uranium.



The tubes, or shrouds, that house the control rods for regulating fission in the Shippingport reactor look like this. To the left on the main wall this mock-up of the reactor are two holes, called ports, used to insert remote handling equipment for removing or replacing fuel elements.

The huge 121 million Shippingport station at full power generates 60,000 kilowatts of electricity—enough to supply the residential needs of a community of 250,000 population.

During a 24-hour period, the smokeless and virtually noiseless atomic power plant burns atomic energy equivalent to 3,000 tons of coal.

Pressurised water circulates through the reactor's core—or furnace—which contains 14 tons of natural uranium more blanketed in 165 pounds of highly enriched Uranium-235.

This water—which removes great quantities of heat produced by the split atoms—is pumped through heat exchangers, where it converts a second supply of water, protected against radioactivity, into steam. The steam then turns a turbine generator to produce electricity.

The pressurised-water reactor is the same type of atomic power plant which operates in the *Nautilus*, the first atomic-powered submarine.

The Shippingport project is a joint effort of the U.S. Atomic Energy Commission (AEC), the Westinghouse Electric Corporation, the reactor's builder, and the Duquesne Light Company, which furnishes electricity to the Greater Pittsburgh area.

More than 1,300 scientists and thousands of other workmen participated in the project which began in 1954. One of its major purposes is to serve as a pilot plant to test and improve the design of future commercial nuclear power plants.

The installation has been in test operation since electric power plant to begin operating, it soon will be December 18. Officials say it is working "even better than we had hoped."

Although Shippingport was the first full-scale nuclear followed by four larger U.S. atomic-electric plants, all scheduled for completion in 1960.

Khadi

In the month of April 1959, 274,022 yards, worth Rs. 7,15,658.70 nP. were produced and Rs. 2,49,141.74 nP. worth of Khadi were sold.

3,060,210 yards of Khadi worth Rs. 75,75,898.91 were produced and 2,443,805 yards worth Rs. 67,90,358.72 were sold in this State between 1st April 1958 and 31st March 1959.

During the month of May 1959, 274,340 yards of Khadi worth Rs. 7,05,656.76 were produced and rupees 5,92,015.31 worth of Khadi was sold in this State.

Grant of Land Revenue Remissions : Distinction Cancelled

The Government have decided not to distinguish between rich and poor landholders in the matter of grant of land revenue remissions on account of adverse seasonal conditions. Till now pattadars who own lands in a taluk paying in all an annual assessment of Rs. 101 and above and all land-owners who are assessed to income-tax were not given the benefit of remission during adverse seasons. The decision to abrogate this distinction, has been taken in the context of the adverse seasonal conditions prevailing in some parts of the State, during the current fasli 1368, and the Government have directed that the earlier orders excluding the wealthy pattadars from the benefit of revenue remission in drought affected areas, be cancelled with immediate effect.

There are eight other power reactors now in operation on an experimental basis in the U.S. These represent six different reactor types.

Of the forthcoming larger reactors, the plants at Rowe, Massachusetts, and in New York State will be of the same pressurised water type as Shippingport; the Massachusetts reactor will generate 134,000 kilowatts, while the New York one will be capable of generating 275,000 kilowatts.

The "boiling water" type of plant is represented by the 180,000 kilowatt plant underway near Joliet, Illinois. The fourth plant under construction is the kilowatt "fast breeder" type being built at Monroe, Michigan.

Altogether, a total of more than 700,000 kilowatts of atomic electric generating capacity will be installed in America by 1960.

This approach of trying out different reactor types is to find the best and cheapest way of generating nuclear electricity.

Employment situation in April 1959

The employment situation in Madras State as a whole did not show any significant favourable trends during April 1959. Except for a slight improvement reported by Madras, the situation remained fairly static in the districts of South Arcot, Ramanathapuram, Tiruchirappalli and Chingleput, and showed a downward trend in all other districts. The number of employment seekers on the Live Registers of the Employment Offices at the end of April 1959 was 120,267; the corresponding number for the previous month was 118,353. During the month, 15,855 registrations were effected as against 15,747 during the previous month. Two thousand one-hundred and eighty-seven vacancies were notified during the month, as against 2,565 in March 1959. There was a fall in placings from 2,230 in March to 1,591 in April 1959.

Surplus of candidates continued in clerical and unskilled categories. On the other hand, local shortages of suitable candidates were reported in respect of Boiler Attendants, Building and Town Planning Supervisors, Civil Engineering Draughtsmen, Electricians, Health Visitors, Pharmacists, Stenographers, Craft Instructors, Librarians, Instrument Mechanics and Surveyors. The employment enquiry for the quarter ended 31st March 1959 commenced during the month under report. The Youth Employment Service in the District Employment Office, Madras, gave vocational guidance to 613 youths; of these, nine were subsequently given individual guidance. The Youth Employment Officer established contacts with 25 schools and other institutions in connection with the programme of vocational guidance. The work on the compilation of revised editions of the Handbooks on Training Facilities relating to institutional and inplant training facilities available in Madras State is in progress.

Atoms for Peace

Nuclear scientists in all parts of the world worked steadily and successfully during 1958 to increase the peaceful uses of the atom in the fields of electrical power production, medicine, agriculture and industry.

An outstanding highlight of the year was the second United Nations International Conference on the Peaceful Uses of Atomic Energy held at Geneva, Switzerland, in September 1958. Some 5,000 scientists from 69 nations attended this important conference to report on progress made in peaceful atomic uses since the first conference at Geneva in 1955.

Leading scientists from the participating nations described the use of the atom for numerous peaceful purposes including the heating of entire communities, providing power for ships, creating more productive food plants, reducing manufacturing costs, improving industrial products, detecting fingerprints, studying the corrosion of steel, and desalting sea water. In addition, a vast assortment of uses in medicine and medical research were described.

A survey made at the time of the conference by the U.S. Atomic Energy Commission showed that 13 nuclear power plants designed to produce electricity were in successful operation, while 60 others were under construction or in various stages of planning.

Of the power plants now in operation, eight are in the United States, three in Great Britain, and one each in France and the Soviet Union.

One outstanding advantage of atomic power is the small amount of fuel required to produce large amounts of electrical energy.

Radioisotopes.

The use of radioisotopes as tracers has added a new dimension to research in the physical and life sciences, and has made possible important new methods of medical diagnosis and therapy. Radioisotopes are ordinary chemical elements that have been made radioactive in nuclear reactors. They can be traced as they travel through human beings, plants and animals by listening to the radiation they emit. This is done by using a geiger counter or some other radiation detection device.

More than 2,000 medical institutions and private physicians in the United States now use radioisotopes for the diagnosis and treatment of disease. More than 1,000,000 medical patients were diagnosed or treated with radioisotopes during 1958. Their use has now spread throughout the world, largely as a result of the world-wide distribution programme carried out by the United States Atomic Energy Commission.

Diseases now treated with radioisotopes include hyperthyroidism, brain tumors, various forms of cancer, heart ailments, chronic leukemia, and a number of blood diseases.

Industrial uses of the atom.

Used in such industrial and measurement control devices as thickness, density and liquid-level gauges,

radioisotopes are reducing wastage and improving produce uniformity in numerous basic manufacturing industries. The United States Atomic Energy Commission's latest estimate of the annual savings realized in United States industry through the use of these radioisotope devices is \$500,000,000. These savings should be ten times as great by 1965, the Commission estimates.

Industrial uses of radioisotopes devices are too numerous to mention in detail.

For instance, in the petroleum industry such devices are used in many operations, ranging from logging oil wells to tracing catalyst flow in refining, and to monitoring the flow of refinery products through pipelines. Manufacturers of air conditioning equipment use radioisotope devices to detect leaks, glass manufacturers use them for corrosion studies, and fertilizer manufacturers use them for process control.

Extensive research was conducted in 1958 to develop new uses for nuclear radiation in the chemical industry. In this field, the United States Atomic Energy Commission reported recently, nuclear radiation shows promise of becoming a fourth chemical process "variable", supplementing heat, pressure and chemical catalysis.

The atom and agriculture.

During 1958 scientists at the Brookhaven National Laboratory in the United States continued use of nuclear radiation to create better, more disease-resistant and higher-yielding food plants. The Brookhaven Laboratory is the largest centre for this type of research, and the basic aim of its scientists is to increase the world's food supply by helping farmers in all countries to increase their crop production.

Plant breeding by conventional methods is a slow, tedious and expensive process which frequently requires many years to produce a desirable new plant species. If plants are exposed to nuclear radiation, however, many mutations can be produced very quickly. Atomic energy has, therefore, given geneticists a very important new look for the development of hardier and higher-yielding plant species.

Brookhaven geneticists have been experimenting with radiation-induced plant mutations for several years, using radioactive cobalt, to expose growing plants to radiation in a special crop area. Scientists in many other countries and in all parts of the United States send seeds, cuttings and entire plants to Brookhaven for irradiation under this programme.

There have already been a number of encouraging results, which point to the development of improved vegetables and fruits.

At the same time, the use of radioisotopes as tracers has brought about a more effective use of fertilizers and improvements in plant insecticides.

Rural Electrification

SRI V. P. APPADURAI.

Chief Engineer for Electricity, Madras State Electricity Board.

Madras State has an area of 50,170 square miles and comprises 19,900 villages and 295 towns. Of a total population of 30 millions, 75 per cent, i.e., 22.5 millions live in villages. To Madras, just as for the rest of India, rural electrification has therefore a special significance as it offers the solution for increasing food production, bringing more employment to the rural population, providing various amenities for healthy and happy living and thus raising their standard of life.

Progress of Rural Electrification in the State.

The Government of Madras have been attaching considerable importance to rural electrification and Madras leads the rest of the State in the matter of number of villages electrified. At present about 7,163 villages in the State are electrified. Out of the 561,107 villages in the Indian Union 7,400 or 1.32 per cent of the number of villages have been electrified by the end of the First Plan period.

The growth of the rural electric development in the Madras State can be seen from the following figures:—

Year.	Number of villages electrified (at the end of the year).	
(1)	(2)	
1935-36	30	
1940-41	740	
1945-46	804	
1950-51	1,613	
1951-52	1,820	
1952-53	1,981	
1953-54	2,187	
1954-55	2,392	
1955-56	3,321	
1956-57	5,016 (exclusive of 241 towns).	
1957-58	6,362 (exclusive of 247 towns).	
1958-59	8,106	

It is estimated that over 270 million units have been consumed in the villages during 1957-58 forming about 20 per cent of the consumption in the State. The rural connected load forms over 25 per cent of the total connected load on the Grid.

Electricity in agriculture.

Electricity is used in villages chiefly for pumping water for agriculture. Nearly 70 per cent of the power consumed in villages or 19 per cent of the total consumption in the State is used up by agricultural pumpsets. There are at present nearly 60,000 pumpsets in the State using power from the Grid.

The demand for power for agricultural pumpsets is phenomenal in this State, there being more than 40,000 applications on hand for this type of load. The State

Electricity Board has a target of connecting up more than 10,000 pumpsets a year.

The following figures regarding the use of electricity in agriculture may be interesting. The average unit capacity of a pump in the Madras State is 6 H.P. This can irrigate 7 acres of land producing about 3½ tons of foodgrains in a year. The lift of the pump varies considerably depending on the water table level at the location, say, from 10 to 110 feet. The average consumption of power for irrigation of 1 acre of land is 800 units costing nearly Rs. 40 a year.

With a view to encouraging the use of electricity in agriculture, the Government offer electricity at very cheap rates, viz., 0.90 anna per unit for the first 500 units per installed H.P. per annum and 0.75 anna per unit for all in excess. There is an annual minimum guarantee of Rs. 6 per H.P. connected, but, this will be reduced proportionately to the number of days in which the well could not be used due to drought, provided the consumer sends due intimation of the fact as soon as the well becomes dry.

The security deposit towards energy charges is collected for two months in respect of agricultural consumers as compared to the collection of three months charges in respect of other consumers. No service connection charges are collected for agricultural consumers and the service line is erected at the cost of the Department. They are generally considered as essential consumers. New connections for agricultural pumps are treated on a priority basis. The cost of lifting water from wells for irrigation per acre per crop of paddy by different methods are as follows:—

	RS.
By bullocks	300
By diesel engine pump	83
By electric pump	50

Processing Industries.

Other uses to which electricity is put in the rural areas besides lighting are processing industries of the locally-grown agricultural products. Rice hulling, groundnut decortiating, oil pressing, sugarcane crushing, cotton ginning, tape weaving, etc., are some of the rural processing industries and at present about 5,600 such industries with a connected load of 30,000 K.W. are now run on power in this State.

It has often been found economical by consumers to use a single motor to drive a number of different machines by means of a shaft with fast and loose pulleys as each of the machine has to run only for a limited number of hours in a day.

Other uses to which electricity can be put in rural farms is for milking, chaff cutting, baling, corn rolling, grinding, clipping and incubating. These have not,

however, found much favour in the country in view of the heavy capital outlay required for the purchase of the necessary implements.

The approximate power requirements and output of some of these industries are given in the following table:—

TABLE.

Serial number and description.	H.P. of motor.	Output in lb. per hour.	Consumption of electricity in K.W. per 100 lb.
(1)	(2)	(3)	(4)
1 Rice Huller and Polisher (Big)	25	2,400	0.8 to 1.0
2 Cotton ginning (Double roller type)	4 to 5	78	2.75 to 3.0
3 Groundnut decorticator	25	7,500 lbs. of shelled groundnut.	0.025
4 Flour Mill (For rice, ragi, cholam and wheat)	5 to 7.5	180	1.2 to 1.5
5 Oil Processing (Pinto oil process for gingelly oil, coconut oil, castor or groundnut oil).	3	15	5.0
6 Sugarcane crushing	3	1,000	0.25

Power looms.

Next to agriculture, handloom industry in India is the most important. Despite the strenuous competition from the large textile mills producing cheap cloth, the handloom industry has held its own and in the overall interests of the rural population, it is essential that this industry receives adequate support. This industry gives a subsidiary occupation to the agriculturist during periods when there is little or no cultivation work.

The output and wages in the handloom industry are however, so very poor that this can be considered only as an alternative to unemployment. But by adopting small power looms, the output can be increased several times with corresponding increase in wages.

A 1½ H.P. motor is adequate to drive one loom and often one operator can look after two looms. In one working day of 8 hours a power loom can weave two sarees each of 9 yards by 45 inches, while with the handloom it would take two to two and a half working days for making one such saree. The power required for one loom being very small the energy charges are a small fraction of the working costs, but since the worker is able to obtain larger output with the power-driven looms, he is able to earn a reasonably good remuneration.

With a capital cost of about Rs. 400 per loom and an annual recurring charges of about Rs. 850, it is possible to produce 125 sarees each of 9 yards by 45 inches per annum so that the cost of production of a handloom saree is about Rs. 6-8-0. In the case of power loom, however, with a capital outlay of Rs. 6,000 and recurring charges of about Rs. 1,600 per annum, 400 sarees each costing about Rs. 3-9-0 for production could be produced. It is interesting to note that in Peelamedu and Coimbatore, 50 out of 600 weavers in a society of powerlooms earned Rs. 150 a month while 550 other weavers earned only Rs. 50 a month. The use of a powerloom enables the workers therefore to earn a large wage and the consumers can obtain cloth at a cheaper price.

Despite the attractive economy of the power looms, there has not been much development of this type of loom for the reason that the average handloom weaver is too poor to find the capital for the power loom.

Refrigeration.

Cold storage of foodstuffs assumes great importance at present for the reason that prevention of damage and deterioration by means of refrigeration is a positive means of increasing the food availability in this country. Perishable foods like meat, fish, eggs, milk and dairy products, fresh fruits, dried fruits, etc., can be preserved indefinitely by maintaining appropriate temperature and humidity conditions.

The Ministry of Agriculture, Government of India, have been taking considerable interest in cold storage installations and there are now about 100 installations with a total storage capacity of 50 tons in operation in different parts of India. While the majority of plants are designed for the storage of potatoes, several units are suitable for the storage of other products like fruits, vegetables, fish, etc.

In Bombay State, the Government have installed a cold storage plant for storing 85,000 lb. of bottled pasteurised milk.

A 500-ton capacity storage installation requires power supply to the tune of 60 to 75 K.W.

Cottage Industries.

The importance of the use of electricity in cottage industries in the matter of giving employment to the agricultural population during off-season periods is slowly being recognized. A variety of cottage industries have been adopted to work on electricity, viz., silk lace throwing, knitting machine, carding for woollen drugget industry, tape weaving, button making, fountain-pen making, etc.

The power requirements of these industries are given below:—

- 1 Silk throwing—1½ H.P. to 3 H.P.
- 2 Single-unit power loom—1½ H.P. to 3 H.P.
- 3 Knitting machine—1/3 H.P. to 3 H.P.
- 4 Carding for woollen drugget industry—3 H.P.
- 5 Tape weaving—3/4 H.P.
- 6 Button making—1½ H.P.
- 7 Fountain-pen making—1¼ H.P.

(Continued on page 32)

Slum Clearance in the City

The Slum Clearance Scheme was formulated by the Government of India in May 1956. It is based on two principles, namely, that there should be minimum displacement of slum dwellers, and that emphasis should be laid on the provision of minimum standards of environmental hygiene and essential services. Financial assistance by the Government of India is made available to the State Government in the shape of loans and subsidies as given below:—

- (i) 50 per cent of the approved cost as loan.
- (ii) 25 per cent of the cost as subsidy.
- (iii) 25 per cent of the cost as subsidy by the State Government.

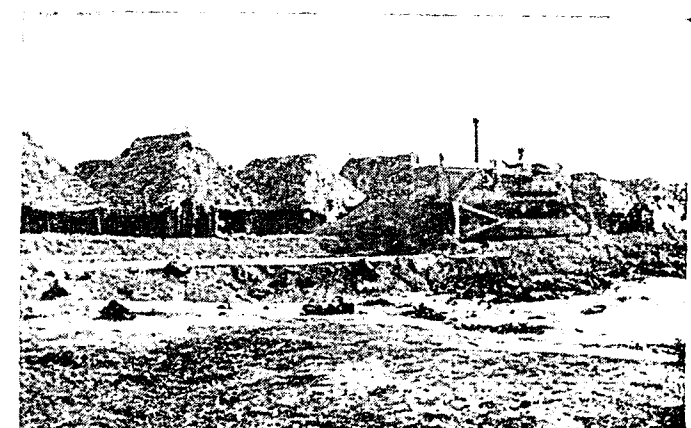
The question of increasing their share of subsidy from 25 per cent to 37½ per cent by the Centre is under consideration of the Government of India.



The slum as it was.



Dwellings under construction.



The Bulldozer at work.



A general view of the new Colony.

The general scheme contemplates provision of open developed plots as well as construction of pucca tenements. The developed plots or tenements will be leased to allottees on rental basis.

The total allocation for the Second Plan period is Rs. 168 lakhs. The Government have so far approved 17 schemes to the extent of Rs. 107.57 lakhs.

Of the 17 projects under the scheme approved, the Namasivayapuram Slum Improvement Scheme, which was the first and the pilot project contemplates the provision of 532 open developed plots at a total cost of Rs. 6,65,000, to re-house 357 families of slum dwellers in the existing slum area adjoining the Nungambakkam Railway Station and also to re-house 175 more families in the alternative site at Trustpuram, Kodambakkam, nearby.

Agricultural Extension Wing for Coimbatore Agricultural College

The Government have sanctioned the establishment of an Extension Section to the Agricultural College, Coimbatore, in order to provide scientific and supervised field training in agricultural extension methods and techniques, for under-graduate and post-graduate students. The actual training in extension work for under-graduates is to be in a Community Development Block set apart for the purpose, for a period of eight weeks during the intensive farm training given to the students of the B.Sc. (Agri.) course. This agricultural extension section is meant to bring the problems of the ryots to the laboratory of the research worker and to take out the results obtained in the research laboratory to the ryots in the field. Thus Education, Research and Extension will be fused in this course.

The total cost of the scheme for a period of two years, i.e., 1959-60 and 1960-61, works out to Rs. 4.15 lakhs. The Government of India have agreed to give a grant of Rs. 68,800 and a loan of Rs. 1,03,200 towards the entire expenditure on non-recurring items. The recurring expenditure for two years representing Rs. 2.43 lakhs is to be borne on a 50:50 basis between the State and Central Governments. From the third year onwards the State Government will bear all the running expenditure. The Government have requested the Director of Agriculture to implement the scheme immediately. The main work of the agricultural extension section will be—

- (1) Extension training for under-graduate students;
- (2) Extension work of the specialist (co-ordinated research and extension); and
- (3) Evaluation of extension programmes.



A completed dwelling.

Each family will be allotted a plot ranging from 875 square feet to 880 square feet provided with a high earthen platform (plinth) measuring 300 square feet by 1 foot a pucca f.o.l. 4 feet by 3 feet size, and a pucca open bath 4 feet by 4 feet. Building materials worth about Rs. 125 plus Rs. 25 in cash will be given to each family for constructing a hut. Trees will be planted at 30 feet intervals and staggered in order not to be facing each other.

The scheme is now under execution by the City Improvement Trust.

Full-Fee Concession for Harijan Pupils

The Government have directed that the existing practice of granting full-fee concessions to the Harijan pupils including Harijan converts to Christianity reading in secondary schools be extended for a further period of one year, i.e., 1959-60.

Veterinary Artificial Insemination Work : Five more Sub-Centres for City

The Government have sanctioned the opening of five more Artificial Insemination Sub-Centres in Madras City, i.e., at Perambur, Ayyanavaram, Aminjikarai, Adyar and Triplicane. The opening of these five centres will involve a recurring expenditure of Rs. 3,050 and Rs. 5,500 on non-recurring items.

For artificial insemination work in Madras City, a main centre has been established at the Madras Veterinary College. The following sub-centres are also functioning :—

- Corporation Cattle Depot, Basin Bridge.
- Corporation Cattle Depot, Mylapore.
- Veterinary Hospital, Saidapet.
- Corporation Cattle Depot, Kodambakkam.
- Government Veterinary Hospital, Rayapuram.

The scheme has become popular in the City and hence the Government have decided to open five more sub-centres.

Enlarging Recreational Facilities for Madras Children

VARKEY CHERIAN

Keeping children busy and out of mischief in summer holidays is a challenge to most parents. In busy urban neighbourhoods, this assumes the size of a social problem.

Hence, it was pleasurable to come across recently a bunch of ten-year-olds making merry in a sheltered lot just a few feet off busy Mount Road.

They had a choice of diversions, and as the spirit moved, they romped from slide to seesaw, on to the roundabout. If they tire of these, they need only to step into a small building for a peep into the fairly world of picture books, magazines and young people's classics. They can explore, if they feel like it, through picture encyclopædias, plant and animal kingdoms, history of peoples and location of lands.

These have been made possible by a recent extension of the Guild of Service Children's Library through a gift of Rs. 5,500 from the Asia Foundation of San Francisco, which interests itself in welfare projects in the Orient.

The Guild of Service, Madras, which runs the library, is a premier voluntary social service agency in India, which has a major stake in welfare activities for children.

It has branches in all the districts of Madras State, besides several units in Andhra, Mysore and Kerala States, and affiliates in Assam, Bihar and Madhya Pradesh.

Started some 36 years ago in Madras City by Mrs. Waller, wife of Bishop Waller, to bring together women of leisure for social work, the Guild of Service has become a synonym for voluntary service.

And an indefatigable promoter of its service ideal for the past couple of decades in this city has been Mrs. Mary Clubwala Jadhav, one of India's pioneer social workers.

Such fine institutions in Madras as the Seva Samajam Boys and Girls Homes for destitute children, the Mohite playground for delinquent children, the Bala Vihar for mentally-retarded children, Ashok Vihar (health and recreation centre), Juvenile Guidance Bureau, Vocational Centre at Saligram and the Madras School of Social Work, all under the aegis of the Guild, owe not a little to the vision and zeal of Mrs. Jadhav.

The Guild of Service of Information Bureau, of which the Children's Library is an adjunct, exemplifies the voluntary effort that makes the Guild institutions tick.

The entire work of this information centre is shared by a small band of young office workers under the leadership of S. Susainathan of the Southern Railways, who devotes to it up to five hours each evening. For the last ten years, the centre has been manned by such volunteers who donate their leisure hours. They answer correspondence, organize meetings and conferences, address some 3,000 wrappers for the Guild bulletin each month, distribute and maintain records of food gifts received from UNICEF CARE, Meals for Millions Foundation and Catholic Relief Service.

Withal, funds for operating expenses is a recurring headache for the Guild institutions. A major source of revenue for running the welfare homes is through foster parents, who undertake upkeep of specific individuals. Foster parents may be living next door to the institution or, as often happens, in another continent altogether.

For instance, Canadian foster parents are quite a number in the list of sponsored children in these Madras homes. The visible link between such parents and children is an international Santa Claus, Dr. Lotta Hitschmanova, founder-director of the Unitarian Service Committee of Canada, which works on the same voluntary pattern as the Guild.

Dr. Hitschmanova has been visiting the Madras homes every year since 1953 on behalf of the foster parents in Canada. A fairy godmother to many a boy and girl, she was recently in Madras, and aptly enough, it was she who inaugurated the extended Children's Library in Mount Road.

(Continued from page 9)

nuclear energy. We expect also that by that time electricity from nuclear power stations will be somewhat cheaper than electricity from coal or oil-fired stations. They should also be saving about £100 million tons a year of conventional fuel, much of which would have to be imported, and this is very important for our economy. Ten years later, by 1975, they should be saving about £200 million a year of imports and generating at least half of our electricity.

[From a Broadcast talk over the B.B.C.]

Recommendations of the Committee on Agricultural Production

The Committee on Agricultural Production which was constituted by the Government in August last has submitted its report. The composition of the Committee on the date of its report was as follows:—

Chairman.

Sri M. Bhaktavatsalam, B.A., B.L., *Minister for Agriculture.*

Members.

Sri R. A. Gopalaswamy, I.C.S., *Commissioner of Food Production.*

Sri P. P. I. Vaidyanathan, Bar-at-Law, I.C.S., *Secretary to Government, Food and Agriculture Department.*

Sri A. Venkatesan, I.A.S., *Director of Agriculture.*

Sri A. R. Venkatachari, I.S.E. (Retd.), *Retired Chief Engineer, Public Works Department.*

Sri V. K. Palaniswamy Gounder, M.L.C.

Sri M. G. Sanker, M.L.A.

Sri V. S. Thyagaraja Mudaliar, M.A.

Secretary.

Sri V. Vasudevan, M.A., *Deputy Secretary to Government.*

The Committee was appointed by the Government to undertake a thorough scrutiny of the food production plans with a view to assess the results achieved so far and to consider the further steps to be taken to accelerate the programme so as to ensure the full achievement of the targets of additional production. As desired by the Government the Committee extended its enquiry to the production of commercial crops also so as to cover the entire field of agricultural production in this State. The Committee's report is under print. It is a priced publication and copies of it can be had from the Superintendent, Government Press, Madras. A gist of the more important recommendations of the Committee is given below.

Improved Seed Programme.

The Committee is of the view that the work of seed multiplication and distribution at the primary stage in the State Seed Farms should be undertaken by the Government themselves even though they may have to incur some loss on this account as it is of paramount importance to ensure the quality of the primary seeds released for further multiplication in the secondary stage. The Committee considers that it will not be necessary to open as many as 360 State Seed Farms as provided for in the Second Five-Year Plan and that it will suffice if there are 70 State Seed Farms of 25 acres

each for paddy and millets and 140 State Seed Farms of 25 acres each for cotton, groundnut and millets or 210 State Seed Farms of 25 acres each in all. These 210 State Seed Farms will between themselves provide a State Seed Farm acreage of 3,000 acres for paddy, 1,500 acres for millets, 2,000 acres for cotton and 2,000 acres for groundnut. In order to reduce the number of State Seed Farms and thereby ensure a more effective and closer supervision of the Farms and with a view to effect savings in the overhead charges the Committee has recommended that all the existing State Seed Farms should be expanded into 75 to 100 acre farms each of which should be managed by the same scale of staff as has now been sanctioned for a 50-acre farm. The State Seed Farms that may have to be started in future should also be only 75 to 100-acre farms. As every step should be taken to keep down the total outlay on the State Seed Farms to the minimum the Committee has commended the suggestion that assessed waste lands and porombokes which are satisfactory and suitable from the point of view of assured irrigation, fertility of the soil, etc., may be used for locating the State Seed Farms wherever such lands are available.

In order to improve the efficiency of the State Seed Farms and with a view to induce capable hands to stick on to the jobs of Farm Managers and take an active interest in their work the Committee considers that it is absolutely necessary to give a bonus to each Farm Manager which should have a relation to the profit earned by the Farm during the period of his stewardship. The Committee has recommended the grant of a similar bonus to the other staff of the State Seed Farms also. In the Committee's opinion there would be better results if co-operatives are started to undertake the seed multiplication and distribution work in each Development Block in an integrated manner. It has therefore suggested that the Agricultural Banks may be persuaded to take up this work wherever they exist and that in other places co-operatives may be started for the purpose. Both the Agricultural Banks and the other Co-operatives should obtain their primary seed requirements from the State Seed Farms and take over the work that is now being done by the Village Seed Farms. While the Committee considers that the subsidy of 25 nP. per bag of 160 lb. for meeting incidental charges and 12 nP. per bag of 160 lb. towards ceiling charges now being given to the villages seed farm ryots should be continued, it is of the opinion that there is no case for enhancing these rates of subsidy at present.

Soil Testing Service.

The Committee has stressed the need for a rational fertiliser use as recommended by a soil testing service particularly in view of the present acute shortage of

chemical fertilizers. It has recommended that a systematic survey of the soil in all the regions of this State should be conducted starting from the predominantly rice areas with a view to draw up a detailed soil map of this State, that linked with this survey there should also be an agronomical survey of the entire State, that three more soil testing laboratories should be established at Madras, Aduthurai and Madurai and that in addition a soil testing laboratory should be established in each sugar factory area meeting the expenditure from the sugarcane cess fund.

Chemical fertilisers.

The Committee has drawn attention to the present anomalous position in which the Government are on the one hand propagating the use of chemical fertilisers for stepping up agricultural production while on the other hand they are unable to meet the increasing demand for chemical fertilisers created by their own propaganda on account of shortage of stocks and has recommended that more fertiliser factories should be established throughout the country in such a manner that no difficulty will arise in the matter of transporting the stocks by road or rail from the factories to the consuming areas. The Committee is of the view that the distribution of chemical fertilisers through co-operatives should be the ideal to be aimed at and that co-operatives which are already having the monopoly of distribution of nitrogenous fertilisers in the Development Blocks should be persuaded to take over the distribution of super-phosphate, potash and manure mixtures also in the Development Blocks so that they may be given the monopoly for the distribution of these commodities also in the Development Blocks. As regards the Non-Blocks areas the Committee considers that in these areas also the co-operatives should be given the monopoly for the distribution of chemical fertilizers as soon as enough co-operatives to handle the entire requirements of nitrogenous fertilisers, super-phosphate, potash and other manure mixture in these areas are formed and begin to function. The Committee has recommended that more co-operative manure mixing societies should be started as quickly as possible and that they should be given adequate quotas of straight fertilisers. Among the recommendations made by the Committee for ensuring that chemical fertilisers are made available to agriculturists in proper time are the placing of indents by the distributors on the Collectors sufficiently in advance of the time at which supplies are required for distribution to ryots and the receipt and disposal of all applications for loans under the Intensive Manuring Loan Scheme six months ahead of the cultivation scheme.

Organic manure.

As the chief reason for the slow progress in the development of green manure is the inadequate supplies of green manure seeds, the Committee has recommended that the Forest Department should raise sesbania and glyricidia crops at least over 2,000 acres of forest lands, collect the seeds obtained from these crops and supply them to the Agriculture Department. The recommendations made by the Committee for augmenting green manure resources are:—liberalization of the existing concessions in the matter of removal of green

manure leaves from the Government reserved forests; giving sufficient prominence for growing green manure plants, etc., in the village forests which the Forest Department is now developing; the growing of green manure plants, etc., by the Forest Department on the fringes of reserved forests adjoining villages which should make available the green manure leaves to the ryots of those villages; grant of permission to ryots under permits to plant green manure plant, etc., on the canal, channel, river, tank and road porombokes in charge of the Revenue, Public Works, and Highways Department; supply of water (wherever it can be so supplied) specially from Government irrigation sources for raising and irrigating green manure crops without undue restrictions; giving of a suitable cash incentive to the lasars of the Public Works Department, road gang workers of the Highways Department and village officers in order to induce them to grow green manure plants, etc., on the banks of river canals and channels, on road margins or in porombokes in their charge as the case may be; the remission of kist for the cultivation of green manure as a pure crop by ryots on lands which are classified as "current fallows", "other fallows" and "cultivable wastes"; the institution of prizes at district, taluk and village levels for the producer of the best yield of green manure per acre at each of these levels in each district and the holding of inter-village competitions in each district in green manure production and the award of a prize of the value of Rs. 10,000 in the shape of developmental works of communal benefit to that village in each district which raises green manure over the largest area.

The Committee has drawn attention to the fact that as the legal of compost and farmyard manure production is only about 25 per cent of the requirements on a safe estimate the target for compost production which has now been fixed is far too low. It has recommended that a revised target should be fixed aiming at a production which should be calculated at the rate of 10 tons of compost per acre per annum for irrigated crops and 2 tons of compost per acre per annum for rain-fed areas growing dry crops. An intensive drive should be launched to achieve this revised target. The compost development work should be stepped up both in the Development Blocks and in the Non-block areas additional staff being employed where necessary. Village-wise targets should be fixed for compost development and scrupulously adhered to and the progress of the achievement watched periodically. The Forest Department should provide space in the fringes of reserved forests to ryots of the neighbouring villages for constructing their own compost pits and collect a nominal fee from the ryots per pit of specified dimensions. The Committee has also recommended that the feasibility of bringing within the easy reach of the average ryot the cattle dung gas plant which not only permits the use of cattle dung as fuel after its conversion into methane gas but also at the same time enables the use of the cattle dung sludge ejected by the gas plant as manure without any reduction in its manurial properties should be investigated and the Government should offer to give financial assistance for the setting up of 1,000 of these plants in the shape of 50 per cent of the cost as a subsidy and the remaining 50 per cent as a loan.

The Committee's recommendations in respect of other manures are: the export of oil cakes outside the country should be carefully regulated so as to ensure that enough supplies are made available for use within the country both as cattle food and as manure; the use of fish-meal as manure after processing should be popularised with a view to its utilisation to the fullest extent especially in the coastal areas of the State; as bone meal and hoof meal are two of the best sources of phosphate their export to other countries should be banned; and slaying centres equipped with bone meal digestors should be opened on a co-operative basis in large numbers at the rate of at least one for every group of two or three Development Blocks with a view to provide sufficient quantity of bone meal for application to crops.

Major irrigation works.

As regards major and medium irrigation the Committee's main recommendations are: the surplus waters that are now being allowed to go to waste down the rivers in the neighbouring States of Kerala and Andhra Pradesh should be diverted to this State as quickly as possible with the willing co-operation of the Governments of those States; a systematic survey of all the jungle streams in this State should be conducted with a view to harness their flood waters; experiments should be conducted to obtain definite results regarding economy in the use of water and the circumstances under which the maximum yield from one acre of land and the maximum return from one cubic foot of water can be obtained; and the formulation of suitable schemes for utilising fully the drainage waters in several of the irrigated areas with a view to effect improvement to the duty of water and for relieving submersion of large areas under rice which now get water-logged.

Minor irrigation works.

The Committee has recommended that in implementing the Special Minor Irrigation Programme the highest priority should be given to the repair and restoration of tanks in the ex-estate areas, particularly those in the Ramanathapuram district, which are in need of immediate attention. It has also recommended that in order to actually restore the original ayacut of each tank the work of repair and restoration of tanks should also cover the repair and restoration of the supply channels, field bothies and sluices of the tanks in the case of Government sources of irrigation including those in the ex-estate areas. As regards the maintenance and silt clearance of supply channels the Committee is of the view that this may be left to be attended to as far as possible by the Panchayats or Panchayat Union Councils trusting that they will take advantage of the enabling provisions in Section 85 of the Madras Panchayats Act, 1958. The Committee considers that a beginning may be made in the matter of entrusting to the Block Agency the execution and maintenance of minor irrigation works in the Development Blocks. The Committee is of the opinion that the present arrangement under which the Chief Engineer for Irrigation is in charge of major irrigation sources and the Revenue Department is in charge of small irrigation sources while the Food Production Engineering branch headed by the Superintending

Engineer (Food Production), who is under the control of the Board of Revenue (Food Production), is in charge of renovation of tanks which have been neglected for a long time is working satisfactorily and may be allowed to continue. As the scheme for desilting-cum-reclamation of irrigation tanks is still in its trial stage the Committee considers that it should be continued only at the present pace. It has further recommended that the results of the works already executed and now being executed under it should be carefully watched and that if it is found that these results are encouraging enough the pace of implementation of the scheme should be accelerated.

The Committee attaches great importance to the improvement of lift irrigation facilities. It considers that the scope of the revived well subsidy scheme is very limited and it has therefore recommended that the subsidy for sinking wells should not be confined only to those wells dug under this scheme but that subsidy at the same rate and subject to the same conditions should also be given for new wells dug with the help of other Government loans such as takkavi loans. As the scheme as it stands now may not prove of much assistance to ryots in many areas in this State like the Coimbatore district and the Sattur and Srivilliputtur taluks of the Ramanathapuram district the Committee has recommended that the loan ceiling should be raised to Rs. 2,000 per well of which Rs. 500 may be a subsidy in specified areas. The other recommendations of the Committee on this subject are: The Filter-point scheme should be continued and intensified; just as a subsidy of 25 per cent is now allowed in the Development Blocks for sinking filter point tube wells a similar subsidy subject to a maximum of Rs. 250 per well should be given for sinking filter-point and bore wells in the non-Block areas also; an examination of the potentialities for groundwater development by sinking tube wells and filter-points should be made immediately in respect of the entire State on the basis of the past boring records and the performance of the existing tube well pumps and filter-point pumps; the scope for further expansion of the artesian well sinking programme in the South Arcot and Tiruchirappalli districts should be explored; the boring equipment now with the Agricultural Department should be improved and augmented; the river pumping scheme should be continued, the units being run as far as possible as community river pumping units by the existing co-operatives or by co-operative specially formed for the purpose; and the hiring scheme for pumpsets should be wound up while the Hire Purchase Scheme for pumpsets should not only be continued but also intensified utilising the co-operative agency for its implementation. The Committee has also recommended that the centage now charged by the Agricultural Department for servicing the pumpsets distributed under the Hire Purchase Scheme may be waived and that complete discretion should be given to ryots in the matter of choosing the pumpsets.

Land reclamation.

As regards tractors the Committee has recommended that all the wheel-type tractors owned by the Agricultural Department should be disposed of, that such of

them as could not be disposed of may be utilised for running the Tractor Hiring Scheme until they become unserviceable, that all the track or chain-type of tractors equipped with bull-dozer should be retained and their number increased to the extent necessary and that the Tractor Hiring Scheme should be continued utilising such tractors alone. The Committee has also recommended that the Hire Purchase Scheme for tractors should not only be continued but also expanded, that the Government of India should be moved to permit the import of an adequate number of tractors each year to meet the demand from the ryots in full together with a suitable complement of spare parts, that the Government of India may be requested to take steps for the manufacture within the country of a sufficient number of track type tractors with a view to make the country self-sufficient in regard to its requirements of this type of tractors in the near future and that immediate arrangements should be made to import adequate quantities of fast-moving spare parts required by Government-owned tractors and private-owned tractors in this State. The Committee has further recommended the starting of three mobile tractor workshops and the exemption from taxation under the Madras Motor Vehicles Taxation Act of all private tractors and trailers used solely for the owners' personal agricultural purposes and all tractors and trailers owned by the Agricultural Department.

In view of the poor progress so far in the implementation of the Madras Land Utilisation Order the object of which is to bring under the cultivation of food crops any occupied waste or arable land which has been left uncultivated the Committee has recommended the appointment of a Special Officer of the status of a Collector to attend solely to this work. It has also recommended the appointment of two two-man teams each consisting of an officer drawn from the Agricultural Department and another officer from the Public Works (Irrigation) Department to make a survey of the waste lands belonging to Hindu Religious and Charitable institutions in this State and draw up schemes within a specified time limit for putting them to the best possible use.

Plant protection.

The Committee considers that the present arrangement under which pesticides and fungicides are sold at 50 per cent of the cost price only in those areas which are declared as pest-affected by the District Agricultural Officer concerned is not satisfactory and has therefore recommended that pesticides and fungicides should be sold at a concessional rate in all areas throughout the year. It has also recommended that there should be four mobile pest control units at the rate of one under each Deputy Director of Agriculture.

Agricultural implements.

In order to improve the supply position of improved agricultural implements the Committee has recommended that some of the Government workshops of the various Government departments particularly those belonging to the Agriculture, Industries and Public Works Departments which have a surplus capacity

should take up the fabrication of agricultural implements specified by the Agricultural Department. It has also recommended that some of the irrigation workshops of the Public Works Department which have become surplus to the requirements of that Department may be taken over by the Agricultural Department for the fabrication of agricultural implements. The opinion of the Committee is that a system of quality control of the agricultural implements produced in this State should be introduced.

Supply of electricity.

The Government should give, in the view of the Committee, a subsidy to the State Electricity Board in order to enable it to supply electricity for agricultural purposes to new areas in the under-developed and backward areas of the State expecting only the normal 10 per cent return from the beneficiaries without demanding the special guarantee. Even in the well developed areas in this State it is understood that if the upper limit of the special guarantee which is at present Rs. 50 per H.P. is reduced to a larger number of ryots will come forward to take up electric supply. To the extent that this maximum limit is reduced the Government will have to give a subsidy to the State Electricity Board to reimburse to it the loss that will be incurred thereby. The Committee has recommended that the Government should consider by how much it would be feasible and desirable to reduce the upper limit of the special guarantee in the well-developed areas.

Co-operative credit.

The Committee has recommended that the pace of development of co-operative credit should be further accelerated and that there should be only one agency for the disbursement of all kinds of loans required by the agriculturists and that this agency should be the co-operative agency. The Co-operative Department has already made a start in this direction by launching its Full Finance Scheme in selected areas in this State. The Committee has recommended that this scheme should be extended to all Development Blocks in this State immediately and to all other areas in this State as soon as possible and in any event by the end of the Third Plan period. In order to ensure that the co-operatives play a much bigger roll than at present in agricultural development the Committee has recommended that the basic policy which the Government should adopt should be that all Government aids to agriculturists should be made available only through co-operatives. This policy is to be implemented progressively taking into account the availability of the required number of co-operatives. A Development Block should be taken as the unit for implementing this policy from stage to stage. With a view to ensure the expeditious implementation of this policy a definite date should be fixed for a group of Development Blocks according to a phased programme for bringing this policy into force in those Development Blocks. Due publicity for the dates so fixed should be given well in advance and it should be announced that on and from the date fixed for each Block all takkavi, medium and short-term loans will be discontinued in that Block. According to the

Committee the objective which the Government should have before them should be to set up at least one multi-purpose co-operative society in each village to serve the local agriculturists as a service co-operative catering to all their cultivation needs like fertilisers, seeds, credit, etc.

The Government have ordered that in the areas in which the Full Finance Scheme is working no takkavi loan should be granted. The Full Finance Scheme will meet only the short-term and medium-term needs of the agriculturists. As regards long-term credit the loans given by the Land Mortgage Banks alone will not be adequate. The Committee has therefore recommended that long-term takkavi loans should continue to be granted even in the Full Finance Scheme areas for the purpose of land improvement. The Committee has drawn attention to the fact that the loans that are at present being made available by co-operatives to landless cultivating tenants, marginal cultivators, sub-marginal cultivators, etc., is negligible because of the risk involved in lending to them. It has recommended that short-term loans to the required extent should be granted by co-operatives to these categories of borrowers on the security of the crops raised by them. The Committee has also recommended that the Government should give a guarantee to the financing banks agreeing to make good one half of the loss, if any, incurred by them in cases in which short-term loans given by them on the security of the crops raised by landless cultivating tenants, etc., become irrecoverable on account of failure of crops due to unexpected causes like pest-attack, drought, etc.

Co-operative farming.

The Committee has given a brief history of co-operative farming in this State and has pointed out that the idea of co-operative joint farming has been before the country for quite a long time. It has expressed the hope that the proposal for the universal adoption of co-operative joint farming as the future pattern of our country's agriculture will be considered by all concerned dispassionately untrammelled by other considerations and that in effecting the changeover to voluntary co-operative joint farming the Government will receive the requisite measure of enlightened co-operation from the agriculturists and others interested in stepping up agricultural production. It has also recommended that the Commissioner of Food Production should be designated as the authority for implementing all co-operative farming schemes and that co-operative tenant farming societies should be formed wherever there are large compact contiguous blocks of lands belonging to Hindu Religious and Charitable institutions.

Commercial crops.

As the progress in the achievement of the targets of additional production of commercial crops under the Second Five-Year Plan has been poor so far, the Committee has urged that vigorous measures should be taken to accelerate the pace of progress in order to achieve the targets in full by the end of the Plan period. It has suggested that the target for the increased production of irrigated groundnut should be stepped up

and that a special drive should be launched for coastal planting of coconut palms particularly in the districts of Tanjore and Ramanathapuram. The Committee has suggested the raising of the target of increased acreage under cashew fixed for achievement by the end of the Second Plan period and has recommended that a comprehensive tobacco development scheme covering the entire State should be launched very soon. The other recommendations of the Committee relating to Commercial Crops are: every step should be taken to increase the production of fruits to as high a level as possible, greater attention being paid to increasing the production of varieties of nutritious fruits which are already popular with the masses and the prices of which will be within the reach of the common man and also those varieties of fruits like grapes for developing which the conditions in this State are very favourable; an orchard-cum-nursery and horticultural research centre should be established at the Sathanur Product Dam site taking advantage of the facilities available there and the possibility of setting up similar centres in other irrigation dam sites should be investigated.

Agricultural research.

The Committee is of the opinion that fundamental research should be accorded a prominent place in the current and future research programmes of the Agricultural Department and that the highest priority should be given to rice research. It has also called for the intensification of research work on pulses in order to evolve improved varieties of strains of pulses largely consumed in this State with a view to put an end to the chronic deficit of pulses in this State and its perpetual dependence on supplies from outside the State. The Committee has pointed out that the present arrangement under which there is only one Crop Specialist for both millets and pulses put together is not satisfactory and has urged the immediate revival of the post of Pulses Specialist which was abolished sometime ago.

Agricultural extension.

The Panchayat Union should, in the opinion of the Committee, provide the local leadership for implementing the agricultural plans formulated for its jurisdiction and act as the local committee for agricultural development. Each Panchayat Union should be asked to constitute at the earliest opportunity a Committee solely for attending to the work of stepping up agricultural production within its jurisdiction under section 53 (b) of the Madras Panchayats Act, 1958.

The Committee has made various suggestions for the improvement of agricultural extension work, among them being, the giving of publicity to the various concessions extended to agriculturists, the utilisation of the Project Information Offices at the sites of the Irrigation projects as information centres of the Agricultural Department the production and exhibition of documentary films in colour depicting the improved cultivation practices advocated by the Agricultural Department weaving them round simple and appropriate stories and the taking of selected batches of agriculturists at Government cost to Agricultural Research Stations, Government Farms and the farms of prize-winners in the crop

(Continued on page 35)

Industrial Housing:

Liberalised Assistance from Government

The Government of India have, with a view to increasing the tempo of construction activity under the subsidised Industrial Housing Scheme in the employer's sector, given a few important concessions to the Industrialists who come forward to construct houses for the workers.

The loan assistance has been increased from 37½ per cent to 50 per cent of the approved cost in addition to the 25 per cent of the approved cost as outright subsidy. Fifty per cent of the loan is disbursed when construction reaches plinth level and the balance is given when it reaches roof level. Fifty per cent of the subsidy is paid on the completion of construction and the balance on receipt of audited accounts and acceptance by Government. The period of repayment of loans has been increased at the request of the employers from 15 years to 25 years. The State Government will allot suitable developed plots and they themselves can sanction the projects instead of recommending to Central Government for sanction, thus avoiding delay.

In spite of this liberalised pattern of assistance, there has been poor response from employers. Out of the Rs. 45 crores set apart for this scheme in the Second Five-Year Plan, Rs. 16 crores are still available for employers.

The State Government on their part have sanctioned the construction of 100 two-roomed and 200 one-roomed tenements at a cost of Rs. 18 lakhs for the Government Press Workers. Sanction has also been accorded to the construction of 100 houses for workers in the Public Works Department Central Workshop at a cost of Rs. 6.10 lakhs. It is also proposed to construct 250 houses for the State Transport Workers.

At the recent Conference of the representatives of employers and employees, convened by the State Government it was put forth on behalf of employers that since the actual cost of construction of a two-roomed tenement exceeded that of the ceiling cost fixed by Government of India, the cost of construction should be worked out realistically and then only the subsidy given would be beneficial. But it was pointed out that this may be due to the cost of the lands at different places and that the lands and houses were, after all, the property of the employers. It was also made clear that the provision had been exhausted under the Industrial Co-operative Housing Scheme and the only way open to them was to avail of the funds allotted for private employees' housing proposals.

Before land could be acquired, certain conditions had to be fulfilled without which acquisition of land may take years. A list of such conditions are available with the Collectors and Revenue Divisional Officers and interested employers can always have access to it. If, even after the conditions are fulfilled, there was still delay in acquisition of lands, the matter may be brought to the notice of the Government.

It was suggested that in order to make employees ultimate owners of the houses the 50 per cent loan which the employers have to return and the 25 per cent of cost which they are required to find may be recovered from the workers themselves over a period of years as in the case of co-operative housing societies, etc. The loans may even be foreclosed by adjusting payments like houses, etc., towards the loans. It was pointed out that it is not the intention of the Government that, under the industrial housing scheme, the workers should ultimately own the houses. But the employers must first take advantage of the present scheme and then convert it into a co-operative scheme if possible.

When it was complained that iron and steel were not readily available, the employers were informed that the position has improved considerably and if the employers submitted a consolidated list of their requirements district-wise necessary action can be taken quickly. The question of legislation in this matter will be discussed at the All-India Conference to be held in Mount Abu next month.

The Government are unhappy to note that the assistance given by the Centre has not been fully utilized. Another target of six months has been fixed and it is hoped that concrete details of the schemes the employers may formulate will be forthcoming in this period. The Government expect that the private employers will take up this matter more seriously and tackle this very important problem of labour housing as, in any event, sooner or later, they will have to find housing for their workers. If they do not take advantage of the assistance offered under the Second Five-Year Plan now, probably they will have to bear the entire burden themselves later, without any assistance from the Government.

It is hoped that the employers would be able to formulate specific schemes before the next conference which is expected to be held in the first week of September 1959.

Kharagpur B. Tech. Degree Recognised by State Electricity Board

The Madras State Electricity Board in line with the other engineering departments of the Government of Madras, has directed that the B.Tech. Degree of the Indian Institute of Technology, Kharagpur, in Civil, Mechanical and Electrical Engineering be recognized as equivalent to the B.E. Degree of the Madras University in the respective branches of the Engineering, for purposes of appointment to the posts under the Madras State Electricity Board.

Handloom Seminar

The two-day Handloom Seminar of the Southern States, held on 4th and 5th June at Madras, with Sri A. Bhagavantha Rao, Minister for Industries, Andhra Pradesh, presiding has recommended that a provident or thrift fund should be constituted for weavers within the co-operative fold with an equal contribution from the Central Government funds. The Seminar accepted a proposal that mill production should be pegged at 4,000 million yards for internal consumption and recommended that a trade delegation comprising handloom mercantile and handloom weavers co-operative interests be sent to our traditional markets to recapture and develop our export trade. It was also urged that handloom textiles should figure as a specific item in trade agreements executed by Government of India with foreign Governments instead of including it as an item under textiles.

The Seminar considered the problems of the handloom industry peculiar to the Southern States, under four broad subject-heads, viz., Organization, Production, Finance and Marketing.

The Seminar recommended the running of training classes in designs for the benefit of working weavers in the evenings with financial aid from the Cess Fund and also urged the deputation of weavers to weaving centres within and outside the State with financial assistance to the extent of two-thirds of the expenditure, subject to a maximum of Rs. 200 per mensem from the Cess Fund. In order to see that all the employees in weavers co-operatives are trained, the Seminar recommended that schemes for training of the employees of apex and primary weavers co-operatives should be introduced in all States.

It was also agreed that it is necessary to provide facilities for demonstration and for training in modern techniques and that to this end at least one textile institute should be set up in each State.

The Seminar urged that the Government of India should review the scheme of expansion of power-looms contemplated under the Second Five-Year Plan in view of the fact that the demand for cloth anticipated during the plan had not materialised. It was further urged that power-looms should be subject to the same restrictions in regard to the production of reserved categories of cloths, as the organised mill sector.

In view of the present trend of rising demand for the finer varieties of cloth, the Seminar felt that without imported long staple cotton, the handloom sector cannot meet this demand. It therefore recommended that sufficient quantities of long staple cotton be imported and allocated to the mills on condition that this yarn should be made available only to handloom weavers and not to power-looms or weaving looms. The Seminar also felt strongly that necessary imports of machinery should be allowed to facilitate the indigenous industry to manufacture superfine, mercerised and other fancy yarn. Until such time as indigenous production

of these types of yarn picked up it was felt, that import of limited quantities of these yarn required by the handloom industry may be permitted with suitable safeguards. It was also felt that the quantities of art-silk yarn made available to handlooms in the Southern region was meagre and it was urged that about 15 per cent of the imported art-silk yarn should be made available to handlooms in the Southern region.

The Seminar felt that urgent steps should be taken to work out suitable administrative arrangements for the equitable distribution of indigenous dyes and chemicals as also those that are imported by the State Trading Corporation. In respect of imported Coal-tar dye, the Seminar was agreed that the earlier system under which the actual users were permitted to import their requirements may be restored.

The Seminar took note of the fact that there exists a disparity between the rates at which yarn is available to the handloom industry and the weaving mills; the weaving section of a composite mill was able to obtain yarn at a much cheaper price than is available to the handloom industry. It was felt that there is imperative need to remove this disparity. In order to enable the co-operative spinning mills to withstand the competition of established joint stock mills set up at much cheaper cost, the Seminar requested the All-India Handloom Board to examine with sympathy the question of extending financial assistance to co-operative spinning mills in the first five years, of their establishment.

The Seminar felt that the cut from Rs. 200 crores to Rs. 160 crores imposed on the overall provision for handloom and other small-scale industries would result in the planned target of employment not being fulfilled and suggested that the Government of India and the Planning Commission should be requested to restore the cut.

The Seminar also considered the requirements of the Small Scale Industry Sector during the Third Five-Year Plan. In view of the vast potentialities for employment and the fact that foreign exchange commitments in the small-scale industries sector are very little, the Seminar recommended that a much higher provision should be made in the Third Five-Year Plan for all industries in the Small Scale Sector.

The Seminar unanimously recommended the establishment of a Co-operative Financing Agency for Weavers' Co-operative Societies and Industrial Co-operative Societies wherever desired.

The Seminar felt that the credit facilities available from the Reserve Bank of India towards working capital of Apex Weavers Societies is very inadequate to meet their requirements. Therefore, the Seminar recommended that the Government of India may be requested to arrange with the Reserve Bank of India to make credit available to Apex Weavers Societies up to 10 times the paid-up share capital plus reserve fund of the Apex Weavers Societies concerned.

The Seminar also recommended that the working capital for all Weavers' Co-operatives including Industrial Co-operative Societies may be increased from Rs. 300 to Rs. 500 per loom.

The Seminar also stressed the need for the establishment of a finance corporation particularly to give financial assistance to weavers outside the co-operative fold. It was agreed that Industrial Co-operatives should be formed to assist this class of weavers. It was strongly urged that the opportunity provided should be availed of to produce quality goods for the export market by taking advantage of the supervision and control that would be available in this class of societies.

The rebate scheme in the handloom industry was also discussed by the Handloom Seminar of Southern States, and the consensus of opinion was that the time was not opportune yet for the immediate abolition of the scheme. It was further felt that any further decrease in the rate of rebate was neither advisable nor possible now.

The Seminar had come to the conclusion that the scheme of grant of rebate on sales of handloom cloth had been the major item of assistance to the Handloom Industry and had provided the requisite incentive for the handloom cloth thereby boosting up internal sales during the period this scheme had been in vogue. Past experience had shown that even a reduction in the rate of rebate had had very adverse effects on the quantum of sales. Under these circumstances the general consensus of opinion was that time was not opportune yet for the immediate abolition of the rebate scheme and that therefore it must be allowed to continue. It was further felt that any further decrease in the rate of rebate was also neither advisable nor possible now. The rates of rebate must also be uniform in all the States.

However, the Seminar admitted the policy of rebate cannot be continued for ever and that it had its own inherent defects which have got to be set right with appropriate measures to be taken by the several States in the manner in which the situation may demand. Some

of Andhra Pradesh delegates desired that while accepting this, they or any other State who may so desire may be permitted to abolish rebate and utilise the amount so saved for the development of the industry.

The Seminar was further of the unanimous opinion that the provision made within the ceiling for rebate is grossly inadequate to meet the normal expenditure on this item in the several States. The heavy difference between the normal expenditure and the plan provision had so far been met by way of special grants towards 'backlog' outside the ceiling. In view of the fact that rebate is a variable factor the quantum of which cannot be fixed with any amount of accuracy and the large amount involved in the rebate scheme and the need to provide sufficient funds for the other very important schemes included in the plan for the development of the Handloom Industry, the Seminar strongly recommended that the provision for rebate must be outside the ceiling and subject to adjustments from time to time.

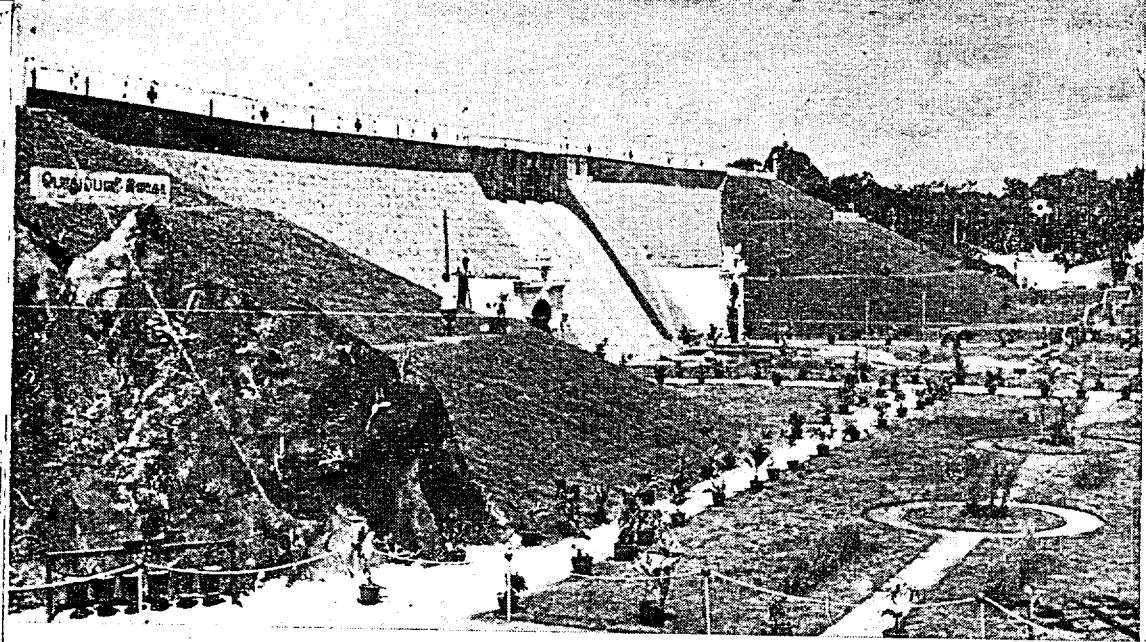
The scheme put forth by the Minister for Industries, Madras, in his inaugural speech was generally welcome. Under this scheme, instead of the present practice of allowing rebate of every sale of handloom cloth, either wholesale or retail, by the co-operatives, the primary societies might be allowed to market their cloth without any rebate, at the prices to be fixed by them, to any agency they chose. It would be necessary to constitute a fund to which would be credited all the amounts allotted under rebate. Rebate at a higher or a lower rate could be made available to the Apex society in any year depending on the amount available in the fund and the need for such assistance.

The Seminar after discussing this scheme, felt that it may be necessary to provide adequate financial assistance to Apex societies for this purpose and to allow sufficient time to primary societies to adapt their production to suit the requirements of the proposed Purchase Scheme.

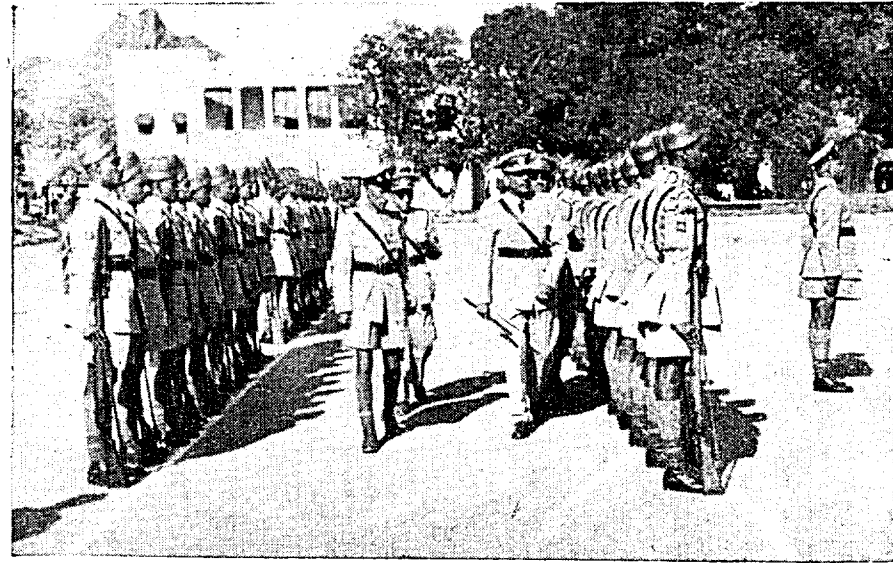
The Seminar also felt that the time for checking and clearing the backlog rebate claims outstanding as on 31st March 1958 should be extended till the end of September 1959.



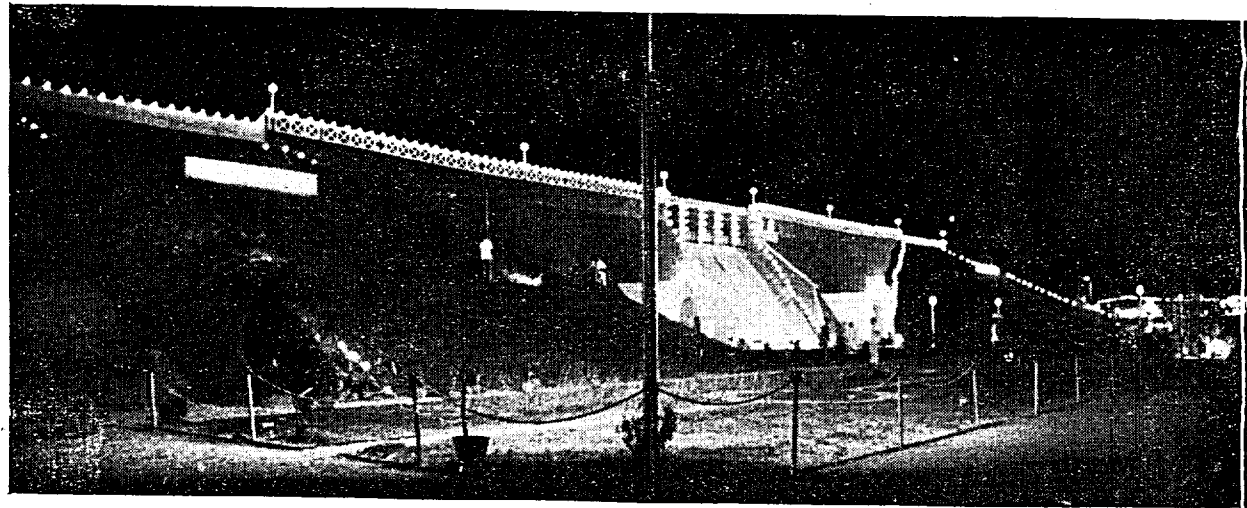
A Seminar on Handloom Industry was held in Madras on 4th and 5th June, in which the States in the Southern region took part. Sri R. Venkataraman, Minister for Industries, is seen addressing the Seminar.



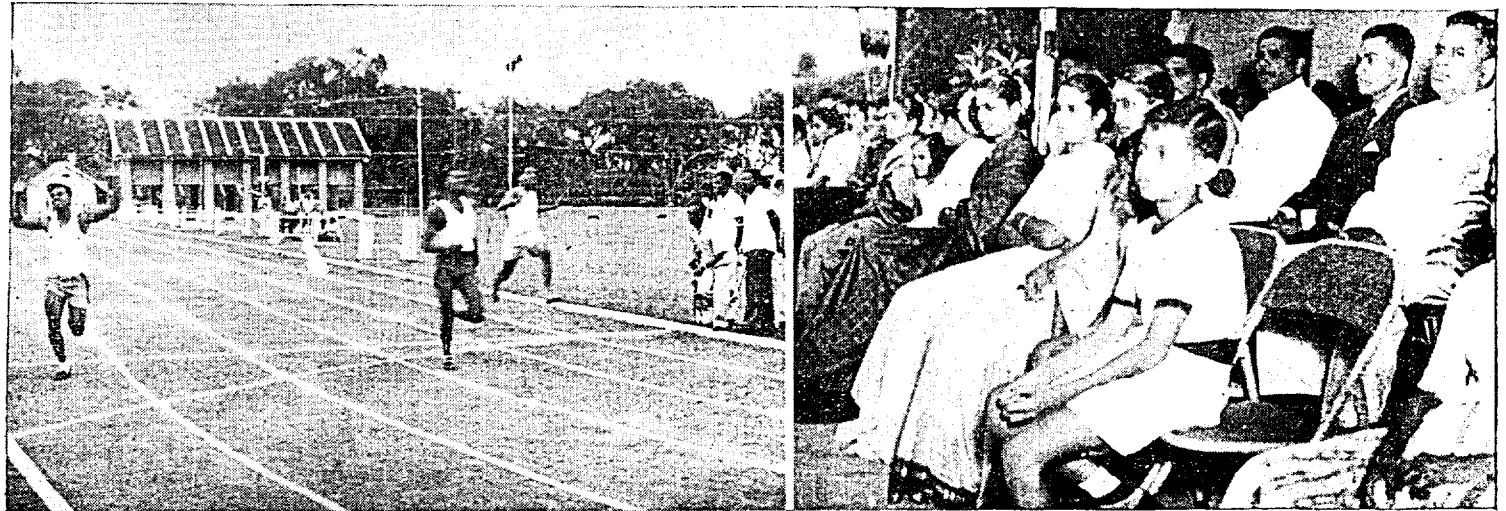
A view of the Model of Vaigai Dam at the Red Cross Centenary Exhibition.



The Passing out parade of the Police Training College at Vellore took place on 7th June 1959. Sri Kuppusuamy, Deputy Inspector-General of Police took salute on the occasion. Photo shows Sri Kuppusuamy inspecting the guard of honour presented by the out-going Cadets. The annual sports were also held on the same day,



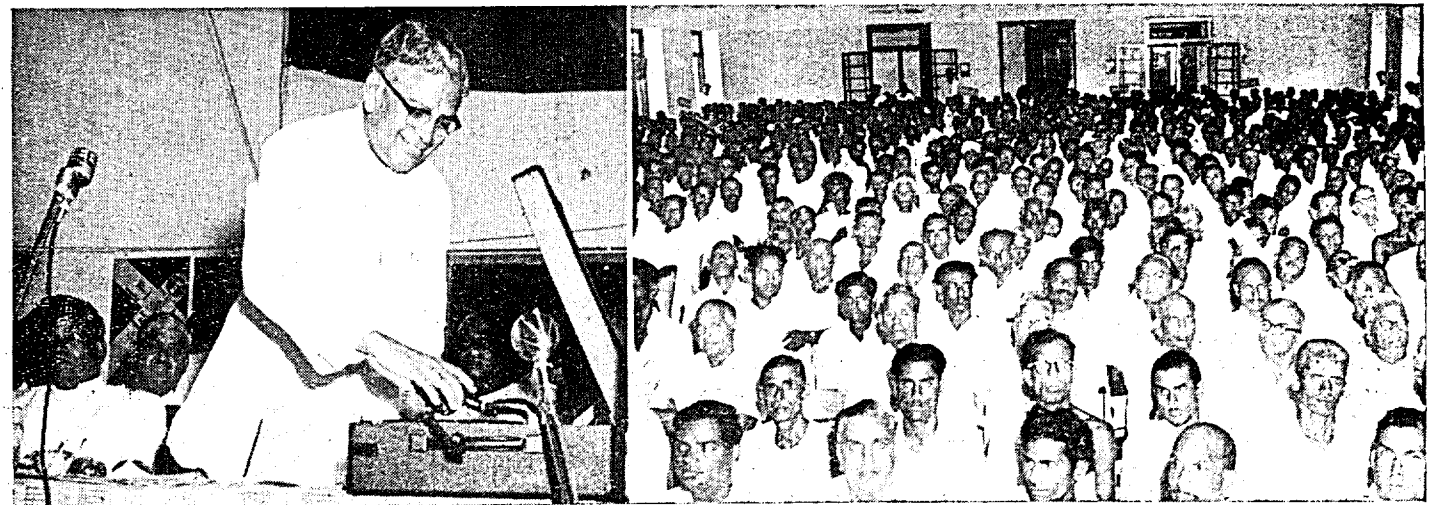
The Dam as seen at night.



The sports in progress.



Governor's visit to the Stall.



The 14th Tamil Nad Co-operative Conference was held on 6th June 1959 at Madras. Photo shows the Conference being inaugurated by S i R. Venkataraman, Minister for Industries and Co-operation, by playing the song on Co-operation recorded on a gramophone disc.

(Continued from page 18)

These industries are operating on a small scale in the districts of Salem, Ramanathapuram, Madurai, Malabar, South Kanara, Chingleput and Coimbatore. The main reason for their being not so popular as they may be expected to be appears to be the lack of capital with the rural population for purchasing the machinery.

To encourage cottage industries, the Electricity Department is offering power at the same cheap rate as for agricultural pumping. With the implementation of the Five-Year Plan it is expected that most of rural industries will get electric power and raise the standard of living of the villager.

The Planning Commission is attaching great importance for these household and small industries in the Second Plan. They consider that this would be the principal method of liquidating the unemployment and also creating a marketable surplus of consumer goods to meet the increase in demand arising from investment on heavy industries, construction work and social work. They have provided a sum of Rs. 40 crores per year or Rs. 200 crores during the Plan period. This forms about 14-1/2 per cent on the allocation of investment on industries.

Economics of Rural Electrification.

The problem involved in rural electrification is the question of supplying power economically to small loads scattered over long distances. Financing of rural electrification cannot be subjected to the normal test of return on investment.

Experience has shown that even in some of the Western Countries, where the standard of living is higher and farm holdings are large, it has been found that return on investment is not adequate, at least initially. In the case of rural areas in this country, the problem is more difficult as the concentration of load per unit area is much less and the growth of load also slow, owing to the very low standard of living.

It is recognized that unless electricity is extended to rural areas, the standard of living of the common man cannot be raised expeditiously and if the conventional test for financial investment is applied, rural electrification cannot be accomplished. Two primary considerations arise in connexion with the plan for rural electrification, the first being the question of minimising the capital cost in rural extensions and the second being the problem of making good the direct financial loss in the initial stages of development.

The standard of living of the rural population of the region is very low. The extent of use of electricity by them will depend upon the price of electricity being sufficiently low to be within their reach. Furthermore, the use of electricity in agricultural products is closely related to its incidence on the cost of the produce. Granting the need for rural electrification, it is essential that everything possible is done to make electricity available to rural areas at the lowest price practicable. The possibility of doing this will depend on the extent to which the cost of producing and distributing electricity can be reduced.

Financial and Government Aid for Rural Electrification Scheme.

There is no definite financial policy in regard to rural electrification in India. The Five-Year Plan attaches considerable importance to the use of electricity in rural areas and has suggested that the States should set up a special machinery on the lines followed by the Rural Electrification Administration in the United States of America.

There has also been a suggestion in some quarters that in order to augment the financial resources required for the expansion of rural electrification, certain portion of the proceeds of taxation on the sale of electricity and the betterment levy on properties which are supplied with electricity could be credited to the Electricity Development Fund.

Firka Development Schemes.

The Madras Government launched the Firka Development Scheme as early as 1946. Special consideration is being shown for schemes in the firka areas and revenue deficits are subsidized from the Rural Welfare Fund.

The Revenue deficits subsidized from the Rural Welfare Funds were as follows:—

	RS.
1949-50	18,900
1950-51	14,200
1951-52	65,700
1952-53	90,800

Community Projects.

Subsequently, the Central Government sponsored the Community Project Schemes under Indo-United States Aid Scheme. The Community Project Administration in December 1953 granted a loan of Rs. 30 lakhs to the department for execution of schemes in these areas and they were fully utilized.

National Extension Service and Community Development Block Areas.

With the sponsoring the "National Extension Service" areas, the Firka Development Schemes have been merged with this. During 1957-58, a loan of Rs. 39.01 lakhs was made available to the department for extension of electricity supply to these areas. In the department, priority is being given to these extensions in National Extension Service and Community Development Block areas.

Subsidy for Rural Electrification.

A rural extension is adjudged remunerative if the annual revenue over a ten-year period is at least 10 per cent of the capital cost of the extension. It was found that such an extension when added on to the existing operating system had not affected the financial sources of the system. The 10 per cent remuneration was to cover the following charges:—

	PER CENT.
Cost of power	1
Operation and maintenance charges ..	3
Depreciation	2 1/2
Interest	3 1/2
	10

This was found adequate during the prewar period. With the present day increased cost of materials and equipments, it was found that the actual working expenses amount to about 18.2 per cent as indicated below:—

	PER CENT.
Cost of power	3.3
Operation and Maintenance charges ..	7.2
Depreciation	3.5
Interest	4.2
	18.2

If the addition of a rural extension is not to affect adversely the present position of self-remunerative aspect of a district, the extension should give at least an annual return of 18 per cent of the capital investment. The present figure of 10 per cent return for considering an extension remunerative is obviously inadequate.

It has become a practice nowadays to go in for special guarantee at the rate of Rs. 50 per horse power per annum even to get this 10 per cent return. The need for insisting on a special guarantee had in a way affected the rural electric development. This could not be avoided as the department is a commercial organization and capital works cannot be undertaken unless they are bringing forth a certain return. In a number of cases, the applicants are prepared to pay the necessary special guarantees, which indicates the persistence of demand for power. It is obvious that rural extension schemes cannot be self-sufficient and cannot be formulated without a subsidy.

(Continued from page 10)

thermonuclear reaction. They await conclusive proof, however, from further experiments at higher temperatures, for there is the possibility that they could have come from other complex processes in the discharge tube.

Temperatures of millions of degrees cannot, of course, be measured with thermometers of any kind. They would vaporize. A spectrograph is used instead. This instrument determines the frequency of the light emitted by the atoms moving in the hot gas, hence the speed of the atoms, and from this, their temperature.

Most important results from Zeta are, first, the high temperatures attained; second, the relatively long periods the gases have been held from the walls. The scientists responsible now feel that there is no reason why the much higher temperatures and longer discharge periods needed for a useful power output should not eventually be achieved.

Zeta itself is being improved. For one thing, its condenser bank is being expanded to provide a much greater discharge than hitherto. Later this year it may attain a temperature of 15 million degrees or more, and

The subsidy can be in the form of (i) an outright grant to meet the capital either full or in part or (ii) an annual subsidy to meet the short fall of revenue required to cover the working expenses including interest.

The grant of subsidy for rural extension of schemes has already been taken up by the Board with the State Government and the subject is under active consideration.

Electrification of Harijan Cheries.

It has been decided as a policy of the Board that for all new schemes, the Panchayat Board should be persuaded to include at least a few street lights in the Harijan cheries. The Government are now diverting Rs. 1.5 lakhs per annum from the Harijan Welfare Fund as grant-in-aid to the Electricity Board to extend electricity to the Harijan cheries.

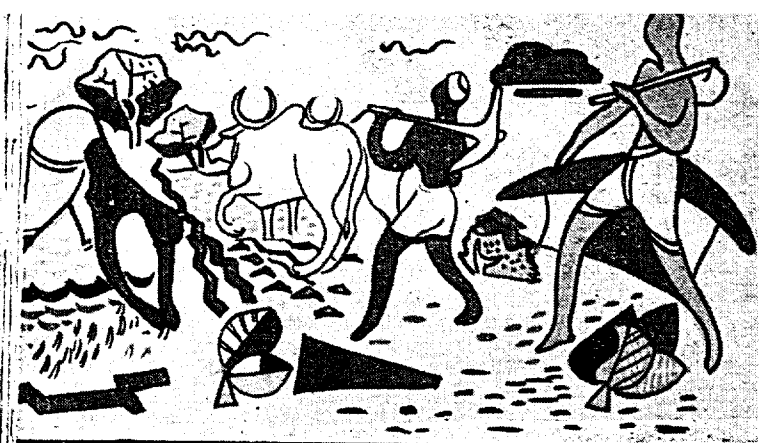
Conclusion.

The availability of electric supply in rural areas is not only a help to increase the agricultural output but is of considerable importance. The availability of electric light and running water with modern sanitation narrows the margin between the amenities of urban and rural houses. This should reduce the apparent comparative glamour of City life which is a contributing factor to the exodus from the countryside. With supply of electricity, the rural area becomes a bright centre of social life with more possibilities to cheerful entertainment. The introduction of electricity to the villages will improve the rural standard of living. The availability of electric light and small motors at reasonable cost should act as an incentive to the introduction of cottage industries thereby giving employment to many who would otherwise have to leave their rural homes to find work in the towns.

hold it for even longer than five-thousandths of a second. Design of a bigger and better Zeta is also in progress. Zeta II may perhaps attain 100 million degrees, and so produce as much, or more, power than it consumes. In turn, Zeta II may lead to the construction of an economic prototype—stage three of the project. Then would come stage four: the construction of commercial H-power stations.

Numerous problems face both scientists and engineers. New methods may be needed to heat the gas, measure the temperatures, and handle electricity in large quantities. But some things seem fairly certain. There need be no limit to a fusion station's capacity; it could produce thousands of megawatts. Its fuel could be extracted on site from sea-water piped straight to the plant. The system may also dispense with the necessity for steam generation, regarded hitherto as unavoidable in producing electricity. It may channel its power directly into the national supply.

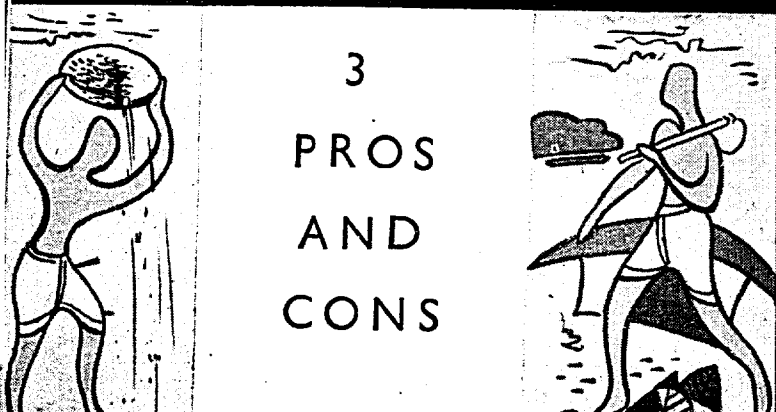
The scientists cannot predict just when fusion power will become reality. But they are full of enthusiasm and confidence; they are convinced that it must come in the not too distant future; and that Britain will play a leading part in its achievement.



COOPERATIVE



FARMING



3
PROS
AND
CONS

The philosophy of co-operative farming is being slated by its opponents with fanatical zeal which naturally makes one pause and ponder over. They too have the interest of the country at heart. And they cannot but command the respect which they deserve.

They feel that the individual initiative, which has been the cause for the growth of the civilization itself, would be curbed, resulting in the decrease of production. Co-operative farming would curtail individual liberty and lead to regimentation which is an attribute of communism. The difficulties involved in this costly experiment are so insurmountable that they would lead to the disintegration of rural life itself.

These arguments have, of course, force and justification but the idea of co-operative farming is to be viewed mainly in the context of the urgency for land reforms and increased food production. The fall in food production, despite much-vaunted individual initiative, is really deplorable. The atmosphere for and the encouragement of individual initiative have been there for all these years. But they have not augmented agricultural production and agricultural efficiency as desired. The co-operative farming would increase the collective initiative of the people when they co-operate with one another to increase their agricultural yield.

The Prime Minister has said times without number that there would be no element of compulsion in introducing the methods of co-operative farming. But people should have a sense of sacrifice as they had during the days of non-co-operation movement. The stake involved in not increasing food production early is too great : What the critics fear will happen if production is not increased without much delay. They fear communism but in fearing communism, they seem to invite it, for the failure of co-operative farming is the success of communism.

On economic and sociological considerations, co-operative farming is the appropriate technique for increasing agricultural production in a socialistic pattern of society. Economically it is fully justified because the land, capital and labour will be put to better productive use under co-operation than under individual operation. Co-operative credit which is the life blood for sustaining agriculture in any form of operation is better secured and more adequately for co-operative units than for individuals.

Nor is this all. Co-operative farming is the best method of land use. It provides the solution for the subdivision and fragmentation of holdings which, according to economists, is the prime factor for low yields in agriculture. It secures for the individual farmer the resources and economy of a large-scale organisation. It produces larger agricultural goods for the community and better profits for the individual. Economists like Margaret Digby and Otta Schiller are inclined to think that individual farming on co-operative pattern as in co-operative farming would be a viable experiment in farm production.

There is no doubt that in a country where the size of the individual holdings is small and the resources of individual farmers are slender, co-operative farming holds great promise of achievement.

(Continued from page 26)

competitions. The Committee has recommended that a District Agricultural Advisory Council should be constituted in each district for reviewing the extension material being put across to ryots in that district. It has also recommended the constitution at the State level of a State Agricultural Advisory Board similar to the State Livestock Improvement Board and the State Fisheries Advisory Board consisting of top ranking officers connected with agricultural development in the State and practical agriculturists of State-wide reputation under the Chairmanship of the Minister for Agriculture.

The Committee has held that the present provision for agricultural and animal husbandry in the schematic budget of Stage I and Stage II Blocks is very inadequate and should be increased substantially. It was also recommended that the control of the Collector over the Block Development Officer should be made real and effective, that the level of performance of the Block Development Officer in implementing the agricultural programme in the Block should be made the criterion for assessing his efficiency and that inefficient Block Development Officers should be weeded out periodically. Another recommendation of the Committee is that Gramasevaks in each Development Block should be broadly classified into two roughly equal groups called

'production' and 'amenities' groups and that the Gramasevaks coming under the former group should exclusively attend to the work relating to agriculture, animal husbandry and co-operation.

The Third Five-Year Plan.

According to the Committee's assessment the total production of foodgrains in a normal year would have been stepped up from 44 lakhs tons at the end of the First Plan period to 53 lakhs tons by the end of the Second Plan period. When this level of production is attained the State will be surplus by about 3 lakhs tons in a favourable year while in case the seasonal conditions are adverse there will be a deficit of about 5 to 7 lakhs tons. The aim of the Third Plan should be to establish self-sufficiency even in an adverse year and at the same time allow for an increase in the per capita consumption on the basis of an annual increase in population by about 2 per cent and also provide for a safety margin. The Committee has, therefore, recommended that the State should aim at an achievement of at least an additional production of 20 lakhs tons by the end of the Third Plan period which will represent roughly a 38 per cent increase in production. The Committee is confident that such an increase is productive is possible if the different aspects of the food production programme are intensified in the light of the recommendations made by it in its report.

State Transport

The fleet strength of the department was reduced to 450 from 470. An average number of 328 buses were operated daily and they brought in a total collection of Rs. 15,23,184 after covering 1,116,384 miles. 11,853,608 persons travelled by these buses in that month.

Specials were operated to Tambaram, Pulicat, Ennore, Tiruppurur and Ponneri.

Kanyakumari Branch.—The fleet strength was 90 and an average number of 62 buses were operated daily and 302,548 miles were covered. 1,026,003 passengers were carried and the total collections for the month amounted to Rs. 2,82,777.84.

Specials brought in a revenue of Rs. 1,230.60 nP.

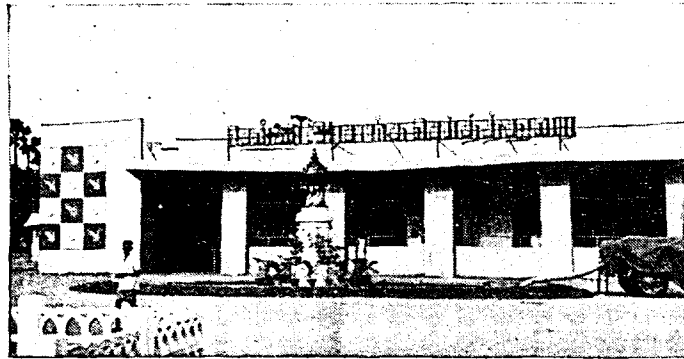
Revised Prices for Chemical Fertilisers

The price structure for Chemical Fertilisers sold under the Government Trading Scheme in the State has been revised taking into account certain revisions made in the distributor's margin and in the margin for administrative cost so as to work the scheme on a no profit no loss basis. The revised consumers' prices (per ton) are: Ammonium Sulphate Rs. 390.80; Urea Rs. 761.60; Ammonium Sulphate Nitrate Rs. 462.90 and Calcium Ammonium Nitrate Rs. 370.20.

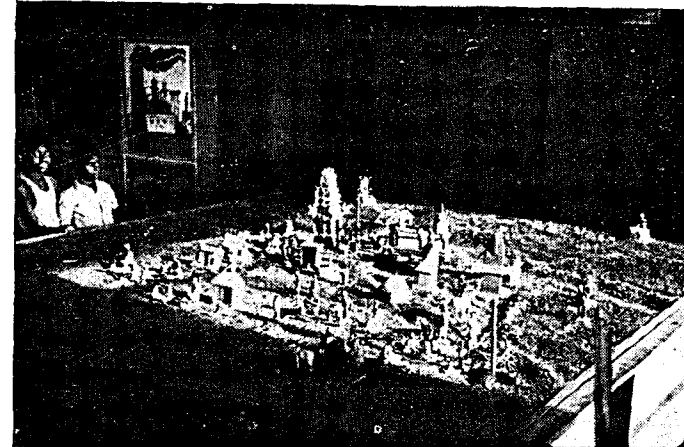
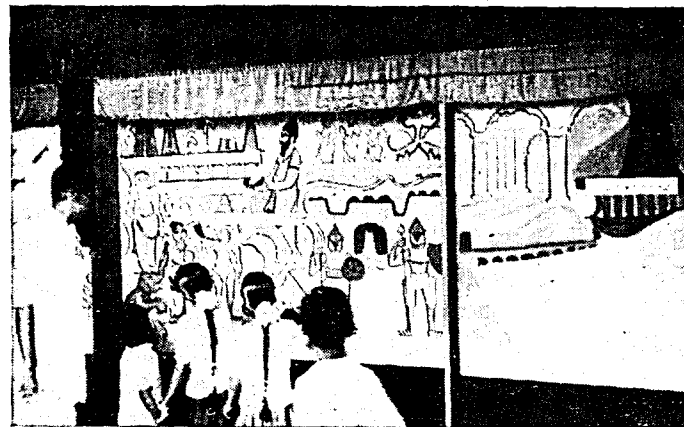


Facsimile of special postage stamp to be issued by the Post Office of India on June 15, 1959 on the occasion of the 40th anniversary of the International Labour Organisation.

The main motif of the stamp, which is in the denomination of 15 naye Paise, is based on the famous sculpture "Triumph of Labour" by D. P. Roy Ghoshduri and the Triangular Seal of the I.L.O.



The Department of Information and Publicity participated in the Chitrai Exhibition held at Madura in April-May. The Photos shows the exterior of the Stall and some of the exhibits.



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The Prime Minister and party going round the Kallar fruit gardens.

AT THE
KALLAR
FRUIT
GARDENS



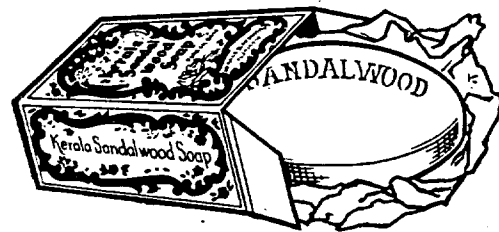
The Prime Minister viewing with interest some of the fruits of the Kallar fruit gardens.



KERALA SOAPS

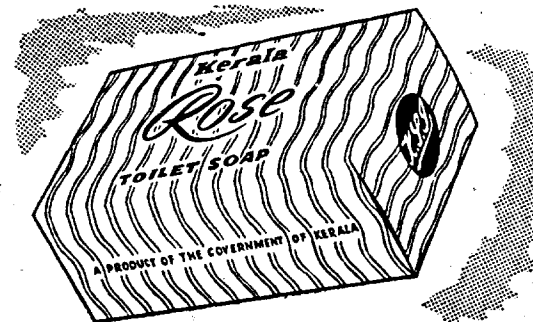
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KERALA SANDALWOOD SOAP



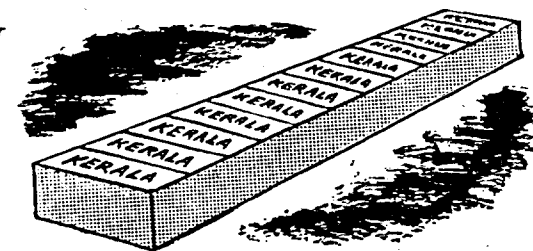
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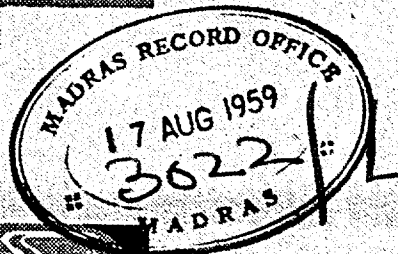
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MADRAS information

AUGUST
1959



The Vital Load



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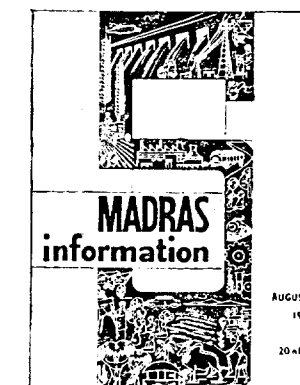
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S. S. Kalathil.

This month's cover :



We have been enjoying twelve years of freedom from foreign rule. In order to free us from want, hunger and other problems which face a new nation, Five-Year Plans have been formulated and executed. We are now nearing the end of the Second Five-Year Plan. And our achievements in the past 9 years have not been by any means small. What has been done in the Twelfth year of Freedom is given in detail in the article on page 2.

MADRAS information

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[The articles published in *Madras Information* may be freely reproduced.]

Twelfth year of Freedom

Madras in the Twelfth Year of Freedom is well set to consolidate the gains in the form of productive resources created under two successive plans and make a determined bid for increased production both agricultural and industrial. This shift in emphasis is reflected in the State-wide Khariff campaign launched this year and in the energetic drive initiated to see that all the newly created irrigation potential is utilised to the fullest extent. This is so in practically every State endeavour. In the course of last two years, we had some inkling of the large reserves of local resources that lie ready to be tapped, through the substantial progress of local development works and the striking success of midday meals programme and the school improvement scheme. Programmes like these which draw forth the resources of the community hold great promise for the future, as to the extent social services are financed by local effort, the State's resources can be utilised for larger and more effective outlay on power and industries.

Food occupies the first chapter of all our plans and the most important endeavour of the State. Also, food is a subject about which everybody has an opinion and an emotion. The price of foodgrains is a very important factor which governs people's attitude to everything else. A system of licensing of wholesale traders in paddy coupled with price control at the wholesalers' level is now working. People never take kindly to price controls and the present control policy is more or less contingent upon the co-operation of producers, merchants, millers and the general public.

At the same time the State's food production is increasing year by year by about two lakh tons every year over the past few years. This increase is achieved both by improved agricultural practices, as also by extension of agriculture to new areas. In the 1958-59 season the State produced 50.21 lakhs tons of food crops on 113.2 lakhs of acres while three years ago the State had 109.8 lakhs acres under food crops producing 55.21 lakhs tons. Actually if the entire production potential under the various factors like major and minor irrigation, land development and soil conservation, fertilizers, manures, improved seeds and plant protection had all been achieved, the net

accretion to production would have been a little more than the six-lakh tons achieved over the last three years. Hence the Khariff campaign, for increasing production of foodgrains in the State has been launched this year. The advice of the Soil Testing Laboratory, Coimbatore, of all resources, agencies and organisations and their co-ordinated use for stepping up production of food crops. The campaign has been so designed as to ensure that every farmer with lands is approached with a definite programme for increasing production in his land and that the aids for improved agronomic practices like seeds, fertilizers, insecticides and credit reach him at the approximate time.

It is not widely recognized that pioneering work has been done in the Coimbatore Agricultural College to evolve a vast range of paddy and millet seeds to suit tropical peasant farming conditions. The new strains of paddy and millet are not only capable of showing better yield and quality but are also capable of resisting and some times even being immune to some of the common pests and plant diseases of the region. These strains of paddy are being produced in State Seed Farms. At present there are 130 seed farms which produce 1,839 tons of paddy and 164 tons millet seeds which are further multiplied in village seed farms to yield 15,586 tons paddy and 1,134 tons millets seeds. This quantity is sufficient to cover about 75 per cent of the State's acreage under each crop, and by the end of the current fasli 1369, i.e., by June 1960, there will be enough seeds produced in the primary seed farms to cover the entire acreage. Ryots who choose the particular strain suitable to their soil on the advice of the Soil Testing Laboratory, Coimbatore reap the maximum benefit. It is proposed to establish two more such Soil Testing Laboratories one at Madurai and the other at Madras in order to provide this facility to the ryots of all the districts.

Increasing emphasis is being placed on a switch over a natural manures in combination with chemical manures. A number of schemes have been taken up to increase the production of natural manures. The urban compost scheme is being developed to cover all municipalities and 280 major panchayats.

The Block Development areas are geared to reach a production of as much as 10.48-lakh tons in two years. The smaller villages outside the Community Development areas are being encouraged to produce in 1959-60 about 2.4-lakh tons. For raising green manure crop 1,342 tons of seeds will be distributed to benefit 33.4 lakhs acres.

These steps have yielded remarkable results over the last few years as the State's yield per acre of rice is going up steadily, from 1,214 lb. in 1955-56 to 1,300 lb. per acre in 1957-58. In 1957-58, the Cauvery Delta and Coimbatore district showed an average yield of nearly 3,000 lb. per acre, more or less equal to the yield obtained in Japan.

The total land area of the State is 320 lakhs acres and 45 per cent of this area or 144 lakhs acres are sown, and cultivable waste lands represent only 6 per cent of the total area or 19 lakhs acres, but what is more serious is the fact that there also another 41 lakhs acres of land which have been allowed to lie fallow. The punitive powers under the Madras Land Utilisation Order, if enforced would help bring current fallow under cultivation. Proposals are afoot to appoint a Special Officer of the status of a Collector to enforce this order with a sense of urgency. A State-wide survey of blocks of waste lands with possibilities of reclamation has been completed and the Government have issued instructions to the Collectors to bring poramboke lands of such category under cultivation by assignment to individuals and grant of interest-free loans. The Madras Land Improvement Schemes Bill when enacted will enable Government to take temporary possession of such lands and carry out improvement works and recover the cost from the owners as well as the other beneficiaries. The stalemate in the matter of reclamation and improvement of lands will be resolved very soon. It has also been recognized that land would have been allowed to lie fallow only because suitable crop could not be revised. The Soil Testing Laboratory and the Paddy Breeding Station,

Coimbatore, are both concentrating their attention on evolving strains of crop-seeds which will grow in saline, alkaline, swamp, deep-water and dry areas.

Along with agriculture, schemes of fisheries, animal husbandry and forestry have been pushed through along the pattern set by the Plan. With a view to assist the fishermen for better exploitation of the marine resources of the State, the Fisheries Department has just concluded a survey of the coastal waters with the help of certain vessels and gear received under the Indo-American Technical Co-operation Assistance and the expanded Technical Assistance Programme of the F.A.O. The survey took four years to complete and a complete chart of profitable fishing areas off the 620-mile shore-line of the State is now available. These fishing areas have all been so located to be accessible to both small and large mechanised fishing vessels, particularly for deep-sea fishing with the new types of net. The survey showed that the coastal waters of Madras are rich in bottom fisheries and that these can be easily exploited by small powered vessels with nylon nets. Already as a result of the experimental sources and demonstrations, the fishermen have fully realised the advantages and benefits of mechanised fishing, and have commenced to demand supply of such boats and nylon nets. At present more than 72 Pablo type boats have been built and distributed under hire-purchase system to groups of fishermen, and all of them are in use. Another 30 boats are under construction now. Sixty fishermen have been trained in using mechanised boats. In order to enable the fishermen to be relieved of their obligations to private money-lenders and also to help them to equip themselves with the modern types of nets and tackles, the Government have disbursed as long-term and short-term loans, a sum of Rs. 13 lakhs during the last three years. Side by side with schemes for improving their catches, the fishermen are also helped to market their catches easily. To this end, four lorries, nine Lambrettas have been put into use. The Government



The Chief Minister Sri K. Kamaraj inaugurated the Palar Water-supply Scheme at Kancheepuram in June, Photo shows the Chief Minister addressing the gathering on the occasion.

have also helped seventeen municipalities, one private market, one city market and two panchayats to improve the fish-markets to conform to hygiene standards. The four reservoirs, Bhavani, Amaravathi, Manimuthar and Sathanur have been stocked with 13 crores fingerlings and in the current year stocking of Vaigai and Krishnagiri reservoirs and the Avalanche hatchery will be taken up. The increased use of mechanised boats, has brought out the need for boat-building yards and fishing harbours. Work on a boat-building yard with slip-way in Madras is under way. Fishing harbours have been proposed for Madras, Nagapattinam, Cuddalore and Leepuram. A factory for the extraction of fish-lever oil could not come up due to foreign exchange difficulties and vigorous steps are being taken to obtain release of sufficient foreign exchange for the establishment of the factory as it would also manufacture fish-manure so badly needed to step up soil fertility.

The Animal Husbandry work in the State comprises of preserving the strain and increasing the numbers of certain well-known breeds of cattle like Sindhi, Kangayam, Sir, Hallikur Murrah and Tharparkars in the four Livestock farms at Hosur, Orthanad, Pudukottai and Chettinad. The State has only 2,893 breeding bulls of the well-known strains mentioned above and by resorting to the Artificial Insemination method coupled with eliminating scrub bulls from key-village areas the State is steadily improving the 32.6 lakhs cows and 11.5 she-buffaloes. Similar steps have also been taken in respect of sheep and poultry. There are 115 Veterinary institutions for attending to livestock diseases and for prophylactic measures against epidemics. The Madras Milk Project costing Rs. 1.24 crores, for concentrating the City milk cattle in a colony and developing it into a hygienic dairy unit is making steady progress. All the 703 acres of land required for the colony has been acquired near Madhavaram, a village in the outskirts of Madras City, and the construction of the first unit for 500 cattle with accommodation for their owners is nearing completion. Work on three more such units for 500 cattle each, has been started.

Forests.

The forests of the State are being developed and expanded not only to fulfil this traditional role as the home of the wild life and birds and supplier of many species of timber and forest produce, but also to serve the needs of animal husbandry on the one hand and of industry on the other. Over the last three years, 7,288 acres of forest area have developed as fodder banks and grazing grounds for cattle while to serve the needs of industrial raw material, 4,289 acres under matchwood, 9,384 acres under wattle and 2,026 acres under wattle have been planted. In addition, 28,222 acres have been planted with cashew and teak has been raised on 4,000 acres under irrigated conditions. Nine lakh farms have also been opened. Reclamation of forests at a cost of Rs. 21 lakhs will be taken up in 1959-60. A Research Centre is to be set up at Kodaikanal for improving the research and experimental activities of the Forest Department during the next year.

Irrigation.

The improvement of irrigation facilities has been held to be one of the sacred tasks of Government and as such over the last eleven years a sum of Rs. 61 crores have been spent on the major irrigation projects in the State. Under the Second Plan the total expenditure up to March 1959 has been of the order of Rs. 9.31 crores. In the year 1958-59 irrigation facilities were extended to 39,000 acres—12,000 acres under Amaravathi Project and another 12,000 acres under Sathanur represent the two significant items. During the current year, irrigation facilities, will be extended to 25,000 acres, including the 10,000 acres under Vaigai. In the Vidur Reservoir Project costing Rs. 1 crores the earth dam has been completed and the excavation of canal and distributaries are expected to be completed.

In order to see that the impounded waters are utilized as quickly as possible, the Government have directed that in all major projects the distributory canals and small channels taking water to sizeable blocks of more than 50 acres, might be excavated side by side with the execution of the project. The Vidur, the Vaigai and the two canal schemes of Pullambadi and Kattalai represent the new schemes of the Second Plan and all the four schemes are likely to be put into use during this year. The Neyyar Project II Stage taken up at a cost of Rs. 27 lakhs will irrigate 10,000 acres in the Kanyakumari district by means of a 24-mile long system of canals and is nearing completion.

Parambikulam Project.

The most significant item in the irrigation programme of the State is the Parambikulam Project which at a cost of Rs. 32 crores will irrigate 2.5 lakhs acres in Pollachi, Dharapuram and Udumalpet taluks of Coimbatore and add 121,000 K.W. of power to the State grid. This project involves the diversion of the west-flowing rivers of Parambikulam, Sholiar and Aliar by means of several tunnels, the total length of which will come to 5½ miles. The total capacity of the several inter-connected reservoirs forming part of the scheme comes to 31,000 million cubic feet. In the current year's budget a provision of Rs. 1 crore has made for the project, and next year an expenditure of Rs. 3 crores is planned as labour freed from the other irrigation projects are deprived of work, and much of the machinery also would otherwise lie idle. A high level Cabinet Committee is already devising an equitable apportionment of the Parambikulam waters between the three taluks.

Minor Irrigation.

Minor irrigation schemes have assumed very great importance of late as they yield quick results, particularly in the dry areas. Over the last three years, schemes costing Rs. 236 lakhs have been completed bringing irrigation to 177,000 acres. The budget provision for these schemes in the current year is Rs. 1.18 crores. It has been found that the execution of this programme in the dry areas results in immediate increase in food production. The Special Minor Irrigation organization is therefore being asked to treat such areas as "Priority Zones". It has been ascertained that the total number of minor irrigation sources

to be improved comes to 14,000 of which 12,700 works will each irrigate 10 acres and more. The cost of the entire scheme will come to Rs. 5.5 crores, of which Rs. 4 crores will be spent on works, in the "Priority Zones" comprising Ramanathapuram district, Arantangi taluk of Tanjore district and ex-Pudukkottai State areas. The entire programme is to be completed before the end of Third Plan.

Power.

Next to irrigation, power is the most important aid to agriculture. To-day over 80,000 pump-sets employed in lifting water from wells for irrigation, are run by electricity. During last year about 14,000 agricultural pump-sets were given electricity connection. This wide extension in the use of electricity for agricultural purposes in villages once considered remote and inaccessible has been made possible by an extensive net work of sub-stations and transmission lines. During the last three years alone about 4,800 miles of high tension and 8,200 miles of low tension lines were laid, and at present the State comprises 12,150 miles high tension lines and 16,350 miles low tension lines with 9,000 sub-station spread throughout the State distribute an annual power load of 1,500 million units, to about 6 lakhs consumers in 8,000 towns, villages and hamlets. The total capital investment on electricity plants in the State works out to Rs. 95 crores and revenue by supply of electricity amounted to Rs. 12.14 crores last year.

Under the Second Plan 135,000 K.W. of installed generating capacity have been added to the grid so far out of the five-year target of 315,000 K.W. During the current year (i.e., 1959-60) it is proposed to add another 55,000 K.W. of installed generating capacity to the grid at Kundah Power Stations I & II. Electricity will be extended to another 1,000 villages during the year, and 1,360 miles of high tension lines are expected to be erected and 15,000 pump-sets connected up.

Thus, the first block of power from the Kundah Hydel Scheme will be made available during this year. It is just a little over three years since work was started on this Rs. 35 crore Colombo plan aided project, and it is already in an advanced stage of progress not only in the construction phase but also in the transmission phase. Work on the Sandynallah Reservoir Scheme has also been started this year. This scheme on completion will enable additional generation of 54 million units at the existing Pykara and Moyar Power stations as the stored waters of the Sandynallah are to be fed into the Pykara river through a tunnel.

About 80 per cent of the State's electricity generating system is run by water-power from rain-fed rivers, subject to the vagaries of the monsoon. This has resulted in fluctuations in the generating capacity with consequent shortages during the summer months. Against a normal generating capacity of 390,000 k.w. the effective load during lean months is only 217,000 k.w. It is felt that even the commissioning of the Neyveli thermal plant would not alter the position to any great extent. As such it has been felt that the proportion of the thermal power to hydro power should be increased considerably.

Industries.

Last year saw several new undertakings usually classed as major industries go into production, for turning out dead-burnt magnesite, transformers, pig iron, fuse distribution equipments, Dunlop tyres, Broad gauge goods wagons and Meter gauge wagons. It is significant that all these industries have been established by the private sector. Manufacture of *electric motors and power-driven pumps* has made steady and sustained progress in this State, the present production capacity being 31,820 motors and 32,820 pump-sets.

In connection with the establishment of paper and allied industries in this State, a rough estimate of the available raw material sources has been made. It has been found that there is scope for the establishment of two mills at Mettur and Bhavanisagar, each with a capacity of about 50 tons a day based on bamboo, eucalyptus and bluegum woods, and a third smaller plant in the Papanasam area of the Tirunelveli district, based on eta reed.

The aluminium factory at Mettur and the raw film factory at Hullati in Nilgiris, are in the preliminary stage of establishment.

Neyveli Lignite.

The Neyveli Lignite Project in South Arcot district is the most important Plan project in this State, and lignite will be mined from next year. The Thermal Power Station Scheme for generation of 250 Mega watts of electric power has been sanctioned. This will be financed with the aid of Russian credit. The detailed project report from the Russian firm has been received and a contract for the supply, erection and maintenance of the power plant is being finalised.

The Fertilizer Production Scheme for manufacture of urea with a nitrogen content of 70,000 tons per annum has been sanctioned, subject to availability of foreign credit. Orders for the supply of plant and equipment for the Fertilizer Scheme will be placed shortly.

In regard to carbonizing and briquetting schemes, a pilot plant has been set up at Neyveli with the assistance of the Technical Co-operation Mission. Trial runs have been conducted and a detailed project report is being drawn up.

The most important industry of the State is the Textile industry and there are 26 composite mills and 108 spinning mills, with 28.19 lakhs spindles and 8,013 looms. The Rayon yarn factory set up in Mettupalayam by a private company with a Rs. 10 crore capital, is likely to go into production early next year.

Industrial Estates.

Under the Industrial Estate scheme 78 units in Guindy, 15 in Virudhunagar, 7 at Erode, 8 at Pettai, 12 at Madurai and 5 at Marthandam have been completed. The Guindy Estate and Madurai colony have already started functioning and the demand for space in these places was on the increase. In other colonies, the industrialists have started moving in and will commence production shortly.

In the current year it is proposed to add 19 units in Guindy, 6 units in Madurai, 14 units at Tiruchirappalli and 6 units at Tanjore.

Handlooms.

With the financial assistance provided from the Handloom Cess Fund, a number of schemes costing Rs. 125 lakhs are being implemented in this State for the development of handloom industry in the current year.

A phased programme has been drawn up for bringing at least 50 per cent of the handloom weavers in the State into the Co-operative fold by the end of the Second Five-Year Plan period. For 1959-60 provision has been made for Rs. 3.12 lakhs and 12,500 weavers expected to come into the co-operative fold.

The Government of India are sanctioning financial assistance for the setting up of housing colonies by weavers' co-operatives. The entire cost of a house, subject to a ceiling of Rs. 3,600, is provided by the Government of India, two-thirds as loan and one-third as subsidy. Thirteen housing schemes for the construction of 1,368 houses have so far been sanctioned and they are under various stages of execution. The co-operative spinning mills are coming up in the State with Government assistance in the capital structure, to ensure steady supplies of yarn of good quality at fair prices to handloom industry. These mills have been started in Tirunelveli, Tiruchendur and Ramanathapuram, the Tirunelveli mill, has already gone into production.

With a view to provide remunerative employment to the large rural agricultural population and to achieve self-sufficiency of cloth in terms of Khadi, the Government have taken a keen interest in the development of Khadi industry which is one of the major rural welfare scheme.

During the first three years of the Plan period 46,000 spinners and 2,514 weavers have been enrolled and 108.72 lakhs hanks of yarn and 20.85 lakhs yards of khadi have also been produced. Seventeen thousand seven hundred and twenty-six spinners have been enrolled and 10.25 lakhs hanks of yarn were produced in the spinning centres located in Community Development areas. The Ambar Charka which is an improvement over the traditional charka is also distributed to the spinners.

Co-operation.

The Co-operative movement in our State is sought to be given a new turn as the sole supplier of agricultural credit. The Co-operatives which covered over 49 per cent of the villages in the State and served 21 per cent of the rural population at the commencement of the Second Plan now cover 84 per cent of the villages and serve 34 per cent of the rural population providing a total loan of Rs. 13.5 crores last year.

Co-operative farming is one of the important schemes included in the Second Five-Year Plan. The target set is the organization of 30 farming societies during the Plan period and the financial provision made is Rs. 12.63 lakhs. During the first two years, eight

societies of the joint and tenant-farming types were registered and another 15 societies have been registered up to March 1959.

Government have constituted a State Farming Board and have also sanctioned a Special Deputy Registrar for work connected with farming societies. He will function as the Secretary of the Board.

The Co-operative Housing Societies are implementing the State Housing Scheme as well as the Low Income Group Housing Scheme, 40 societies have already been registered, including five registered during the year. Three hundred and eighty-five houses were constructed during the first two years. The target for 1958-59 was 350 houses against which 179 houses have been completed so far. Six hundred and fifty-one houses are under construction.

The three industrial housing societies registered during the year will build 447 houses for workers.

Community Development.

The Community Development Programme is now in operation is 193 blocks covering 9,300 villages benefiting 155 lakhs of our rural population. The State has been delimited into 360 blocks. The total five-year provision for this programme is Rs. 12.75 crores, and by the end of the Second Plan period the programme will be in operation in 211 blocks. The expenditure in the current year is likely to be of the order of Rs. 287 lakhs. The seven Rural Extension Training Centres are capable of turning out 600 gramasevaks, trained under the extended training course of two-year duration.

Public Health.

The Public Health programme of the State aims at the improvement of the general level of health by expanding the basic health services and bringing them within the reach of all the people. To achieve this, emphasis is laid on the institution of measures for the control of communicable diseases which affect large sections of the community and active campaign for Environmental Hygiene, Maternity and Child Health Services, Training of Technical Personnel, Health Education and other supporting programmes for raising the standard of health of the people.

The training schemes such as Health Visitors' training have enabled sufficient number of persons to be trained to man the Primary Health Centres. They are trained under another training scheme, to attend to labour cases in a clean manner in all villages.

During these few years, an attempt has been made to arouse in the minds of the villagers some thought about Public Health matters. In many of the Public Health Schemes, the villagers are actively invited to associate and co-operate with the officials for their execution. The people are made to feel the necessity for Public Health amenities. Every effort is being made to change the deep rooted superstition and old customs with regard to health and diseases. An attempt is

made to achieve positive health by the people—a State not only free from disease or bodily infirmity but a condition which aims at their well being physically, mentally and socially.

It is proposed to train all the maternity assistants in Government Medical Institutions in Family Planning Technique; and it has been decided to concentrate on the propagation of surgical methods of Family Planning and to perform at least about 20,000 sterilization operations in Madras City alone before the end of Second Five-Year Plan period. It is proposed to constitute Family Planning propagation committees in almost all places in the mufassal. At present there are 62 rural and 14 urban Family Planning clinics are working in the State, and by the end of the Second Plan there will be 152 rural and 59 urban Family Planning clinics in the State.

Harijan Welfare.

The Harijan Welfare Programme is worked with a budget of Rs. 2.34 crores, the expenditure on education alone will come to Rs. 1.42 crores. There are nearly 1,000 elementary schools, two high schools and 72 basic schools under the control of the Harijan Welfare Department. There are no Harijan Welfare schools in Kanyakumari district, but there are 20 night schools and one pial school in that district under the control of the Harijan Welfare Department.

In 1958-59, as many as 3,133 house-sites have been provided up to 31st December 1958 and a sum of Rs. 2,81,521.70 nP. has been spent so far out of the allotment of Rs. 4,00,000. The provision made for 1959-60 is Rs. 4,00,000.

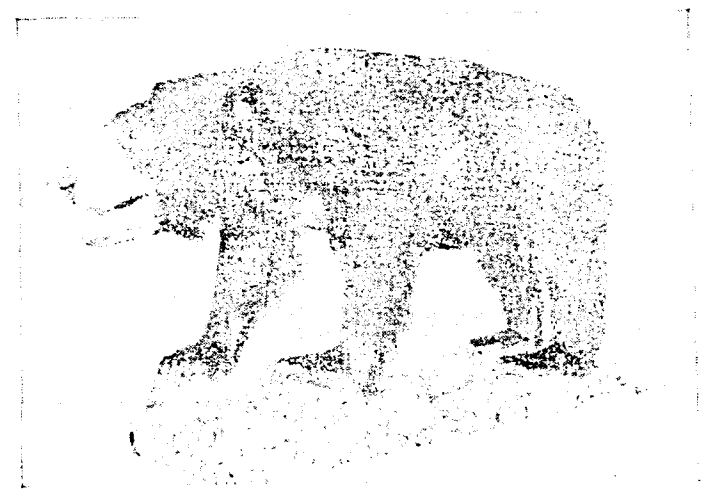
Education.

Opening of schools in villages with a population of 500 and above has been completed and in the current year it is proposed to take up villages with a population range between 300 and 500. Last year, a phased programme of compulsory education was introduced and from the current academic year steps have also been taken to see that primary education is free. During the first three years of the Plan, 6,183 additional classes in primary schools have been opened enabling the enrolment of 4.28 lakhs of pupils. Similarly additional facilities for education in all stages including technical have been provided.

The admissions to the polytechnics have been increased now to 2,160 per year. The number of admissions to the Engineering Colleges has also increased to 1,157. Fifty-seven persons are being admitted each year to post-graduate technical courses.

Converts to Christianity belonging to Ex-criminal tribes—Fee concessions Granted

The Government have directed that the fee-concessions admissible to the children of ex-criminal tribes be granted without reference to the religion to which the pupil belongs.



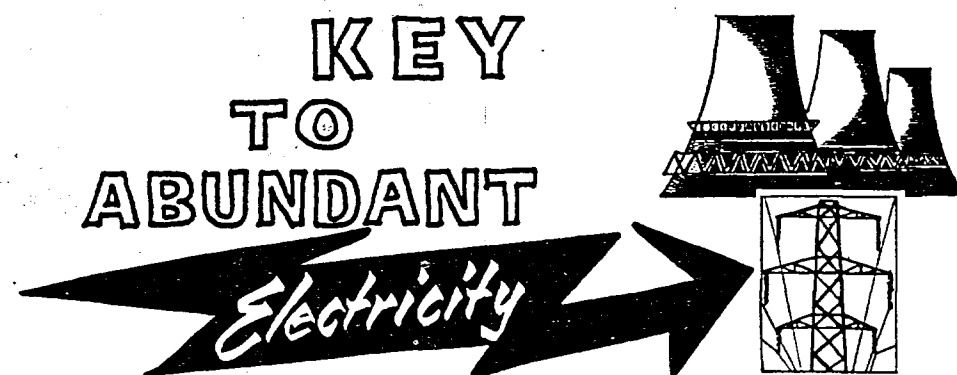
The Indian Sloth Bear.

New additions to the Madras Museum

Several new exhibits have recently enriched the galleries of the Madras Government Museum. Two beautiful specimens of Macaw parrots from tropical South America have been added to the Foreign Animal Gallery. Fresh specimens of the Indian tiger and the Indian Sloth bear, mounted in life-like poses on artificial rock life pedestals are among the valuable recent additions to the Mammal gallery. A large globe-fish, *Tetrodon reticularis*, is another interesting addition to the Fish gallery. Large mural paintings depicting various water birds in their natural haunts, and other scenes such as the Lunar Landscape and the flight of a comet across the skies, recently added, have added charm and colour to the galleries. An imposing specimen of an Ostrich recently received from the Madras Zoo has also been mounted and is awaiting final installation in the galleries shortly. A collection of 38 different species of marine shells from Japan is another interesting new addition to the Museum. This will also be exhibited in the galleries shortly.

The September Issue

of "Madras Information" will carry special articles on the Madras Police Force to commemorate the Centenary of the Police Force.



G. T. SHEARS*.

Electricity generation, together with the associated transmission and distribution systems, has afforded the means by which large amounts of power can be made available over wide areas for industrial and domestic efficiency and relatively low utilization capital costs, has been appreciated throughout the world. It is, therefore, reasonable to think that the amount of electricity use.

The versatility of electricity, plus its high utilization produced or, more precisely, the amount of electricity consumed per head of population is a fair measure of the standard of living in a country; it is certainly an indication of the degree of industrialization.

Electricity is the medium through which power is made available for use, but initially it must be produced by converting energy from fuel or from falling water into rotative motion to drive the generator.

In a coal-burning power station, the chemical process of combustion liberates heat in the furnace which makes steam in the boiler. This steam is allowed to expand in a turbine which is coupled mechanically to the electrical generator. The entire process, therefore, converts the energy in the coal (heat) into electrical energy. A hydro-electric station obtains energy from water falling from a height through a water turbine which drives a generator.

Need for other sources.

Clearly, the demand for electricity can only be met by consuming coal or oil fuel, or by harnessing suitable rivers and lakes when these exist—unless an alternative source of energy is employed. Moreover, the rate of increase in electricity consumption makes it imperative to find other sources of energy, since indigenous supplies of fossil fuels are limited and are becoming increasingly difficult to obtain.

Nuclear fuel offers a source of power of proportions which eclipse conventional fuels—and herein is the key to abundant electricity supplies and higher standards

of living. Some appreciation of the power available from nuclear materials may be attained by considering that the combustion of an atom—that is, the burning of a substance—yields a certain amount of energy whereas the “fissioning” of an atom produces 50,000,000 times that amount of energy. In practice, the process is imperfect, and present-day reactors produce, from the fission of natural uranium, about 10,000 times the heat available from the combustion of the equivalent weight of good coal.

The nuclear reactor is a substitute for the furnace in an otherwise conventional power station, but it is more expensive to construct. Running costs are much less than with coal or oil but, since the economics depend upon the total cost of electricity, it is necessary to examine the make-up of the cost component items.

In Britain, where large quantities of electricity are being produced from nuclear energy, there is a power programme to instal some 5,000 megawatts of nuclear plant by 1965; about a quarter of this capacity is already half erected.

Must be competitive.

It must be remembered that the United Kingdom has relatively large supplies of coal, which are being mined at the rate of 200,000,000 tons per annum. Moreover, it has played the major part in the industrial development of Britain; consequently, much is known about coal and its uses. Also there exists an extensive railway system which makes for the easy distribution of coal throughout the country. It follows, therefore, that an alternative form of fuel must be truly competitive if it is to challenge the well-established plants that consume the indigenous coal.

The British type of nuclear reactor is a gas-cooled, graphite-moderated device and is fuelled with natural uranium. Considering values in Britain, and using interest rates and construction costs that are applicable, it is found that a coal-burning station costs about £60 per kilowatt of installed plant to construct. A nuclear

station costs £120 per kilowatt to build, but, as stated previously, the running charges are less and consequently the cost of electricity is about equal for both types of station—around 0.66 of a penny per unit.

Bearing in mind that nuclear power is in its infancy, the cost comparisons are not discouraging, because few major scientific discoveries have ever shown favourable economies at such an early stage of development. For instance, the first steam turbine was an extravagant machine compared with the contemporary reciprocating engines; more recently, the jet aircraft has only just illustrated its supremacy over its propeller-driven counterpart.

There is a distinct difference between the combustion of fuel and the production of heat by nuclear fission. A chemical fuel can be purchased at a price related to its heat content, but the quantity of heat obtained from nuclear fuel depends largely upon factors beyond the control of the reactor operator. Natural uranium fuel elements consist of uranium bars enclosed in special containers which perform a number of vital technical functions.

Great care and precision.

It is likely that the life of the fuel element container will be the factor that influences the amount of heat obtained from the nuclear fuel. Thus the manufacture of the fuel elements is a most important matter, and much scientific and development effort has gone into producing the elements now available from Britain.

When a reactor is operating, the uranium fuel is subjected to a vigorous neutron bombardment which cannot be stimulated experimentally, and, therefore, data for fuel design must come from actual operating experience. Because of the large amounts of energy available from uranium fuel, it is kept in the reactors several years and, for this reason, must be manufactured with great care and precision.

When fuel is discharged from a reactor, it is still of value, because the fission process produces other fissionable material by transmuting uranium 238 into plutonium. Special separation plants are used to recover the plutonium for use in other reactors, and its value can be set against the cost of the initial uranium fuel.

Fuel arrangements.

The fuel arrangements for a nuclear-power station are, therefore, usually covered comprehensively under a scheme which ensures a supply of new fuel and allows for a credit for the irradiated material discharged from the reactor.

This resume has dealt only with nuclear power as it is available to-day. The future offers even greater possibilities which are likely to yield more energy for less capital investment, and the prospect of breeding nuclear fuel in reactors which convert fertile material into fissionable fuel is already a realization in plant that has been constructed.

Here, surely, is the way to more power, greater productivity and a higher standard of living.

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SRI T. S. SANKARAN,
Director of Handlooms.

The Handloom Industry occupies a vital position in our national economy being second in importance only to Agriculture. In the Madras State, there are about 4.54 lakhs handlooms giving direct and indirect employment to about 16 lakhs of people. The handloom industry thus provides gainful employment to a considerable section of the population.

Since independence, Government at the Centre and in the States have always taken an active interest in the regeneration of village industries as the surest means of increasing the opportunities of gainful employment in rural areas. The crisis in the fortunes of the Handloom Industry in 1951-52 led to the formulation by the Government of bold programme for the development of the Industry. Along with the long-term plans for the improvement of the Industry, certain essentially short-term measures were also taken to mitigate the severity of competition between mill and handloom cloth. A ceiling was imposed on the production of cloth by the mills. Certain varieties of cloth such as bedsheets, bedspreads, lungies, etc., were reserved exclusively for production in the handloom sector. An excise duty was also imposed on mill cloth with a view to abridge the gap between the prices of mill cloth and handloom cloth. Sales of handloom cloth were exempted from taxation. Along with these measures, a Cess Fund was constituted with the levy of an additional excise duty on mill cloth produced in the country.

The creation of the cess fund proved to be a turning point in the history of Handloom Industry. Since the constitution of this fund, financial assistance has been provided on a large scale for the implementation of various schemes for the improvement of the condition

of the Industry and the economic condition of the handloom weavers. Government have, at the same time been anxious that the financial assistance provided by them should reach the weavers direct without any portion of it being absorbed by intermediaries. They have felt that this object could be achieved only by canalising all their assistance through producers' Co-operatives composed of weavers. As not all the weavers could find the necessary resources for participating in co-operative organisations, interest-free share capital loans are advanced to the weavers to enable them to become members in weavers' co-operative societies. To enable these societies in their turn to provide full employment to their members, working capital is provided at the rate of Rs. 200 per loom through the co-operative financing agencies. With the assistance from the cess fund, the Madras State Handloom Weavers' Co-operative Society is enabled to open hundreds of selling units within and outside the State so that an effective market could be found for the increased production in weavers' co-operative societies. The Government have also recognised that any permanent improvement in the condition of the Handloom Industry can be effected only if its technique is modernised. They have therefore been providing financial assistance to the weavers to use improved appliances such as steel reeds, varnished healds, dobbies take-up-motion attachments, etc. The free supply of these improved appliance, has enabled the weavers to effect significant improvement in the quality of production of the handloom cloth. The Government have also recognised the need to improve the living conditions of the handloom weavers. The Handloom Industry is a cottage industry and as such the weavers house is also his workshop. The Government have therefore formulated schemes for improving the housing conditions of the weavers. The development

of the silk and art silk industry has also been taken up in hand side by side with the improvement of the cotton handloom industry.

To achieve the objective in view the Government of India have sanctioned up to 31st March 1958, Rs. 632.80 lakhs to Madras State. 610.30 lakhs of rupees have been sanctioned by the Registrar of Co-operative Societies, Madras, for execution of the various development schemes. About Rs. 22 lakhs have been issued as advance to members of weavers' co-operative societies to enable them to pay their share capital to joint these societies. Rs. 161.48 lakhs have been disbursed to the Madras State Co-operative Bank towards working capital to weavers' co-operative societies and this has enabled them to provide increased employment to weavers and pay higher wages than would otherwise have been possible. The number of weavers in co-operative societies has steadily increased from about 98,000 to 1.9 lakhs and the number of weavers' co-operative societies from about 560 to more than 980. Nearly 40 per cent of the weavers in our State have now been brought into the co-operative fold. The production and sales in weavers' co-operative societies have also registered a four-fold increase during the last four years and they stand at about Rs. 80 lakhs per month. The higher wages given in weavers' co-operative societies have had a healthy influence on the level of wages in the private sector also. As regards marketing, financial assistance to the extent of over Rs. 74.65 lakhs has been given to the Apex society to enable it to procure handloom cloth from the primaries and market it through its sales units. The number of co-operative sales units and emporia has increased in the last four years from about 50 to 300 units now. The units have enabled the handloom cloth to be popularised among larger sections of our population. The Madras State Government have also sanctioned an interest-free loan of Rs. 25 lakhs to the Madras State Handloom Weavers' Co-operative Society for the purpose of procuring accumulated stocks of handloom goods from the primary societies and effecting sales. The State society actually procured goods worth Rs. 16 lakhs. Reports indicate that the sanction of the scheme has had the salutary effect of enabling the weavers' co-operative societies to liquidate their accumulated stocks. The Government have also sanctioned more than Rs. 243 lakhs for the grant of subsidies to recoup rebate on the retail and wholesale sales of handloom cloth effected by co-operatives. Government have sanctioned so far 13 Weavers' Housing Colony Schemes for the construction of 1,368 houses at a total cost of Rs. 60.00 lakhs. The schemes are under various stages of execution. Seven Industrial Societies for handloom weavers had been started. Government have since sanctioned the establishment of two more industrial societies. These societies are giving employment to about 420 weavers and 200 other auxiliary workers. They produce fine varieties of shirtings, bedsheets, etc.

Fifteen silk handloom weavers' co-operative societies have been started with assistance from Cess Fund. They had 1,100 members on the rolls with a paid-up share capital of Rs. 1,00,050. They produced goods

worth Rs. 11.31 lakhs and sold for Rs. 9.98 lakhs. A general scheme for the enlistment of 500 silk handloom weavers in weavers' co-operatives has been sanctioned. Steps have been taken to enlist them. The Art Silk Weavers' Co-operative Societies at Chinnalapatti and Komarapalayam were assisted with aid from the Cess Fund for enrolling about 200 members. Under a general scheme for admission of 1,000 art silk handlooms within the co-operative fold sanctioned by Government, 948 art silk looms have already been admitted into the co-operative fold. A Silk Co-operative Sales Emporium will be started in Madras shortly to help the disposal of the goods produced by Silk Weavers' Co-operative Societies.

Three co-operative spinning mills, one at Pettai, the second at Srivilliputhur and the third at Tiruchendur have been registered. Proposals for forming co-operative spinning mills at Salem and Aruppukottai and one or two more mills at Tirunelveli are also under consideration. The spinning mill at Pettai has gone into production with effect from 14th July 1958 with 8,000 spindles to begin with.

For the Second Five-Year Plan, Rs. 413.70 lakhs have been earmarked for the development of the handloom industry. Recently the Planning Commission increased the allotment to a little over Rs. 728 lakhs. The schemes which have been programmed for implementation during the Second Five-Year Plan relate to the enlistment of at least 50 per cent of the handloom weavers within the co-operative fold, the construction of 16 colonies of 1,600 houses at a cost of Rs. 74.29 lakhs for the benefit of members of weavers' co-operative societies, opening of 100 sales depots by the State Society, issue of grants to co-operatives to the extent of about Rs. 73 lakhs to recoup the rebate allowed on sales of handloom cloth, setting up of six industrial co-operative societies for handloom weavers, supply of improved appliances to tone up the quality of production of handloom cloth at an estimate cost of Rs. 10.85 lakhs, and training of 1,600 weavers in pattern-making factories of the State Society in evolving new designs and adopting improved methods of production, etc. Considerable progress has been achieved in implementing the schemes since the commencement of the Second Five-Year Plan. About 49,000 weavers have already been admitted into the co-operative fold since 1st April 1958. About 90 lakhs of rupees have been given to weavers' societies and the Madras State Handloom Weavers' Co-operative Society for production and marketing finance. 3.25 lakhs of rupees have been spent under technique and research and 200 lakhs of rupees under marketing, including the sanction of rebate. It is hoped that all the schemes provided for in the Second Five-Year Plan period would be implemented well ahead of schedule.

The weavers organised under the co-operative fold were greatly benefitted by the execution of the several handloom development schemes financed from the Cess Fund. Their standards of living have generally risen and their economic condition improved. Handloom fabrics have become popular in new areas and among higher income groups.

Help the Poor Help Themselves

[Chief Minister's address at the Fourth State Block Development Officers' Conference.]

Inaugurating the Fourth Block Development Officers' Conference, the Chief Minister, Sri K. Kamaraj, said that they had met there to consider the work so far done under the Community Development Programme, evaluate the progress achieved, so far, find out the difficulties confronting them and the shortcomings on their part, and devise methods for overcoming the obstacles in the way of progress. During the next few days, they should confer with each other and arrive at good and workable solutions for all the difficulties before them.

Aim of Community Development Schemes.

The Chief Minister emphasized that the officers should realize that the Community Development Programme was intended to help the people in various ways, and also to promote their welfare. There was an impression in some quarters that Community Development work consisted only in digging some wells or constructing some buildings. Such ideas had to be dispelled from the minds of the people. In the last few years, work had been done in many fields and there had been achievements to their credit in the agricultural and veterinary fields.

Working of School Meal and School Improvement Schemes—Committee of Legislators to study.

The Government have appointed a three-member Committee of Legislators with Sri K. S. Subramania Gounder as Chairman and Sri R. Krishnaswami Naidu and Sri K. Sattanatha Karayalar, as members, to make an assessment of the working of the School Meals and School Improvement Schemes. The assessment will include an examination of the arrangements made for the working of the schemes, the accounting procedure followed in respect of the sums received and expended, and the steps taken to eliminate wastage and to ensure that the schemes result in maximum benefit to the school children and the schools.

The Government have already framed rules to regulate the working of the scheme for the supply of free mid-day meals to poor pupils in elementary schools. The Committee will examine the working of this scheme in the light of those rules.

The School Meals Scheme was approved in November 1957 as a voluntary movement eligible for Government assistance and was also included in the State's Second Five-Year Plan with a total provision of Rs. 164.77 lakhs. The scheme is eligible for Central assistance up to 50 per cent of the cost. A sum of Rs. 35 lakhs

Sri Kamaraj pointed out that the rich people in the villages did not need their help so much as the poor, ordinary man and the ryot in the villages. The officers should remember that if they did not help the poor people, the latter would have no one to help them at all, and would lose faith and hope. He also asked them to see to it that they did their work thoroughly, efficiently and as quickly as possible.

Co-operative farming.

On the subject of co-operative farming, the Chief Minister said that the poor, common people in the villages, were eager to have these set up. Some ryots too had some apprehensions about these co-operatives. These fears had to be removed, he added. Yet, the poor ryots desired that the work of registration and other things connected with setting up such organizations should be done as expeditiously as possible. If, in doing this, the officers, found Acts and Rules hampering them, they should focus their attention on these things so that remedial action could be taken and such difficulties were obviated.

was spent by Government on the scheme in 1958-59, and a provision of Rs. 60.70 lakhs has been made for the year 1959-60. The aim is to provide free meals for five lakhs of poor children in 1959-60. The scheme is expected to expand rapidly involving considerable expenditure from State and Union funds by the middle of the Third Plan period.

The School Improvement Scheme is also a voluntary movement and under the scheme, large sums of money have been collected as donations from the general public. As many as 35 School Development Conferences have been held in various districts of the State up to 11th March 1959. The total number of schemes undertaken for execution with reference to the decisions reached at the conferences held till 28th February 1959 is about 16,800. The total value of the schemes is about Rs. 220 lakhs while the value of the collections in cash and kind made on the spot at the various conferences is about Rs. 50 lakhs.

No detailed assessment of the working of the two schemes had so far been undertaken and Government are of the view that such an assessment is necessary. Therefore, the Government have constituted the "School Meals and School Improvement Schemes Assessment Committee" to make the assessment of the working of these schemes as indicated above and submit its report to Government.

The Task Before us

SRI M. G. RAJA RAM, I.A.S.

Additional Development Commissioner.

Six years have passed since the Community Development Programme was started. The result of the intensive endeavour under this programme should be reflected in the change in the social and economic life of the rural population. One of our main objects was that the benefits of scientific and technological advance should permeate down to the ground-level in a satisfying measure. For this purpose the extension activities in the Community Development Programme have been defined very clearly. Along with the availability of technical assistance and financial assistance from Government effort from the people through people's participation is also a very vital factor for the success of the programme. I should like to give here very briefly some of the progress we have achieved due to our endeavours till now.

The total outlay under the Community Development Programme in this State since 1952 is of the order of Rs. 681 crores. Out of this the people's contribution is of the order of Rs. 2 crores. In the field of agriculture the application of fertilisers and usage of improved seeds along with green manure has definitely brought about an increase in agricultural production in the areas covered by the Community Development Programme. Various schemes of soil conservation and minor irrigation have also been implemented in the area and they have also directly contributed to the increase in production. 4.16 lakhs of maunds of improved seeds were distributed in 1957-58 alone among 10.32 lakhs of acres. 5.31 lakhs of acres were under green manure during the year. Nearly 5 lakhs of acres have been brought under the Japanese method of cultivation. A total of 128,857 demonstrations were conducted during the whole period.

In the field of Animal Husbandry, appreciable progress has been made in the treatment of cattle-diseases and control of epidemics. 10.83 lakhs of animals were inoculated and or vaccinated and 6.30 lakhs were treated for various diseases during 1957-58 alone. Sixty-three Veterinary dispensaries and 84 Veterinary first-aid centres are now functioning.

The functional village leaders' camps and other seminars organized at the block, the District and Regional levels have enabled useful mutual exchange of ideas and dissemination of knowledge on all items of the programme affecting the rural economy. So far 1.58 lakhs of people have been trained in 3,113 training camps. Two thousand one hundred and thirty-six youth clubs and farmers' unions and 661 Mahila Samitees are functioning in the Community Development areas.

Employment opportunities have been created by taking up works that will benefit the community, such as construction of roads and buildings, etc., and also opening of demonstration-cum-production centres and subsidiary industries and introduction of khadi schemes. So far over 4 lakhs of persons have been given part-time and full-time employment under the Khadi Extension Schemes and other cottage and small industries. An annual production of cloth valued at Rs. 50 lakhs has been achieved of which over 50 per cent goes directly to the workers. In addition, artisans are given training in the use of improved tools and equipments for the cottage and small-scale industries.

Considerable progress was maintained in regard to public health and rural sanitation. Seventeen thousand and fifty-five soakage pits, 208,749 yards of drains and 6,873 rural latrines have come into existence under this programme.

The total number of blocks operating now in Madras State as on 1st April 1959 is 194 consisting of 18 old Community Development blocks, 102 Stage I blocks, 51 Stage II blocks and 23 Pre-Extension blocks. It is estimated that the total number of blocks operating at the end of the Second Plan will be about 211 excluding the Pre-Extension blocks of the Third Plan period. According to the present programme, it is expected that by the third year of the Third Five-Year Plan, the whole of the Madras State will be covered by the Community Development Programme.

I have merely mentioned off-hand certain salient features in the programme and it is not by any means an exhaustive list. However, thinking deeply about the impact of the programme on the people, I have an apprehension that we have made only a beginning and there is yet a lot more to be done before we can even claim that we have achieved a reasonable degree of success. Consecutive reports of the Programme Evaluation Organization of the Planning Commission have brought out shortcomings of the programme in the field. It has been felt that the contact of the village-level worker with the people should be much more effective and for that purpose the village-level worker must reside in the headquarters of his circle and move about frequently among the villages. Similarly the guidance and supervision from the extension officers to the village-level workers leave much to be desired. Likewise the guidance and supervision over the extension officers from the technical heads of department at the district level also

(Continued on page 23)

The Ootacamund Pilot School Improvement Conference

DR. H. S. S. LAWRENCE, M.A., ED., D. (Columbia),
District Educational Officer, Nilgiris.

Ootacamund, the Queen of Hill Stations, witnessed several achievements during the season this year. The Madras Legislature Session, the visit of the Prime Minister, the A.I.C.C. Seminar on the Third Five-Year Plan and several other events made Ootacamund well-known all the more. No less important was the Pilot School Improvement Conference and Exhibition which were unique in the history of Educational progress in the Nilgiris district.

Sri Bishnu Ram Medhi, Governor of Madras, Sri K. Kamaraj, Chief Minister, Sri Bhaktavatsalam, Home Minister, and Sri C. Subramaniam, Education Minister, took part in the Conference and Exhibition. The Governor paid glowing tributes to the public of Nilgiris who had contributed a sum of Rs. 7,03,183.64 in cash and kind for the improvement of various Secondary and Elementary Schools in the district under the Pilot School Improvement Scheme, 1959. The Governor was so pleased and surprised at the thousands of articles donated by the people that he announced, amidst cheers "his own humble contribution of Rs. 500" for the School Improvement Scheme in the Nilgiris. The Committee has well utilised this amount for the supply of children's books to Elementary Schools.

It is no wonder that the people of Nilgiris received congratulations because Rs. 7 lakhs is a big achievement specially for a comparatively backward district like the Nilgiris. Sri Kamaraj in his presidential speech said that this function amply demonstrated the interest and enthusiasm of the people in the Education of their children. The Education Minister, Sri C. Subramaniam, congratulated the organizers of the conference and remarked that if Government had to take up such huge improvement works it would have had to levy additional taxes. The Home Minister, Sri Bhaktavatsalam, commending public generosity towards schools, observed that just as in olden days temples were built with the munificent donations of the people, so also schools were coming up now with people's aid. He said that this was really a revolutionary movement.

It is very interesting to analyse the various items under which people made their contributions :—

	RS.
Total cash donations amounted to ..	89,964. 72
Total receipts in land and kind amounted to	6,13,218. 92
For Ootacamund taluk the contribution is	3,66,596. 64
For Coonoor taluk the contribution is	3,36,587. 00
Total	7,03,183. 64

The following are some details regarding donations in cash and kind :—

	RS.
1 School buildings and building materials	3,00,000
2 Lands for schools	56,000
3 Mid-day meals	50,000
4 Apparatus for teaching and Radio-sets	35,000
5 Playgrounds	21,000
6 Building repairs and white-washing	10,000
7 Sports goods	8,000
8 Sanitary convenience	6,000
9 Dress for pupils	3,800
10 Maps	3,700
11 Books	3,000
12 Cooking and drinking-water vessels	2,900
13 Clocks	2,400
14 Portraits of leaders	1,400

People donated hundreds of pounds of tea, coffee, potatoes, manure, rice, wheat and cement. One man from Koderi presented a bag of cabbages to the Governor at the Conference. A teacher from Adderley gave away his 15 rabbits which were displayed at the Conference. These were auctioned at the Conference for an amount of Rs. 100 which was used for buying drinking-water vessels for his school. Garden implements, mirrors and combs, slates and pencils, gramophones, bricks and tiles, eating plates and tumblers, furniture, globes, first-aid boxes, black boards, scissors, and musical instruments were some other items donated by the people. Two teachers each contributed their one month salary for their schools. Two Badaga women gave one day's wages. Some managements gave to their schools the entire maintenance grants received. People have thus shown in action what they can do for the education of their children.

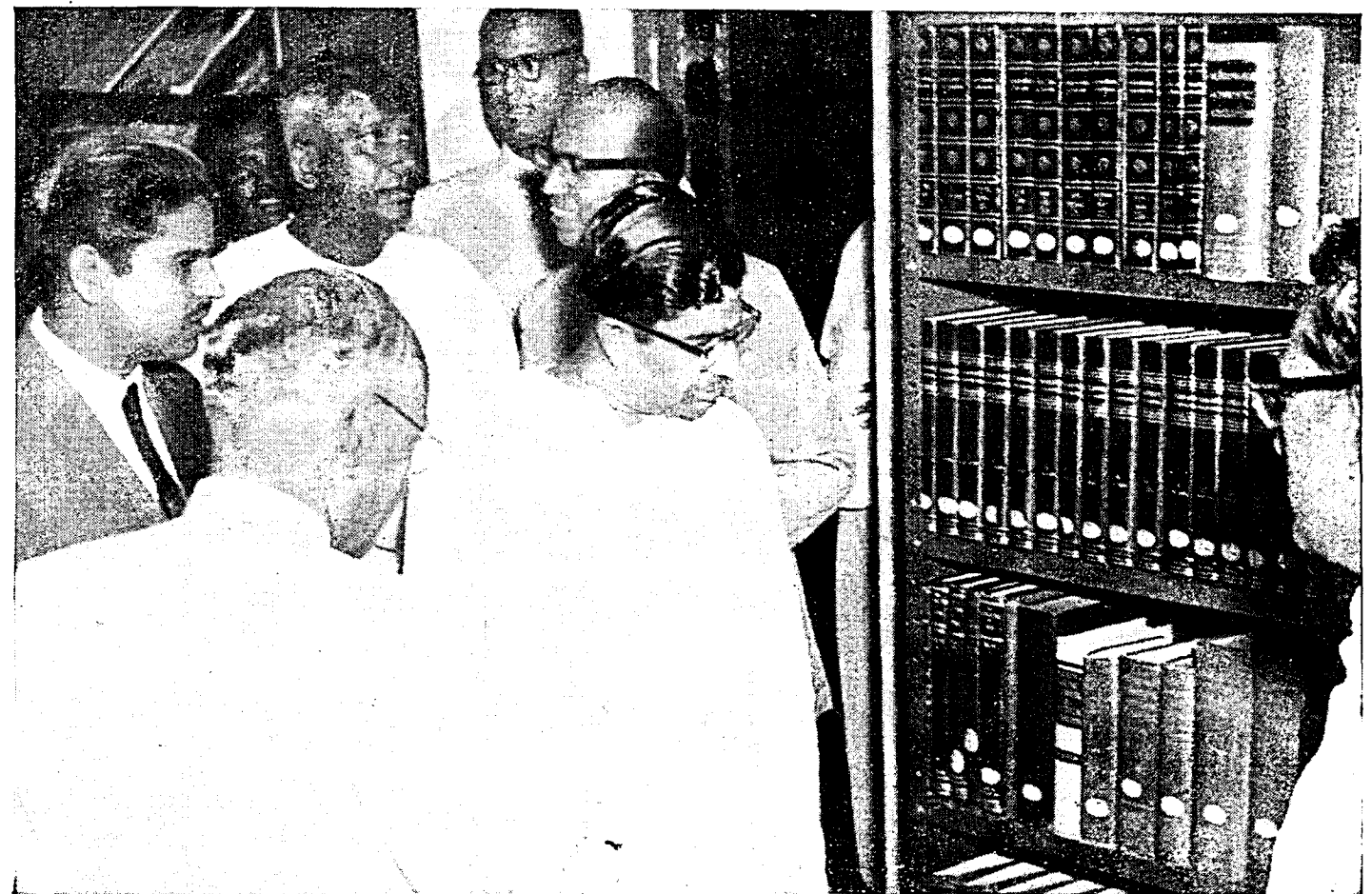
The following number of schools participated in the Nilgiris Pilot School Improvement Scheme :—

(a) Elementary Schools	240
(b) Middle Schools	5
(c) High Schools	19
(d) Training Schools	2
Total	266

Ten thousand three hundred and eighty-two individual persons participated in this scheme. So many had donated something or other, in some small or big way towards the improvement of the school of his choice. The list of donors and their contributions was

printed in separate booklets for Ootacamund and Coonoor taluks. It will thus be seen that this is a People's voluntary movement and that the achievement of Rs. 7 lakhs is undoubtedly an achievement for the people of Nilgiris and an indication of their love for education. If this love is kept up steadily, there is bound to be progress not only in education but in all other fields of human activity. For Education is the foundation for human progress in all fields.

The success of the Ootacamund School Improvement Conference is due largely to non-official co-operation. A non-official committee was formed with Sri B. K. Linga Gowder, M.L.A. as President and Sri J. Matha Gowder, M.L.A. as Vice-President. Sri Ramaswamy Adigal, Srimalathi C. D. Mani, Sri G. N. Krishnamoorthy, Sri P. Gujjan and Sri Boja Belli worked as Secretaries. The Conference and Exhibition were successful because of the active efforts of all these non-officials and the co-operation given by Headmasters and teachers. Two preliminary planning conferences were first held in January, one at Ootacamund and the other at Coonoor. A committee was formed in each school thereafter for school improvement. These committees functioned vigorously and brought success and a name for Nilgiris.



The Book Lending Scheme and Home Delivery of Books Scheme were inaugurated at the District Central Library, Madras, by the Minister for Education, Sri. C. Subramaniam.

Here are the *Panch Shila* suggested by the Director of Public Instruction for these improvement projects :—

1. Annual repairs to and white washing of the school building.
2. Annual repainting of the black-boards.
3. Provision of sanitary conveniences, at least of an elementary type.
4. Provision of protected drinking water-supply.
5. Provision of a library.

It is no wonder that the Prime Minister of India has paid glowing tributes to the several educational schemes of Madras and has asked the other States of India to follow our State in educational matters. Madras occupies a very honourable place in the Educational Map of India.

School Improvement Schemes should be never-ending. The public of Nilgiris have donated markedly now. It is, however, neither the first instalment of donations nor the last. Such schemes should take place every year, even every day. The scheme should become a regular feature in all the schools in every district. I am quite confident that it will be so in this district.

New Hostel for Madras Medicos

The Madras Medical College Men's Hostel, situated at Frazer Bridge Road, Madras-3, was declared open by the Chief Minister, Sri K. Kamaraj, at a most impressive ceremony held on 18th July 1959.

The function was presided over by Sri M. A. Manickavelu, Health Minister. The Director of Medical Services, Dr. V. R. Thayumanaswamy, welcomed the gathering. An exhaustive report about the various stages of the construction of the building was read out by the Chief Engineer. The Warden, Dr. C. S. Sadasivam, proposed a vote of thanks. The opening ceremony by the Chief Minister coincided with the showering of rose flower petals, and the automatic drawing aside of the curtains at the entrance.

The scheme for the construction of Hostel Building costing Rs. 24.00 lakhs for the men students of the

Madras Medical College was sanctioned by Government in 1956. The foundation stone for this building was laid on 26th January 1956 by Dr. A. Lakshmanaswami Mudaliar, Vice-Chancellor, University of Madras.

There was some delay in getting possession of the site and therefore the actual construction of the buildings could be taken up only in March 1957.

The main hostel buildings with a total floor area of 94,000 square feet are in two blocks each four storeyed. The length of the building is 465 feet while the height is 47 feet 6 inches above ground level. The foundations have been taken to a depth of 9 feet below the ground level. This building is a reinforced concrete framed structure with brick panel walls. The hostel provides accommodation for a total number of 508 students, 272 in the first block and 236 in the second block. The

size of a room is 18 feet by 10 feet to accommodate two students. Each room has two independent built-in cup-board-cum-wardrobe.

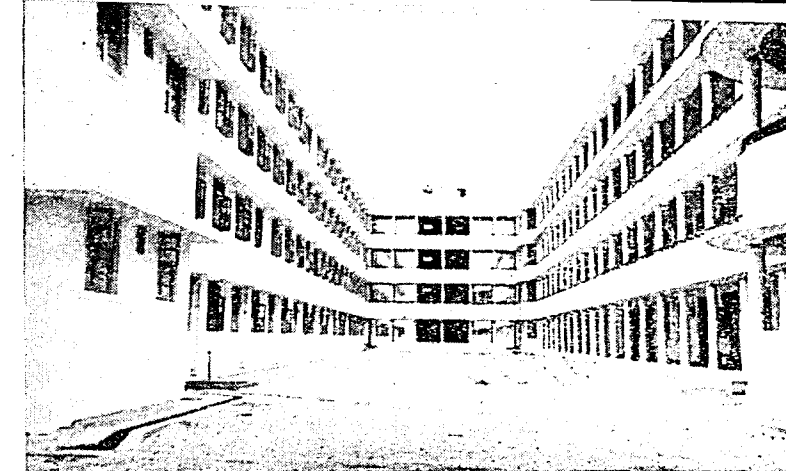
All the necessary amenities like infirmary, left luggage rooms, visitors' rooms, recreation hall, common rooms and library, have been provided in this new hostel. For efficient control and care of the hostel, quarters for Deputy Warden and Resident Tutor have also been included in the main buildings.

The hostel is provided with a large dining hall (size 200 feet by 23 feet) including vegetarian and non-vegetarian kitchens attached to it and the foundations for this block are also designed for taking three more floors. The dining hall has mosaic flooring to enable its maintenance in a clean and hygienic condition. Each floor in the main hostel block is provided with a sanitary wing consisting of an adequate number of bath rooms, water-closets and wash-hand basins and other amenities like shower bath, etc. The hostel blocks are connected in each floor by a corridor. There are also stair-cases at the ends of each block with a main central stair-case in the connecting corridor. When the present dining hall is provided with three more floors in future, it will provide accommodation for an additional number of 96 students in the second and third floors besides library and recreation room, etc., in the first floor.

In the rear of the dining hall a block originally meant as servants' quarters has been built ; it is now proposed to convert it into a hostel for post-graduate students.

Quarters for the Hostel Warden, garages for accommodating two buses, a cycle stand, well laid out roads and compound wall on all sides are provided. The water supply to the hostel is from the Madras Corporation supplemented by a well. An elevated R.C.C. reservoir of 5,000 gallons capacity with an underground sump of 10,000 gallons capacity has been constructed for the purpose. In the construction of the buildings, about 3,000 tons of cement, 600 tons of steel and twenty-five lakhs of bricks have been used.

Taking into account the several important building schemes sponsored by the State Government as part of their development plants, it can be said that Medical Department has the largest number of such works under execution by the Public Works Department. The Madurai Medical College and improvements to the Erskine Hospital, Madurai, the Tanjore Medical College and Hospital Scheme (costing more than rupees one crore), improvements to the Stanley Medical College and Hospital, extensions and improvements to the College of Integrated Medicine, additional blocks for the Madras Medical College and about 92 Primary Health Centres spread all over the State, are some of the building



The two blocks 'H' shaped.

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schemes (to mention only a few) of the Medical Department which have either been completed or are in progress. The expenditure on Medical Department Building Schemes under the Second Five-Year Plan has been steadily on the increase each year as may be seen from the following figures:—

1956-57—Rs. 18.64 lakhs.

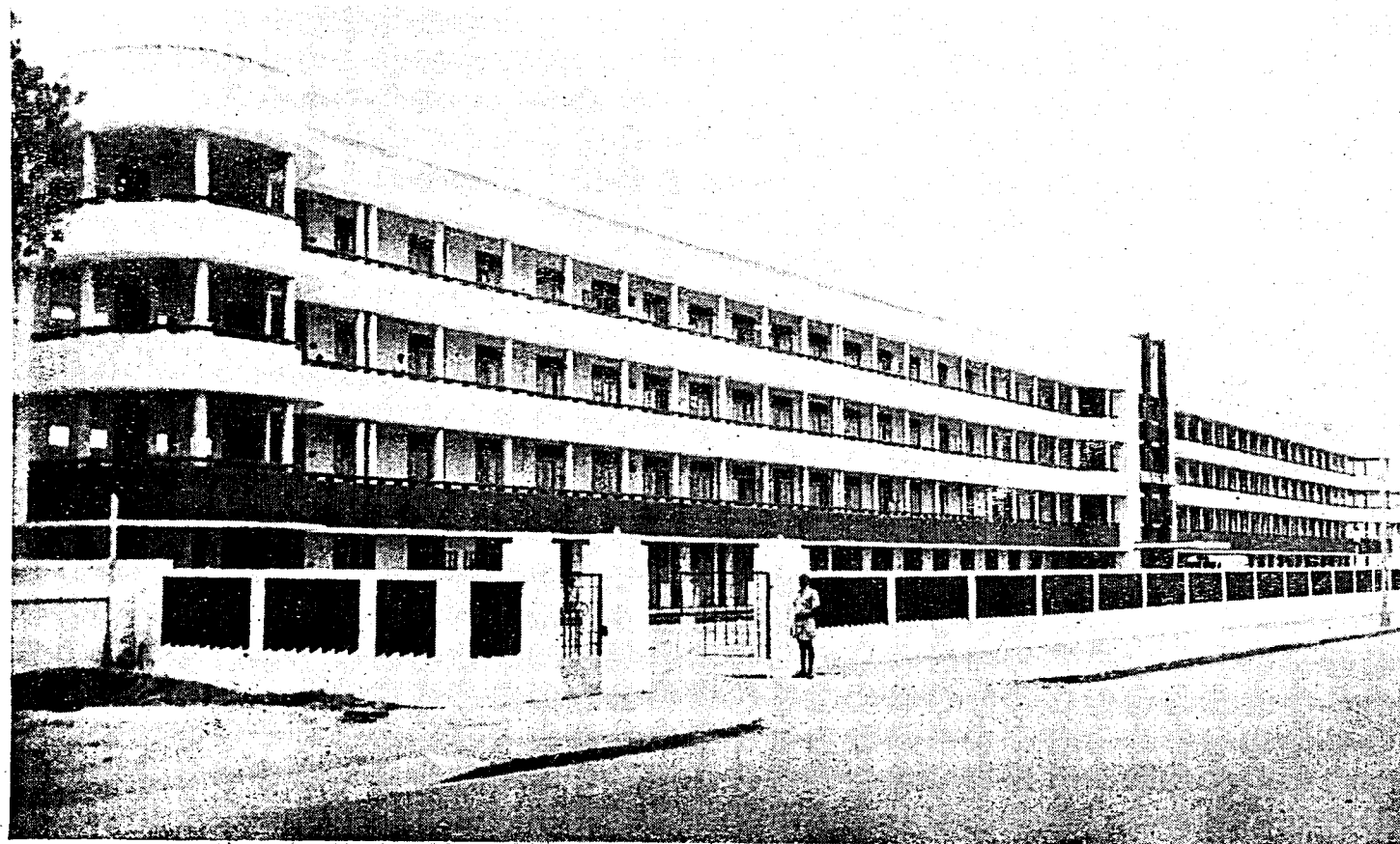
1957-58—Rs. 40.67 lakhs.

1958-59—Rs. 73.72 lakhs.

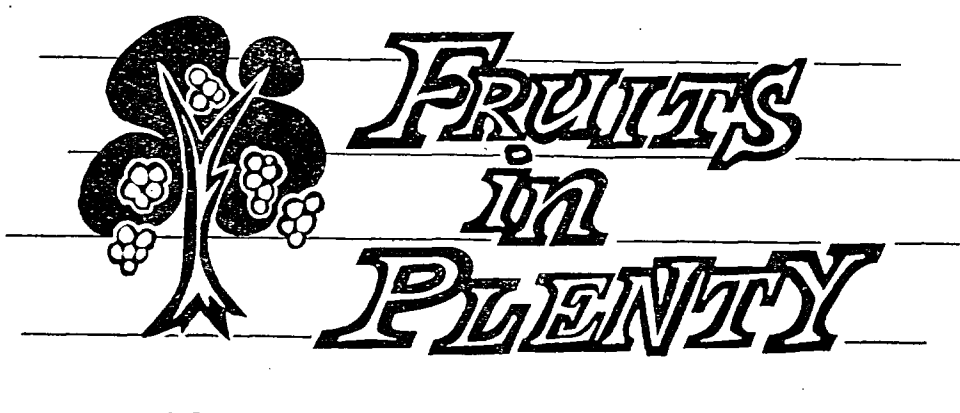
1959-60—Rs. 120 lakhs (anticipated).

It is needless to say that the officers of the Public Works Department have to shoulder a heavy responsibility in successfully implementing all these important schemes and that they have done and are doing their very best in carrying out their heavy and onerous duties and thereby maintaining the high standards and tradition of the service to which they belong.

Inside a room.



A view of the Hostel.



English Teaching Standards in Schools—British Council's Scheme to be Worked in Madras

It has been accepted by Government that the efficiency of instruction in the study of English in the Schools of the State should be improved and that all practicable measures should be undertaken for such improvement. This has been emphasized in the memorandum submitted by them to the Official Language Commission in discussing the question of medium of instruction and study of languages in educational institutions. Government have now decided to institute a campaign for the improvement of the standard of English teaching in the schools in the State. The scheme of the campaign which has been prepared and submitted by the Regional Representative of the British Council in Madras consists mainly of the running of in-service retraining courses for teachers of English in the schools of the State. The first phase of the scheme covering a period of five months will be worked in Madras City and will be confined to the retraining of teachers of English in three of the districts of the State. The salient features of the scheme are :—

(i) A task force of five senior officers and 10 junior officers will conduct primary training courses in the teaching of English each of three weeks' duration for a group of selected teachers drawn from Educational institutions in a local area. Three such training courses will be run, one in each of the second, third and fourth months of the scheme. The first month will be spent in the selection of the junior members of the task force, training of these junior members and preparation for the running of the primary courses. The junior members will continue to receive training from the senior members during the running of the primary courses and will also help the senior members in the running of the courses. Ultimately the junior members will themselves become senior members of other task forces.

(ii) The trainees in each primary training course will, at the end of their training, be divided into groups. Each of these groups will then conduct secondary training courses for teachers of English in its local area. These courses will be conducted over week ends and for short spells at a time so that the normal working of the schools in the area will not be disturbed.

(iii) At the end of the first primary course, one of the senior members of the task force and two of the junior members will detach themselves from the main task force and will carry on follow-up work which will involve supervision and guidance of the secondary courses run by the trainees of the primary courses.

(iv) At the beginning of the fifth month there will be an assessment of the working of the scheme and plans

will be formulated for its further continuance. During this month the primary course trainees running the secondary courses will also come back to the headquarters of the task force for conferring with and receiving guidance from the members of the latter.

2. The primary courses in the first phase will be conducted in Madras City. Trainees for the primary courses will be drawn from educational institutions, both under public and private management, in the Revenue Districts of Madras, Chingleput and North Arcot. The secondary courses will be run in these three districts. It is intended to extend the working of the scheme and run primary and secondary courses in other places in the State so as to cover the whole of the State in the first year of the scheme. The aim will be to give in-service re-training to the teachers of English in all the schools of the State according to a planned programme.

3. Two of the five senior members of the task force in charge of the scheme will be Englishmen. The British Council has agreed to spare the services of two of its officers to fill these posts. The Director of Public Instruction and the British Council will be in close touch with the working of the scheme.

4. This campaign can be extended, with necessary modifications to the teaching of Mathematics, Science, Social Studies and Tamil and it is the intention of Government to consider such an extension after the scheme for the improvement of English teaching has been worked for some time.

5. Government are grateful to the British Council for the help rendered by them in this matter. They trust that schools under private management will take full advantage of this scheme and send their English teachers for retraining and that the implementation of the scheme will result in an appreciable improvement in the standard of the teaching of English in the State.

Use of pumpsets in wells in Lower Bhavani Ayacut permitted

The Government have issued orders permitting installation of pump-sets for unlimited pumping in all wells inclusive of pumping during non-irrigation season in the Bhavani, Erode, Dharapuram and Gobichettipalayam taluks of Coimbatore district and Karur taluk of Tiruchirappalli district subject to the condition that the wells should be 2 furlongs away on either side from the main canals and 1 furlong from the distributaries of the Lower Bhavani Project. Sinking of wells had already been permitted, but using pump-sets is being permitted only now.

For the people of Pavali, in Ramnad district of Madras, the return of young Dhanushkodi five years ago to manage his father's farm marked the beginning of great excitement. Armed with youthful enthusiasm and a head full of new ideas, he set about energetically to turn his father's derelict little farm into one of the most flourishing orchards in the district.

For Dhanushkodi's father, who belonged to a family of traders from the neighbouring town of Virudhunagar, the 20-acre family farm at Pavali was little more than a place in the country where he could occasionally retire for rest. He had planted a few orange, mango, pomegranate and guava trees just to make the place a little shadier in summer.

Young Dhanushkodi had always taken a keen interest in the garden to the great delight of his father. So when, a few years ago, he brought up the subject of developing the farm as a commercial orchard, the old man readily agreed and gave his son full freedom to go ahead.

Vigorous planning.

Then onwards Dhanushkodi began to spend a great deal of his time in Pavali. Around the small nucleus of trees already raised by his father, he carved out an area of seven acres for experimentation. Then, very methodically, he started making the rounds of almost all the Government farms and nurseries in the neighbourhood to collect as much know-how on the subject of orchard-laying as he could. From the Government Experimental Stations at Kodur, Kallar and Coonoor, he got not only good sound advice but also thoroughly-tried plantation material.

In 1953, the orchard was laid on the small seven-acre farm. On the black loam soil, well admixed with liberal doses of organic manures and green manuring, Dhanushkodi planted 125 trees of acid lime, 80 each of orange and mango and a few of sapota, jaman, grape fruit, citron and fig. At the advice of the District

Agricultural Extension Officer, he adopted the square system of planting.

Dhanushkodi was meticulous in his adherence to rules. Six months after planting, he started applying compost; this was done twice a year. One or two pounds of bonemeal per tree were added to the compost. Weeding was done in the basins twice a year. Only in one matter, Dhanushkodi permitted himself a departure from the normal practice. He allowed his cattle to graze in-between the rows of trees. This, he explains, not only means automatic weeding, but also provides the animals with good green feed. Moreover, the cattle dung gives excellent manure on the spot.

Abundant fruit.

With so much attention, the orchard was quick in coming up. Guava trees were the first to fruit. The yield was really rich, more than 700 per tree. Soon, other trees started blossoming. Sales were easy and profits high. A part of the proceeds went into enlarging and improving the orchard. Every year a few more acres were added. By last year, the orchard had covered the entire 20-acre farm, and the income exceeded 3,000 rupees.

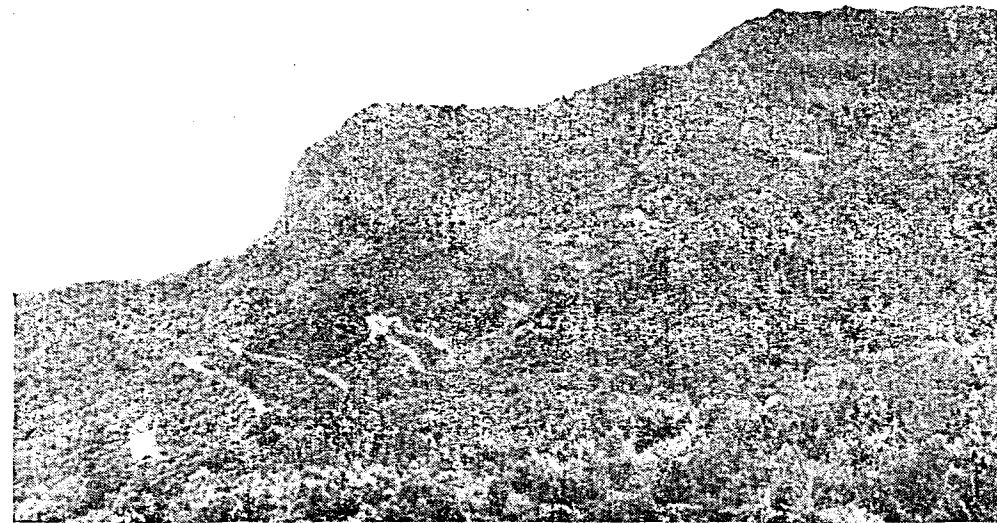
For Dhanushkodi and his father, this marks the fulfilment of a dream. For young Dhanushkodi, however, this is the beginning of new ventures. He has big schemes for converting the Pavali orchard into a multi-purpose farm. A small poultry farm is being raised. The number of cattle is also going up, and a small-scale dairy farm is slowly taking shape. Four bee-hives recently acquired are yielding enough honey for home needs and to spare.

To-day, Pavali village looks as busy as one of Dhanushkodi's bee-hives, and its people thank the day when the young man from Virudhunagar came to the village to look after his father's farm. Almost every day, the orchard at Pavali is visited by young farmers from the neighbourhood who, inspired by Dhanushkodi's achievement, are following his lead.

Yercaud— The neglected Hill Station

SRI T. RAJARAM.

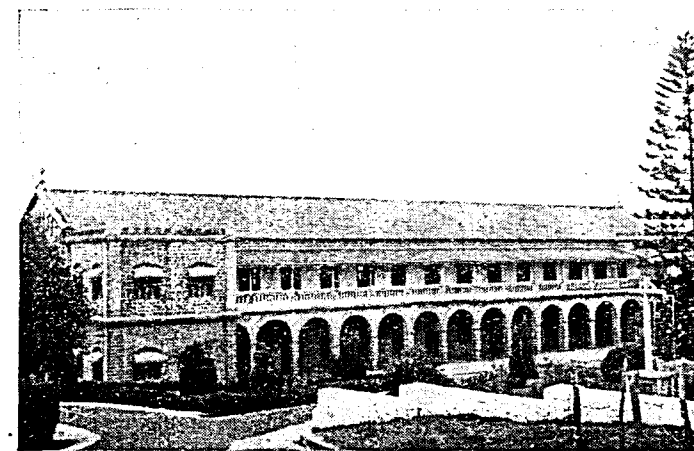
Manager, Children's Theatre, Madras.



The Hills.

"Did you visit Yercaud?", asked my friend after my recent trip to Salem. I replied in the affirmative and could not help telling what I felt about the place. Although I have been visiting Salem once every year for the past sixteen years, I could not go to Yercaud for various reasons. This time, however, I determined to pay at least a flying visit and see how the place looked like. I was all the more interested as I have already seen Kodaikanal and Ooty, two other beautiful hill stations of our State.

A one-and-a-half-hour journey by bus from Salem Town took me to the hill-top of the Shevroy hills. Although the drive is not an unusual one for a small hill range like Shevroy hills, I was delighted to pass through jungles and thick coffee plantations for which the Shevroy hills are very famous. The forest wealth is not much in evidence although great care seem to have been bestowed on the preservation of what little bushes and trees are there.



The Montfort School at Yercaud is famous throughout India.

As the first impression is always the lasting impression, the sudden appearance of the lake after the bus descends into a small little valley over the hills, leaves a feeling of despair and gives the impression that there is none to take care of this place. Although Yercaud has a lake and a salubrious climate during the summer, the place appeared to be deserted in the month of May, when I visited, and it was really a strange spectacle that such a beautiful hill resort has been left in an underdeveloped condition.

From the lake the bus ascends a steep hill passing through beautiful bungalows, which also have a ghost-like appearance, deserted and without people, compared to the busy and populated town of Salem. At last the bus reaches the Market square, which is the bus terminus. The shops, hotels and the little village, all present a poverty-stricken and miserable appearance. At once the hill atmosphere leaves a sad feeling on one's mind and one is made to wonder why the authorities could not develop the place spending a few lakhs of rupees, so that people of the district and others who come to Salem will not fail to visit Yercaud for pleasure and rest. As soon as one gets down from the bus, he is told that there is not much to see in Yercaud excepting Mye Lady's Seat, the Lake and the Mission School. Once these places are seen, he is tempted to return to Salem Town as there are convenient buses every one hour, which takes him down the hills. This perhaps explains the reason why this hill resort is not prosperous and the people of the locality are not benefited by the tourists. There is nothing to purchase as a product of the hill station. Perhaps the time I visited was not the season for any of the hill products.

Naturally a question arose in my mind: Whether the place is not capable of being developed as a beautiful hill resort to attract more numbers of tourists. If the place is developed which, I feel, can be done very easily, by spending a few lakhs of rupees, more people

could be attracted to this place and it can very well be made a place for rest and recreation with proper amenities for the lower and middle class people.

The first attention is to be paid to the development of the lake. The lake which is of a crescent shape can be made a circular one with an island in the middle and a well-laid-out road or pathway right around it, planted with beautiful avenue trees as has been done at Kodaikanal. The island situated in the centre of the lake can be made a picnic spot, by developing it as a garden with flowering trees and shrubs. Pleasure boating can then be introduced and it can be a source of income for further development works. The shrub forest on one side of the lake can be left as it is now as an abode for birds and animals. A great effort should be made for making the streets and living quarters of the poor people look more sanitary and clean.

Mye Lady's Seat overlooking the plains is really an attractive spot, unforgettable for the impression it leaves. Sitting over the boulders at this place, one can view the valley down below, the sprawling town of Salem between the mountain ranges, the Mettur reservoir in the distance and also the magnesite quarries which are now being exploited. The milk-white magnesite that is being dug out by open-cut mines and spread in the open amidst the red soil, with green clusters, makes a kaleidoscopic picture. From this place I tried in vain to spot out a human being on the plains but I failed, although the weather was excellent and visibility was good. My immediate



Mye Lady's Seat.

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reaction was profound and philosophical. I wondered what a small creature man was in the creation of the Almighty and how ridiculous it was for him to boast of his might and intelligence. I felt as if I was humbled by nature all around me. The answer to the perennial question of wherefrom man came and where he goes after death is a mystery that is ever more sharply felt at this spot.

After this visit to Yercaud, I am fully convinced that it can be made a beauty spot and a place of attraction for one and all throughout the year.

Rice from imported paddy exempted from Procurement

The Government have been gradually liberalising the terms of the levy on paddy and rice imported into this State from Andhra Pradesh, consistent with the progress of internal procurement. It has recently been represented by rice mill owners and merchants of this State that even the recent concession reducing the levy on the rice produced from imported paddy to 25 per cent has not given adequate relief and that most of the rice mills in the State are not having their full requirements of paddy. It has been urged that free and unhampered movement of paddy from Andhra Pradesh into this State will help largely in feeding the rice mills in the State apart from increasing the availability of paddy in the open market. In view of these representations Government have decided to exempt completely from the scope of procurement, paddy imported into this State from outside and converted into rice in this State. This exemption, which will come into effect immediately, will be subject to the production of strict proof in each case

that the equivalent quantity of paddy was actually imported into this State.

The Rice and Paddy (Madras) Price Control Order, 1959, as issued in January last applies to the sale of paddy and rice in this State in transactions of more than ten maunds only at a time. There have been cases of persons splitting up their sales, with a view to circumventing the price control order. The Government have therefore amended the order. Under the revised order, which has come into force with effect from 8th June 1959, the maximum prices fixed therein shall apply to all sales of paddy and rice irrespective of the quantities involved, except in regard to sales to consumers in quantities not exceeding two maunds (one bag) in any one transaction. This exemption up to two maunds is intended to enable the retail dealer to add to the notified ceiling price his transport and handling charges and a small margin of profit.

All persons dealing in paddy and rice including mirasdars, should note that the sale of paddy and rice at rates higher than the notified prices is an offence punishable under the Essential Commodities Act, 1955, and will entail the prescribed punishment under that Act.

Mudumalai Sanctuary

(Sri C. A. R. BADHRAM, Chief Conservator of Forests).

Nature has bestowed India with a magnificent variety of flora and fauna—an asset which cannot fail to be generally appreciated by the people, if they are led to realize something of its worth and beauty. It is well known to all those interested in the subject that there is a vital need to-day to preserve India's Wild Life, many species of which are becoming rarer every day, some are even in imminent danger of becoming extinct. In Madras State, the four-horned antelope, the Nilgiri Tahr and the Nilgiri black langur which were common some years back have become extremely rare now. What are the main causes for the depression in numbers of these wild animals? Firstly, the continuous extension of cultivation into their natural habitat and secondly the indiscriminate destruction of these animals for various selfish reasons. The Indian Board for Wild Life was set up in 1952. Most of the States also followed, with the formation of State Wild Life Boards. These Boards advise Government regarding the protection, conservation of Wild Life.

In Madras State, we have two sanctuaries, one at Mudumalai (for Wild Life generally) in the Nilgiris district and the other at Vedanthangal for Bird Life in the Chingleput district. This note gives in brief particulars of the Mudumalai Sanctuary.

Location.

On the Nilgiris side of the Moyar lies Mudumalai, while on the other side of the river is the Bandipur Sanctuary of Mysore State. The animals (in happy ignorance of territorial divisions) cross the river and move freely on either side. The Mudumalai Sanctuary came into existence as early as 1940 with an area of 23 square miles. The area of the Mudumalai Sanctuary was extended to 114 square miles in 1956. The sanctuary is situated between 35th and 45th miles from Ootacamund on the main road to Mysore and is served by regular bus services. Tourists have repeatedly recorded their appreciation of the picturesque scenery of this forest tract. The country amidst which the sanctuary is situated presents a rolling panorama of hills, valleys and plains with several perennial streams and swamps. The rich and varied landscape satisfies the needs of many species of animals, birds and plants. The low, dense forests consist mainly of species of timber trees such as teak, rosewood and karimarudu. As one proceeds towards Mysore frontier, the stock degrades. The altitude varies from 3,000 feet to 3,800 feet. The average annual rainfall is 56 inches and the temperature ranges from 55 degrees to 90 degrees Fahrenheit. The main streams are the (1) Moyar, (2) Benne Hole, (3) Bidurhalla and (4) Kakkanahalla. The surrounding areas are comparatively dry in summer with the result that the wild animals concentrate found this spot during the hot weather.

Animal and bird life.

Reputed for a long time as the abode of wild range of wild life, the Mudumalai forests are an attraction to visitors and tourists. The period ideally suited for visiting the sanctuary is between November and May and the best month is February. A table showing the best months of the year for visiting the sanctuary is enclosed. With the minimum of luck, one may come across varied forms of wild life, such as, the Indian elephant, bison or Indian gaur, Sambhur, chital or spotted deer, barking deer or muntjac, bear and mouse deer, etc. There are tigers and panthers also in the sanctuary. The black-faced langur and brown monkeys are also to be found. Feathered game is plentiful; beautiful peacock, jungle fowl, she fowl, partridges, green pigeons, etc., are common. For the casual visitor, for the man of the town who wants to enjoy a holiday amidst sylvan surrounding and for students and lovers of Nature, the sanctuary affords equally rich opportunities for observation and enjoyment.

Facilities.

Kargudi is the headquarters of the sanctuary where a Forest Rest House and Tourist Lodge ("Abhayaranyam"), each with two suites of well furnished rooms are available. There are no hotels nearby but there are care-takers attached to both the rest-houses who can prepare on request simple Indian and Western style food. A dark room is provided for the use of photographers visiting the sanctuary.

One of the objects of the sanctuary is to provide facilities to the public to observe Wild Life in its natural habitat. Well trained riding elephants can be hired from the Forest authorities at Kargudi, for the day's joy rides and visits to the sanctuary. In addition to this, departmental vehicles can also be spared for the visitors on payment of hire charges, when these vehicles are not in use for departmental purposes. There are about 45 miles of fair weather roads in the sanctuary along which motoring can be done except in the rainy season. Six observation towers have been constructed at salient points overlooking salt licks, water holes, etc. Arrangements can be made for nights to be spent in these towers comfortably and without any risk.

Some of the rules of the sanctuary.

Shooting, hunting and fishing are completely prohibited within the sanctuary. Admission to the sanctuary is allowed only under permits to be obtained from the District Forest Officer, Gudalur Division, at Ootacamund or the Forest Range Officer (Wild Life) at Kargudi. Except with the specific permission of the District Forest Officer, no one other than an authorized

Forest Officer can carry any fire-arms or explosives into the sanctuary. Motoring in the sanctuary is prohibited without a valid permit. Photography has also to be specifically permitted.

The scale of fees are, as follows, payable in advance:—

Rupees 5 per day for driving a car or other passenger motor vehicle inside the sanctuary. Lorries and heavy vehicles are not permitted. Special permission (at higher rate of charges) will be necessary for vehicles (buses) carrying more than eight passengers.

2. Elephant can be hired at Rs. 10 per trip, but the charge for less than 2 hours will be Rs. 5 only.

3. Visitors to the sanctuary will pay a fee of Re. 1 per head. Visitors are permitted to take photographs free of charge, but permission has to be taken in advance.

4. A fee of Rs. 100 per day is charged for taking pictures with any cine-camera, except for purely personal or non-commercial purposes.

5. At the Forest rest-house rent is charged per unit of 24 hours or less at 50 nP. per head, 75 nP. per couple and Rs. 2.50 for parties exceeding two persons.

6. The fees for occupation of the Tourist Lodge (Abhayaranyam) is Rs. 2 per head, Rs. 3 per couple and Rs. 10 for parties exceeding five in number per suite.

The best time to see the wild animals in the sanctuary is either early morning between day dawn and 10 a.m., in the evening between 3 and dusk. Tourists are requested to reserve accommodation in advance. Sombre dress (kakhi, green, etc.) is desirable. Silence is golden. It is best to avoid sudden movements in the vicinity of the wild animals. No visitors may move about in the sanctuary during the hours between dusk and dawn.

There is a Forest Range Officer stationed at Kargudi who is assisted by six Wild Life guards and 12 Wild

Life watchers. Their main job is to watch the movements of animals and to assist visitors (on request) to view them.

Development places.

A sum of rupees four lakhs has been provided for improving the sanctuary under the Second Five-Year Plan. The development works undertaken include the construction of water tanks, observation towers, formation of artificial salt licks, metalling the existing roads, extension of road system, constructing of culverts, construction of new rest-houses and providing electricity and telephone connexion.

Table showing best months of the year for visiting Mudumalai Wild Life Sanctuary, Madras State.

Month.	Index.	Remarks.
January	4	Grass being burnt off—some winter showers.
February	5	Burning completed and fresh grass available—Fine.
March	5	Do.
April	5	Do.
May	4	Depends on early rain—less good.
June	2	Rainy and more elephant flies.
July	2	
August	2	
September	2	
October	2	
November	3	Depends on last rain—better.
December	4	Do.

Key to Index numbers :

5 Best time for all animals. 4 Nearly as good. 3 Almost but less good. 2 Possible but not recommended.

(Continued from page 13)

leave much to be desired. Unless it is realized at all levels that it is only by personal contact and close supervision and guidance that any measure of efficiency can be achieved, we can lay no claim to any achievement. While I am not unappreciative of even the little that has been done which has been due to some endeavour on our part, it is my duty to point out that to-day we face a great deal of public criticism that the large number of extension staff that we have in the blocks is not commensurate with the result achieved. We should not be unduly disheartened by this criticism. On the other hand we should now sit up and take notice of this criticism and find out where the machinery is not ticking properly and take steps to see that it does so. I have no doubt that the programme has generated a great deal of enthusiasm and hope in the people. It is up to us to make use of this enthusiasm and enable them to realize their aspirations and ambitions.

[From the speech delivered at the Fourth Conference of the Block Development Officers of the State.]

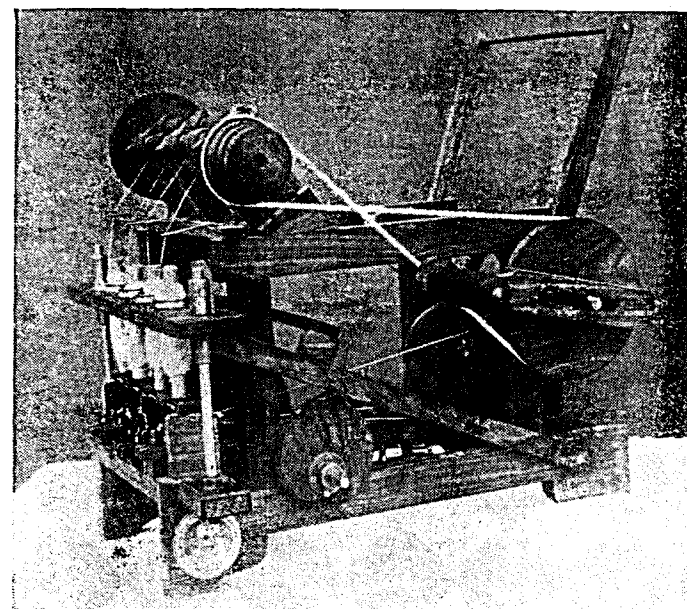
Approved schools

Under the Madras Children (Amendment) Act, 1958, which has come into force with effect from 6th May 1959, all certified schools are to be known as "Approved Schools". Therefore, the designation of the Chief Inspector of Certified Schools and Vigilance Service will hereafter be Chief Inspector of Approved Schools and Vigilance Service.

Tamil Development and Research Council

The Government have directed that Dr. K. S. Krishnan, President, Delhi Tamil Sangam, be nominated as a member of the Madras State Tamil Development and Research Council.

Ambar Charkha attracts Agriculturists



The Ambar Charka.

Muthakkal, aged 18, is the daughter of Sri Chinnaya Gounder of Vadugapalayam in Coimbatore district. She comes from an agricultural family whose annual income is to the tune of Rs. 1,500. This is hardly sufficient to meet the food and clothing needs of the members of the family. So, there is no question of the family having any savings. If lands had to be improved and cattle had to be purchased, it had to resort to borrowing. And in the villages loans are not easily available.

The desire to do some work that would augment the family income and help it lead a better life made

A group operating the Ambar Charkas.



Muthakkal take to spinning on Kisan Charkha which brought her money ranging between Rs. 3 and Rs. 5 a week. But this was not a sizable addition to the earnings of the family. The members of the family were, therefore, eagerly looking out for something better, something that would fetch a substantial income.

The Ambar Charkha Programme attracted the family and Muthakkal joined the Parishramalaya at Vadugapalayam for training. She, after having completed her training successfully, received an Ambar Charkha on easy instalment payment basis. She took to spinning on Ambar Charkha regularly from March 1958. Within a period of 39 days (from 1st April 1958 to 9th May 1958) she was able to produce 580 hanks of yarn. Now she is earning somewhere between Rs. 15 and Rs. 20 a week. This means the family's income of Rs. 1,500 has been supplemented by an additional income of about Rs. 900.

Muthakkal is a thrifty girl who invests a part of her income in a chit fund. Major portion of her income is being utilized for purchasing fodder to cattle and improving the cultivable lands with a view to raise the output. There are two more female members in her house, one being her mother and the other her sister. The members help Muthakkal in her spinning. This girl is noted for her earnest and hard work. The Ambar Charkha plies in her house till 10 p.m. every day thus bringing prosperity to a poor agricultural family.

The Ambar Charkha Programme has come to stay in Madras State and is welcomed by one and all as a fruitful source of gainful additional employment.

Police Development Work in the State

Police Development works were undertaken in the following districts in 1958 :—

Chingleput, South Arcot, Tiruchirappalli, Tanjore, Madurai North, Madurai Urban, Ramanathapuram, Tirunelveli, Salem, Coimbatore, the Nilgiris, Madras City, Kanyakumari.

The works undertaken in Chingleput, South Arcot, Tanjore, the Nilgiris and Madras City in 1958, have been completed. In the case of Madurai Urban, Salem, and Coimbatore the works undertaken in those districts during 1956 were continued during 1957 and 1958 also and completed only in 1958. In respect of Tiruchirappalli district, the work undertaken in 1956, has not been completed even during 1958. It has been reported that in Tiruchirappalli district, the villagers have not taken interest and their co-operation by way of free labour was not available. Steps were taken to complete the work in 1959 by enlisting the co-operation of the villagers. The works undertaken in Kanyakumari district and Madras City during 1957 were also completed in 1958.

During 1958, the Superintendent of Police, Madurai Urban was not able to spare the Armed Reserve to complete the work undertaken by him in 1958, on account of heavy bandobust duties, Law and Order work connected with Panchayat Election and also Law and Order situation in Ramanathapuram. As for Ramanathapuram district, no progress could be made in the village selected for 1958 as, it is reported, the villagers were not helpful. However necessary steps are being taken to implement the scheme during 1959. Two-thirds of the work taken up in 1958 have been completed in Tirunelveli district in 1958 and the

remaining work could not be completed due to the District Sports and Panchayat Election and efforts are being taken to finish it as quickly as possible. In North Arcot district the Armed Reserve men were fully engaged in building a work shed for the "North Vellore Women's Industrial Co-operative Society" and as such no particular village was selected in 1958 for Police Village Development Scheme.

In all the districts except the Nilgiris and Madras City, Armed Reservemen only were employed for the development work. In the case of Nilgiris district only taluk men were employed for the work as there is no Armed Reserve in the Nilgiris district. In Madras City able bodied inmates of Government Care Camp at Melpakkam, numbering about 20 to 30 were employed for non-technical work in the construction of the building under the supervision of two Police constables of Government Care Camp.

Villages that are in Community Development Block or National Extension Service Area only have been selected for development work in all the districts except Tiruchirappalli.

Public co-operation by way of voluntary labour is reported to be not generally forthcoming. In the case of Tanjore, Madurai Urban and Coimbatore districts such help is reported to be encouraging.

Voluntary contributions from private parties are reported to have been received in Chingleput, Tanjore, Madurai Urban, Coimbatore and Madras City. The funds required for development work are also obtained on application in certain cases from the District Collectors concerned.

Administration of Workmen's Compensation Act in 1958

During the year 1958, the Commissioner for Workmen's Compensation awarded or disbursed compensation in 129 cases of workers involved in fatal accidents, 73 cases of workers who had sustained permanent disablement and one case of a worker who had sustained temporary disablement. The corresponding figures for the previous year were 177, 91 and 4 respectively. Out of the total number of 203 accidents 95 were in respect of workers earning less than Rs. 50 per mensem, 94 in respect of workers earning between Rs. 50, Rs. 100 and 14 in respect of workers earning above Rs. 100. Compensation was disbursed by the employers to 241 workmen, during the year. Fifty-eight claims were pending at the beginning of the year and 112 claims for compensation were filed and 116 cases were disposed of

during the year. The total amount of compensation deposited with the Commissioner for Workmen's Compensation was Rs. 1,96,353. The compensation allotted to women and persons under legal disability was invested on their behalf in the Post Office Savings Bank for payments to them in instalments. One hundred and nineteen Post Office Savings Bank Accounts were opened during the year.

The total amount of compensation paid during the year was Rs. 2,62,699 out of which Rs. 71,815 was for death, Rs. 96,523 for permanent disablement and Rs. 94,361 for temporary disablement.

Occupiers of factories and establishments are statutorily required to furnish annual returns to the Commissioner for Workmen's Compensation under the Act giving particulars of accidents, etc. Out of 14,737 factories and establishments from whom returns were called for, only 5,577 have furnished the returns.



World's largest Sea-water Distillation plant

A Scottish firm of engineers has received an order from the Government of Kuwait, oil shaikhdom on the Persian Gulf, for what will be the largest "fresh water from sea water" plant in the world. The plant consists of two units, each of which will produce 1,000,000 gallons of fresh water a day—the greatest output ever achieved by a single flash distillation unit.

The order is worth well over £500,000, and was obtained in the face of strong international competition. This follows last year's order for a similar plant for half-a-million gallons a day in Guernsey (Channel Islands).

Electronic "Memory" gives train times

Of the various pieces of equipment being exhibited by Automatic Telephone & Electric Co. at the British Trade Fair in Lisbon (May 29 to June 14), one of the most spectacular is a Train Time Indicator which, using a magnetic drum as an electronic "memory" activated by a dialled code, shows the time of the "next train" on an illuminated panel.

The inquirer operates a dial and the magnetic drum responds to the six digits dialled, the first two being the code for the desired destination and the remaining four the chosen time of departure to the nearest quarter-hour.

7,000-ton Electromagnet core will be part of Atom-Smasher

The 7,000-ton core of an electromagnet—the biggest in the Commonwealth—is being built for the National Institute for Research in Nuclear Science, it is announced in London. The electromagnet is being built at the Wolverhampton (Staffordshire) factory of Joseph Sankey & Sons, and will be used for research in fundamental physics.

The magnet ring, 160 feet in diameter, is being produced in 336 sectors each weighing nearly 20 tons. Magnet sectors which cost a total of £1,500,000 form the largest component of a 7,000,000-electron-volt "atom-smasher" being built at Rutherford High-energy Laboratory at Harwell, Berkshire. Total cost

of the apparatus will be £7,000,000. It is expected to be completed by 1962 and will, to a large extent, be put at the disposal of university research teams.

Sindri Institute keeps quality check on Fertilisers

At the big fertilisers factory at Sindri in Bihar, they are not only working hard to raise the output to meet the growing demand for fertilisers but are also taking every care to improve the quality of chemicals produced. They know that on the quality of fertilisers produced at Sindri depends the performance of the soil in far-flung regions.

This responsibility falls on the small groups of scientists and research workers of the factory's Technological Department, which has been set up to keep a continuous check on the chemicals that come out of the factory's massive crucibles.

A recent example of the kind of problems the Technological Department at Sindri deals with pertains to the rather odd behaviour of ammonium nitrate, one of the most widely used fertilisers. It is preferred to other fertilisers owing to its high nitrogen content. It has, however, one bad habit. It is quick to absorb moisture and cakes rapidly. The cakes harden on account of pressure present during storage. If the degree of hardness is high, the fertiliser becomes unfit for field use. Only at great expense and inconvenience, the hard lumps can be broken and made fit for distribution in the fields.

The scientists at Sindri, seized with this problem, went carefully into the causes of this phenomenon. Among other things, they discovered that moisture content of the atmosphere has a greater effect on caking of ammonium nitrate than such factors as pressure and temperature. This effect, they found on further investigation, can be mitigated in two ways, both designed to improve the keeping quality of ammonium nitrate. Firstly, it can be done by keeping the chemical in moisture-proof bags. The second method requires the addition of certain cheap and harmless substances to ammonium nitrate to immunise it from the influence of moisture and minimise danger of caking.

Sindri's Technological Department has not only succeeded in developing suitable moisture-proof bags but has also been able, after careful research, to find suitable additives to prevent caking of ammonium nitrate, enhancing the usefulness of this vital fertiliser.

New Facilities for Fish Preservation

Canned fish consumed in India is mostly imported. Some Indian firms have recently started the canning of pomfret and also the production of dry and wet packs of prawn. This has been made possible mainly by the work being done at the various fish technological research centres set up by the Government in different parts of the country. Last four or five years have seen a truly remarkable spurt in research on fisheries, which is well on its way to becoming a big and well-organised industry.

A number of methods for curing and preservation of fish are used varying with local conditions and quality of catch. The chief methods adopted for curing fish in India are sun-drying, and salt curing by the wet and dry process; preservatives and spices are also added in some places to enhance the keeping quality of preserved fish.

The fish canning and preservation industry in India is still at an early stage of development. Work, therefore, continues even to-day on assessing the relative merits of the various methods used for fish preservation. Suitability of each method under different conditions is being studied, and efforts are being made to finding out ways and means of improving the traditional methods to increase their serviceability to an expanding fishing industry.

Better Mica for Electrical Industry

An instrument for testing and evaluating the electrical qualities of block mica has been developed at the Central Glass and Ceramic Research Institute, Calcutta.

Mica finds many and varied uses in the electrical industry. It is, however, not every kind of mica that can be used in the manufacture of electrical goods. The new instrument at the CGCRI has been specially designed for quick and faultless classification of mica on the basis of electrical properties. This helps in the utilisation of not only good mica but also of the spotted or stained type which would, purely on the basis of conventional and visual methods of examination, get rejected. The instrument thus avoids waste of both time and material. There will be less rejection of mica and, at the same time, an assurance that no bad mica finds its way into the electrical industry.

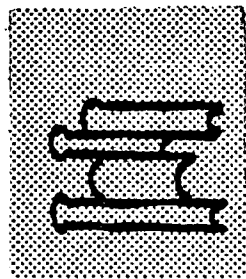
The instrument has many other advantages. It is portable, self-contained, battery-operated, direct-reading and uniform in its operation. It is also extremely simple to operate and suitable for rapid grading of mica of every size and thickness.

Employment situation in Madras State in the month of May 1959

The overall employment situation in Madras State showed a slight improvement during May 1959. An upward trend was noticed in the districts of Madras, Madurai, Salem and Tirunelveli, while there was a slight decline in the districts of South Arcot, Ramanathapuram and Tiruchirappalli. In the other districts, the position remained static.

Fifteen thousand and eight hundred and six registrations were effected during the month, as compared to 15,855 in the last month, showing a slight fall. There was a marked rise in the number of vacancies notified to Employment Offices, the figures being 4,430 for May as against 2,187 for April. Similarly there was a rise in the number of placings 1,908 registrants including 436 belonging to Scheduled Castes were placed in jobs in May 1959 as against 1,591 in the last month. There was a corresponding increase in the number of applicants submitted against vacancies; during the month 13,220 applicants were submitted as against 10,552 in the last month. The number of employers in the Public and Private Sectors using the Employment Offices for their man-power requirements increased to 958 during the month as compared to 874 in the previous month. One lakh and sixteen thousand and six hundred and eighty-four applicants remained on the Live Registers of the various Employment Offices in the State at the end of the month as compared to 120,267 in April 1959. There was no significant change in regard to the occupational structure of the Live Register. While surpluses continued in such categories as clerical and unskilled workers, shortages of personnel were keenly felt in respect of blacksmiths, building and town-planning supervisors, draughtsmen, electroplaters, electricians, pharmacists, craft instructors, librarians, language pandits, science and mathematics assistants, instrument mechanics, welders, maternity assistants, physical training instructors and tool setters.

The Man-power schemes in the State continued to progress. The Occupational Information Unit completed the study of occupations in Sugar Industry and commenced study of Occupation under groups "Draughtsman and Science and Engineering Technicians" and "Architects, Engineers and Surveyors". Under the Employment Market Information Scheme, for the quarter ending 31st March 1959, 1,923 employers in the public sector and 1,605 employers in the private sector were addressed for collection the required data. The response from them was good. The materials received from them are being processed. The Youth Employment Service Unit located in the District Employment Office, Madras, rendered Vocational Guidance in groups to 837 youths; of these 8 youths were later given individual guidance. Thirty-nine schools and other institutions were contacted during the month to acquaint them of the activities of the Youth Employment Service. The work on revision of the Hand Book on Training Facilities in the State (Implant and Institutional) made satisfactory progress. It is expected that this work will be completed in about a month's time.



Reviews

"Mohan Mala *"

The essence of Mahatma Gandhi's philosophy of life have been presented in the forum of a Rosary of 366 "Pearls" all gleaned from his writings and speeches. This should help the readers understand the Mahatma's message of truth, non-violence and universal love. It deserves mention that the sayings are arranged in such a way so as to enable the reader to make use of the Rosary either for daily contemplation or for continuous reading at a stretch.

S.N.

"The Freedom Road"

The evolution of human society from the early origins of man and the role that his incessant labour has played in establishing the species on the planet, has been a remarkable and at the same time, a peculiar phenomenon. From such evolution, a social history, civilizations and societies have come to be established and destroyed; but each having left behind an imprint and an impact of its existence. A parallel movement along with this advance of civilization, has been the strenuous efforts of man in his conquest or attempt at conquest, of nature and life, which has also at times and frequently enslaved amongst other living things, man himself. The story of civilization has therefore been and continues to be, one of ceaseless turmoil, efforts, energy, frustration and success.

At every stage or phase of such a history, has arisen one man out of the whole entirety, to propound, propagate and leave behind for posterity to decide and absorb, a few theories which stressed the importance of freedom, the individual and the free society. The latest or the penultimate of such apostles in India, has been Mahatma, whose first sayings on Village Freedom dates back to 1915.

The concept of an ideal society centred around the village and the rural community has however not been a new concept either to the Indian genius or her history. The dependance of such a society in this country to the soil and the interdependence of individual members of each such society is clearly established by historic facts from Mohenjodaro onwards. The role and duties of the State to such village communities are catalogued en masse, throughout the pages of Indian History, till for about 300 years in the penultimate phase when the alien rule of the British existed in India. Based on the successive efforts of foreign hordes, it was ultimately left to the British to establish, a system of middlemen and create a landlordism, thus obliterating the rights, which were traditionally those of the cultivator. Along with such a process down went the drain, the life and association of an organized village society, with the host

of desertions from the face of earth and nature, to the excitements and bustle of urbanity.

It was therefore not surprising that as early as in 1915 when Gandhiji returned to India he was awestruck by the apathy and the destruction of the village societies, by the force of an economy of exploitation, let loose in unflinching fury, throughout the geographical terrain. His concept of village swaraj from very early times, therefore envelope every conceivable social activity, around which human society can have a play and sway. As a result, he envisages a village as a self-governing and self-reliant unit and the seven lakhs of such units acting in broadbased collusion with one another, in setting this country as a great national entity.

Gandhiji goes on as far as to say:—

"I have not pictured a poverty-stricken India containing ignorant millions. I have pictured to myself an India continually progressing along the lines best suited to her genius. I do not, however, picture it as a third class or even a first class copy of the dying civilization of the West."

With the advent of freedom it has come to be realized more and more, that the economic and social resurrection of India, depends more on the rural society, the soil and the village. With the needs of the home, the nation and her people always being felt by all at the helm of the State, it is not surprising that the voice of the Father of the Nation, continues to impart a ring and the bell of action tolls with a greater note of urgency, hurrying all to duty in the task of rebuilding, revitalising and one may even say, reactivating the cloisters of rural life; for after all, the path of the nation's progress, has been and will be, through our villages.

In these circumstances, when the call of the villages is greater, when the future progress of the country depends upon our villages, a small remembrance on the teachings of Gandhiji, referring clearly and in no unmistakable terms, to the remodelling and reconstruction of our rural life, especially through "Panchayat Raj" as the basis of local self-Government, which will make the saying Government of the people, by the people, for the people, complete and true, is a welcome feature.

The publication priced low and issued attractively deserves the usage by all those, who to-day have a role, however small, in the developmental activities of the nation. In our State the significance of the publication is not in any way less when we are pioneering in the establishment of a Panchayat Raj, which would merit the approval of the Father of the Nation.

—A.N.

["Panchayat Raj" compiled by Sri R.K. Prathu and published by Navajivan Publishing House, Ahmedabad—Price 30 nP.]

* Mohan-Mala.—A Gandhian Rosary. Published by Navajivan Publishing House, Ahmedabad. Price Re. 1.



World Health Day was celebrated in the City on 20th July. Photo shows Sri C. Subramaniam, Minister for Finance addressing the gathering at the Madras Medical College.

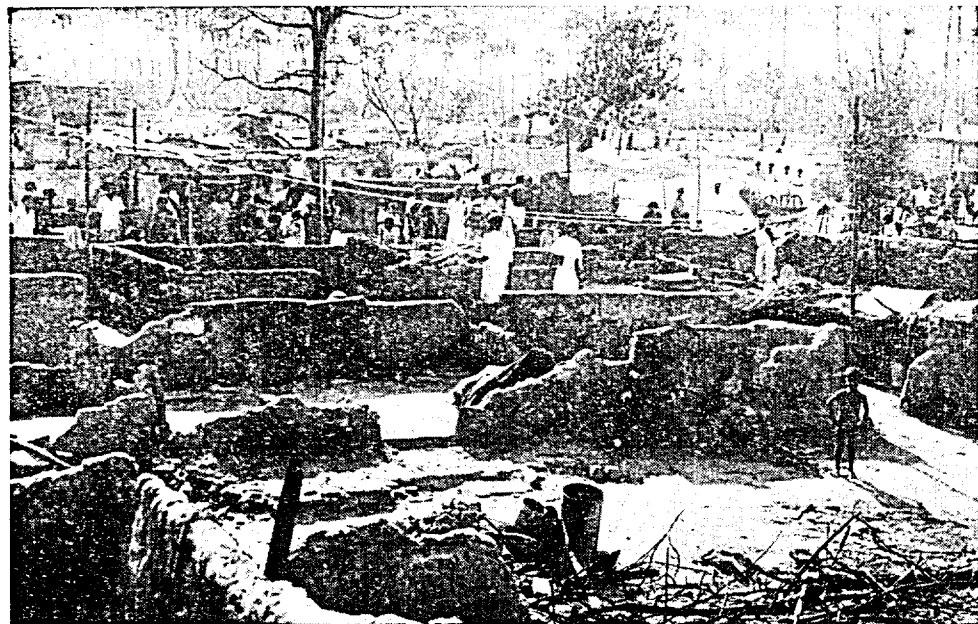
335



The Slater Hostel for Harijans was inaugurated by the Chief Minister on 16th July 1959 at Vepery.

A bridge across the Palar near Ranipet was declared open on 20th July 1959 by Sri Raj Bahadur, Deputy Minister for Transport and Communications, Government of India.

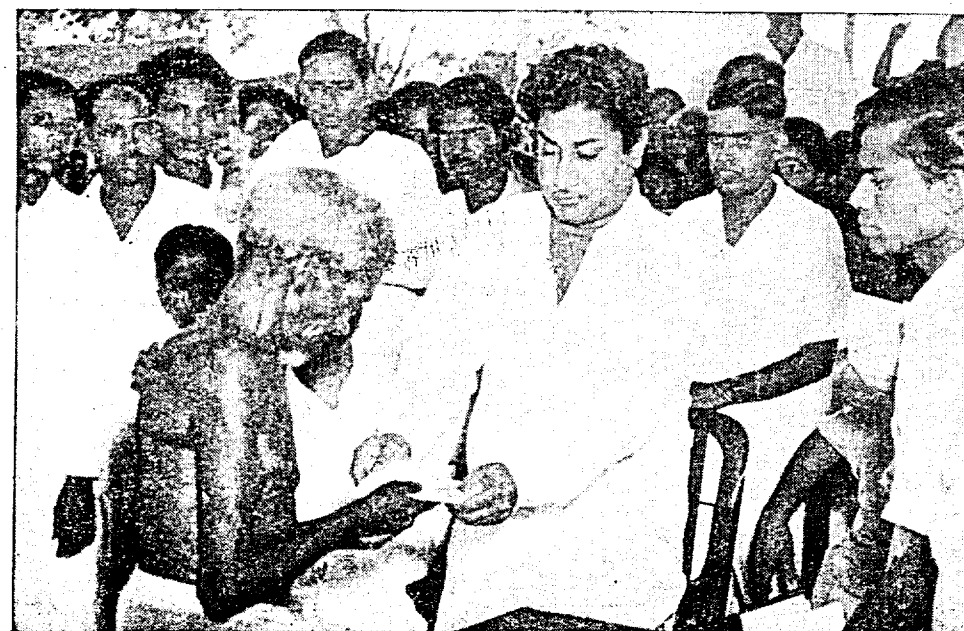




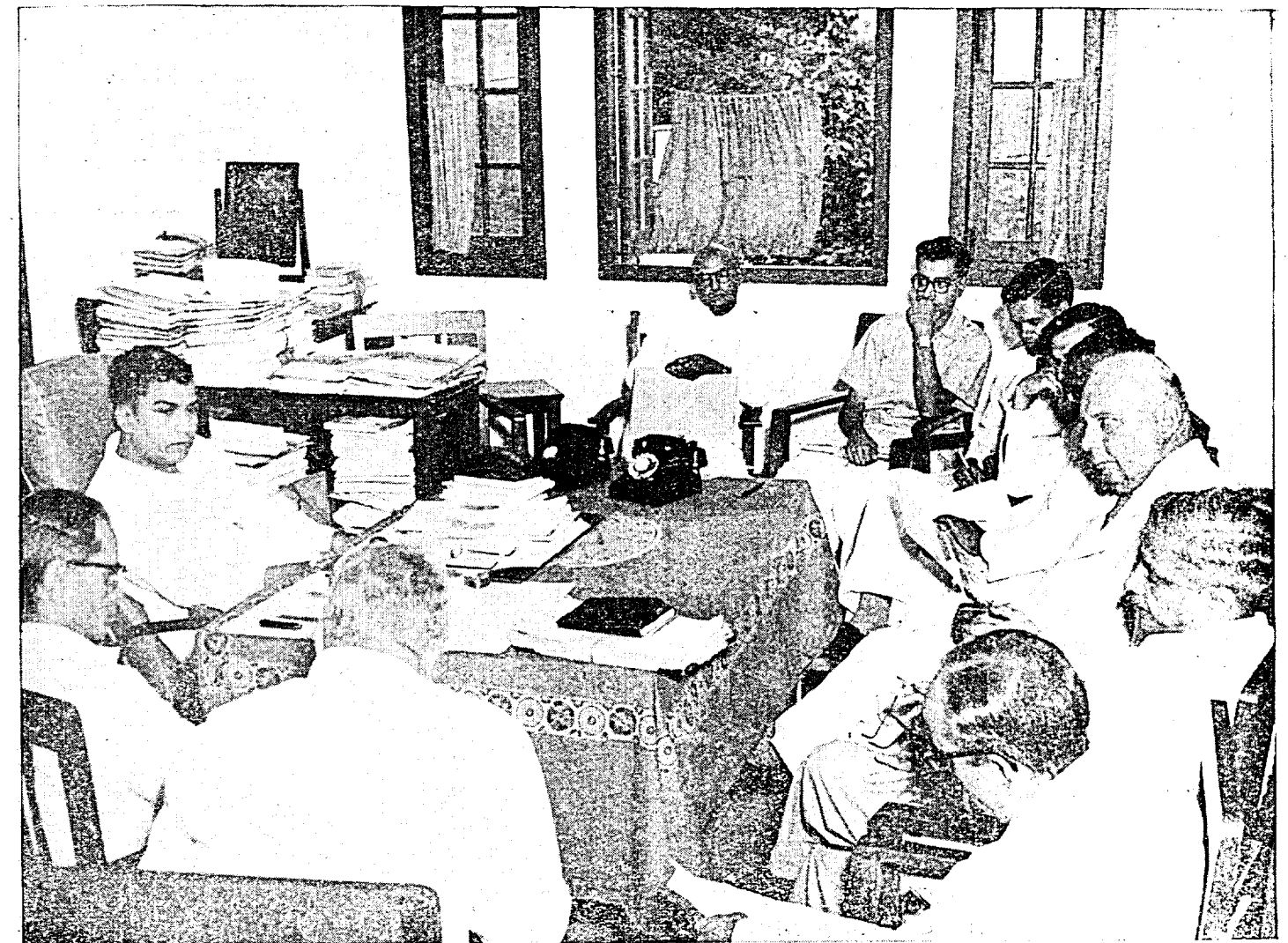
A colony of huts in Teynampet in the City was destroyed by fire in June 1959. Photo shows the havoc caused by the fire.



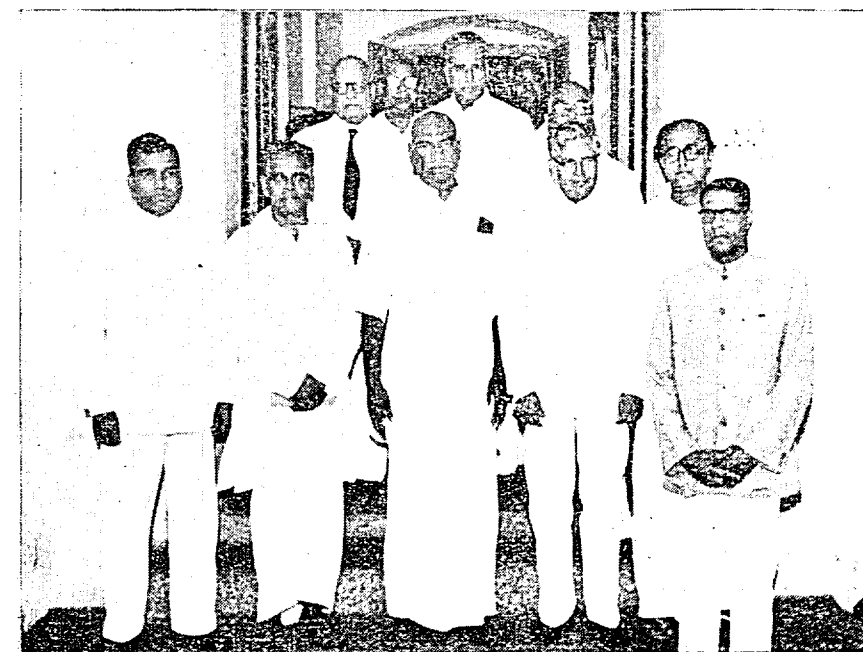
The Minister for Industries, Sri R. Venkataraman and Sri T. T. Krishnamachari visited the spot and made arrangements for relief.



Sri Shivaji Ganesan, Film actor is seen giving Rs. 101 to each of the families rendered homeless by the fire.



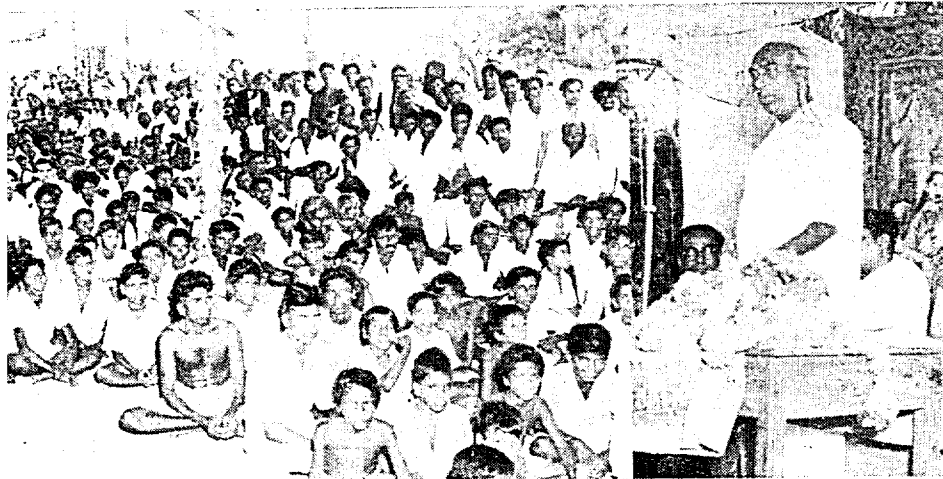
M. Von Monroy, Forestry Expert of the Food and Agricultural Organisation, who was on a tour of this State, called on Sri P. I. Vaidyanathan, I.C.S., Secretary to Government, Food and Agriculture Department.



The Members of the State House Mortgage Bank which was recently inaugurated by the Chief Minister, Sri K. Kamaraj.



A COLONY
FOR HARIJANS.



akkam Nagar', a New Colony for Harijans, was inaugurated by the Chief Minister
at Putheri near Kancheepuram in the Chingleput district in June 1959.



Inauguration of the Scheme.

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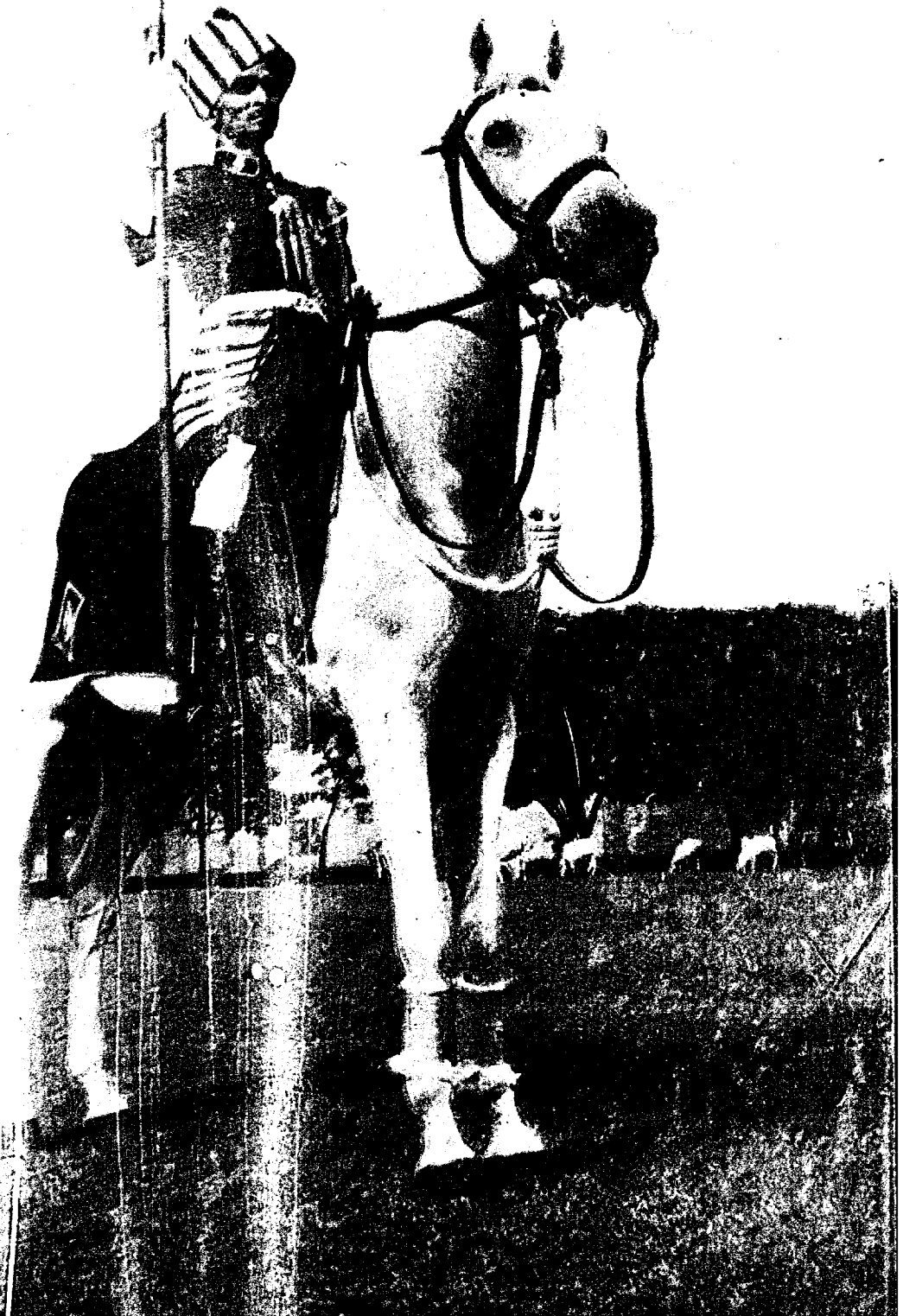
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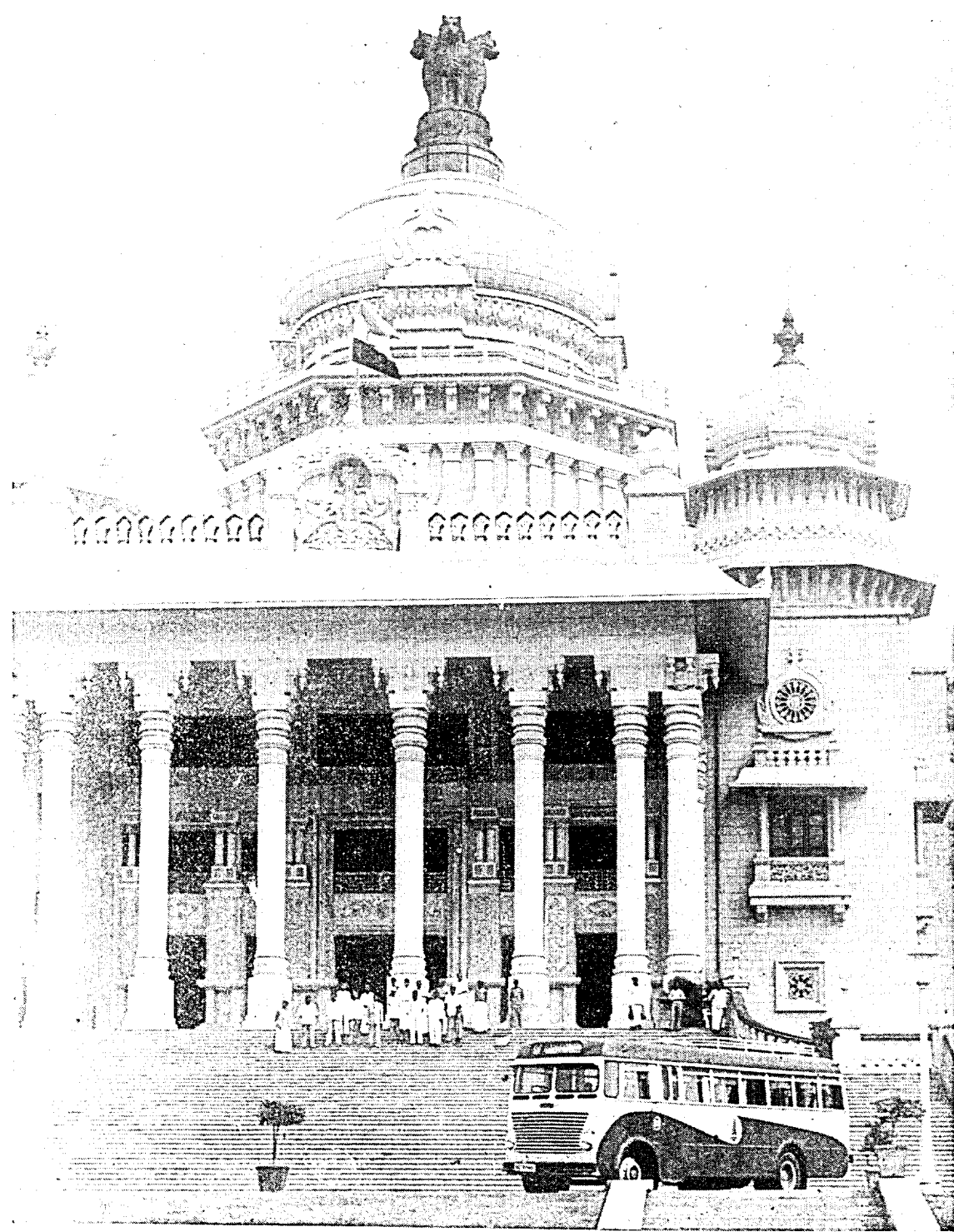
**POLICE
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20

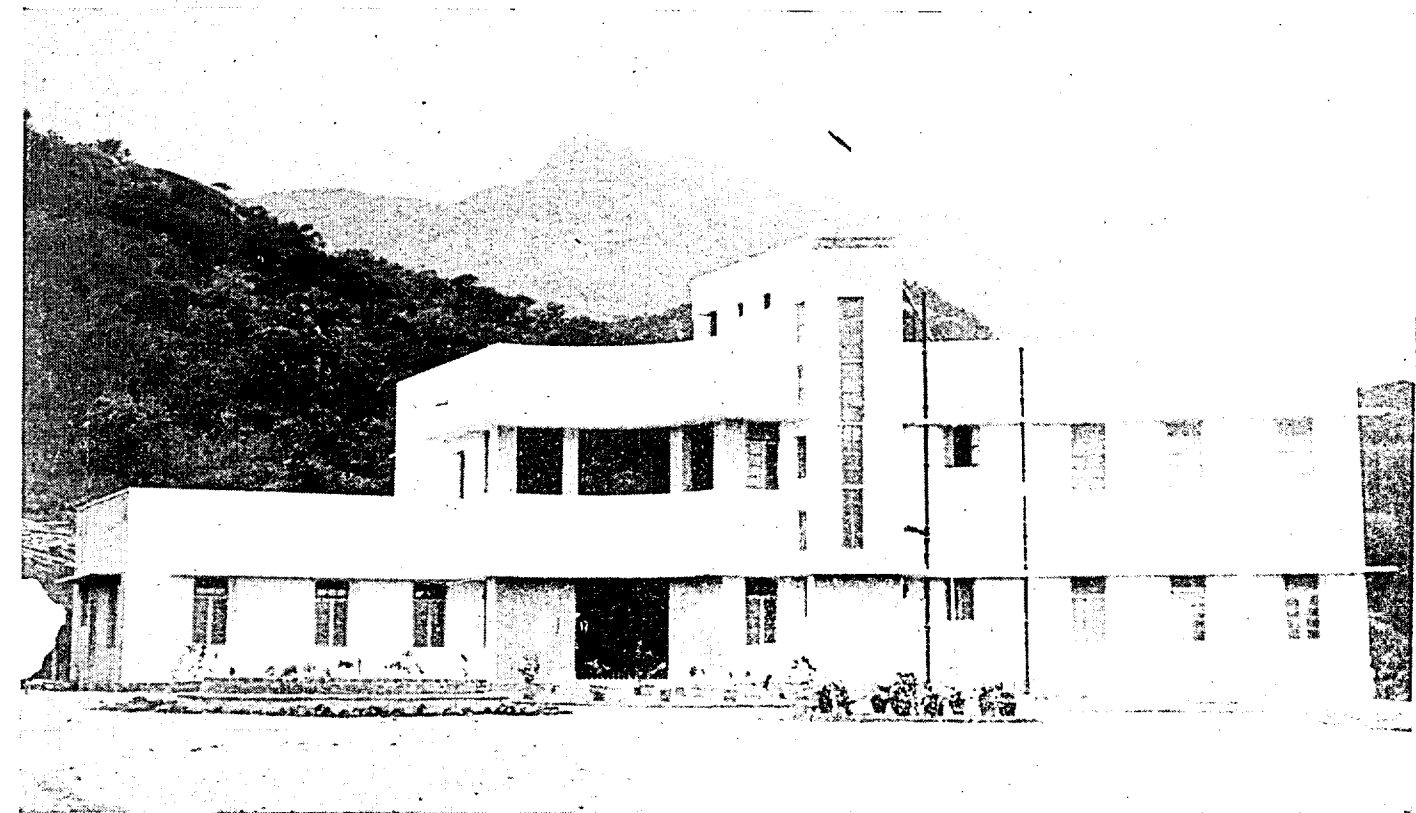


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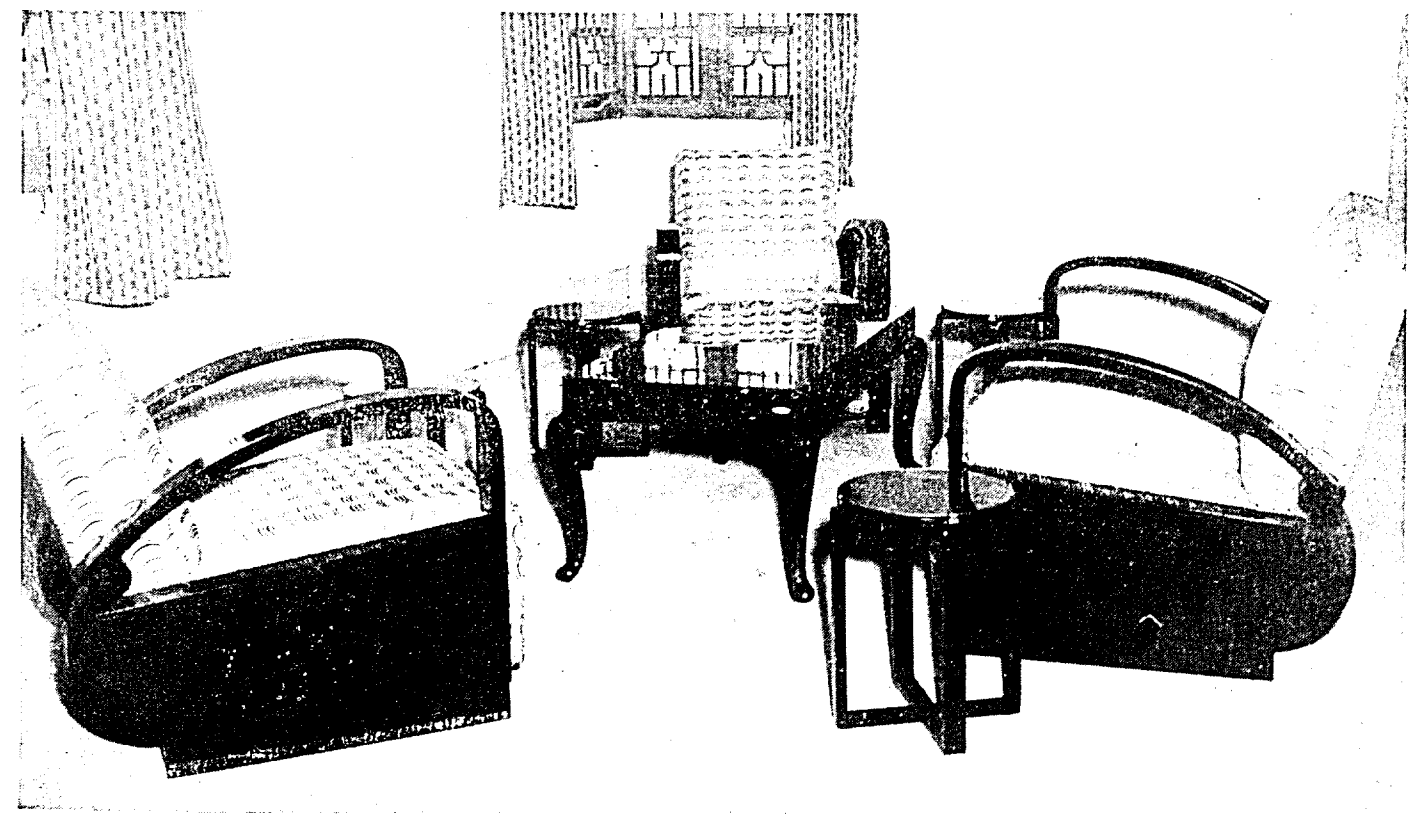




A direct bus service to Banga'ore from Madras on a reciprocal basis with the Government of Mysore has been started by the Madras State Transport Department from 1st August 1959. The photo shows the Madras State Bus with the Vidhan Soudha, Bangalore, in the background.



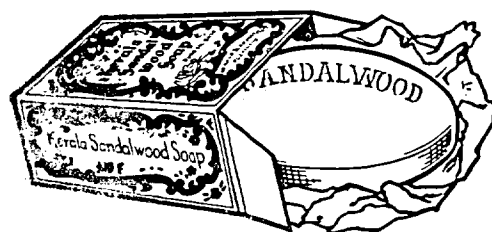
A Guest House, for the benefit of Tourists at Courtallum was declared open by the Chief Minister on 7th August 1959. The photo shows a view of the building and the interior of a drawing room.



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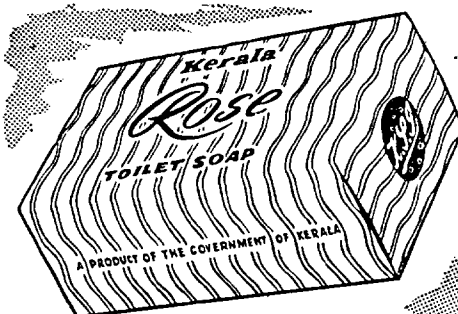
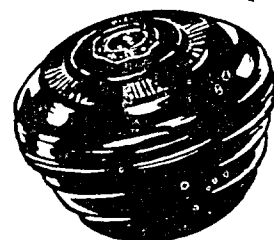


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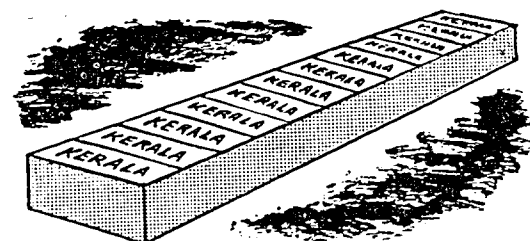
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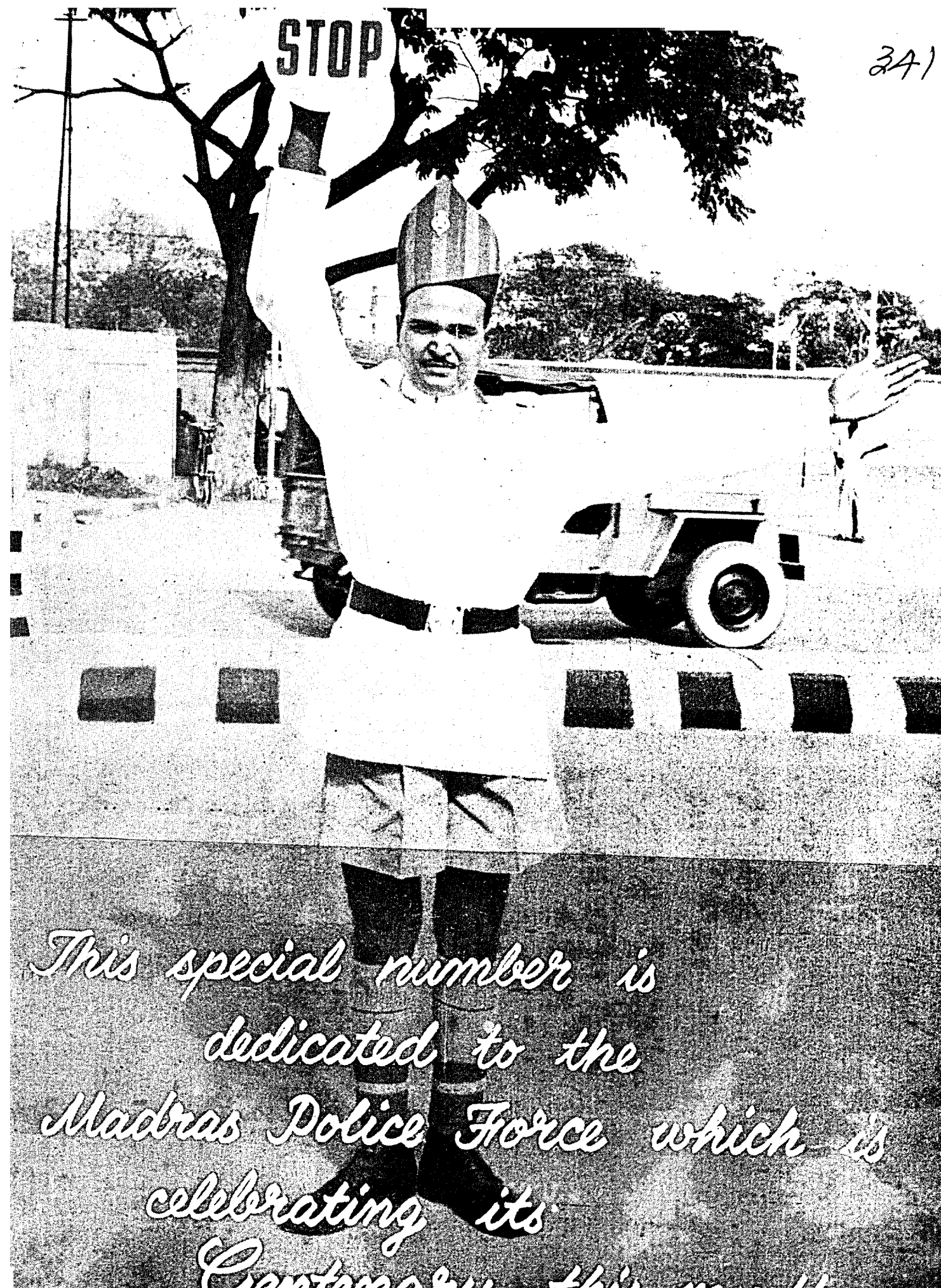
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SISTA'S



*This special number is
dedicated to the
Madras Police Force which is
celebrating its
Centenary this month*

341

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THE
POLICE
FORCE
MIRROR
OF THE
PEOPLE

DR. C. P. RAMASWAMI AIYAR



I have readily acceded to the suggestion made by Sri S. Balakrishna Shetty that I should contribute an article to the Souvenir to be issued on the occasion of the Centenary of the Madras Police Organization which was inaugurated in 1859.

It may be observed that originally the Judge of each district had also the powers of a Magistrate and the control of the Police. The Indian Police Personnel was originally officered by Indian Darogas, each of whom was in charge of a Police Circle or Tana (about 20 miles square). It is interesting to note that the Daroga received a salary of Rs. 25 plus Rs. 10 for every dacoit or brigand convicted and a commission on stolen property that was recovered. In the language of a historian, the Darogas were, too often, antagonistic to the well-disposed rather than to the evil-doer.

The present system of Police administration was brought into force from the year 1859 when the High Courts were founded and the Penal Code and the Code of Criminal Procedure were enacted. The Indian Police system was organized on the model of the Irish Constabulary. Lord Cornwallis had an extraordinary distrust of Indian Officials and in one of his Despatches he asserted that all regulations for the reform of the criminal department would be useless while the execution of them depends on any native whatsoever. This attempt to exclude indigenous agency from key positions was the real origin of the distrust of the Police and their unpopularity. On the other hand, in England far-reaching measures were adopted for the reform of the Police by Sir Robert Peel which were implemented by men like Col. Rowen and Sir Henry Maine; and the London Police and the Irish Constabulary became noted for their high discipline as well as their dignified courtesy and helpfulness towards the public.

The term 'Police' is synonymous etimologically with a city or State and, of course in the old days, the State was essentially a Police State designed mainly for the purpose of enforcing law and order as part from a Welfare State. The object of the Police is primarily to protect and defend society from individuals who flout the general standards of conduct accepted by the law-abiding. The London Police has gone beyond this limit and, as already stated, has become justly celebrated for its sense of humour and its sympathy towards the friendless and the helpless, such qualities co-existing with inflexible discipline. In fact, it has been often stated that the London Policeman's mission is to be an active friend of the friendless or lonely woman and child and of the foreigner who does not know his way about in London. The aim of the Police in every State in the world should be to approximate towards the dignity, the firmness and the sympathy of the London Policeman.

In certain countries, the Police are employed to carry out inquisitorial or espionage activities and to the extent to which such activities engross their attention, they are likely to suffer in prestige and effectiveness. The Policemen in large towns have at present extensive duties to perform. They are formed into motor squads, mounted police, narcotic squads and Vice squads especially in large American cities where flagrant law-breaking is not uncommon. In the conditions of today, one of the main functions of the Policeman is the regulation of traffic and in this particular department, he has to develop qualities of quick decision as well as of initiative and sympathy.

During several years, I had a great deal to do with the administration of the Police Department in the Madras State and later in the Travancore State I first



came into official contact with the department when I became Advocate-General of Madras in 1920. In 1923, owing to the resignation of Sir K. Srinivasa Ayyangar, a vacancy arose in the Madras Executive Council, as it was then called. Lord Willingdon was then Governor of Madras and I had first met him in Bombay when, as Governor, he tried to prevent me making a speech on behalf of the Home Rule League within his Province. He afterwards became an intimate friend and colleague of mine, and, as Governor of Madras, offered me the position of Law Member in his Government and also asked me to take charge of the portfolio relating to the Police and the C.I.D. This step caused, at that time, a great deal of stir in European circles, official and non-official, because during the years 1914 to 1919, I had been actively associated with the Indian National Congress and the Home Rule League led by Dr. Annie Besant which, at that time, was more militant than the Congress. The opposition to my appointment was, indeed, so acute that, without mentioning names, I may say that a civilian who later became my colleague in the Government as well as certain Police officials who had been keeping a watch over my movements in my political days, threatened resignation. Lord Willingdon, however, was insistent and he carried out his intentions.

For over five years, in addition to the Police and the C.I.D., I also administered several other branches of administration including irrigation and hydro-electricity. But I may say that I took the greatest interest in irrigation and hydro-electric project and next to them, my attention was concentrated on the Police Department. At that time, the department was in disfavour with the public because a large number of regulations and orders relating to public meetings and the conduct of the Press had been promulgated as well as laws relating to sedition. Difficulties also arose as to the administration of troublesome districts like Malabar, Cuddapah, Anantapur and Bellary and measures had to be taken which were resented by the people at large. However, on close acquaintance, I found that, in general, the Police were to blame to a much less extent than was taken for granted by the people at large. One of the main reasons for the blame ascribed to them was the superior staff at that time almost exclusively belonged to the European or Anglo-Indian communities who, excepting for certain remarkable and gratifying instance, never came into friendly contact with the public and did not endeavour to maintain comradely relations with the people around them. Even more than the I.C.S. Officer, the English Police Officer kept himself somewhat aloof. As I have already stated, this however was not invariably the case and I have known of certain officers who were remarkable for their conciliatoriness and their friendly approach towards Indians. On the other hand, there was a particular Police Officer functioning in Madras who detested Dr. Besant and her associates to such an extent that when the Governor of the Province accepted an invitation to a social function in the premises of the Theosophical Society, the police officer concerned stationed men belonging to the C.I.D. practically behind every bush and tree in Adyar. As very often happens, the policeman in mufti is even more readily recognized by reason of his demeanour than when he is in uniform and the incident created a lot of

stir at the time. Moreover, about the time I took charge as Police Member, the memories of the Mopla rebellion were still fresh in peoples' minds and the Malabar Special Police did not wear kid-gloves, neither did the Tinnevely Police who had to deal with the remarkable case of a dacoit who was protected by an enthusiastic missionary lady in the belief that he was turning over a new leaf and adopting the way of penitence and the good life. Such exceptions apart, I found not only that those officials who had strenuously objected to my appointment, co-operated with me with great zeal in my efforts to popularize the Police. Also with a few exceptions, the spirit of the times had affected the superior Police Officers who began to deal with their Indian subordinates, on the whole, with sympathy. Some persons, nevertheless, had to be taught a lesson. It so happened at that time not only in Madras but practically all over India, that so long as the better type of Indian Officer occupied a subaltern position, his character and intellectual calibre were the subject of unqualified praise. But when the officer came near achieving top position, that is the post of a District Superintendent of Police or any higher rank, his merits somehow vanished as by a miracle. In one such instance, the official superior who had reported generally favourably regarding a particular Indian officer, suddenly turned round when the question arose about giving him a district charge and stated that the Indian in question was deficient in "drive, in initiative and in presence of mind". Such a formula is easy to pronounce but too difficult to verify or test. I knew that this was an exaggeration but I bided my time until the same official recommended a somewhat over-bearing and discourteous non-Indian officer to a prize post. When I got his recommendation, I said "I am afraid that this officer is not only discourteous and ill-tempered but also lacks drive, initiative and presence of mind". And I added "I take these words from your letter, dated so and so relating to such and such an officer". I also stated that my description was as appropriate as his was. The gentleman concerned did not stay long at his post and asked for permission to retire, a permission which was readily granted. A few instances of that kind were sufficient to infuse a new spirit of comradeship among the higher and lower ranks of the Police; and I may say that I found the force extremely responsive as well as increasingly efficient.

One of the main difficulties of a Policeman arises from the lack of support that has to be extended to him by his political or administrative chief. For instance, in particular situations like the Simon Commission boycott or political or religious demonstrations like Muhurram riots or communal disputes, the District Magistrate or the Member of the Government in question finds it often necessary to order the Police to make a lathi charge or a tear gas charge or to sanction firing on an unruly and violent crowd. The Police Officer is generally reluctant to take such measures and resorts to them only in the last instance. But if the superior Magistrate or Member of Government, in face of actual or possible journalistic attack or questions or debates in the Legislature, gets cold feet and either disowns or minimizes his own responsibility and makes haste to inculpate the Police

(Continued on page 56)

"The Police of my conception will however be of a whole different pattern

Its members will be servants, not masters of the people. In fact the Police will be Reformers."

— MAHATMA GANDHI.

In primitive community there was no need for a police force; but as the community became more and more complex, the need for a body of men who always helped in the preservation of law and order was felt. That body was called the Police.

This year marks the Centenary of the Police Administration in the Madras State. During its long and chequered history, the Police of this State underwent many changes and there were several interesting developments too.

The Police of the Pre-British Days.

Before the advent of the British rule in India, the system of Police organization of the countryside was called by the general name KAVALGARY or TALLIARY system. In some districts of Tamilnad they were called Poligars. Their main duty was to apprehend offenders and afford facilities for travellers. They were not Police Peons in the modern sense of the word, but customary village servants. This Talliary or Kavalgari was a man of wide contact. He knew everybody in the village where he served. Though this system had many good points, it soon fell into disorder and confusion in the absence of a strong central authority in India.

Early attempt of the British.

The East India Company built in India, side by side with the old system, a Police which was more centralized and controlled. In the districts immediately under the management of the Collectors, the tahsildars and other revenue officers exercised some shadow of Police authority. Most of the Police duties were performed by the Revenue Officers working under the Collector.

This continuation of Revenue and Police duties in the one and the same set of officials led to inefficiency. The

S. VIJAYALAKSHMI, M.A., M.LIT.

double duty imposed upon the revenue officials like the Tahsildars made their Police work by no means efficient. Of course the Police administration by the revenue officials had certain minor advantages, i.e., their contacts with the people and the means they possessed to procure information. But this early attempt of the British to administer Police duties was however a failure. A large number of crimes went unreported!

The Police Commission of 1805.

The Police Commission of 1805 could not make much headway in establishing a regular and uniform system of Police Force in this Presidency. The discharge of Police duties were placed in the hands of the Collector both as a measure of policy and economy. The Collector of the district as the 'Head of the District Police' continued to be all powerful in Police matters till 1859, when the cadre of D.S.P(s). was created. The evils resulting from the combination of these two duties were numerous.

At last the Torture Commission that was appointed in 1855 to investigate the question of torture, confirmed in its report, the urgent necessity for Police reform in Madras.

Beginning of Madras Police—The Madras Police Act.

In 1859, during the Governorship of Sir Charles Trevelyan a major reform was effected in the Police administration of this State. The subject of Police reform in this State was embodied in the Act passed on 6th September 1859, known as the Madras Police Act. The Police Department was entirely separated from all connections with the revenue branch of the administration. The office of the Inspector-General of Police owes its origin to this Act of 1859. The first Inspector-General of Madras was Mr. later (Sir) W. Robinson of the Civil Service. The Police Department as a separate branch of administration was placed under the direct control and supervision of the Inspector-General.

A man of remarkable ability, Sir W. Robinson, the first Inspector-General of Madras was a pioneer in the matters of Police reform. He had minutely studied the organization and functioning of the Police forces in England and Ireland. In fact the new Police that came into being as a result of the Madras Police Act was modelled on the Irish Constabulary system with modifications to suit the circumstances and needs of the country, and the character of the duties to be performed.

A defect of the reformed Police was that it was military in character. It was quite good for guarding the treasuries, preventing outbreaks and the like; but for real civil Police work, military equipment and military spirit was nothing but a hindrance. If the new Police had been modelled on the English instead of the Irish (which was military in character), it would have been civil in character. Perhaps the circumstances of the time with dacoity and political unrest in the country made the choice inevitable.

Besides these, the reform effected in 1859 resulted in making D.S.P(s). the 'Head of the District Police'. The cadres of D.S.P. and A.S.P. along with the office of I.G. were created by the reform of 1859.

Police Commission of 1902.

Lord Curzon appointed in 1902 a commission to examine the working of the Police in the Presidency of Madras. Serious crimes had increased and the Police story everywhere was one of corruption, inefficiency and oppression of the people. The Commission acknowledged without reserve the obvious faults of the Police. The superior officials were not sufficiently trained and were ill-equipped and the supervision had been defective. The Commission recognized the need for employing native agency in the superior ranks.

The Police Commission of 1902 touched a variety of subjects like the reorganization, recruitment, training and pay of the Police force, and their relation to superior District Officers. The Provincial service of Dy.S.P. was created. The Central Intelligence Department was organized to collate and distribute information regarding organized criminals and to assist in the investigation of complicated cases. Four Central Training Schools for Constables were established in the place of old District Schools. But for this reorganization, the Police of this Presidency would not have survived the strain of the communal and political troubles of the years that followed.

Another landmark in the history of the Madras Police is the work of the Royal Commission on Public Services in India in 1913 which considered such vital issues like method of recruitment, system of training and probation, conditions of salary, service, leave, pension and several others. On the recommendation of the Royal Commission, the I.P.S. was thrown open to the Indians. The Act of 1919 made it possible to hold the Police examination simultaneously in England and in India.

Peculiarities of the Indian Police.

The peculiar problem of the Indian Police in the past arose from the fact that India was not a free country. During the years that preceded the achievement of

India's freedom, political agitation in some form or other had been going on in the country. At times, the Police became so pre-occupied with the various manifestations of the political agitation that many of their ordinary activities were abandoned and in consequence there was marked increase in crime. Few will justify the policy adopted by the foreign rulers of this country against the political workers. Commenting on the Police of the day, Pandit Jawaharlal Nehru wrote: "Strange that the very thing (Police) that should be a refuge to the weak and the oppressed should become a weapon in the hands of the oppressors".

In the past many an adjournment motion was moved in the Legislature of Madras to censure the Police and its conduct. With the change in the political set-up of the country, our attitude towards the Police should also change, though the Police of this land is of foreign growth. The Policeman in India often came in for criticism; it was said that whenever his service became indispensable, the Policeman was conspicuous by his absence. The complaint was often heard that the Police in the lower rank was corrupt and inefficient. The people often detested the idea of going to the Police station, not that they had no faith in the ability of the Policemen to deal with the crime, but these officials did not possess courteous behaviour.

The Police Department must keep pace with every change in the social order. Shakespeare found the Policeman a feeble, and inefficient person. Charles Dickens ridiculed him by saying that whenever a major accident took place, the last person to arrive on the scene of accident was a Policeman. With all this, the importance of the Police in our community life cannot be minimized.

The Policeman in the lower rank deserves our sympathy and goodwill. He is grossly under-paid. Commission after commission that sat to suggest improvements in the Police administration in this Province at least did not lose sight of this important fact. From the beginning it was clear that the wages of the lower ranks were inadequate to secure the services of a decidedly superior order of men belonging to the working-class population. Certainly most of the abuses which mar the history of the Madras Police were the result of the inadequate remuneration of the lower grades.

The Indian Police in general, has to face more risks than any other Police in the world. The duties of our Policemen are far wider than that of the English Police.

A modern Police in any country, besides preventing crime and detecting the offender and bringing him to justice if crime has taken place, see to the maintenance of law and order; they regulate and control traffic, direct crowds, render first-aid if necessary, take charge of a lost child or an animal and do several such duties in normal times.

In India the Police are called upon to do more arduous tasks. In many parts of the country they have to work as armed troops. They patrol lonely mountains and

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THE PATTERN OF

POLICEMANSHIP

CYRIL M. M. COOK.

Much that is taught at a District Police Training Centre is not contained in any text book. Throughout the Initial (Basic) Course of Training—the thirteen weeks' course which every man and woman is given on entry to the Police Service—certain fundamental points are stressed continually, and, in particular, time after time reference is made, directly or indirectly, to the many qualities which the people of this country have grown to expect in the Police. Among them are courage, helpfulness, cheerfulness, courtesy, truthfulness, honesty, absolute incorruptibility and loyalty. The following remarks are based upon matters brought to the attention of the recruits in training at the centre which the present writer has the honour to command.

Both in times of peace and under war-time conditions, the members of the British Police Service have shown the highest forms of bravery. Indeed, the fearlessness and complete disregard of personal danger which is so frequently displayed by Policemen of all ranks in tackling armed criminals, in saving people who are drowning, or in danger of death from fire or other causes—is accepted gratefully by the public as being part of the daily service which they can expect from the Police.

The British Policeman's reputation for helpfulness and cheerfulness is second to none. He is looked upon as being a guide, counsellor and friend; one to whom everyone can come in time of trouble or difficulty, and from whom ever-willing help is available. Frequently, in the course of his duties, he is approached by those who seek his help or advice in relation to something which is right outside the scope of his work. Time after

time, people come to him regarding problems or occurrences which would enable him, quite lawfully, to say: "I am sorry; that's nothing to do with me. I'm a Policeman and that's not a Police matter." But he never does say that. Everything which affects a member of the public is, by virtue of a long-established tradition, something to do with him.

In initial Training, stress is also laid on the fact that incidents which, in the course of time, become all too common in a Policeman's experience, are of vital importance to the persons intimately concerned. The story of the man who comes to the Police station to report that his wife is missing from home may become just a routine occurrence. But, as far as he is concerned, there is nothing routine about it. Nothing like this has ever happened to him before; the bottom has suddenly fallen out of his world! Unfortunately, with road conditions such as they are today, accidents occupy a great deal of a Policeman's time, but he must never become blasé regarding them. The mother, whose child has been injured, even slightly, will certainly not regard the matter as a routine occurrence and the Policeman must never give her—or anyone else—the impression that he thinks it is.

In his contacts with the public, the Policeman must, at all times, be perfectly polite. Courtesy costs nothing, except, perhaps, occasionally in controlling the temper. The majority of the people with whom the Policeman comes in contact will be polite to him and they will, naturally, expect civility in return. He should give it willingly and cheerfully, and he should give it even when he does not receive it. From time to time he will come up against a person who doesn't like Policemen, or one who believes in the maxim that "Attack is the best means of defence!" Having left a car stationary

[This article by Mr. CYRIL M. M. COOK, Acting Chief Superintendent of Bristol Constabulary, Commandant, No. 7, District Police Training Centre, England, appeared in the April/June 1959 issue of "The Police Journal", London.]

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What our Leaders say about the Madras Police

On the occasion of their Centenary Celebrations, I send my greetings and best wishes to the Madras Police which, as the first regularly organized Police force in India, can look back with pride to this long and unbroken tradition of public service. I am sure they will also derive inspiration from that feeling so that they are able to give a still better account of themselves in the changed conditions of today.

I wish the Madras Police Centenary Celebrations all success.

RAJENDRA PRASAD.

I understand that the Madras Police is completing hundred years of its existence in September 1959 and is celebrating this centenary. I send my good wishes on this occasion.

I have sometimes criticised the police, but I have often wondered at the great responsibilities they have to carry and the quick judgments they have to make from time to time. Theirs is indeed a difficult and delicate task and we should sympathize with them. At the same time, they should remember that they are constantly before the public eye, and in a democratic structure of society, the police are a part of the public and not opposed to it. Therefore, the only way to work successfully and effectively is to have the confidence and co-operation of the public. If they have this, their work is made much lighter and their reputation is thereby enhanced.

JAWAHARLAL NEHRU.

The functions of the Police have changed enormously since the attainment of Independence and I am happy to say that our police have, with alacrity, adjusted themselves to the new demands and requirements of society. They are not only the custodians of law and order but active participants in the exciting endeavour of the building up of our nation. They have, of course, acquitted themselves creditably in their new role as well.

In this connection I should like to recall, it was in Madras that the police were properly organized first in our country 100 years ago, and they have justified this signal honour by performing their onerous and difficult task of maintaining law and order and protecting the persons and property of the citizens in a praiseworthy manner.

They deserve all congratulations on their success, which I send most willingly, and they are in need of the best wishes of the people too, for their work is too delicate to be done without the co-operation of the people. My best wishes and greetings to the personnel of our Police Force on the occasion of the Centenary celebrations.

K. KAMARAJ.

It gives me great pleasure to associate myself with the Centenary celebrations of the Madras Police. The year 1959 marks a milestone in the history of the Madras Police for it was in Madras State that the Police was first regularly organized in India in 1859. It will be completing its hundredth year of its existence in September 1959. Under foreign rule, the Police had to function as a limb of repression. They were feared, but not respected. But after Independence, a change of outlook was called for and the process of reorientation has definitely set in so that the people are fast learning to look upon the policeman as a friend as well as the custodian of Law and Order. The ideal is for every member of the force to look on himself as a servant and guardian of the general public and treat all law-abiding citizens with unflinching patience and courtesy so that the people may trust the police as friend and protector. Only criminals need fear them.

The formation of "MAY I HELP YOU SQUADS", the observance of "Courtesy Weeks", participation of the force in community service work such as Village Development Schemes, etc., will be helpful in bringing the force into friendly contact with the public and in fostering good police-public relations.

In 1949, the Fire Service was organized as a separate wing of the Police Force. The Police Organization was further enlarged by the merger of the Excise Department consequent on the transfer of Prohibition enforcement work to the Police Department in 1955. A Woman Police Wing will also be formed soon and employed on police duties as they will be particularly valuable for dealing with cases involving women and children.

Special mention must be made of the commendable work of the Police in maintaining law and order during the State-wide General Elections in 1952 and 1957 both of which were conducted unmarred by any untoward incidents. There have been times of grave stress and strain which have called forth from the men qualities of courage, forbearance, fortitude, unswerving loyalty, honesty and integrity and I must express my appreciation of the manner in which the men stood up to the demands made on them during these trying situations.

I hope that in the high ideals of service, standards of efficiency and loyalty which have built up a worthy tradition in the past will continue to inspire the force to new levels of achievements in the years, ahead in rendering service to the public in law enforcement and suppression of crime.

M. BHAKTAVATSALAM.

My Early Police Training

M. SINGARAVELU, B.A., I.P.S.

Practical Training.

Completion of the training at the Police College took me to Masula for practical training. I arrived at Masula ahead of my motor cycle, which I had booked before I left Madras. I had asked the Inspector to arrange for me a taxi, but the obliging Inspector sent me his own car. I reached the District Superintendent of Police's bungalow by it. There, on the verandah, a gentleman with gold rimmed spectacles dressed in immaculately white dhoti and shirt, sat poring over a file. I was in a fix. My brief training in the Police College made me expect him to be in uniform or clad in clothes of western style. It was neither. His dress was too homely to suggest his high office, and yet too immaculate to indicate otherwise. I was intent not to waste a greeting without knowing his identity: the ghost of my first day at the Police Training College was still haunting. To salute or not to salute? I was on the horns of a dilemma. But as if the man in white had seen my embarrassment, he shouted if I were so and so. I immediately sprang to attention and registered a smart salute. I had a feeling that I had yet to see the end of my trials. Perhaps he thought that I was a type that needed pulling up! He suavely enquired if the car was mine, and when I told him the circumstances in which I had to use that vehicle, he flushed and warned me against what he thought to be my first act of impropriety. He preferred me to walk or cycle the distance rather than sport a borrowed conveyance. He proceeded and told me that I should accept nothing from any and I should cultivate the virtue of preserving all the purchase vouchers. As if a proof of his fortifying his precept with conscious practice, he showed me a sheaf of vouchers on top of which was a recent one for four annas paid for the purchase of a torch bulb. The indictment was enough unto the day and was heavy enough. I returned home. There I heard that the District Superintendent of Police, Nellore, whom I happened to know, had come for a short stay. I went and met him. He enquired of the progress I was making under the Chief. I told him of the morning's incident. He covered his sympathy under a veneer of good promise. Next day, as usual I met my District Superintendent of Police and he was still glum and I was wondering if days make little change in him. The surprise packet was there and he asked me brusquely what I had told the District Superintendent of Police on leave. The suddenness had the effect of throwing me off my balance and before I could even piece together my torn mind, he ended the matter with another word of stern advice that what transpired between us should be kept closely guarded.

Training was getting into its stiff stride. Attendance at morning parades was a part of the ceremonial of

All is well that ends well; the preparation, the beginning, the apprenticing may be rough, rugged and irksome. But that is the logic of life: light and shade, black and white, the rough and the smooth. The facade of a forbidding appearance may well hide a heart of sincere promise and sympathising camaraderie. It happens ever so many times, and it has happened to me. Here you are.

It was the first day at the Police Training College. I was reporting to the Principal. Strange people, strange premises, everything strange. The first man, whom I met there, was an efficient looking man, who bore the stamp of office. I greeted him warmly. The prim man discovered my search and pointed to another one behind as the Principal. I was crestfallen at this first discomfiture, as I thought it to be. That taught me abundant caution. The man I met first was the Sergeant-Major.

Vacation Training.

The summer vacation interrupted our training. We were six Officers under training. All of us were posted to different districts for our vacation training. I was to understudy the District Superintendent of Police, Nellore. He was as queer in his values as he was grand in disposition. The Principal sent for us when the orders of posting were received and asked us to write to our District Superintendents of Police thus: "My dear so and so, I have been posted to your district. Please advise me of the accommodation available and the kit I have to bring with me." We reassembled at the class-room. But I had a dim and distant doubt haunting me. I, therefore, sought counsel with the Principal. "Wouldn't my failure to address a Senior Officer as Dear Sir be misconstrued?", I asked. "My dear young man", he said, "if you have to address the Inspector-General tomorrow, as Dear Mr. Sayers' you would be the least improper. You are a Gazetted Officer, and so is he." We all wrote as advised. All my colleagues received replies by return of post; I was the solitary exception. It was Easter break. Chance had it that one of my colleagues met the District Superintendent of Police, Nellore, at the Hotel Connemara. He happened to mention to him that one of his very good colleagues was to be trained under him. The District Superintendent of Police looked straight and spoke, "You call him a good colleague! A slip of a probationer, he has the cheek to address me as Dear Mr. so and so". My friend took pains to convince the District Superintendent of Police that the blame for it was not mine, and it was literally a command performance. Hardly had the Easter season worn off, than I received a cordial letter from him. I have happy memories of my sojourn there.

training. My motor cycle at last did arrive. The long journey from Madras to Masula made her less active and she was in no mood for immediate work. I wanted to go to the parade ground on it. I practised the known tricks on her to make her take life. It was not before quite some effort that she did start. When she did start, I was behind the clock for the scheduled parade. Still I went. At a safe distance I noticed the District Superintendent of Police on the parade ground, which gave me the chill. I debated in my mind whether I should attend the parade late and get the dressing down before the many or beat a discreet retreat on the plea of indisposition. But the cruel machine was too quick for me; she was almost on the parade ground. I must have been well-noticed, and yet I beat a hasty retreat. I returned home full of prayers that the District Superintendent of Police should forget this incident. I had a bath. Hardly my body was dry than there came the orderly from the District Superintendent of Police with a demi-official. I knew the contents even before I opened it. It certainly contained a stinker warning me for my failure to attend the parade with a liberal sprinkling of choice epithets like "disgraceful", "indisciplined", etc.

Now the station charge. Many are the references that go daily to the District Superintendent of Police. Again dame caution assailed me. Whether to mark the papers to the District Superintendent of Police as "To D.S.P." or "To D.S.P. Sir". The Inspector, who was teaching me the work suggested that "To D.S.P." would not be at all improper. I acted accordingly. During my visit to the District Superintendent of Police later, he asked me if I would lose anything if I marked the papers with Sir! My answer was pat; "Not in the least. On the other hand Sir, all the gain would be mine". As if I needed more practical conviction he showed me the papers he had addressed the Deputy Inspector-General, who was a senior to him by a few months, as 'D.I.G. Sir'. But his successor, a European, had different ideas about it all and he wanted me to drop the 'Sir'. The same European once ticked off another Deputy Superintendent of Police who had come to see him in a bus, because bus ride did not, he felt, go well with the dignity of the office. These had their own lessons for me. Until August 1947, I always went to meet the European District Superintendents of Police by car, and addressed the papers 'to D.S.P.', reserving the more flowery and impressive language for my Indian Chiefs.

At last I was put in independent charge of a station. There I used to see a K.D. who came there not unoften to get some money from the Special Reward Fund promising some useful tips. He spoke Tamil, my mother-tongue and that was an added attraction for me. A burglary case was reported by a pawn-broker, who was suspicious of a certain character who came to him with a silver vessel. He promised to help us in tracking down the burglar. It was all laid on that I should disguise myself as a Chettiar and go to the village which was 20 miles off from the station. My Inspector should assist me. Thanks to the dhoti and an angavasthiram borrowed from a dhobi, I got into my part and the constable was in mufti. We started off to the village at 12 midnight. The goldsmith was with us.

The last lap of two miles we walked. We were led into a dark hut. As expected the character walked in; but shrewd as he was, he smelled the rat and tried to slip away. My constable acted quickly and he slipped a towel over his head-but it unfortunately slid down to his neck leaving his mouth free to scream for help. It was dark; we were strangers to the place. The villagers came running in pairs; the men with lathis and the women with lanterns. The crowd frightened the bania, and he in his convenient discretion, just vanished. The crowd grew menacing; the culprit was shouting. The villagers asked us who we were and the reason for our presence at that hour. My constable proved unequal to the demands of the hour and I had the unpleasant limitation of just a rugged knowledge of the local language. Tactlessness on one side and helplessness on the other was not at all amusing to me. I wanted to play for time till the Inspector could arrive on the scene. I crossed over and slapped the constable as if for his improper behaviour towards the villagers and this had a melodramatic effect and eased the situation a little. Slowly the bright gleam of the car head-lights came into our view; the brighter it grew the less the crowd became. And at last when the Inspector came on the scene there was none. The Inspector stuck to his job manfully. The culprit was the K.D. who was a frequenter of my station. We searched the place and recovered the articles; but the Inspector was not at all happy over the incident because he was not sure of the reactions of the District Superintendent of Police towards attracting the mob fury on the probationer. He wanted me not to mention this to the District Superintendent of Police. The word was kept.

A pass in the test on the Police Standing Orders is a sacred part of our training. The District Superintendent of Police took personal interest in this. I did the examination at last and I thought I had done a passing job of it until the results were announced which left me utterly stunned. A demi-official from the Inspector-General, who was the examiner, to the District Superintendent of Police made him more flushed. Who was responsible, the Inspector-General asked, for putting wrong ideas into the head of the probationer? It was all because I had said in the paper that I would "tackle" the accused. The District Superintendent of Police in righteous indignation called on the Inspector in charge of my training to explain; the net result was the Inspector was immediately transferred and I lost the benefit of his services.

... Can Spring be far behind?

Things did not seem to promise anything. I was growing despondent. I sought advice from home if I could resign. But they advised me to stick it out. And I have nothing to regret. One day, not long after the advice from home I had a call from the District Superintendent of Police. I did not know why or the wherefore of it; neither could any one enlighten me on it. Every one was as delightfully ignorant of it as I. I was ushered in. I could not believe myself. The air there was light and free, never before known to me. The Chief was, contrary to my expectations, all smiles.

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F. V. ARUL, I.P.

Deputy Inspector-General of Police, C.I.D., Madras.

Among the many animals befriended by man, the most faithful friend and companion is the dog. The origin of this relationship is lost in the mists of antiquity. Long before recorded history, the dog was tamed and domesticated. It is even said that his bones were found with those of Stone Age man. Early men developed dogs mainly for protection and hunting purposes. Even to-day dogs remind us of their wild ancestors by some of their mannerisms. The dog howls sometimes which is his ancestral habit of calling the pack together. He has, of course, learnt to bark after centuries of association with man. He turns round and round before lying down because his ancestors had to do so to prepare a comfortable bed from jungle grass or dried leaves. And even to-day he buries his bones, even if it be under the door-mat, in imitation of his wild forebears in order to prevent their enemies from stealing them. His wonderfully acute sense of smell has been developed over the centuries while foraging and hunting for food. It is this faculty which has endeared the dog to the hunter in the chase.

It has been said that the dog is the one animal which will follow man all over the world and adapt itself to every climate and to every use to which its master chooses to put it. The most hardy and useful of working dogs are those reared by Eskimos and other northern peoples. These dogs are called huskies and are used to draw sledges. They have played a noteworthy part in many Arctic and Antarctic expeditions. In Alaska, Northern Canada and Northern Siberia, goods are hauled over the trails in winter by teams of huskies. A good team will pull a load of 300 lb. for a distance of 20 or 30 miles a day according to the condition of the trail. As there is a strong strain of the wolf in huskies, they are not treated as pets. When working, they are fed chiefly on frozen fish and in summer they are allowed to forage for themselves.

The sheepdogs of western countries are so knowing, hard-working and useful. They are very loyal and intelligent. When they have a flock of sheep to care for, they live with them and for them, gather them from

the distant pastures, bring them back to the fold when needed, and will let no other person or animal meddle with them. At the sound of his master's whistle a sheepdog will round up his flock, guard it, keep it from straying or stampeding and finally bring it safely home. Sheepdogs can also trace and find sheep lost in snowstorms.

The aristocrats of the dog world are the hunting dogs. The Great Danes were used for hunting wild animals in Northern Europe. Bulldogs, remarkable for their courage and ability to hand on to their quarry, were used in olden times for bore-hunting and for the cruel sport of bull-baiting. Bloodhounds, greyhounds, foxhounds, pointers, setters, spaniels and retrievers of various sorts are among the staunchest allies of sportsmen. About the most curious looking dog is the German dach-hund (badger dog) which can enter a badger's hole and drag out his prey. He is also a plucky watch dog. Another curious breed is the Dalmatian, sometimes called the carriage dog for he used to run

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The dog squad.





ON THE TRAIL OF A CRIMINAL...

The dog is made to smell the piece of cloth left behind by the burglar.

When a burglary or a murder is reported, the Police Dogs are taken to the scene of crime and an attempt is made to trace the culprit.

The dog is made to smell the spots that might have been touched by the Criminal or any object that might have been dropped by him.



On the trail.



Here is the man.

trace out the articles hidden by thief the dog is made to smell hands.



If he has hidden the articles stolen or the murder weapon the dog can scent it out. It is made to smell his hand and leads to the spot where he has buried them.



Getting hot !

If the scent is strong enough and has not been disturbed, the dog picks it up easily and leads the police to the place or places where he might have gone till it picks up the man. The dog can easily spot out the man even if he has mingled in a crowd.

Found !





A POLICE - PUBLIC RELATIONS

FILM

This film is being produced by the State Police Department at the A.V.M. Studios, in connection with the Police Centenary Celebrations. This is directed by Sri Krishnan and Panju and the story and dialogue have been written by Sri P. Paramaguru, Deputy Commissioner of Police, Madras.



TRAFFIC Problems

P. PARAMAGURU, M.A., B.L.,

Deputy Commissioner of Police, Traffic and Licensing, Madras.

In the earliest days, the only means of travelling was on foot and our ancestors tramped merrily from place to place carrying their household goods on their backs, accompanied by their wives and children and driving their cattle in front of them. As time went on, the richer people hit upon the idea of building a conveyance made of two stout poles with some kind of seat tied to them. These were carried on the shoulders of servants or slaves and gradually developed into the sedan chair of Europe and the palanquin of India. Following this, came the epoch-making discovery of the wheel; and a new era dawned in the history of travel. Soon, the cart came into existence, drawn by bullocks, horses, camels or elephants. This was followed by the bicycle. The final advancement came with the invention of the internal combustion engine and the appearance of the motor car. The rapid growth of the population, the enormous increase in the number of vehicles and the limited expansion of the roads created many serious traffic problems.

In its very broadest sense, the traffic problem was recognized as far back as Biblical times. There are several references in the Bible to traffic, although the word as we know it came much later. The French first used it to describe business dealings in which transportation was involved and scholars assert that the word traffic is correctly associated with hustle and bustle. The first traffic problem—really a parking problem—was faced by Noah, who had to find a place on Mount Ararat to moor the Ark after sailing out of the flooded lands. Historians of the pre-Christian era, who devoted some attention to the traffic ills of ancient countries,

write that Julius Caesar prohibited vehicles from entering the commercial districts of large cities during certain hours, because of congestion. The Romans even had off-street vehicle parks. Both the Romans and the Greeks had to cope with street congestion. Then, as now, traffic flowed from suburban and farm areas towards the city or market place at sun-up and at night-fall the roads were clogged with returning throngs. They had the problem of pedestrian safety, too, and the City fathers of those times tried hard to meet the challenge posed by the carts and chariots. To combat congestion they devised the one-way road and for pedestrians' safety they established crude safety islands, generally small raised squares of bricks at intersections. The one-way artery is by no means due to the ingenuity of the twentieth-century traffic engineer. Pompeii had a whole network of one-way thoroughfares. Further, the centre line to separate opposing streams of traffic dates back more than three hundred years. Traffic historians agree that it is first known to have been used by the Mexicans in constructing a highway from Mexico City to outlying communities. Thus the Ancients too had tackled their traffic problems.

In modern times, the traffic problems are complex. In New York it takes one more than half an hour to drive a mile; in Paris the motorist with guts gets the right of way; and in London one feels ashamed if he does not respond to the courtesy extended by the users of the road. They have all their own problems and so have we. The principal purpose of the regulation and control of the vehicular and pedestrian traffic is to give the pedestrian, the operator and the business interest

the greatest possible use of the roads and side-walks, consistent with the law, public safety and their convenience. Whenever a problem arises and action is required, public safety is the first consideration, commonsense second and good judgment third.

Broadly speaking, the traffic problem is divided into what are popularly called the "three E's", Engineering, Education and Enforcement. There must be a skillful blending of the "three E's", to solve the problem. The basic problem of good traffic management has many ramifications and every one concerned with solutions should remember that the underlying objective is to do the greatest good for the greatest number. The "three E's" comprise of the following :—

Engineering.	Education.	Enforcement.
Highway construction.	Driver.	Road information.
Highway maintenance.	Pedestrian,	Signs and markings.
Locating signs and signals.	School and Public	Auto-inspection.
Road markings.	on safe use	Licences.
Road condition.	of Highways	Penalties.
Highway load.	and car and observance of rules and regulations.	Patrols.

Vehicles and pedestrians are increasing in number. Vehicles are wider, higher, longer and speedier, necessarily requiring more road space. But most of our roads and bridges have not been designed in the past to bear either the volume or the weight of the present type of transport. So we seek the aid of Engineering to tackle this problem.

Complicated intersections, blind corners and bad lighting constitute the main hazards to traffic on the road. Mr. William P. Eno, the first known traffic expert, devised the rotary system of moving traffic around complicated intersections. So to facilitate free flow of traffic, roundabouts should be constructed at intersections and the blind corners should be removed and remodelled. Underground subways or overhead bridges may be constructed at important intersections to remove traffic congestion. Proper lighting should be arranged.

Successful traffic-control techniques run the gamut of engineering principles. The best idea in the world

is valueless if it cannot be made understandable. Mr. Eno says that traffic regulations to be effective, must be short or they will not be read ; must be clear or they will not be understood ; must be reasonable or they will not be obeyed. Significant advances in traffic safety and flow can be realized through the proper and judicious use of the basic tools of the profession—signs, signals and markings. For guiding traffic, sign is worse than useless if it cannot be read quickly ; it is actually dangerous. Movable signs have a very limited place in traffic control because they are good only for temporary conditions. But the signal light is gradually becoming a more efficient control and its design and mechanical features have progressed markedly since it was first developed as an outgrowth of the old railroad lantern. The increasing use of automatic relay controllers, known as "electric brain" traffic devices, is a tribute to the demands of sound traffic-engineering. The red light of the signal signified a dead stop and no pedestrian or vehicle must move beyond the throat of the street in which the pedestrian or vehicle is ; the amber light means wait till the signal to proceed is given and the green light is an indication to proceed. As regards markings every traffic engineer is fully aware that painted guide-lines increase road capacity and contribute to safety. It may not solve traffic problems wholesale, but it is something everyone can see and it shows up not only on the road but in the public consciousness. In addition to signs, signals and markings, the three technical methods, namely, the one-way route, the reversible-lane system and the median dividers are adopted to facilitate free flow of traffic. The reversible-lane system is one which employs an unbalanced use of a road to move the maximum amount of traffic at peak hours. For example, a six-lane Highway designed normally to carry three lanes of traffic in each direction can be made to carry four or five lanes in one direction and one or two lanes in the opposite direction, depending upon traffic needs at morning and evening rush hours. Reversible-lanes are used on thoroughfares which for physical or other reasons cannot be made one-way.

Road surface instead of increasing vis-a-vis increase in vehicular and pedestrian traffic, shrinks for various reasons such as projection of shops, garaging and indiscriminate parking, wayside repair shops, continuous loading and unloading in front of transport agencies and warehouses in busy areas, stray cattle on the streets, crowding of hawkers, co-existence of slow and fast moving vehicles, religious, marriage or political processions and constant digging of roads by utility services. These hazards should be gradually eliminated by proper planning, engineering and propaganda.

We have heard that the first law of nature is self-preservation, but when it comes to the dealings people have with motor vehicle, the law does not seem to apply. It appears that neither drivers nor pedestrians have developed a natural aversion to traffic hazards. On an average about 4,000 motor accidents are reported in Madras City every year, of which about 50 prove fatal. A study of these accidents indicates that faulty or rash driving is the major cause. Mr. Eno, in his book

(Continued on page 59)

UNIVERSITIES AND THE POLICE

N. SUBRAHMANYAN, B.A. (Hons.)

August Vollmer, the father of the American Police Systems, once said that the average Police officer is expected to have "the wisdom of Solomon, the courage of David, the patience of Job, the leadership of Moses, the kindness of the Good Samaritan, the strategy of Alexander, the faith of Daniel, the diplomacy of Lincoln, the tolerance of the Carpenter of Nazareth and finally, an intimate knowledge of every branch of the natural, biological or social sciences". Though this seems to be at first sight an exaggeration—a gross exaggeration at that—of the qualities required of an average Police officer, in actuality it is not so. It is a modest estimation of the merits of a policeman and it drives home the truth that a good Police officer should be an ideal all rounder. Police work in modern times has come to occupy an important place in State activities and the internal peace of a country and the efficiency of its police force are directly proportional to each other. No wonder, the importance attached to and the pains taken in the selection and training of Police personnel had been very great in all well-governed countries of the world.

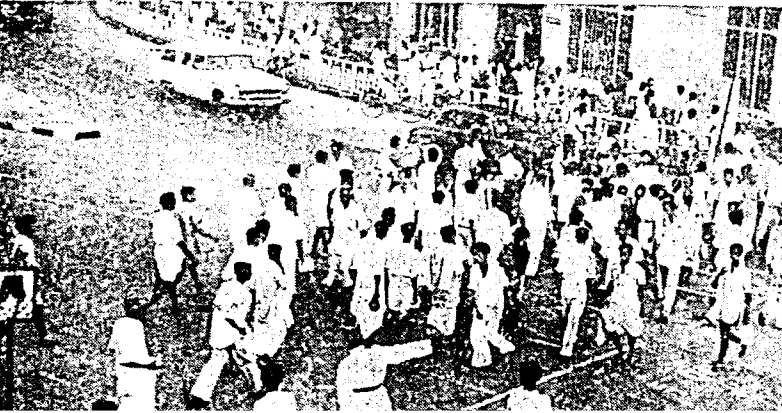
The Indian Police system, by the very nature of its development, is a perfect blending of the best in the American, the British and the Continental Systems. In efficiency and integrity, it has achieved a name which it can be justly proud of. Its progress, especially during the past twelve years has been stupendous and worthy of being emulated by other Asian countries. The creation of the Indian Police Service and the holding of a competitive examination for entrance into that Service have been very important landmarks in the recent history of the Indian Police Force. These have not only resulted in the absorption of the best young brains of the country in the higher ranks of the Force, but have also achieved the purpose of giving a new re-orientation to the police system in the country. It is no exaggeration to say that the progress of the Police Forces in India during the past ten or twelve years has been greater than it was during the forty-two years preceding 1947, i.e., from the time of the appointment of the Police Commission in 1905 till Independence.

But, however, in spite of all this, some questions that arise in this connection are worthy of analysis. Can the Indian Police Force still claim to have availed itself fully of the services of the educated manpower of the

country? Has it taken any steps to bring about a closer co-operation between itself and the Universities that will produce the Police officers of the future? Is there any University in India, which has in its curriculum some of the Police subjects like Criminology, Traffic Rules, Crime Prevention, etc.? Unfortunately the answers to these questions are in the negative. The reasons for this are obvious. At present there is almost a sense of detachment on the part of both the citizenry and the Police. Though it is more than twelve years since we got our Independence, there is still a lurking sense of aversion on the part of the public for the Police. The repressions of old times still linger in the memory of the former and the policeman is somewhat of an outcast in many places in the country. Only for the past few years has there been any sort of awakening on the part of the citizens and they have come to feel that the Indian Police is after all their force and that its successes and failures are interlinked with their lives and liberties. It is high time, therefore, that Police authorities took concrete steps to capitalize on this welcome change by giving shape to new ideas, methods and conceptions. And there cannot be better place to try this in than the Universities.

Now, before analysing some new suggestions and proposals which aim at bringing about a link between the Universities and the Police, it would be better to have an idea of the drawbacks that are now inherent in the present educational system of the country. Nowadays, the persons who enter the Police Force either in the lower ranks or in the higher ranks, have hardly any idea of the type of work that they are expected to do. What they had studied in the High School or College courses—Shakespeare and Spenser, Marshal and Mill—would be of no direct use to them as policemen. There is not a single University in India to-day that offers Police subjects as part of its curricula and this is responsible for the lack of interest on the part of new graduates and matriculates for Police work. Secondly, in most of the Police Forces in India, the rules for recruitment lay down a minimum age limit of 18 years for recruits and 21 years for Sub-Inspectors. At the same time the rules require that the minimum educational qualifications for recruits should be the eighth standard and for Sub-Inspectors, a degree. This leads to an anomaly in that a person who ordinarily passes his eighth standard in his 12th or 13th year and takes his degree in his 19th year, has to wait for long before he

A Zebra Line—Pedestrians Crossing Mount Road



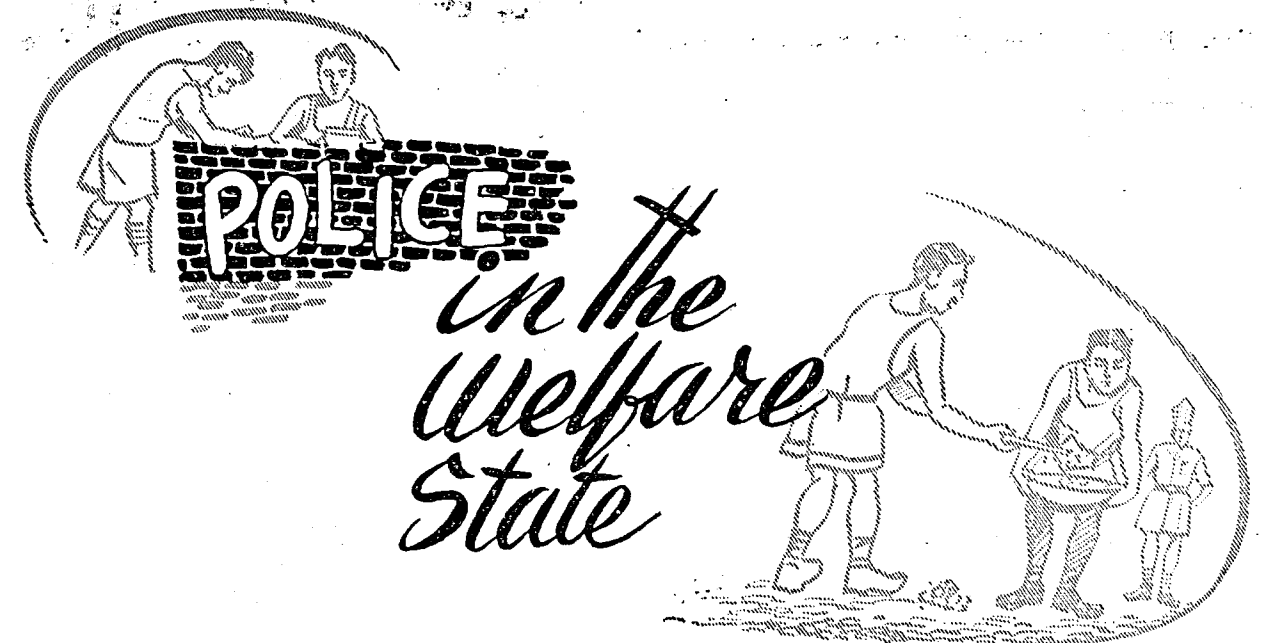
can be enlisted, because of an age gap of about five years in the case of recruits and of about two years in the case of Sub-Inspectors. This fact has apparently been overlooked by the authorities when they specified recruitment standards for the Police Force. Usually what happens is that immediately after graduation most of the persons get some employment or other and only a few will be prepared to wait for about two years or more for joining the Police Force. Also those that remain unemployed after this lapse are usually the second-raters. It also makes one wonder whether the provision of the gap between the minimum age and minimum educational qualifications was a mere unfortunate accident or a pre-planned process whereby only second-raters would be enabled to get into the Force. In the case of the Indian Police Service this gap is not present and this may be a good reason why the quality of recruitment is better in the I.P.S. It is certainly obvious that in regard to selections to the post of Sub-Inspectors and Constables, there is something entirely wrong in the present rules, and the sooner the rules are set right, the better it will prove to the Police Force generally.

We thus see that the gap between minimum education standards and minimum age-limit should necessarily be got rid of. For enabling this to be done without the other adverse effect of undecided and immature persons getting into the Force in a spurt of youthful enthusiasm and then leaving it after short service, a few measures must be adopted primarily by making provisions for elementary Police training (as for other career Services, like the Engineering) in the educational curricula of High Schools and Colleges. In the high school level, willing students could and should be taught the elementary principles of fascinating subjects like Criminal Psychology, Crime Prevention, Traffic Rules, General Law Enforcement, etc., so that the young students can develop an interest in the functions and duties of the Police Force. This measure would also help them understand the subject more clearly and put them on a sound footing when they enter the college and take up the same subjects for detailed study, and again, later on, when they choose the Police profession for a career after leaving the University. To quote Mr. A. C. Germann, "If the recruit of to-day is to be the Chief of Police of tomorrow, his preparation must be the finest—if tomorrow's chief is to be the finest". This is precisely what the Civil Service Assembly of the United States and Canada emphasises when it says that "In a career service system, it is necessary to select entrants with a view to promotion and to the level that they may be expected ultimately to reach. It is not enough to relate education requirements only to those of the entrance position". In other words, if a Sub-Inspector cadet of to-day can be normally expected to reach the rank of a Gazetted Officer by the time he reaches full development, his training now should concentrate on the basic essentials (which he must need know as Sub-Inspector) and also cover in a broad way the principles of management and organizational and supervisory leadership which he will in course of time have to learn in fuller measure.

As regards the introduction of the Police Science in the curricula of the Universities, it may be said that this process should consist of many steps. Apart from the inclusion of lectures on Police subjects, the Universities should also provide facilities for doing advanced research in those and allied subjects like Criminal Psychology, Polygraph Reading and Probation and Reformation. Such measures would achieve the double purpose of sending into the Police Force persons who are already specialized to some degree, and of facilitating more advanced pre-service and in-service training to them after their entry into the Force. As Mr. V. A. Leonard states, "The full implications of Professional Police training at the University level in terms of sound public policy can be best understood from the standpoint of results. As these men, University-trained for a technical job, move upward on the scale of management to positions where they can influence policy and administration, the cities of this nation will begin to receive the calibre of the Police Service to which they are entitled".

With regard to the friction between age and educational qualifications, many remedies are suggested and the most important of them all (after equating the two limits) is the introduction of an Auxiliary Police Force or a Auxiliary Social Service Corps in the colleges and the imparting of practical training to the students who join them, with the active co-operation of the profession and under the leadership of regular Police officers whose services can be lent to the University in much the same way as the services of regular Army Officers are lent to the N.C.C. units of colleges. The essential philosophy of such an auxiliary police force may be apprenticeship. Qualified young men may be recruited at the College level, as in the case of the National Cadet Corps, taken into the Auxiliary Police Service as apprentices, and assigned to duties normally performed by civilian personnel in the force. These assignments can be usually rotated so as to give the apprentice a department-wide experience, and after the completion of training which may be when he leaves college, he can be preferred for appointment to full professional Police rank. This proposed system can have its opponents who will say that, a Police position without police authority is unwise, and that assignments during the apprenticeship period will not always be practical in terms of future usefulness. But it should be remembered that whatever objections there may be, this is an exceedingly useful idea and it will surely be a means of offering to the Police agency a good field for enabling future recruitment from. It may lead to an indirect benefit by establishing better cordiality between the student-population of our Universities and the Police—a thing which is greatly needed under our present conditions. It may also result in a more precise, sound and academical foundation being established for the Police method adopted in our country. It is a great shortcoming indeed that the Modus Operandi method—the great empirical system that has at the bottom of our Police method to-day—has still now never been studied satisfactorily with reference to the principles of human psychology, and it is also a pity that there is no research going on in regard to the

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R. N. KRISHNASWAMY, I.P.S.
Deputy Commissioner (Crimes), Madras City.

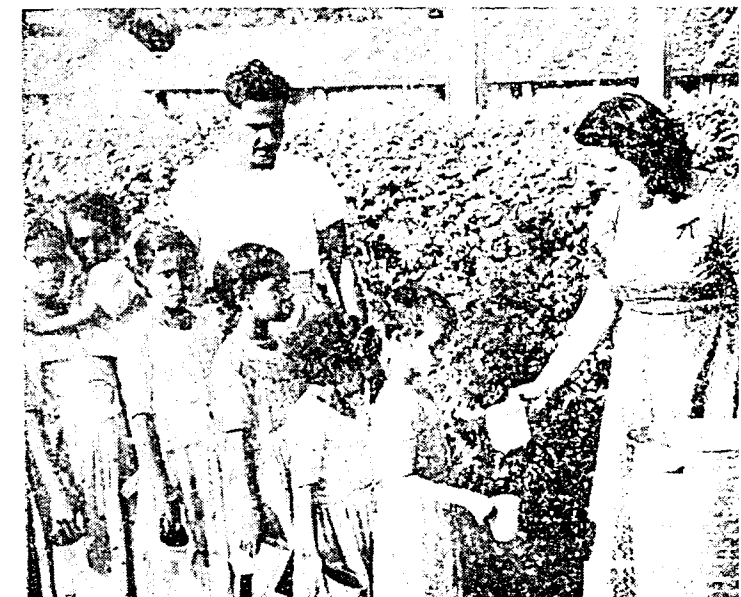
The Madras Police can claim quite legitimately and proudly that they have not merely benefited from the emergence of the welfare State, but have also contributed their bit to its growth. Let me outline how the Madras City Police have tried to further their own welfare and further the welfare of the people.

In July 1955 a welfare centre was inaugurated at the Armed Reserve lines, Pudupet, by Srimathi Club-wala Jadhav and a start was thus made of the welfare work for the police families in Madras City. This centre commenced its activities with distribution of milk and multipurpose food to the children of the lines. A tailoring class was started in March 1956. In October 1956, a children's playfield equipped with chutes and swings was provided for the children of these lines and from September 1956 onwards the scheme of distribution of milk to the children was extended to the lines in all divisions.

The Madras City Police Families Welfare Committee comprising of the senior officers and their wives was formed in November 1956 in pursuance of the directive of the State Police Families Welfare Committee which had been formed earlier in the year, to co-ordinate and guide welfare work in the City and the districts of Madras State. Under the auspices of the Committee a filip was given to the tailoring class in the Pudupet lines, with the purchase of a sewing machine in addition to one already in service. The supply of charkhas was also taken up to promote spinning in the Divisional lines, and later these charkhas were transferred to the Kilpauk Fire Station where the families of Fire Service men were given the opportunity of pursuing this handicraft. Small sums were advanced from the limited funds of the City Committee to finance the education

of a deceased Sub-Inspector's children, and to finance the purchase of tonics for undernourished children in deserving cases selected by the Woman Assistant Surgeon. Arrangements were also made for the Woman Assistant Surgeon to visit the lines by rotation and dispense medicines there. A community hall was opened in the Mylapore lines where children are being given tuition. With the co-operation of the Government Match Factory at Ottavari, the work of match stick frame filling was made available from April 1957 to the families in the Pudupet lines, providing an easy and gainful

Milk for the Constables' Children.



occupation. In November 1957 the Home Minister opened a children's playfield in the Purasawalkam lines.

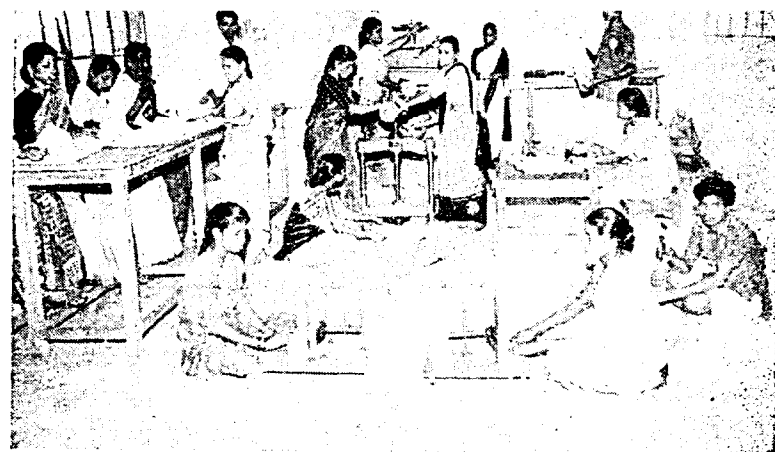
The year 1958 saw considerable forging ahead in the field of welfare work. The celebration of "Lines Day" was taken up by rotation in the various lines of the City, and these were marked by festive celebrations, competitions for the best kept line huts, organizing of children sports, and entertainments like dances, dramas, music, performances, film shows and baby shows. "Lines Days" were thus celebrated in the Saidapet, Mylapore, Washermanpet, Tondiarpet, Nungambakkam, Purasawalkam, Pudupet and Mannady lines. The lines day at Mannady on 30th December 1958 was marked by the switching on of electricity by the Home Secretary, which brought electric lights to each line hut—the first in a programme taken up for electrification of all the line huts.

The occasion of the "Lines Day" was taken to open Mauther Sangams at Mylapore and Tondiarpet lines on the same lines as that at Pudupet, and to open children's playfields at Saidapet, Nungambakkam, Purasawalkam, Washermanpet, Tondiarpet and Kondithope. This programme is being extended to the other lines also.

The Match Stick frame filling work was extended to Kilpauk Police lines during 1958, and it proved quite popular. At the end of the year, Kilpauk and Pudupet lines were between them taking in 600 frames a day, which meant a wage of 3 nP. per frame, on a job that even a child could do. The daily supply of frames by the Government Match Factory is fluctuating due to various reasons.

A big step forward in organizing gainful occupations for the benefit of police families was a scheme for the manufacture of paper envelopes, which was inaugurated at the Kilpauk Police lines on 10th December 1958 by Srimathi Indira Gandhi. Under a scheme sponsored by the Ministry of Industries and Commerce, Govern-

The Welfare Centre.



Envelope-making Unit.

ment of India, two units for the manufacture of paper envelopes were sanctioned to the Women's Indian Association, Madras. The association very kindly allotted one of the units to the Madras City Police Families Welfare Committee for implementation. The unit has been given a free grant of Rs. 22,500 for non-recurring costs, and Rs. 49,950 half as free grant and half as loan on easy terms, for the recurring expenditure. The unit contemplates the employment of about 100 women, who, when trained, will be able to make 1,000 to 2,000 envelopes per head per day and earn Re. 1 to Rs. 2 per head per day as wages. The unit which has been set up in the Kilpauk lines is now providing labour for about 20 women, and steps are being taken to fully exploit the labour opportunities of this unit. A similar unit has been opened in the Pudupet Armed Reserve lines. Steps are under way to open a similar unit in the Kondithope.

For the welfare of the public.

The decision to have the police participate in village development work was taken at a conference of senior police officers of the Madras State held on 4th October 1956 by the Home Secretary, Government of Madras. Not having a village within the limits of Madras City, the Madras City Police had necessarily to take up these works in the bordering village of Chingleput district. With labour contributed by the staff and inmates of the Government Care Camp, Melpakkam, a work house housing able-bodied beggars rounded up in Madras City—a scheme was inaugurated in September 1956 in Kattupakkam village. By July 1957 the following items of development works were completed under the scheme :—

- (i) A six-furlong metalled road.
- (ii) A public convenience.
- (iii) A children's playfield.
- (iv) A Harijan colony of 20 houses.
- (v) Planting of 50 avenue trees.

The value of these works is estimated at Rs. 12,500.

Work was next taken up in Nazarethpet village in Chingleput district on 16th August 1957. The Chief

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THE POLICE Training COLLEGE

G. V. NARAYANAN, I.P.S.
Principal, Police Training College, Vellore.

The State Police Training College is situated within the historical Fort in Vellore in North Arcot district. The buildings known as "Hyder" and "Tippu" Mahals in the Fort are Barracks for the Police Training College and the Police Recruits School. This College which started as a mere training centre for Recruits to the Constabulary at the end of the last century converted itself into a Police Training School in 1905 when as a result of the reforms introduced after the Police Commission of 1902, the old Station House Officer system was replaced by a cadre of Sub-Inspectors.

The first batch of Sub-Inspectors was trained in this institution in 1905. Training for Gazetted Officers was also imparted since then. The training period for the Sub-Inspectors and Gazetted Officers is for a period of one year.

The Police Training College and the Police Recruits School are in the charge of a Principal who is a senior officer of the Indian Police Service of the rank of a Superintendent of Police. He is assisted by a Vice-Principal who is a Deputy Superintendent of the Madras Police Service. The staff of Lecturers consists of four Inspectors and a Junior Engineer from the Public Works Department who teaches Plan Drawing. The Medical Officer in charge of the Police Hospital in the Fort takes the Sub-Inspector cadets in First Aid and Medical Jurisprudence. The training staff for Drill and Allied Subjects comprise of a Sergeant Major known as the Head Drill Instructor, and a Sergeant, both from the Armed Reserve, and three National Cadet Officers from the Malabar Special Police. The Law Lecturers and the Drill Instructors are a selected lot for imparting instructions.

Though at the inception there were as many as 126 cadets trained in the College (taking into consideration the possible number of vacancies which may arise in the former Madras State), the number at present is only 25 fixed on the basis of such vacancies in the present Madras State. This institution also afforded training for Police Officers from Hyderabad, Mysore, Coorg and Travancore-Cochin States. Officers of the Indian Police Service Cadre trained in Mount Abu Central Training College and allotted to this State do a four months' course in this College before undergoing their Practical Training in districts.

The institution also trained a few Inspectors who were directly recruited, but this recruitment has since ceased. Head constables who were selected for promotion to the rank of Sub-Inspectors and Ex-Prohibition personnel drafted into the Police department after the merger underwent a course of training for a period of six months.

The syllabus for the trainees is comprehensive and includes subjects in Criminal Law, Law of Evidence, Police Procedure, Medical Jurisprudence, Scientific Aids to Detection, the use of Finger Prints and Foot Prints in the Detection of Crime and Plan Drawing. The Law Instructors illustrate their lectures with examples, case law and anecdotes drawn from their varied experience. They follow the question and answer method of instruction in the classes and arrange for the staging of crimes and holding of mock trials. There is a Model Police Station where the cadets are taught the method of writing the General Diary, First Information Report and the method of filling up registers as well as principles of allotment of duties to a station staff. They, thus, get acquainted with the working of a Police station.

The Police Crime Museum and a Library are attached to the College and utilized for giving instructions to the trainees.

The Finger Print Bureau of the Madras State which was originally stationed in Madras and moved to this place during the last War, is also under the charge of the Principal. The trainees are given practical instructions in the advantageous uses of the Bureau.

Also attached to this College and under the administrative control of the Principal is the Shorthand Bureau, comprising of two Senior Inspectors and Senior and Junior Reporters who are sent to districts to cover up political meetings all over the State.

The Principal is also the Editor of the "Madras Police Journal", published quarterly from the College. He is also the Secretary of the Officers' Mess, situated outside the Fort.

Physical training including surmounting of obstacles and unarmed combat, drill, mob operations, weapon training and first aid are also taught to the trainees.

Weekly Route Marches and Cross Country Runs help the trainees in the powers of endurance. The training given equips every cadet knowledge in all branches of Police work and the syllabus gone through develops personality, character and leadership, at the same time, fostering the three cardinal Police virtues of discipline, integrity and service to the people. The welfare and well-being of the trainees are none the least neglected. All possible amenities are provided. There is a Police Hospital with a dozen beds for the in-patients, attached to the College. There is a canteen, a recreation room provided with newspapers and journals, a well-equipped gymnasium and club with a tennis court. Vast grounds are available for out-door games and athletics. The cadets are divided into sections of twenty usually which enables the staff to bestow individual attention and to watch their progress. Examinations are held every quarter before the final examinations. Training ends with a Passing Out Parade at which the Inspector-General of Police takes the salute and presents the Inspector-General's Prize to the best all-round cadet.

The Police Recruits School is staffed by one Inspector called the Chief Law Instructor and a few Sub-Inspectors (depending upon the number of recruits) on the Lecturing side and a Chief Drill Instructor, in the cadre of a Reserve Inspector, a Sergeant and three Assistant Drill Instructors for Drill Instruction. The recruits are drawn from the Madras City, Chingleput, North and South Arcots, Tanjore, Tiruchirappalli and Tiruchirappalli Railway Police districts while recruits from the other districts of this State are trained in a

similar institution in Coimbatore. The period of their training lasts for six months. They are given tuition in Elementary Law and the Medical Officer of the Police Hospital gives them classes in First Aid.

Special lectures by senior and experienced Police and allied Departmental Officers are given to the Sub-Inspector cadets both in technical and legal subjects.

The State Police Band attached to the College is also under the administrative charge of the Principal and there is constant call on the Band from various institutions and quarters in the State.

Both the cadets and the recruits have their own messes run by their elected representatives at which meals and tiffin are served according to the well laid out and planned menu.

The residence of the Principal is outside the Fort, as also the Gazetted Officers' Mess, which is in a spacious bungalow with extensive grounds and comfortably furnished rooms. The cadets live inside the Fort so also the Vice-Principal and the Drill Staff, the rest being accommodated in the Town.

The Police Training College has played a notable part in the life of the Police Officers and continues to maintain its high traditions with improved methods in the courses of training, both in law subjects and physical activities. In fine, the College aims not only to produce good and efficient Police Officers but also good citizens.

(Continued from page 6)

border areas, supervise, control and even make effort to reform the criminal tribes whose members have made crime their principal calling.

Need for a new spirit.

The Policeman is perhaps one public servant who is concerned practically with every detail of life. In marriages, feasts, festivals and fairs, rejoicings and private feuds and jealousies, it is the Policeman who plays an indispensable role. These which make our community life interesting are of professional interest to Police!

No doubt, the Policeman's job is a thankless one. He has to please too many masters. The toughest of them is the general public. The duties a constable has to perform are far from pleasant. Perhaps with a little more training and the inculcation of the sense of public spirit, he may make a popular Policeman. There is need for change in the outlook of the Police force in our country. India is free and the superior ranks of our

Police are being manned by Indians with high qualifications and strong character. They have begun to feel that the character of the duties the Police have to perform hereafter is fast undergoing a change. The Police must hold themselves responsible to the public in free India.

Need for public co-operation.

In the arduous tasks before them, the Police must enlist public co-operation if they are to succeed. In the matter of getting necessary information and assistance, the co-operation of the people at large is of utmost importance. Mutual understanding between Police and the public is essential. That is one problem the Police in Madras must tackle! The public must be made to realize that the professional interest of the Police involves the safety and security of their life and prosperity. India needs a new type of Police, imbued with dynamism and sense of social justice, whom people will look upon with affection and regard. They alone will be the Police of Gandhiji's conception—a set of real servants of the people and true reformers of the society!

THE

FUTURE

CRIMES

S. KRISHNARAJ,

Deputy Superintendent of Police, Special Branch C.I.D., Madras.

"The most important crimes to solve are not those which have already taken place, but those yet to be committed."

A true solution to the future crime is to make sure that it never happens. A careful and comparative study of crime will reveal that the future crimes are not dissimilar to the past crimes and a portion of them will continue to occur, no matter what steps are taken to forestall them; that is to say, a certain percentage of crimes will always remain a mystery and go inevitably into the records as unsolved. It will be futile to assume that crimes can be prevented as long as there are 'socius crimini' in our midst. In this context, it will be but proper to ask how best can we put down these crimes and keep them to a minimum.

A crime should not be considered as a physical contagion, or for that matter, a mental disease. There can be no complete antidote to a crime. The best of serum is no medicine to make an individual immune to it. As long as there are the basic human desires of sex, greed, hunger, hate, it is certain that crimes will continue to occur.

A criminal is not born. He is made. A life of crime generally starts young with juvenile delinquency. An opportunity, therefore, to rehabilitate them while they are still young ought not to be missed. It is doubtful whether the courts have succeeded in correcting these budding criminals and turning them away from the path of a reclus. The work of the Junior and Senior Certified Schools and the Borstal Schools may also be reviewed in this connexion. These institutions, no doubt, do a great job in correcting the young adolescents and teaching them a trade. But, one wonders whether they have succeeded in creating that moral and social backgrounds which is so very necessary to wean away the young ones from crimes. Even if there is a small percentage of pupils reverting to crimes—however, insignificant this number might be—to that extent, it can be said that these institutions afford no complete answer to this problem. It is in this context, the suggestion of

placing the delinquents, under the age of sixteen or seventeen, in the hands of public welfare agencies deserves serious consideration. If only such agencies could be provided with the means and the persons to do the job effectively and wisely!

It should be admitted straightaway that these welfare agencies are not to take upon themselves the investigation of cases involving juveniles. It should still rest with and be the responsibility of the Police. The welfare agencies should not also assume the role of prosecutors as they are not equipped properly to determine the facts and patterns of cases.

It is always disconcerting to see the face of a youthful offender inside a prison. A prison life with all its horrors is sure to make a lasting impression on the youth; and the company of confirmed and inveterate crooks is not conducive for them. And it certainly is not a good rehabilitating agent.

Juvenile delinquency is one of the great problems of a country. It is common to the whole civilised world. There is perhaps no subject more humans and more distressing than the juvenile delinquency; and no branch of the subject more worthy of study than its prevention. But, it is said that the parents, teachers, policemen and specialists have not effectively tackled the problem and evolved a satisfactory solution. The Police being the protectors of society should be among the first to make an effort to solve the problem.

The establishment of Boys' Clubs is one way of preventing the juvenile delinquency. The experiment has been successfully tried in United Kingdom, United States of America and New South Wales and many other countries. In New South Wales, these clubs have helped in reducing the juvenile crimes by 40 per cent. Furthermore, there has been a growth of a fine spirit of co-operation and friendship between the Police and the boys in the areas where such clubs exist.

It is a matter of great satisfaction and relief that the Government of India have already been seized of this problem. It is understood that a sum of no less than

two crores of rupees has been allotted for the projects relating to Moral and Social Hygiene, Suppression of Immoral Traffic and Juvenile Delinquency to the States. A good start has been made in Himachal Pradesh where the number of Boys' Clubs have risen to 29. Our own State has not lagged behind in this pioneering work and Boys' Clubs are already functioning in five districts—Nilgiris, Salem, Tiruchirappalli, Tanjore and Kanyakumari. The Scheme envisages opening of Boys' Clubs in the headquarter towns of the districts immediately and to all other towns in course of time. With the opening of these clubs in all the towns, it is expected that the crimes pertaining to juveniles will go down considerably and pose no longer a problem.

The reason for the rise in juvenile delinquency, according to one theory, is stated to be the aftermath of wars. The wars tend to weaken the sense of security and destroy the pattern and ideals of a set society. The gathering of youth of like age is regarded as another important reason for juvenile delinquency. It is true that all young ones of like age, sex and environment would like to gather round. But, the danger appears to be that if there is one bad element in it, it is likely to transform the entire group into a bad lot. How are we to guard our children against this? It is indeed difficult to answer.

The idea to get rich too quick may be factor which induces a youth to depredations. The lack of respect for and obedience to parents may form yet another cause for the juvenile delinquency. The radios, movies, dramas, etc., seem to appeal more to the tastes and self-interests of the individuals rather than dedication to the family group. It is not, however, seriously contended that these teach immorality, but the overall effect of them on the youth, unfortunately, leaves much to be desired and cannot be ignored.

To turn to yet another cause of juvenile delinquency—the home. It should be realized that a child's mind is highly sensitive. A quarrelsome or irksome parent is sure to upset the child and deprive it of his or her mental comfort and equilibrium. At the same time, every child in every family should be taught the correct behaviour and the limit to their youthful pranks. If only the child is made to realize that there is a limitation to their acts the transgression of which will be painful for them, the society would be better off; and it will relieve the Police and the tax-payers alike to a large extent.

It is, of course, true that certain parents look to the schools for their help. But, what could the schools do? A school, it must be understood, is not a rehabilitation of crime prevention centre. Nor, can it build a fresh foundation where already one does not exist at home. It would be better for these parents to realize that it is not fair or wise to expect the schools to make up for lack of home. The usefulness of foster homes may be explored to advantage in this context. The experiment

is worth undertaking even if the foster parents are highly paid, as the resultant cost to society will be less than the increasing use of institution.

As regards the criminals who have passed the stage of rehabilitation and become hardened criminals the remedy appears to lie in jail term. But, merely putting a man or woman in prison is no answer. It is only a postponement of the problem. A jail term, as experience would have it, often fails to correct an individual and make him an useful member of the society. It has been said much to our chagrin that if the reform schools are high schools of crime, the jails are its colleges. And still there appears to be no substitution for jails. It becomes imperative, therefore, that the young offender should be given all chances of correction at the discretion of Court before finally committing him to jail. It is further suggested that the prison terms should thereafter be uniform and consistent to every sort of crime. Any habitual offender who gets into trouble with the law, should in the interest of society, be lodged permanently in prison.

What sort of Police force would cope with the criminals effectively? It is said that every society has the kind of Police it deserves. There is no special type of human being such as a policeman, born or ordained in the cradle. In fact, there are as many kinds of policeman as there are citizens. Some are indeed brave, intelligent and devoted.

The members of the forces the world over are inadequately paid and their social standing barring a few is still doubtful. A German Captain receiving a pay of about \$100 smaller than an ordinary German Chauffeur and an Inspector-General in Israel getting a salary less than his official car driver, not long ago, are instances in point and are indeed startling! For this sum, the policeman has to risk his life, cope up with any and every kind of situation that arises in the course of his duties and live a closely supervised life.

This is scientific age when a criminal often commits depredation and 'gets away' with it in a fast moving vehicle, there are stations not equipped with any conveyance at all. Much time, therefore, is wasted before the missionary begins to move and when it does, it is always at a disadvantage. Where as much is spent on society and to its needs, it is to be regretted that the tackling of crime is not done with the same professional zeal and means as in other aspects of life.

Increased and adequate salaries are necessary to attract more highly educated men and the profession. But, that by itself is not an end of the problem. There should be a spirit of self-sacrifice and zeal to do public service on the part of those who volunteer for the Force. It would be a great day indeed if such men could be found in large numbers opting for the services in the Police. The more recent attention to the welfare and to the various amenities of the serving personnel are steps in the right direction and bound to improve the lot of policemen.

Armed units of the Madras Police Force.

V. G. MANOHARAN, B.A.,

Assistant Commandant, Special Armed Police.

The Armed Police Wing of the Madras Police consists of two Units known as the Malabar Special Police (Madras Battalion) and the Special Armed Police. Among them, the Malabar Special Police is the older of the two. It was born in adversity, but by sheer strength of character and discipline, it has overcome all limitations and now it is a crack corps in no way inferior to the flower of the Military regiments in India.

It was in the year 1921, in the middle of September that the Malabar Special Police Battalion was born in Malappuram. It had its nucleus from the Malappuram Special Police Force. Malappuram Special Police Force was raised in the year 1885 and was stationed at Malappuram to put down the turbulent Mappillas in South Malabar. The Mappilla Rebellion of 1921-22, the last and most serious of a series of outbreaks which since the days of Hyder Ali and Tippu Sultan spread fire and sword through the fair country of South Malabar and made it a land of "battle, murder and sudden death", was responsible for the raising of the Malabar Special Police.

Lack of roads and good communication were some of the factors that helped the rebels a great deal. Year after year, from 1852, frequent trouble arose. A grim picture of the old time Mappillas' fanatical character is recorded in the pages of Logan's Manual of the Malabar district and of the District Gazetteer. It is said that between 1836 and 1852 there were no less than 20 outbreaks. The rebellions reached the climax in 1921. Emboldened by the absence of the company of British troops at Malappuram, which two years earlier had been abandoned as a Military post for reasons of economy, Ali Musaliar, chief among the rebel leaders, had styled himself as King of Ernad and declared a Mappilla Raj. The British lion had, as had so often happened, been caught sleeping. But aroused from their slumber, the British lost no time in taking counter measures. The very next day, Martial Law was promulgated and Colonel Humphreys was made Martial Law Commander and Officer Commanding Malabar Force consisting of British and Indian troops as well as Police. The severest engagement with the rebels took place on 26th August 1921 at Pukkathur when a column commanded by Captain McEnvoy, D.S.O., M.E., was attacked by Mappillas on its advance to Malappuram. It was here that Mr. C. B. Lancaster, Assistant Superintendent of Police, Malappuram, was mortally wounded by a sniper. After five hours' fighting they were beaten off, their casualties being estimated at 400 killed. The rebels soon split up, though considerable bodies maintained

cohesion for some time and took to looting and murder, constantly endeavouring to elude the forces in their pursuit.

It is true that at that time a body of armed Police known as the Malappuram Special Force, whose main role was the keeping of the Mappillas in check, existed at Malappuram and had been in existence ever since 1885. But it was little more than an ordinary Armed Reserve. From the very onset, Mr. Richard Hitchcock, District Superintendent of Police, South Malabar, realized the imperative and immediate need for a special police force to be raised and organized, armed and equipped on the lines of an Indian Infantry Battalion, "both for the purpose of assisting in quelling the rebellion and to enable the District Police to carry on in safety as soon as troops are removed". In complete agreement with Mr. Hitchcock, Mr. Thomas, the District Magistrate, addressed the Government to sanction the raising of such a force. "I cannot forecast the future", he wrote, "all I can say is that the merest prudence requires that we should provide against a relapse on the part of the Mappillas. It seems to me when the peace is restored, it will be necessary to have an armed force in addition to the British detachments stationed at Malappuram situated at a few central places in Ernad and Walluvanad. The rank and file could be recruited from men picked from the large number of Hindu sepoy demobilized from the Carnatic regiment and Malabar Infantry. The headquarters of the force will be Malappuram". The Government approved the District Magistrate's proposal on the 30th September 1921 and sanctioned a strength of six British Officers, eight Subedars, 16 Jemadars, 60 Havildars and 600 Constables, to be formed into six companies of Auxiliary Police soon to be called the Malabar Special Police. Thus was the Malabar Special Police born.

But it was not till almost two months later that any conditions of service for the force were laid down. Mr. Hitchcock himself took up the task of improvement. So great and winning was Hitchcock's personality that both officers and men, veterans of the Great War, almost to a man had enlisted blindly and with the greatest alacrity just "because Mr. Hitchcock asked them". By the 26th October, the first three companies were ready to take the field; ready in the sense that they had arms and ammunition, but little else in the way of equipment. "Yet", says Evans, the Special Civil Officer with the troops in Malabar, "The Malabar Special Police took the field with little training or organization, but did very well. Most units displayed considerable bravery when put to it and all proved

their mobility". Of these companies, "B" was commanded by Colebrooke, an ex-Army Officer, who later joined the Police Force. It was he who, first as an Assistant Commandant and later as a Commandant of the Force, mainly laid the foundation of its reputation for unparalleled efficiency.

The rebellion was over. In the words of the Government's review on the Administration Report for 1921, it had been "an upheaval for which, in magnitude and the numbers of those implicated, it is impossible to find a comparison within recent years, and the suppression of which cost many lives and very large sums of money". Yet, out of its many evils came much good. The rebellion gave the State the Malabar Special Police, which, in the simile employed by the Inspector-General in his message to the force on the occasion of its Silver Jubilee in 1946, is "like a well-made and trusted sword, harmless to all when sheathed but, when drawn, a real weapon for defence and offence".

But after the rebellion, the Malabar Special Police was not allowed to rest on its laurels. Scarcely six months had passed when four companies of the Malabar Special Police were drafted to put down the armed insurrections in the Visakhapatnam agency called the "fituri" led by Aluri Srirama Raju. The fituri rebellion lasted till 24th May 1924 when Srirama Raju was captured and finally shot. In these operations, the Malabar Special Police companies, three companies of the East Coast Special Police consisting of Telugus, Tamils and Malayalees formed during these rebellions, and six companies of the Assam rifles took part. This rebellion cost the Malabar Special Police the lives of two Havildars and nine Police Constables.

The period of 15 years following the fituri was one of comparative peace, although the force was called out from time to time to maintain law and order, in various parts of the Presidency. During these years, the young Force grew from strength to strength thanks to the drive and ability of a series of outstandingly able Commandants, and, from a Force intended for purely local use in Malabar began to acquire its present role as a third line of defence for the entire State. Apropos, it may be mentioned here, that it was during this period, in 1925, that the long and honourable career of the Malappuram Special Force, extending over four decades, came to an end. The Force was disbanded, most of the men being absorbed into the Malabar Special Police. Seven years later, in 1932, one of the six original Malabar Special Police companies raised in the rebellion, was done away with, and the Force reorganized into four active companies plus a Headquarters company. It was during this period also that a Police Commandant was replaced by Military Officers seconded from the Indian Army—a policy, which started in 1934, continued for the next 12 years. Biennial inspection was introduced by the Military authorities in 1929. Military inspections were continued ever since except for a brief interlude between 1940 and 1945 caused by the Second World War, although on their subsequent renewal in 1945 they were made annual. The steady progress achieved by the Force may be seen from the reports of these Inspecting Officers.

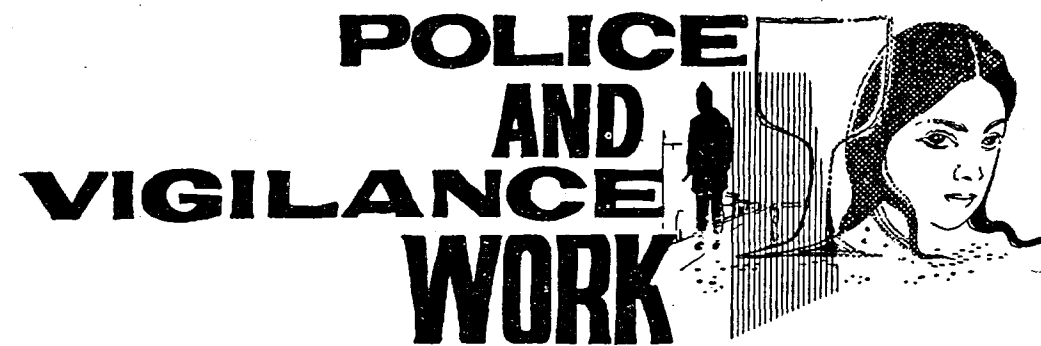
The 3rd September 1939! The Second World War had broken out. Many from the Malabar Special Police who joined the armed forces were readily welcomed as trained soldiers from a famous corps, and they earned a rapid promotion and fought with distinction in nearly every corner of the world. The force was rapidly expanded from 4 to 16 active companies, in order to meet the many and new demands of War. The guarding of vulnerable points, the threat of the Japanese invasion, the looting that took place all over the State, caused by the high prices resulting from War and by famine and by the political unrest in the country, threw a strain on the Malabar Special Police during the war years of 1939-45, unprecedented in the history of the Force. They were employed on the Malabar-South Kanara frontiers in the districts of Coimbatore, Ootacamund, Madurai, Ramnathapuram and Tirunelveli and in distant Guntur, in the City of Madras and even in the State of Cochin. The test was severe. Well and truly did the Malabar Special Police withstand it.

The post-war years followed. During this period, the Malabar Special Police's history of hitherto uniformly good and loyal service to the State was marred for the first and only time by an unhappy and unfortunate chapter. It was the year immediately after that in which the war ended, the year, by a strange coincidence, of the Silver Jubilee of the Force which makes the Mutiny of 1946 on all the more sad event. The good name of the Malabar Special Police was marred by a Mutiny of the Force. Rumours were ripe that there will be a speedy disbandment of the Emergency Additional Force companies. The uncertainty regarding their future had an adverse effect on the Emergency Additional Force men. They were also aggravated by the cut in rations that year owing to a food shortage in the country. These were the factors that led to the strike.

Mr. Latham who took over from Lieut.-Col. Bryan, has rightly remarked, "The daily round and common task had degenerated into a more or less day to day makeshift affair and that competitive spirit on which the general efficiency of the force depends so much, was conspicuous by its absence".

The strike started on the 16th April 1946, with the "G" company refusing to carry out any duties until their demands for higher pay and better living conditions were met. It ended on the 24th with a summary dismissal of 946 other ranks. The strike resulted in the disbandment of the four Emergency Additional companies. The strike however was completely peaceful. The bonds of discipline, though loosened, never unshackled; of violence, there was none; and never was the respect to their officers completely forgotten. This unhappy incident did not in any way impair or injure the high standard of efficiency of the Force. Inspecting the Unit in 1947, the very next year, Colonel Witman of Royal Indian Engineers had stated "The turn out and drill of the Units that I visited were excellent. The Instructors obviously were well-qualified and the men showed great keenness". Lieut.-General Sir Archibald Nye, Governor of Madras, reviewing the ceremonial parade in his honour, during his visit in the

(Continued on page 62)



P. N. SUBRAMANIAM,
Inspector of Police, Special Branch C.I.D., Madras.

It is an accepted fact that the number of mal-adjusted and sexually prodigal women and neglected and wayward children of both sexes is steadily on the increase owing to the rapid process of urbanization and a consequent deterioration of moral standards. This has brought about a disquieting increase in juvenile crime and commercialised prostitution. Therefore, the salvage and rescue work of these fallen women and children should assume the same importance as, if not more than, is attached to the prevention and detection of crime by the Police.

A look at the statistics regarding the total number of admissions in the Vigilance Homes in the State during the years 1955, 1956 and 1957 reveals a downward trend. One hundred and forty-two women were admitted in 1955, 133 in 1956 and 106 in 1957. If we rely on the downward curve of admissions and comfort ourselves with the belief that commercialised prostitution is rapidly disappearing from our society, we will be far from the truth. Commercialised prostitution is more the outcome of socio-economic causes than psycho-physical maladjustments. The persistence of this commercialised vice in one new form or another, under several covers, is admittedly an indication of the steady deterioration of the moral values held by our society. The seminaries of this vice are the places owned or occupied by anti-social elements, who skilfully draw young women, either directly or with the help of pimps or procurers. These traffickers do not hesitate to assume the disguise of native doctors, film men and so on. Such places are beyond the pale of legislation although they are, for all intents and purposes, brothels in disguise. It is also common for many men visitors to these places to take out their erstwhile night companions by cars, taxis or rickshaws not only to evade the law but also to conceal their own identity. These mobile brothels are fast increasing in number. The battle against this vice should be fought by the Police with the least possible delay.

No doubt, the Vigilance Service under the charge of the Chief Inspector of Approved Schools, Madras, provides timely care, upbringing, reformation and rehabili-

tation of the fallen women. But, to rescue these women from the jaws of anti-social elements is a job that could be done effectively only by the Police.

There are Vigilance Shelters in Madurai, Coimbatore, Salem, Tiruchirappalli, Tanjore and Madras City. Of these, the last two are managed by the Vigilance Association while the rest are run by the Government. These are short-stay homes serving as feeders to the long-stay homes which are commonly known as Vigilance Homes. Devoted endeavour should be made and a variety of measures ceaselessly taken to make these institutions in the State increasingly effective and useful in the ever-widening sphere of their activity. To feed these Vigilance Shelters by rescuing women and girls neglected by society and despised by the public as a slur on civilization, is the job of the Police. Girls who have been lured into towns and cities by traffickers, who give them a picture of a bright and luxurious future, are soon disillusioned and they are in need of shelter and protection from these anti-social sharks. In order that there may be an effective combing up of towns and cities in the State for these fallen women, there should be a Vigilance Wing in the Police department which is devoted solely to the noble task of rescue and rehabilitation of these unfortunate victims. No doubt, the department of Approved Schools and Vigilance Service is rendering tireless service to the socially handicapped and morally delinquent women. It cannot be gainsaid that this institution is contributing its laudable share to the social crusade against commercial vice and immoral traffic in women and girls. But without the willing and enthusiastic co-operation of the Police, the Vigilance Service will only be fighting a losing battle.

There should be a separate wing in the Criminal Investigation Department to tackle this hydra-headed problem of commercialised prostitution which is assuming alarming proportions day by day. The Vigilance Wing should consist of an able and experienced Inspector, four Sub-Inspectors and eight Head constables. The staff of this Vigilance Wing should be able to move from place to place, especially in big cities and towns like Madurai, Coimbatore, Tiruchirappalli, Tanjore and

(Continued on page 36)



The Man Beneath The Uniform



The smart man clad in khaki standing on point duty is a familiar sight. He is there in the scorching heat of a summer day as well in torrential rains. Defying the cold of winter nights he patrols the streets and looks out for robbers and burglars. When some one threatens our life and limbs he comes to our rescue and apprehends the miscreant. If a riot breaks out, he risks his own life to restore peace. But for him any mass gathering of people would invariably end in a stampede.

We often take this disciplined individual in uniform—the Police man—for granted. We do not even look at or think of him except when his services are required. It will be interesting to learn about the life of a Police

Inside a Constable's house.



man; what are his trials and tribulations? Has he a family? How is his family life? Is he always the unperturbed and stonefaced being as he appears to be?

Two constables were interviewed for the sake of this article. They are in the Traffic branch of the City Police Force. Thirty-six-year old Mahomed Khan has put in 12 years of service in the Madras Police Force. In 1947 he joined the force as Police constable attached to the Headquarters till 1950 when he was attached to the Law and Order Branch of the City Police Force. In 1953 he was posted to the Traffic Division where he still continues.

Mahomed Khan's father also was a Policeman. He died in 1951 after retiring from service. Khan has studied up to VIII standard. When the great war broke out he joined the Navy. At the end of the war, when he was discharged in 1946, he was without job for a year. Finally he decided to follow the footsteps of his father and joined the City Police Force.

T. C. Senapathi, who is 39, had seen Military service in the Queen Victoria I Madras Sappers and Miners Unit during the war years. After the war he was a member of the Madras Governor's Body Guard and when this was disbanded he joined the Mounted Police. From 1953 he is in the Traffic Branch of the City Police. His father had been in Military Service during World War I.

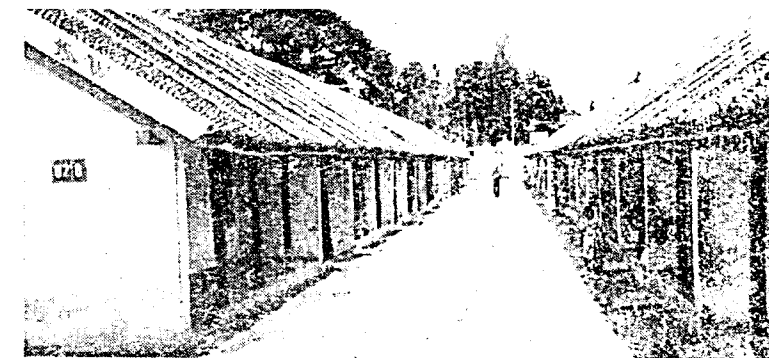
As constables in the Traffic branch of the City Police, they are expected to be on duty 24 hours of the day. Their day begins in the morning when they report for duty at the divisional station to which they are attached

and get their assignments for the day. They are posted to a 'point duty', i.e., to a junction of roads where they have to direct traffic. Some days they are stationed on duty at the Zebra lines—where pedestrians cross main thoroughfares like Mount Road, Marina, General Hospital road, etc. On occasions they are stationed at some places where special functions take place and where the volume of traffic is expected to be more than usual. And some times they are called up to go to another place where their help may be needed. They have to be on their feet the whole time, and some times it is really very tiresome. One of the most annoying things, says Khan, is the motorist who blows the horn when held up at pedestrians' crossings. Of course, at times nerves are frayed when motorists and others misunderstand a signal or when they do not care to respect the raised hand.

According to Senapathi, persons who approach the traffic constables, who is directing traffic at road junctions, for information tend to distract his attention and this may result in accidents. The cold finger of death brushed past Senapathi one day, when on point duty at the junction of Harris Road and Blackers Road near Mount Road, he saved himself by jumping out of the way just in time when a car suddenly loomed in front of him from the wrong side. A platform at this junction will be helpful, says Senapathi. He has received a reward once since he offered timely help when an accident occurred.

Both of them have been allotted quarters in the F-2 Police Lines near the Egmore Railway Station. Each house has a verandah in front, a living room and a verandah in the back which is used as kitchen. Khan's household consists of his wife and two children and his mother. Five children were born to the Khans but only two have survived. Khan gets Rs. 84 per month inclusive of all allowances. But after deducting the premium on his Life Insurance Policy, his contribution to the Provident Fund and dues to the Co-operative Loans Society, he is left with only Rs. 50 with which he has to manage for the month.

Senapathi had married two sisters. The elder died in May 1959. Two of his children by his first wife and one by his second wife are alive. He has no other dependents. The children have not yet attained school-going age. After all the deductions from his monthly salary of Rs. 84 he is left with only Rs. 38. Every four months he raises a loan of Rs. 100 from the Co-operative Loans Society and pays off all the minor loans he has accumulated.



The old type lines.

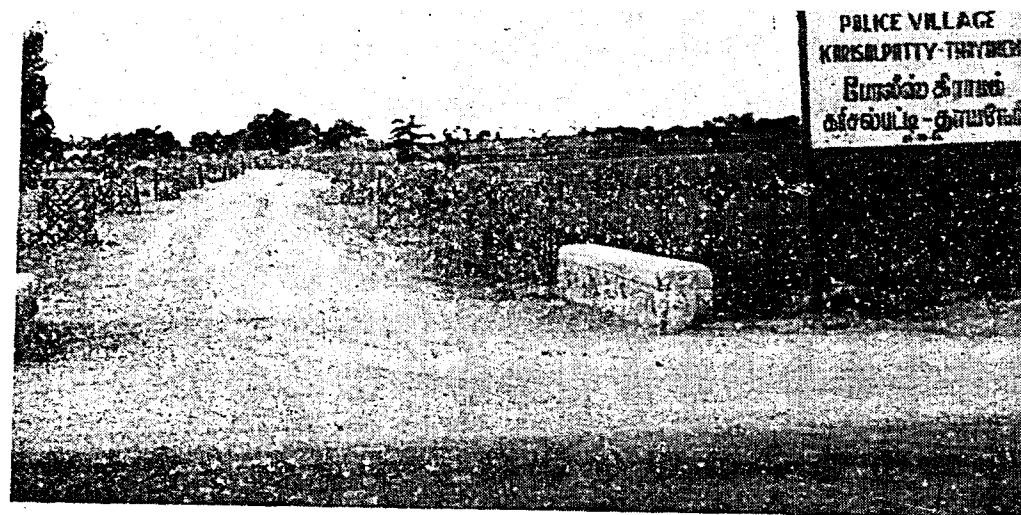
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They feel the necessity for setting up Co-operative Stores for the Police personnel. The staff of almost every other Government department have such stores. Only the Police man do not have the benefit of these stores. They feel that the establishment of co-operative stores for Policemen for each division will help them greatly in reducing their expenditure. Another thing they wish to bring to the notice of the authorities is that they may be given passes for travelling in Government buses. At present they have to pay the bus-fares while proceeding on duty. They feel that, in view of their meagre salary and since they have to be on the move while on duty, it is only meet and just that they are given free passes for travelling in Government Transport buses. Then there is another grievance which was voiced by the womenfolk—the meagre salary of the policeman. They expect that in view of the Centenary, they will be given a raise! The occupants of the F-2 lines are piqued that their quarters have not been electrified while other lines in the City have been provided with electricity. They say the houses need some minor repairs and that water-supply also may be improved.

But, in spite of everything, Khan and Senapathi like their job and appear quite satisfied and say that they have nothing to complain about their service conditions.

The new type.



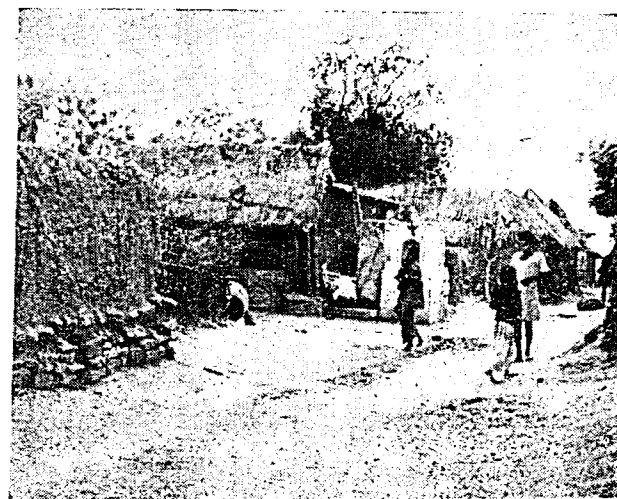


It was a strange party of Policemen which marched towards Karisalpatty-Thayaneri village in the Madurai district. Lathis and rifles were not to be seen. But, instead, they were armed with crowbars, pick-axes and spades.

When they entered the village, a sorry sight welcomed them. Dilapidated, thatched huts served as the dwelling for the villagers who lived in most unsanitary surroundings. A school was functioning in a thatched shed and there was no proper road in the village.

The Police set to their task with enthusiasm.

The internal roads and the streets including the road to the Harijan Colony have been levelled and topped. The irregular channel dividing the two villages through which rain water was carried to the tank was defined, dressed and retaining walls were constructed on both sides. The road leading from the Community Hall to the school was also raised and gravelled. The village



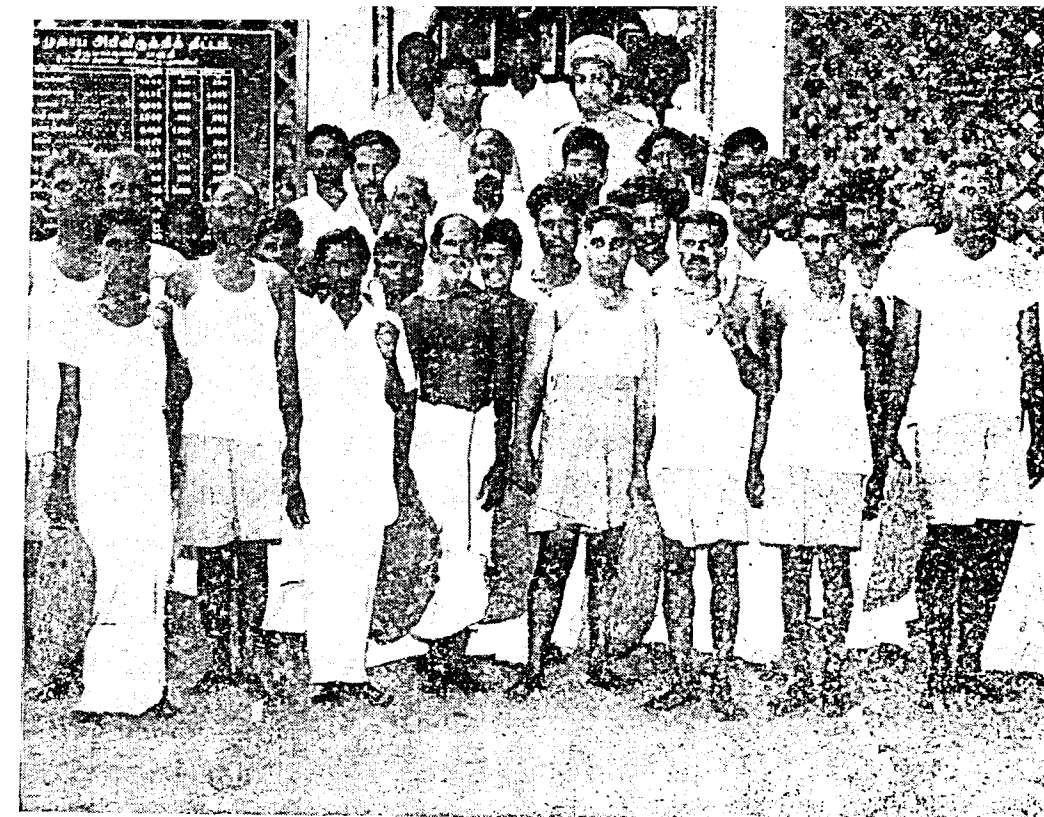
Before the Police arrived.



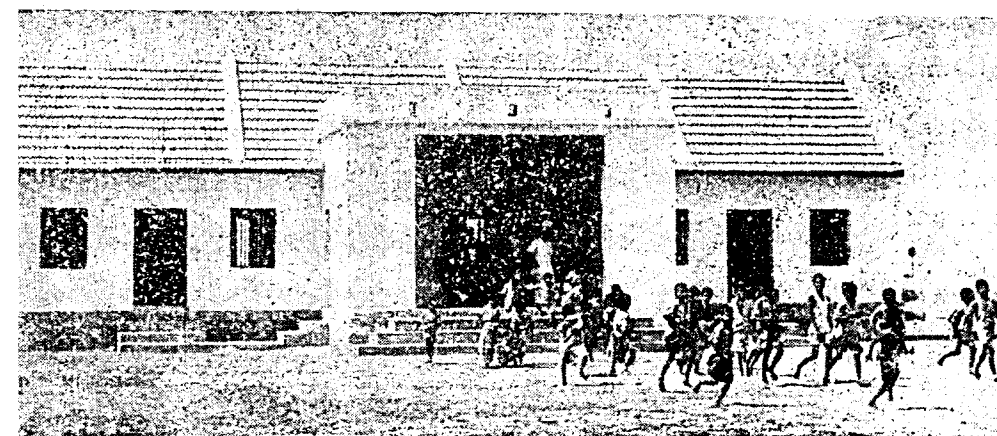
The rebuilt houses.

WHEN THE POLICE
THIS IS WHAT

TAKE OVER A VILLAGE
HAPPENS



*The team at work in
Karisalpatti-Thayaneri.*

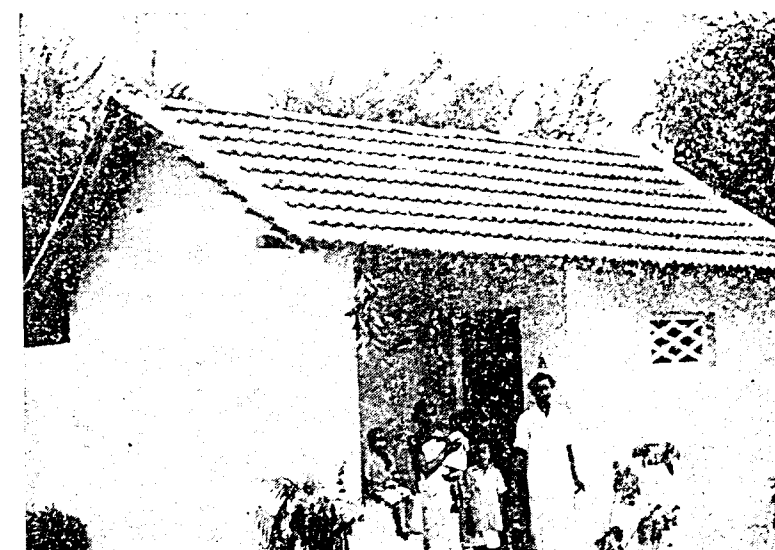


The school.

*A house built at Na-arathpet
by the City Police.*

Kaliyamman temple which was in a dilapidated condition was renovated. A well near the school which was supplying the best drinking water in the village was covered with shrubs and manure pits allround. This was repaired by cement coating inside and a parapet wall and cement platform outside. The surroundings were cleaned up and a suitable site was selected and allotted for the villagers to dump their manure instead of heaping them around the house or near the drinking water well. The village being very poor, the total contribution in cash by the villagers is only Rs. 450, but they have been assisting the Police in all the work by way of supplying some labour and a few carts. The site for the school was purchased at a cost of Rs. 330. The estimated cost of the school building is Rs. 8,800 of which the Government contribution is only Rs. 4,000. The construction of the building has been completed. A barbed wire fencing covering the school compound has been put up at a cost of Rs. 500.

A Harijan colony with 14 houses in 7 units has been constructed at the rate of Rs. 750 for each house sanctioned as loan by the Government.



They are always on the move

“ 93 ”

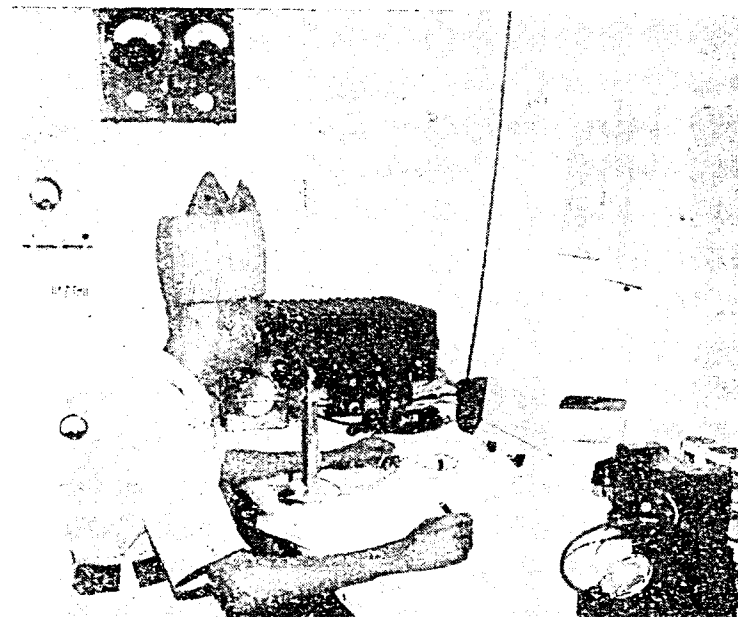
The '93' Emergency Police Call Unit attached to the Police Control Room, City Police Headquarters at Egmore, consists of a number of telephones and a number of radio patrol cars stationed ready at headquarters or patrolling in the streets with a party of Policemen in each to be directed to any area in the city, so as to reach any place of occurrence at the quickest possible time.

The members of public who need emergent Police help, dial telephone number '93' located at Police Control Room which receives and records the details and directs one of the Emergency Police Patrol cars to the spot for immediate action. While they proceed, they are in touch with the Police Control Room through the wireless.

The Police Control Room is manned day and night by a team of specially trained Police Officers and men. A detailed map of Madras City showing all the streets is fixed at Police Control Room to spot out a troubled area and direct the patrol cars and the movements of the cars are plotted. A Reserve Inspector of Police is in charge of this Control Room.

When a call for help comes in, the telephone operator calls out the name of the street and then goes on taking

Broadcast message.



down details of crime, accident or whatever it may be. The radio operator or the supervising officer meanwhile notes which car is the nearest to the scene and instructs it by radio to start moving in that direction. As soon as the rest of the details are known, they are passed on to the concerned patrol car. But the chief aim is to get the car moving towards the spot first.

The usual time between a report to the Police Control Room and the arrival of a radio car on the spot is about five minutes. It has, on occasions, been even less. A remarkable ease of assistance in three minutes was once rendered very promptly by directing the nearest emergency radio patrol car to the spot. On information that one man was committing suicide by hanging, the patrol car reached the spot almost immediately and prevented the man from committing suicide and saved his life.

The party in the patrol car arrives at the troubled spot and deals with the situation. The local police is also directed to the scene for any assistance. A post card is handed over to the complainant by the patrol party and the complainant is required to fill in the card with details of complaint and action taken by the Police and send it by post to the Commissioner of Police.

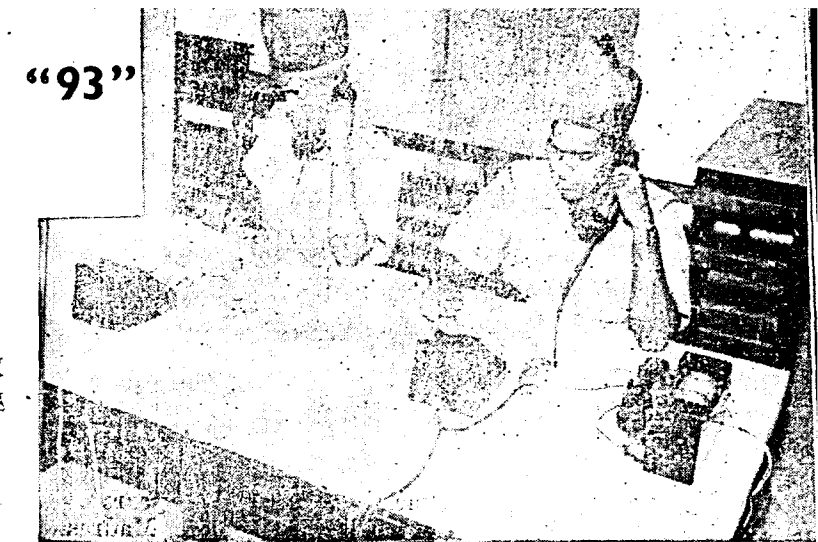
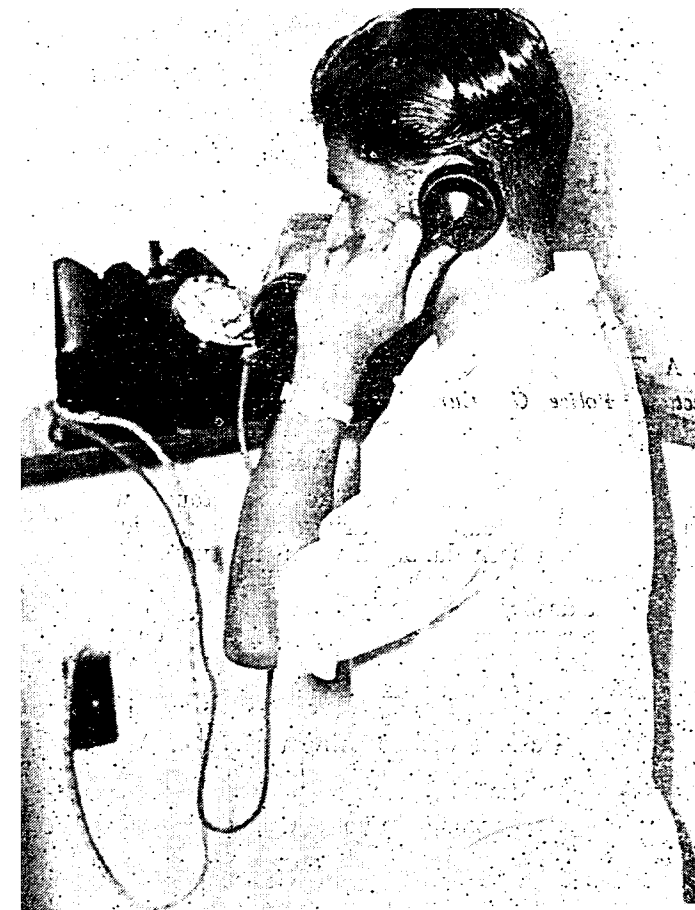
The system sometimes suffers from false alarms, which, if persistent, are traced by special means and offenders are caught and dealt with.

Current practice requires Police Patrol cars to be in touch with the Control Room to proceed direct to the scene. The patrol cars have been found to have a great morale factor, both on the Police on the streets as well as on the public.

Police Centenary Celebrations at Chingleput.

The Police Centenary Celebrations by the Chingleput Police were inaugurated on 22nd August by Sri M. Bhaktavatsalam, Home Minister. The Home Minister said that police force played an important role in modern society, and appealed to the people to co-operate with them. He was glad that after independence people had understood the value of an efficient police force.

The first day's celebrations consisted of sports presided over by Sri K. Diraviam, Collector of Chingleput. Smt. Diraviam distributed the prizes.



The call is received.

375

Hallo! Is it 93?



On the move.

Inside the speeding van. Keeping in touch with the control room for further information.



Broken Glass

R. C. A. TIMMS,
Inspector of Police, Gudalur.

Many of us may still remember the first few years of the war when, just after the fall of Singapore, Madras City over night became an important military base from which operations against the enemy were to be directed. The fall of Singapore was not expected and when it did come, it found Madras completely undefended. To meet any possible attack by the Japs, troops and other war equipment were hurried to Madras. Convoys of tanks and lorries poured in, and the streets which had hitherto been congested, became worse. It was not long before the newly arrived military vehicles made themselves felt. Due to the desperate situation prevailing after the fall of Singapore, and the shortage of trained drivers, some of the huge military vehicles were being driven by drivers, who had had only a few weeks' training in driving. These drivers were soon to take a toll of human lives which far exceeded the casualties in the bombing of Madras at a later date. Roundabouts meant nothing to these inexperienced drivers and one-way traffic signs still less. Narrow streets were something to be entered and backed out of with some unfortunate person's roof or sun-shade decorating the vehicle.

Such was the state of affairs, when one day information was received at the Traffic Investigation department that a military vehicle had knocked down a dhobi, leading a donkey and had killed both, and had sped its way without stopping. Nobody had noticed the number of the vehicle or its unit sign. At the spot there were three or four small pieces of headlight glass. There was no other clue. These pieces of glass were collected. Then started a check of all the military vehicles in the surrounding areas. This was no easy task as there were camps at Arkonam, Sriperumbudur, Poonamalle, Tambaram and St. Thomas Mount. At St. Thomas Mount,

a vehicle belonging to a Sikh regiment was found with one headlight damaged. The driver when questioned stated that it had been damaged when he bumped into a tree and volunteered to show the Police the tree into which he had dashed. He took them to a tree a long way from the scene of the accident, and right enough there were all indications that the vehicle had dashed into the tree. There was splintered headlight glass at the base of the tree and the bark was also damaged. It seemed as if the driver was speaking the truth. When the inspection was going on, the usual crowd of villagers gathered and a little boy, aged about 9 or 10 years, wanted to know what was going on. One of the policemen present asked the boy if he had seen the lorry dash into the tree. The boy came out with a story which explained everything. He stated that late on the night of the accident, he had seen a military lorry stop near the tree. The driver and some others got out and removed the glass from a headlight which was already broken and threw it at the base of the tree. The driver then picked up a stone and damaged the bark of the tree and had thrown the stone away. He pointed to the stone, which was lying nearby, and sure enough there were bark fibres adhering to it. It did not take the Police long to piece the broken glass together and make a complete headlight glasses. Confronted with this evidence the driver admitted that he was responsible for knocking down the dhobi and his donkey. He had reported the matter to the N.C.O. in charge of the motor vehicle and it was this officer who had decided to fake the second accident to cover the first and to account for the broken glass. Both were tried by a Court Martial. The driver got three years imprisonment while the N.C.O. got five years.

(Continued from page 29)

Salem and gather all useful information about these fallen girls and rescue them and put them in Vigilance Shelters.

In the Vigilance Shelters the authorities should separate the rescued girls from girls who seek voluntary admission into these institutions and make a thorough study of their mental set-up and social background and treat them for their maladjusted and perverted sexual

tendencies. In addition to educating these girls in social and moral hygiene, such an all-round educational and vocational training should be given to these women that they may be reclaimed as useful members of society. The State Probation Department should step in to make pre-discharge investigation and after-care of the dischargees from the Vigilance Home. With the ardent endeavour of the social workers coupled with stringent measures of the Police the battle against this anti-social crime could easily be won.

Rehabilitation of the less Privileged

Government Care Camp at Melpakkam

It was found that a number of beggars were found loitering in the streets of Madras causing nuisance to the public. The nuisance was particularly felt in places of public resort, temples, the Marina, beach, bus-stands, shopping areas, etc. Beggars exhibited physical ailments and disabilities to invoke public sympathy. Able-bodied beggars appeared in a starved or semi-starved condition. The situation was such that the need was felt to take care of the diseased and infirm and rehabilitate the able-bodied beggars. It was with this view the Government of Madras sanctioned the establishment of a Government Care Camp and Care Home at Melpakkam, Avadi. The camp was inaugurated on 14th March 1954 by Sri C. Rajagopalachari, the then Chief Minister of Madras. It was opened in a beautiful extensive site with a lot of shady trees and plentiful supply of water, on the Avadi-Poonamallee Road. It is under the administrative control of the Deputy Commissioner of Police, Crime Branch, under the control of the Commissioner of Police, Madras City. A Deputy Superintendent of Police is Superintendent of the Camp and he is responsible for its day-to-day administration. The camp was started in March 1954, with sanctioned strength of 500 inmates (400 males and 100 females) and with the under-mentioned executive and ministerial staff:—

One Sub-Inspector, two head constables, twelve Police constables, one barber, one accountant, four female warders, five scavengers and two Instructors one for weaving and another for tailory.

The camp has grown from year to year and the sanctioned strength of the inmates today is 850.

Staff.—One Deputy Superintendent of Police, one Inspector of Police, one Sub-Inspector of Police, five head constables, twenty Police constables, one head female warder, six female warders, one accountant, two lower division clerks, one typist, one Junior Assistant Surgeon, one male nurse, one pharmacist, one female nursing orderly, five Instructors, one Elementary Grade teacher, thirteen scavengers, five barbers and two dhobies.

On admission to this camp each inmate is provided with clothing as laid down in rule 21 of the Rules for Management of Special Homes and Work-houses in the City of Madras, 1954, viz.:—

Two shirts plus two shorts or two dhoties in the case of a male.

Two sarees plus two blouses in the case of a female.

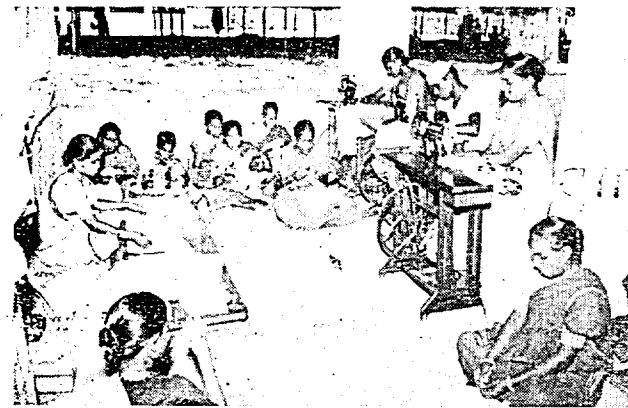
Each inmate is also given a blanket, mat, pillow, a plate and a mug. The personal clothing found on the inmate are separately kept bundled up and if they are in a filthy condition, they are destroyed. At the time of leaving this institution they are returned to the individuals and if they have no personal clothing, they are allowed to go with the clothing issued to them in the camp. The aptitude of each inmate for any of the



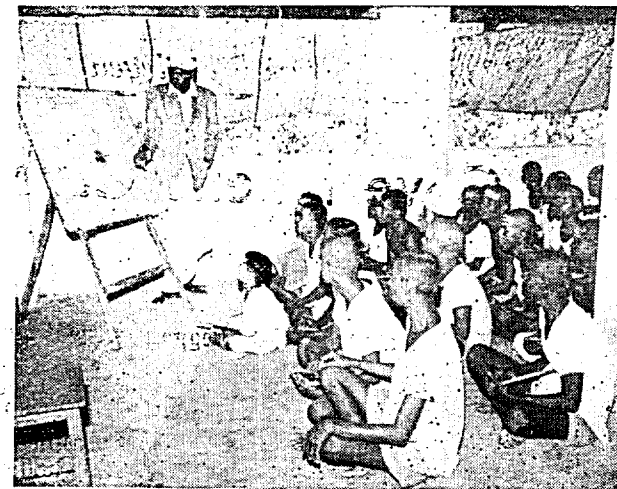
Laying a Road.



Carpentry.



Tailoring.



Inside the class room.

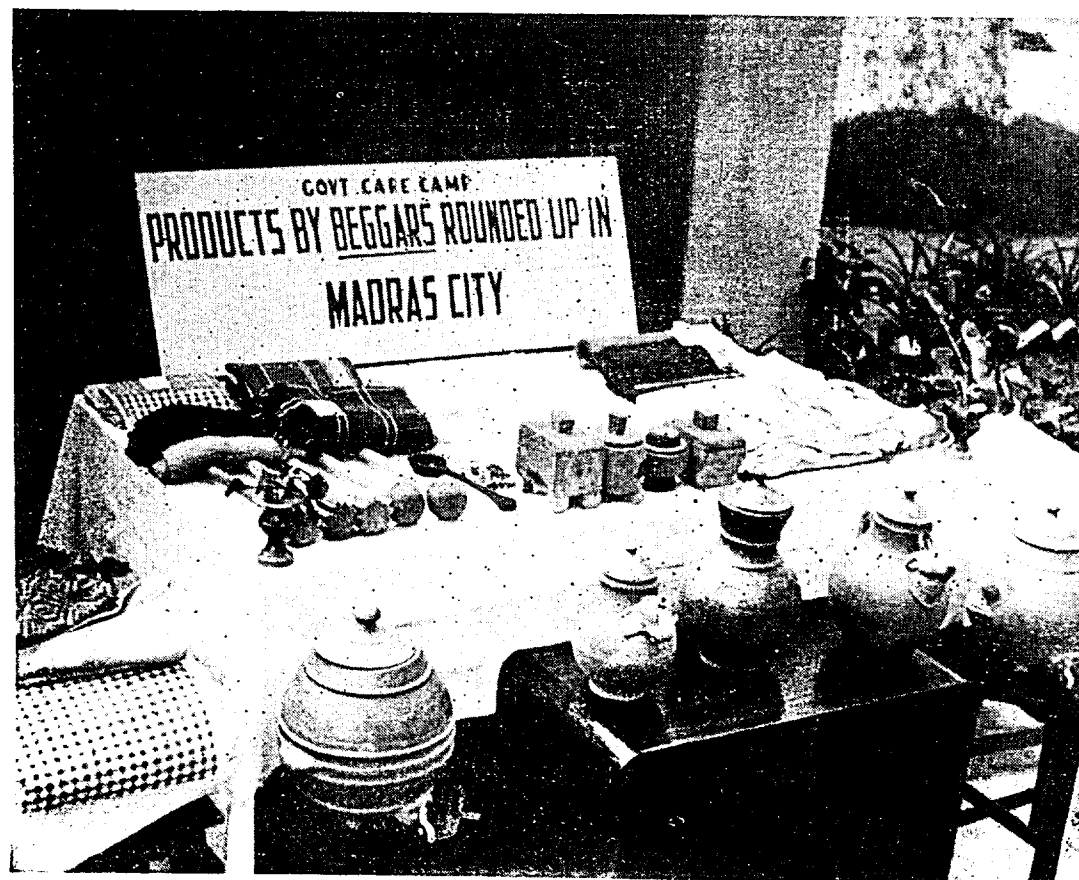
under-mentioned work is ascertained and he or she is taken on to work in the respective industrial section:—

- 1 Weaving.
- 2 Carpentry.
- 3 Pottery.
- 4 Tailory.
- 5 Book-keeping.
- 6 Tag-making.

Persons not found fit for any of the trades mentioned above are engaged in gardening and for providing manual labour for pumping water, work in the kitchen, splitting firewood, etc.

The Weaving and Tailory Sections produce the entire clothing requirements of the camp. Articles manufactured in the Carpentry and Pottery Section are sold in

(Continued at page 61)



POLICE Laboratory

N. PITCHANDI, M.SC., A.I.I.S.C., A.R.I.C., D.E.L.

With the increasing use of writing as a method of communication, the problem of detection of falsification of documents has also grown and the forensic scientist to-day has to deal with a large number of questioned documents of varying types. In the Police Laboratory at Madras, examination of documents forms a major part of the work undertaken.

Forgery is said to have flourished even in the middle ages mainly as a method of acquiring land titles. Bertillon, the distinguished Criminologist of France, a pioneer in the technique of identification, committed however, a mistake in the Dreyfus case and it resulted in bringing discredit on the subject of the identification of the person by the examination of handwriting. One of the worst miscarriages of justice in European History was done in this case and Bertillon's opinion was in a great measure responsible for it. In the beginning of this Century, in the famous Rice-Patrick case, Dr. Osborn, the most distinguished document examiner in America gave evidence uncovering one of the great forgery conspiracies in history.

Most of the ordinary acts in our daily life are performed as a matter of habit and we pay almost no conscious attention to these as otherwise it would be impossible for us to get through the ordinary day in the time at our disposal. Writing is also one of such habits. When it is learnt first each little part of writing is the result of definite careful intention and attention but after numerous repetitions of the same act a person acquires his own individual habits. Each person has his manner of writing the various letters deviating to varying extent from the copy book forms. These variations characterise the handwriting and tends to give it individuality.

Two main difficulties arise when one attempts to compare handwritings on the basis of similarities and dissimilarities. The first is the fact that the handwriting of the same person shows certain variations. How often have we come across people who state that they never sign twice alike. Of course it is only to be expected that no two signatures of the same person will be mechanically identical since hand is not a machine and when we do come across signatures which are replicas of each other we have no hesitation in

expressing the opinion that the only way in which such a close resemblance could be obtained is by either or both being produced by some tracing process. There is bound to be a certain amount of natural variation in all genuine writing because the human hand does not reproduce the characters as does a typewriter for instance. But these natural variations are always within certain limits and do not create an entirely different type of characters of writing. The extent of variation differs greatly with different persons ranging from the illiterate writer who has learnt to sign his name and makes but one form of each letter to the accomplished writer who can make different types of the same letter. However, writing is one of the most permanent and unconscious of human habits and each person's handwriting has its own individuality.

The second difficulty in comparison of handwriting is the fact that the handwriting of different persons may have so much in common that they look very much alike. Here again, the resemblance is superficial and a careful study will show significant differences in inconspicuous details of the two writings.

Most of the investigations in handwriting is regarding signatures. Signature forgeries are generally of two classes, those which attempt to imitate a true signature and those which do not attempt to imitate the genuine signature but are only the names signed on documents by other persons. In either case having been supplied with adequate number of genuine signatures it could be stated in most cases whether the disputed signatures are forged or not. Then arises the question which interests the Police investigating officer who is the author of the forged signature? This question can be answered conclusively when the forged signature is not an imitation of the genuine signature. If the signature is merely written in the normal handwriting of the person preparing it, sufficient amount of his writing will permit an accurate identification in many cases. The more common forgery is one in which an attempt is made to imitate another person's signature writing slowly, carefully and piece by piece. From such signatures it is very unlikely that the forger can be identified.

Another important aspect of document examination is regarding typewriting. It might appear to be practically impossible to distinguish between one typewritten document and another if both are done with ink of the same colour but frequently such discrimination is a fairly simple matter. Typewriting machines all have distinct individuality and documents made not only with different makes of machines but with different machines of the same make generally can be recognised.

The detection and deciphering of alterations offer another major problem in document examination. Cheques, licences, birth certificates and the like are often subjects of alteration made with criminal intent. Alterations may be of two classes. They are erasures made by removal of writing from the paper and obliterations made by superimposing ink, pencil or other marking material. Scientific examination utilising ultraviolet ray and infra red rays is often of great value in the examination of such documents.

In one such case a man was stated to have produced a receipt for a certain amount of money. The alleged payee denied having received the amount and the receipt in question was sent to the laboratory for examination. Ultraviolet light examination of the receipt revealed some other erased writing in the body of the receipt. It was found that the document was a casual leave letter. The body writing had been erased leaving the signature intact. The writing of the receipt was then written over the genuine signature.

The accused in another case, produced during the trial, a letter purported to have been written by one of the prosecution witnesses. This typewritten letter was examined in the laboratory. The signature was found to be genuine but the typewritten matter over it looked as though it was typed over some other previous typewriting which had been erased. The bottom left hand corner of the letter showed some endorsement in ink by the accused. An infra red photograph was taken of this portion of the letter and it revealed the letters "Enc. Des." typed underneath this ink writing. From this information it was established that the accused had received a typewritten official letter from the witness in the ordinary course of business. The accused altered this letter to suit his purpose. The signature on the letter was left undisturbed but the typewriting over it was erased and fresh writing made. The accused had also written an endorsement in ink on the letter to obliterate the letters "Enc." and the typist's initials below. In this case the accused was convicted also for fabricating false evidence.

It is well known that the study of foot-prints is one of the means of identifying a criminal even when they do not show ridge characteristics. Foot-prints of different persons differ in several other characteristics and it is, therefore, important to look for foot-impressions at the scene of crime. Various types of foot-impressions are found depending upon the surface, pressure and the medium. Some are traced and photographed and casts are taken of certain other types of impressions. The tracings or casts are sent to the Police

Laboratory for comparison with test tracings or casts taken of impressions made by the suspected persons.

The evidential value of the opinion on foot-impressions is often high especially when there are some uniquely identifying characteristics present in a murder case a foot-impression in blood was found at the scene. A tracing was made and preserved. Subsequently when a suspect was arrested his foot-impressions were also taken with fowl's blood under identical conditions and traced on a glass plate and found to tally with the crime print on examination. The trial Judge, however, did not take into account the evidence on foot-prints but based his conviction on other evidence. In the appeal court the Judges were impressed by the points of resemblance of the foot-impression found at the scene and that made by the accused and observed that courts should admit such evidences under section 45 of the Evidence Act and test them by independent judicial observation on the material placed before them by Police Officers who have been specially trained in the subject.

Counterfeit coins and forged currency are also examined in the laboratory. Ordinarily cast counterfeit coins are received in cases. These are produced by pouring molten metal into the moulds. Cases of coins made by striking with dies are not common. The moulds used for casting are ordinarily made of clay or porcelain powder and the metals used are tin and lead. Very rarely metal moulds are received. The forged currency notes received for examination are generally of a crude type. These are produced by blocks made from photographs of genuine currency. Ordinary paper is used and the water-mark is poorly imitated. The security thread is invariably absent.

A pair of steel dies for quarter-rupee coins were received in a case. Several coins were also received in this case and it was reported after examination that the coins struck were counterfeit and the dies had been used for making them (see photographs 6 and 7). In another case several Five-Rupee currency notes were received together with blocks, negatives and other materials. It was found that the blocks were used for printing the forged notes and the negatives were used for making the blocks. The evidence connected the currency notes with the other materials and it was of value since the notes and the other materials were seized by the Police from different places.

The science of photography provides an invaluable aid in many phases of Police work. The photographic section of the Police Laboratory undertakes all types of scientific photography including photography using infra red and ultraviolet rays. Photographs not only help in solving problems in crime detection but also serve the purpose of demonstration of physical evidence in courts.

It is hoped that very soon the proposed State Forensic Science Laboratory would come into existence and help the Police Officers even during the early stages of investigation in obtaining all the assistance that modern science can render.

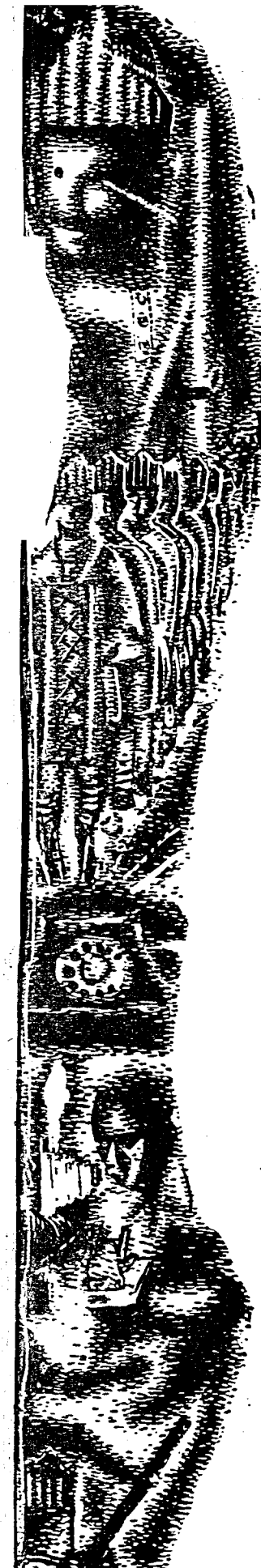
The Dream

The clarion call of the case diary files,
I heard in my dream and I stared at the piles
Of labour at expense of food and my sleep.
They scorned at my couch—this written up heap.
The H.Cs. and D.Cs. then marched up in column,
The C.Ds. and K.Ds. behind them so solemn with State
Police Band
They halted and glared full into my face,
The pressmen had come. At portals they stood.
"Outbreak of crimes! The public are scared"
As if the booty I also shared.
The Inspector calls on the "Good Morning" phone,
And takes me to task in unsavour'd tone
"There's rioting and looting in the market" he shouts
His "P.Rs." and "CHARGES" in barges afloat;
They ask me to show cause why I shouldn't be flayed
And fried in a pan for C.Ds. delay'd.
Oh! Could I have filled up a bookstall with books
The time, had I spent in writing of books.

II.

Inspections daily and attending courts,
The witness who gave a go back to truth
The prudence of law of conflicting views,
The stricture of courts, and complaints of folk,
Who pay up the tax and lift up their voice.
The rickshaws and jutkas and traffic control
Buses run over the jay walking crowd.
Eternal reminders from D.P.O. hail
Weaving a web on my body and soul
Fleet as the glance of the mind do they rush
Through windows and sun shades "Will you please
hush?"
These surged into cells of my intricate brain
Lo! A nightmare they caused. I woke up to find
My sweet little child with coffee in hand
Greet me "Good Morning". There is razor at hand.
A shave and a wash and tunic put on.
The buttons and stars and SAM Browne to boot
For morning parade, I rush up refreshed.

M. GEORGE,
Inspector of Police, South Arcot.





Tailoring unit.

The North Vellore Women's Co-operative Cottage Industrial Society was inaugurated on 17th November 1956 at the Armed Reserve Police Lines at Vellore by the Chief Minister of Madras. The present share capital of the society is Rs. 1,561 with a membership of 541. All the members of the society are the wives and relatives of the Policemen at Vellore. The Society is under the control of the Director of Industries and Commerce, Madras.

A scheme was drawn up for training 30 members of the Society in Tailoring and Embroidery and 20 in mat weaving at an estimated cost of Rs. 4,300 non-recurring and Rs. 13,200 recurring per annum. The Government of India had also sanctioned to this Government a grant of Rs. 10,900 representing the entire non-recurring expenditure and 50 per cent of the recurring expenditure for implementing the scheme, the grant subject to the condition that the balance of expenditure on the scheme (Rs. 6,600) is borne by the State Government.

The stipend scheme began to function from 15th December 1957 and the first batch of 21 members in Embroidery and Tailoring finished training on 15th December 1958 and the second batch of 9 members on 15th February 1959. The mat weaving scheme came to a close in the month of August 1958.

The men of the Armed Reserve, Vellore, manufactured about 30,000 bricks in 1957 and these were used for building a work-shed for the society. The men of the Armed Reserve, Vellore supplied the labour. They

Embroidery unit.



Welfare of Police Men's Families

managed to construct a large hall of size 40 feet by 80 feet on Police land with the money sanctioned for the purpose by the Government. This hall, christened "Kasturba Nilayam", was opened by the Minister for Home, Sri M. Bhaktavatsalam on 29th June 1958.

The wives of the Policemen at Vellore have been very enthusiastic in regard to the Society and about 100 women turn up every day regularly for working on the matlooms and Tailoring machines and for embroidery. These women receive wages for the work done by them. It has been possible for them to undertake the sizing of local Policemen's uniforms at 1,200 uniforms per year. About 2,500 uniforms have been sized so far for the policemen. Before the sizing of Police uniforms was taken up by this Society, the Government Hospital at Vellore was helping by placing orders for stitching Hospital linen.

The main productions of the society are—

(a) Table cloths, pillow cases, bed sheets, kerchief, hand bags, napkins, frocks, shirts, cholies, blouses, underwear, half and full pants, skirts, etc.

(b) Mats, table mats, dinner mats, single and double mats, etc.

There has been a steady demand for some of this Society's products, e.g., embroideries, pillow cases, children's wear and napkins from various quarters. Orders from private persons are also undertaken.

There are fourteen Sewing machines now including four donated from the District Welfare Fund by the Collector (approximately Rs. 1,000).

In 1958, this Society supplied 200 skirts, 200 cholies, 100 shirts and 100 half pants, to the Child Welfare Centre at Vellore as also 1,608 uniforms for the Vellore Municipality, 600 uniforms for the Project Implementation Committee, Vellore, 400 uniforms for private merchants and Civilians. Besides, cloth is purchased at wholesale rate and sold to the members at reasonable price by way of cloth or finished goods.

There are 23 matlooms of which 16 are active. The matlooms have been busy meeting the needs of the Government Hospital, Vellore, Government General Hospital, Madras, Commissioner of Police, Madras, and Beggar Home, Avadi.

So far 1,570 mats have been supplied by the Society.

Two Master Tailors were employed from the beginning to give proper training to the members in cutting and tailoring. Of the two, the services of one were terminated with effect from 30th April 1959.

The management of the Society is governed by five Directors, who are nominated by the Director of Industries and Commerce, Madras, once in two years. The following are the Directors at present :—

Srimathi Saroja Subramaniam, wife of Superintendent of Police, North Arcot—*President*.

Srimathi Queen Michael—*Secretary*.

Srimathi P. Saraswathi, Srimathi V. Sarada and Srimathi M. Padma—*Directors*.

The Society also does Charka Spinning and the yarn produced is sold in the market or in the Khadi Depots.

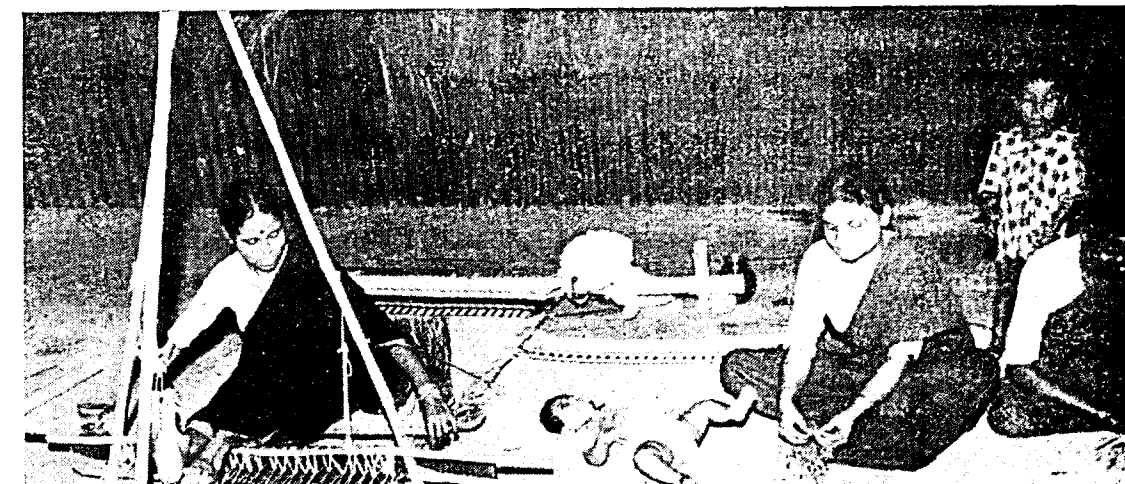
In addition to the funds placed at society's disposal by the Government the Industries Department has given a working capital loan of Rs. 2,000 and reserve fund subsidy of Rs. 1,000.

A grant of Rs. 500 was also obtained from the District Social Welfare Board through the Collector for opening a library for the benefit of the members. The members show keen interest in getting and reading the books of the library which is proving to be very popular.

Under the auspices of the society it is proposed to hold lectures every fortnight with local educationalists, social workers and lady doctors, talking to the women on topics calculated to raise the level of their intellectual, moral and physical well-being.

It is proposed to start a children's creche in a separate building adjacent to the hall of the society where the children of the women working in the society will be looked after by an Ayah and they are given milk, etc., and cod liver oil got from the UNICEF through the kind courtesy of the State Social Welfare Board. The creche is to be fitted with playthings, cradles, a swing and see-saw for the recreation of the children. For all these facilities a decent amount of grant is expected from the Government.

Mat weaving centre.



Weaving.

The society is now working at a net profit of rupees 800.63 and there is scope for increasing the profit still further.

Other Police Activities.

The men of the Armed Reserve, Vellore, are also engaged in Police Village Development Scheme. According to the programme for this year, they are putting up

(Continued on page 55)

a new life



'Do you not hear the entrance of a new theme?'
Do you not hear the asserting cry of the newborn,
see myriad men rise to work,
to build, to wield the power of the sun?

Fashioning life, making a world that offers a little more:
a little less of the care, a little more of the joy.

Yes, you feel the awakening—
an ancient nation sheds the stagnation of the ages.

TODAY, as in the past, our products help to make homes cleaner,
healthier, happier. But today we are also working for ...

TOMORROW, when the evergrowing urge for better living will
demand still greater efforts. And we shall be ready with wider
service, new ideas, new products ...

Today and Tomorrow...Hindustan Lever serves the home

PR.2-X92

They Too Lay Roads

R. NAGABUSHANAM,
District Publicity Officer, Chingleput.

The imposing arch at the seventeenth mile on the Bangalore Trunk Road from Madras could never be missed. It reminds day in and day out of the new role our Police Force is playing increasingly. The proud possessor of the arch—Chembarambakkam has everything a village should have. Though this village lends its name to one of the major tanks in Chingleput district, it has no water sources, no sub-soil water. The people of the village are mostly poor and are dependent on prosperous agricultural villages like Thirumazhisai and Nazarethpet for their livelihood. Some of them work on the maintenance of the Trunk Road too. Naturally people in such meagre circumstances could not have afforded the public amenities they now enjoy. Fortunately for them, the eyes of Chingleput District Police fell on this village nearly three years ago and the result is a good approach road measuring about two miles, a nice community hall, a school building, street lights and a brick and mortar colony for the Harijans. These amenities are enjoyed by the villagers for the last two years.

Kattupakkam near Poonamallee is another lucky village. The Madras City Police Force was responsible to give a new look to this village. Harijans have brick and mortar homes, a fine playground with modern equip-



The Inspector-General of Police, Sri Balakrishna Shetty inaugurating the road-laying work in Chromepet.

ment for their children and a good approach road to their colony.

The Maternity Hospital with half a dozen beds built at Nazarethpet comes next in the series. Financed from the Patel Memorial Fund and sponsored by the Social Welfare Board the entire labour for building this hospital was provided by the Madras City Police Force. The Union Home Minister who declared open this building paid glowing tributes to the Policemen for their reconstructive activities.

The latest constructive service rendered by Police in Chingleput district is a six-furlong road laid in Chromepet. Under Village Development Scheme, Chingleput District Armed Reserve Police were entrusted with laying a road at Chromepet. The road-laying work was inaugurated by the State Inspector-General of Police on the 5th day of May 1959. The road was there ready for use within forty days. Of course the local inhabitants gave their active co-operation. Those who had occasion to actually see them toil in sun and rain in a most cheerful manner paid warm tributes for their sincerity of purpose.



Armed Reserve men working on the road.



R. VENKATACHALAM, B.A.

Stenography has a place in every walk of life in modern times. Every office has need for a stenographer to facilitate the quick despatch of business. There is a special group of shorthand-writers in the Police Department. They are the members of the Police Shorthand Bureau at Vellore. They form part of the Special Branch of the Criminal Investigation Department placed under the control of the Principal, Police Training College, Vellore, for administrative purposes.

The Shorthand Bureau has been in existence for forty years now. Starting with a nucleus of one Shorthand Instructor and 24 Sub-Inspectors in 1919, it developed into an establishment of five Inspectors and 39 Sub-Inspectors in 1949, having qualified Reporters in every South Indian language besides Urdu and English. The separation of the Andhra State from Madras in 1953 and the reorganization of States in 1956 resulted in the depletion of its strength to three Inspectors and 28 Reporters. Telugu Reporters went over to the Andhra Pradesh and Malayalam Reporters to Kerala and the Kanarese Sub-Inspector reverted to the executive. Now there are only Tamil and English Reporters and one Urdu Reporter in the Madras State. Till 1952 only Sub-Inspectors of Police had been, as a rule, taken to the Bureau, after a few years' service in the districts but since then direct recruits and members of the ministerial staff are being drafted to the Bureau. The Reporters have to attain speeds in shorthand considerably higher than those prescribed for the Higher Grade Government Technical Examinations and their efficiency is tested periodically by examiners from outside the Bureau.

The system of English shorthand followed in the Bureau is that of Sir Isaac Pitman. For Malayalam we had the system of Pandalai of Travancore and for Urdu that developed by the Government of the United Provinces of Agra and Oudh and taught in the Lucknow Christian College.

Tamil Shorthand had its beginnings about half a century ago thanks to the genius of Rao Sahib M. Srinivasa Rao. He was a native of Madasigara in

Mysore State who had settled in Madras. A brother of his, Sir M. Venkoba Rao, was the Lecturer in History of the Voorhees College, Vellore, for many years. Srinivasa Rao had qualified himself in English Shorthand and had been specially coached for the teacher's profession by Specialists Lumly and Marks of Birmingham. He was a Fellow of the Incorporated Phonographic Society of London and its local representative. He had been awarded the Society's Teacher's Diploma. His services in the course of spreading the winged art in South India had earned for him a gold medal from the Society. He followed teaching of Shorthand as his sole avocation for about two decades. He had been teaching Shorthand in the Chengalraya Naicker's Institute in the Old Pachayappa's College buildings in China Bazaar Road (the present Netaji Subhas Chandra Bose Road), Madras, when he was appointed as Instructor in Shorthand in the Provincial Police Training School, Vellore, as the present Police Training College was then known. He was coaching up those Sub-Inspectors undergoing training in the School who desired to learn Shorthand in that art. These Sub-Inspectors had to report public meetings in their jurisdiction when they went out into the districts, in addition to their normal work as Station-House Officer. They were paid an allowance of Rs. 10 per mensem for their Shorthand qualification and work, in addition to their pay.

Srinivasa Rao utilized his knowledge and experience to develop a system of Shorthand in Tamil based on Pitman's principles. The existence of too many words and verbal terminations and other peculiarities in the Tamil language raised many difficulties. But he overcame them all and produced a system, accurate, complete and methodical, by his patient and systematic effort, ingenuity and skill. The political agitation of the first decade of this century roused the Madras Government to the need for having qualified Shorthand Reporters to record Tamil speeches of leaders verbatim and they offered prizes to those who could pass tests at 60 words



The finger print system is extensively used in the identification of criminals and in the detection of crime. Crimes are often committed in secrecy. The bringing home of the crime to the offender requires the evidence of witnesses. But, often, the culprits unintentionally leave at the scene of crime their finger prints on objects handled by them. Such impressions which are latent and not ordinarily visible to laymen, are located and developed by Finger Print Experts of the Bureau with suitable developers and compared with the prints of suspects. The Experts then locate the culprits from the developed prints by means of scientific methods.

The Madras State Finger Print Bureau, Vellore, is one of the earliest and oldest Bureaux in the world. This institution was established in 1895, long before the introduction of the finger printing system in the Western countries. The finger print system was adopted in the Scotland Yard in 1901 and in the United States of America in 1903. It will be interesting to note that the Criminal Courts in this State were informed by a Circular, that a Special Officer (Finger Print Expert) was available in the Office of the Inspector-General of Police, Madras, to give evidence on Finger Prints. This was prior to the recommendation by the Government of India of the adoption of the Finger Print System of classification and identification throughout India.

Before the introduction of the finger print system of classification and identification, the Bertillon Anthropometric system of identification of criminals was in vogue. The Central Bureau for Anthropometrical measurements was originally attached to the Madras Jail Department and it was transferred to the control of the Inspector-General of Police, Madras in 1894. This system was found to be not perfect and it was discarded when the value and utility of finger prints became more firmly established, and till to-day the superiority of identification by means of finger prints remains unchallenged.

The first officer in-charge of the Madras State Finger Print Bureau, Sri E. A. Subramania Iyer, Inspector of Police and two clerks of the Police department were trained by Sir Edward Richard Henry, who devised the present system of classification, universally known as the Henry System. It may be of interest to know that Henry's book on the classification of finger prints was published only in 1900.

The experts from this Bureau commenced giving evidence in Courts regarding finger prints in the year 1898. The question of levying a fee for the services rendered by the experts in civil and private criminal cases was considered by the Government and orders to levy fees for such services were passed in 1905.

The Finger Print Bureau formed part of the office of the Inspector-General of Police, Madras till 1905. On the formation of the Provincial C.I.D. in 1905, it was placed under the control of the Deputy Inspector-General of Police, Railways and C.I.D., Madras. In April 1942, during the general evacuation of offices from Madras on account of the War, the Finger Print Bureau was moved from Madras to Vellore, where it was housed in the buildings of the famous Vellore Fort. Since 1942, the Bureau is under the direct charge of the Principal, Police Training College, Vellore and the administrative control continues to vest in the Deputy Inspector-General of Police, Railways and C.I.D., Madras.

The main functions of the Finger Print Bureau are the classification and recording of finger print slips of convicted persons, searching for the antecedents of the unknown arrested persons, locating absconders, identifying the culprits with the chance prints traced at the scene-of-crime and furnishing expert opinions regarding the genuineness or otherwise of disputed thumb impressions on documents.

With the progressive increase of work in all the branches, the strength of this Bureau was periodically augmented and now nearly 50 persons are employed in this institution. The usefulness and scope of the Bureau have been greatly enlarged during the past 65 years of its existence. The statistics of the Bureau show that till 1st April 1959 the Finger Print Bureau has handled the finger print slips of 1,146,327 persons received for their convictions and another 1,492,600 finger print slips of arrested persons were searched in the records of the Bureau to ascertain their previous antecedents. Over a lakh of references are now being dealt with every year in the Finger Print Bureau.

The system of work and the organization was so well established long ago in the Vellore Bureau, that other States like the former Princely States of Cochin and Travancore, Mysore and the Colony of Ceylon formed

their Finger Print Bureaux on the model of this State's Finger Print Bureau with the help of the officers of this Bureau.

When presenting evidence in Courts on finger prints, photographic enlargements of the disputed and admitted thumb prints on documents or chance prints found at the scene-of-crime are prepared in the photographic section of this Bureau and points of identity are marked in them and presented to the Court, so that the Court, the Counsel and even a layman could follow the reasoning that led the Finger Print Expert to form his opinion. This method of presentation of evidence has added to the prestige and trustworthiness of the opinion of the Finger Print Expert and his evidence is now quite accepted as fool-proof and unerring. The Bureau often helped the Judiciary in determining the actual exccutants of documents like wills, promissory notes and other valuable deeds with disputed thumb impressions.

Besides the photographic accessories, the finger print Bureau has also a complete set of modern, up-to-date equipment and apparatus required for finger print work. In order to achieve high speed and accuracy in finger print work and to relieve the eye strain involved in visual searching there is a proposal to mechanize the process of searching by adopting electrical sorting machines and punched card system in finger print work, as has been done in some of the States in the U.S.A. The proposal is under active consideration and if the machines are installed in this Bureau, this institution will be the first in the Indian Union to mechanize the process of searching.

The Bureau tried three new methods of location during the last year and this and achieved signal success. These were—

(a) correlation of the M.O. method with the F.P. method, by calling for full list of M.O. criminals from investigating officers and District Intelligence Bureaux, and then checking scene of crime prints with these F.P. slips;

(b) permutation of all possible patterns for unknown fingers (where three or more finger prints have been traced on objects), and checking slips coming under each of these classifications with the Scene-of-crime-prints; and

(c) developing of sight-memory in searches by frequent catechism and then getting them to look for the patterns on the scene of crime prints amid the numerous slips disposed of by the searchers each day. In the last two years, the Bureau did colossal work in the three directions indicated and has achieved remarkable success. In 12 cases of Madras City, as many as 43,710 finger prints were compared with photographed imprints traced at the scenes of crime. In a single case of safe-cracking in a mill at Salem, 6 photographed imprints were compared with 12,720 finger prints and the palmar portion of the chance prints had to be compared with 2,540 palm prints and was successfully

identified. In another case of house-breaking at Tiruchirappalli, nearly 5,000 finger prints of about 500 persons were compared and the culprit was finally detected.

A Single F.P. System (following the Battley Method) was started in this Bureau in 1936. This system fell into disuse after some years and was kept in abeyance due to various reasons. In 1956 it was revived and a single digit section was started in Madras City. The object of the system is to locate the criminals from stray, chance finger prints left by them on the objects handled by them at the scenes-of-crime. So far the Single finger prints of 2,574 house-breakers and house-thieves of Madras City have been brought on to record. The Section has been doing excellent work in the detection of crimes by co-ordinating its work with the Finger Print Bureau, Vellore and as many as 104 cases, i.e., representing 50 per cent of cases of house-breakings of Madras City in 1958, were identified and detected by means of finger print clues alone.

With the results achieved in Madras City, proposals have been formulated for starting similar single digit sections in important towns like Madurai, Tiruchirappalli, Tirunelveli, Salem and Coimbatore.

Police Officers from the districts have been given training in finger prints in the Finger Print Bureau in convenient batches since 1946. Most of the executive staff of the districts have gained a working knowledge of the F.P. system and have become finger-print minded. This Bureau has also been giving training in finger prints to the trainees in the Police Training College, Vellore and to the Cadet Sub-Inspectors recruited to the Intelligence Bureau of the Government of India.

The Finger Print Bureau, Vellore is the first in India to employ women as finger print searchers and it has on its roll seven of them as finger print technicians. It is a matter for great pride that never once had their opinion been challenged or their judgment found to be inaccurate.

Some recent interesting cases identified through change finger prints traced at scenes-of-crime are—

(i) In a case of grave burglary in the residence of Sri K. K. Raman, properties worth Rs. 30,000 were lost. Seven latent prints were traced on the objects found at the scene-of-crime and they were photographed. They were compared with the finger prints of nearly 500 ex-convicts listed by the investigating officers and found to be not identical with any of them. The matter was pursued by the Bureau and it was finally identified with that of Samuel alias Sankaran, who was not suspected by the investigators. The accused was apprehended and a considerable portion of the properties lost have been recovered. (The method used in this case was the sight memory method.)

A check up of the finger prints of the culprit in case No. (i) above, with the photographed scene-of-crime prints disclosed that the same individual was also responsible for another crime in Madras City.

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Worth its weight in gold

The Mounted Branch of Madras City Police

Between the Great Wars the Mounted Branch of the Madras City Police comprised of the Inspectors and Sub-Inspectors Troop, Sergeants Troop and the Sowar Troop.

Inspectors attached to the Law and Order Branch of the City Police were mounted as were also select Sub-Inspectors. All the Sergeants of Law and Order were mounted.

The officers patrolled their respective divisions in the mornings from 6 to 8 and in the evening from 4 to 6 mounted.

The Sowar Troop and spare horses were stabled at the Headquarters Stables, Harris Road, under the charge of the Sergeant-Major, Mounted Branch, where there were ample facilities for the training and re-training of horses and men. The Sergeant-Major was assisted by a select Sergeant known as the Remount Sergeant for training new remounts, obtained from agents dealing in Australian horses in Madras and Calcutta.



All the three Troops of Mounted Officers and Sowars paraded weekly under the Deputy Commissioner of Police, Law and Order, for Troop Drill.

In 1940 the Mounted Police was reorganized and there were Sowar Troop of one Daffadar, three Lieutenant Daffadars, 16 Sowars and a V.R. of three Sowars with 43 horses under the Sergeant-Major, Mounted Branch. All the horses were stabled at the Headquarters Stables; 15 of these horses were kept available for Sergeants when required for duties in divisions such as procession control, bandobust at meeting, etc., to be requisitioned by Divisional Inspectors.

Owing to lack of replacement, the strength of horses fell to 26 for the use of the Sowar Troop and select Gazetted Officers.

In 1948, the Madras Governor's Body Guard was disbanded and some of the serviceable horses and also the State Coach were transferred to the Mounted Branch and the Mounted Branch took over the ceremonial duties for the State Drive occasions.

When the Raj Bhavan acquired an open State Car for the use of the Governor on ceremonial occasions, the State Coach was ordered to be auctioned, but the then Governor Sri Prakasa ordered that such a historical item should not suffer degradation, and instructions were received that it be handed over to the Madras Museum where it can be seen today.

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(Continued from page 20)

study of false evidence with reference to the behaviour of the many calls of the human brain. We have been content to accept the Polygraph—a simple affair related to basic human reactions of the respiratory and circulatory systems of the human body and the electrical conductivity of the skin—as the very ultimate thing devised for studying a lie, and so on. That we now stand at the mere threshold of Police Science and that a lot more remains to be done and studied and that the Universities can help in future researches are all, in my humble opinion, very clear. It is high time that our Universities took the matter in hand and devised remedial measures for this state of affairs.

A suggestion that I would make with regard to the introduction of Police subjects in Colleges and Universities is that, in addition to practical, theoretical and laboratory work, the students should join together and discuss Police subjects among themselves under the watchful eyes of the professor. This method—“Conference method” or “Symposium method” as it is called—is an acknowledgedly better way of teaching a subject. This is particularly recommended for students at the college level, who will evidently be the future officers, since the students are stimulated, guided and put in the proper way by the Conference leader. Such a system will lead to increased organizational effectiveness and improved morale. In short “it will tend to stimulate supervisory motivation”.

A few words, in this connection, addressed mainly to our administrators, would not be out of place. A country usually gets the type of Police force it deserves—and pays for. Our administrators have to carefully study and realize the futility of having a non-specialized and cheap force. While I advocate that the University must step in and provide for Police Science in its curriculum and thus offer for the force a first-class field for recruitment, I also want to emphasize that the pay scales and conditions of service should be made adequate and attractive in order to make the best talent seek an entry into the Force. It is false and harmful economy to have improperly paid and inadequately equipped Police Units in the States. It is not sought to be denied that the Police of a country is certainly a liability on its exchequer. But the protection of the individual rights of a person and his property and the preservation of the public peace are a social obligation of the State and the debit on the exchequer on account of policing is quite reasonable and necessary. Even redoubtable champions of human liberty like John Stuart Mill and Thoreau have expressed this opinion in unmistakable terms in their writings. Obviously, the expenditure on the Police budget cannot be reduced below a certain minimum if the citizen wants his liberty and rights secured and assured for him. The State should only aim at spending the amount in the most proper manner and should not attempt at avoiding necessary expenditure on this head. Niggardliness here would tantamount to being penny-wise and pound-foolish. By all means, let our administrators and our public insist on better and still better results, but let them be prepared to pay for them. The

citizen can and should help to reduce the expenditure on the Police by regulating his conduct.

The crime level being what it is, and the regard or disregard for Law and Order that our citizen has being what they are, it is unwise to save expenditure on the Police budget. Also, five badly paid or badly equipped men in a force can hardly do as much work as three well-paid and well-equipped men can. It is high time that our administrators re-examined this problem in the light of these facts.

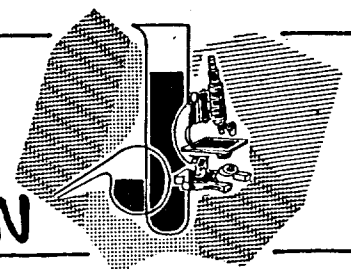
To use Mathew Arnold's language, the ‘*pro unum est necessarium*’ of the present day is a well-equipped and well-paid Police force in all States of our country. We can even afford to reduce the numerical strength and redistribute the present expenditure so that each member of the Police Force is paid better and is given better facilities. That the increased pay may give commensurate returns, the Universities have to plan proper curricula for courses in Criminalistics in their colleges and place at the disposal of Government a host of well-trained students for making a choice from in the matter of appointments to the country's police force. The Universities themselves will stand to gain much by taking this step, because it will stimulate thinking in the right direction on the part of the students and will also tend to reduce student-indiscipline in the colleges. It is but a few months since I have been out of college, and having both been a student of psychology and having intimately watched student reactions whenever the Police interfered with them, I have often felt that the situation was one which could be remedied by a few simple expedients. May the Pundits and the present-day professional policemen ponder these thoughts which then occurred to me and which I have put down in black and white for their benefit.

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The strangeness of it all struck me and I could hardly believe myself when, for the first time, I was offered a seat and he spoke in kind terms of encouraging affection. “My friend, I tried to break your back all these three months and you have stood manfully”, he said. Never did I feel more light and lithe, never before were words so kindly spoken that touched the roots of affection. In one of his moments of rare abandon later, I asked him the reason why I have had such a raw start with him. He confided that my predecessor traded on his lenience and even smoked before him without permission! I wondered why innocent me should have been the scapegoat for the sins of another!

The parting came; I had finished training. He came up to me and said, “Hiss, but don't sting”. Words good and true. Since then, I have in my humble way practiced this and it has paid dividends. This grand man has ever been the envy of his European colleagues. Such was the training I have had in the Andhra Desa. I always treasure its memories. How could I forget the lessons I learnt at the infancy of my career? Andhra was the cradle of my professional career. She is a separate entity and a State now, but that cannot erase the pleasant memories I have had.

THE TEST TUBE HELPS THE BATON



Dr. A. R. NATARAJAN,
Chemical Examiner to Government of Madras.

AND

R. VIRARAGHAVAN,
Research Assistant to Chemical Examiner, Madras.

The Chemical Examiner's Department at Madras is running its 110th year of existence. From the available records it is found that the Professor of Chemistry, Medical College, Madras, was in existence in the year 1849 and he was also designated as “Chemical Examiner at the Presidency”. He appears to have been under the control of the “Medical Board”, Fort St. George, and one Surgeon, T. Key, was occupying the post of the Chemical Examiner in October 1849.

He was the consultant for the Military Board at Fort St. George, Madras, as well as the “Gun Carriage Manufactory”, Madras. He has often been consulted on various matters like wood preservation, economical manufacture of drugs from indigenous plants, etc.

The first recorded report on medico-legal analyses is the one issued on 3rd December 1849 to the “Zillah Surgeon”, Chicacole, on the examination of stomach and contents and two other articles. It is interesting to note that by the method of analysis available in those days the Chemical Examiner did not detect any poison in the first two articles sent. Regarding article 3, he states “The circumstances under which it was collected, the exposure to which the matter was subjected and the fact of more than one individual having had the handling of it all concur in rendering it impossible that any result could be arrived at from its inspection and examination which could be taken hold of and used in evidence against the suspected person”. He concludes the report by saying “From the symptoms detailed by you, I am decidedly of opinion that if any poison was administered to the deceased it was ‘aconite’ . . . a very deadly vegetable poison, but for the presence of which we have no chemical tests”.

Most of the tests conducted were for mineral poisons and the common poisons detected were Arsenic, Mercury and Antimony. From 1854 onwards the Chemical Examiner was analysing water for potability. Subsequently the Chemical Examiner was requested to undertake the analyses connected with excise and prohibition as well as miscellaneous articles sent by the Collector of Sea Customs, Madras. Thus by about the year 1895 the Chemical Examiner was examining articles in cases of suspected human and cattle poisoning and

blood and seminal stains under “Medico-legal investigation”. Under “Miscellaneous analyses” he was examining articles like counterfeit coins, intoxicating liquor, narcotic drugs, petroleum and its products, water, inks, etc.

Even as early as 1895 the Chemical Examiner seems to have had the problem of receiving articles improperly packed or preserved and not furnishing the necessary case history or information by the investigating and forwarding officers. The Chemical Examiner has repeatedly sent circulars pointing out the irregularities. These seemed to have had good effect, and in the Annual Report for the year 1895, the Chemical Examiner observes “While six or seven years ago, hardly a week passed without cases coming up for examination badly preserved and without regard to identification of the articles sent, such instances are now the exception. The forwarding officers seem to better appreciate the necessity of strictly complying with all the required formalities.” With increasing volume and variety of work year by year, the Chemical Examiner seems to have felt the dearth of working accommodation. The laboratory was confined more or less to two rooms with a floor space of about 1,300 square feet. So in the year 1896 the Chemical Examiner says “I wish to mention that the working accommodation in this laboratory has been very severely strained of late and that portions of work in progress had in several instances to be stopped and postponed on account of overcrowding which took place with three analysts carrying on work of different sorts in the same rooms and often perforce on the same counters. On some occasions in which a large number of articles in medico-legal cases had to be examined, all other work had to be practically stopped for several days, the risk of accidents occurring or their examination being too great to permit of anything else being brought out of their cupboards for examination.”

On account of the yearly increase in work of the Chemical Examiner under medico-legal investigation, the Government have ordered the transfer of excise work to Revenue Board's Laboratory in 1900. Similarly in the year 1908 the water analysis was transferred to the King Institute, Guindy. In the year 1900 analysis of explosives was undertaken in this laboratory.

By the year 1929 the analytical work connected with the Customs Department was also transferred to the Customs Laboratory thus leaving the Chemical Examiner to fully utilize his time for medico-legal and chemico-legal analyses.

For the past thirty years the Chemical Examiner is doing analyses almost exclusively for the police in the several medico-legal and chemico-legal cases. The varieties of cases in which articles are analysed comprise, cases of poisoning (both human and cattle), the examination of stains like blood, seminal, faecal, urine, saliva, milk, etc., miscellaneous medico-legal cases like skeletal remains, tissues in gun-shot cases, firearms and projectiles, hair (both animal and human), etc., miscellaneous chemico-legal cases like explosives, incendiaries, tool marks on objects, examination of textiles and dyes, telegraph and telephone wires, fibres, dust and dirt, trace evidence in hit and run cases, erased and obliterated numbers on objects, examination of sealing wax and adhesives.

Thus the Chemical Examiner's Department has begun to fulfil the need of a laboratory for scientific investigation of crime for the police. With the increasing complexity of crime and the ingenious ways adopted by criminals, science has come to play a prominent part in the solution of a crime. The scene of crime is no longer looked upon simply as a base for questioning witnesses. It may also be considered as a field laboratory site where traces of clue material can be discovered and made to give eloquent testimony at the trial. Very often cases are being presented in court, in which far too little investigation was done and the investigating officers have contented themselves with securing the few obvious witnesses and an effort to obtain a confession from the prisoner. This may be due to a lack of knowledge as to what to look for, what possible defences to guard against and a lack of appreciation of the importance of promptly securing all available physical evidence and transmitting them to the expert for examination and opinion. Expert and scientific proof have progressed to such an extent that the investigating officer who does not avail himself of this valuable aid is hopelessly out of date. Every investigator should know the nature of assistance that the sciences and expert knowledge can give him, what to expect of an expert and what not to expect of an expert and what to present to an expert for his examination. There is hardly a science which will not at times be of real assistance to the investigator.

Science not only helps in solving a crime but has a unique place in evidence. Else and Garrow state "Every Police officer of experience is well acquainted with the frailty and uncertainty of the human element in witnesses and of their contradictory assertions, particularly in those cases where evidence is merely that of observation, whereas in those cases where the evidence is the result of expert examination of matter or material connected with the offence, the expert by reason of his knowledge and technique, may read and interpret evidence which is not the opinion of a fallible mind but is the direct and accurate interpretation of the infallible law of nature."

The Chemical Examiner's Department has all along been independent of the Police Department in its set up and administration, and this has enhanced the value of the reports as a piece of evidence. Speaking of such independent laboratories, Else and Garrow, who are themselves Police officers, state "The greatest value of science for the purpose of evidence lies in the fact that in almost all criminal cases, the evidence should come not from the officer connected with the case or from an expert connected with the police but from an expert witness who has no official connexion with the police. The value of such evidence is enhanced a hundredfold by its disinterestedness. Every phase of crime to which scientific examination is applied, provides a bulwark of safety for the innocent which in its certainty is equal to the sureness of detection when dealing with the actual criminal."

Training facilities.

The Chemical Examiner's Department is the only laboratory in South India where training in Forensic analyses is given both to Forensic scientists (medical officers and chemists) and police officers. The training was given to officers from neighbouring States as well as from Ceylon. In addition, till recently, specialized lectures on Forensic sciences were given to the officers and cadets at the Police Training College, Vellore. The medical officers of this State are also getting the benefit of annual refresher lectures by this department. Periodical visits by police officers to this laboratory are also arranged to enable the police officers to observe first hand the why and how of the various examinations done here and to know the part they have to play as field officers in the scientific investigation of crime.

(Continued from page 22)

Minister of Madras laid the foundation stone for a school building and also a Maternity Centre in this village. With the co-operation and aid of the villagers both these buildings were completed. The school building was declared open by Srinathi Durghabai Deshmukh on 1st January 1958 and the Maternity Centre building was declared open on 27th December 1958 by Sri G. B. Pant, Union Home Minister. Both of them were full of praise for the constructive role played by the Madras City Police.

Several schemes are under consideration for inclusion in the programme of work for 1959. They are :—

- (i) Providing water-supply to Nazarethpet village.
- (ii) Constructing a school building and a Harijan colony in Veeraraghavapuram village.
- (iii) Construction of roads connecting Mettupalayam, Paruthupettu and Tiruverkadu villages of the main road—this work is now in progress.
- (iv) Repairs to irrigation tanks and channels in Chingleput district.

These contributions of Madras City Police to the development and welfare of the villages have won them considerable regard and esteem from the general public.

They do not carry Lathis

"May I help you" Squad

In accordance with the instruction given by the Inspector-General of Police in the course of his address to the City Police Officers on 25th January 1957, the 'May I Help You' squads were formed in Madras City on 30th October 1957 in four centres, one in each range of the City Police. Each squad consists of two Head Constables and six Police Constables drawn from various stations within the range. Special care is taken to select the best men possible, taking into consideration their personal record of services and their aptitude for special work. The men move on cycles and they do not carry lathies. To distinguish themselves from the other policemen, they wear a special badge on their left shoulder. The badge is in the shape of a shield with "May I Help You" inscribed over a pair of shaking hands, indicating the Police fraternising with the public. The squad works under the direct supervision of the Sub-Inspector and the Inspector concerned. Normally they work from 8 a.m. to 8 p.m. in two shifts. A separate General Diary is maintained and the work turned out by the squad is entered therein.

Information of all important matters required by the public have been collected and kept in each centre and the men of the squad get themselves thoroughly acquainted with the information before they move out for duty. Some of the duties performed by the squads in Madras City are given below :—

Giving information in all important matters regarding addresses of leading personalities and public institutions, timings of buses, trains, ships and places of interest, hotel, etc., whenever they are approached by the members of the public for the same.

Making door-to-door enquiries in one or two streets each day regarding the needs of the public of the locality and to help them as far as possible in their requirements.

Posting themselves in front of important Railway stations, bus stops, temples and hospitals giving directions to people and furnishing them with whatever information they require.

Helping the aged, the infirm and the children to cross roads in busy thoroughfares during peak hours.

Very often the squads are educated on the lines in which the London Policemen work, whose ideals have earned universal approbation. As far as possible the squads in the City try their utmost to help the public on the above lines.

Some of the outstanding items of good work done by the 'May I Help You' squads of the City Police are narrated below for information :—

A woman with Rs. 4,000 worth of jewellery on her, lost her way and could not find the house of her brother. She was brought to the Police station, taken care of till her brother could be traced and handed over safely to her brother, a railway servant.

A lady in France whose letter to her friends in Madras was returned undelivered, sent it to the Commissioner of Police for locating her friends and this was done after sustained enquiries for over a month. The work was very much appreciated by the lady.

A child aged 4 years was left by her parents at Washermanpet uncared for. Efforts were made to trace her parents at Vepery and the child was finally handed over to her parents after duly advising them.

I have been watching the Madras Police with fatherly affection for over thirty-five years. Gilbert says "The policeman's lot is not a happy one". Indeed he is right. Few realize what a tremendous amount of work has to be done by the Police in order to maintain Law and Order, detect crime, escort V.I.P.s. and so on. It is to the credit of Madras that our Police leads all other States and indeed many other countries also in crime detection, in the maintenance of law and order and in general, smart work. One has only to watch the Police dogs at work to realise Madras's supremacy! There has been steady improvement in the morale of the Police force. The Police have to identify themselves closely and completely with the common man. It is not proper for an officer to be complacent and think that everything is well with the Police. He should ever strive towards perfection. The Police are here to protect the law-abiding common man and not to persecute him and every law-abiding individual has a right to walk in the streets with his head in the air with the confidence that he will not be molested either by the malefactor or by the Police. Finally, I should like to see the Police taking a bigger share in social service, in Community Development work and all those pursuits which will help to identify him with a real Socialistic Welfare State.

W. R. S. SATTHIANADHAN.
Chief Secretary to Govt., Madras.

Luck? . . . Or? . . .

Is detection mainly dependent on a stroke of luck or a correct marshalling of preliminary facts and intelligent approach to the case?

The following three of several instances from the author's experience are indicative of the latter:—

During the Pongal festival of 1934, a parcel said to contain dolls was booked from Egmore Railway Station to Karunkuzhi Railway Station, Chingleput district, by a night train, to self. The parcel was unclaimed at the latter station.

Due to foul smell emanating from the parcel the matter was reported to the local Police who had the parcel opened in the presence of the local Sub-Magistrate and doctor and found the body of a woman in a decaying condition. An autopsy was held. Death was due to strangulation. The body was photographed and buried after the inquest. The clothing, ornaments on the body, the packing material and all other useful material evidence were collected and the case transferred to Madras for investigation, as the parcel was booked from Madras.

The case was taken up by the Crime Branch of the City Police for investigation. The case was diligently approached to first establish the identity of the body.

Crime and occurrence sheets for about a year were carefully and intelligently perused for missing women, answering to the description of the deceased which was fully furnished at the inquest. The closest description found was that of a Brahmin woman, by name Seethammal, of China Bazaar Road, who had been abducted by one Ramanujam, ex-village munsif of Karunkuzhi, who was once a co-tenant with Seethammal and her husband. The latter was sent for and shown the photograph, ornaments and wearing apparel which draped the deceased and he identified them as that of his abducted wife. The tailor who had stitched some of the special items of clothing identified them.

Search parties finally located Ramanujam in a Western style boarding house in Georgetown with cropped head and Western style costume, preparing to leave for Rangoon.

He was charged and convicted on mere circumstantial evidence.

Later, this case gave rise to a Full Bench ruling of the Madras High Court on section 27 of the Evidence Act.

H. BROWN,

Retired Superintendent of Police.

Another example of intelligent marshalling of preliminary facts leading to detection is as follows:—

About two decades ago there occurred a series of thefts and daylight burglaries in hostels, etc., in Madras. During the investigation of a case in the Central Y.M.C.A., Georgetown, in which a room was burgled during day time, a thorough search for clues revealed a vernacular newspaper lying on a verandah bench, some distance from the room. A name and address was found on the newspaper. With this information, the Record Section of the City Police was consulted and it was established that the name and address on the newspaper was that of a "Known Depredator" of the Royapettah Police Station. He was traced, but furnished no clue about the stolen property. Pawn shops in Royapetta were checked and several valuable items of property pledged by him were traced. These items were traced to reported and unreported cases, which had occurred in hostels and hospitals in Madras.

The "Modus Operandi" of this criminal, while visiting hospitals and hostels for crime apparently was to squat on corridor benches reading a newspaper to escape detection awaiting an opportunity to commit offences. The mistake in leaving back the newspaper with his name and address at the scene of crime brought about his downfall.

In April 1939, a victim of torture of Sri Shanmugasundaram Gramani, an owner of race horses and Abkari Contractor of Ice House, Madras, was produced at the Crime Branch, City Police, and her statement was recorded and registered as a case of suspicious death, as she happened to mention that another servant woman Narasima by name of the Gramani's household had been tortured by beating and killed, at about the time of the "Aravathimoovar" festival, Mylapore, 1939. Further investigation was hampered for want of the "Corpus Delicti".

A systematic check of all burial and cremation grounds in the City for clandestine disposal of any corpse was made by the investigating staff and it was found that a short while after the offence, a female corpse said to be unclaimed, found lying on the Ice House Road pavement, was buried in the Mylapore burial ground.

In pursuing this matter it was revealed that the Gramani and his wife had heavily bribed the clerk of the burial ground who got the vettians (servants of the Mylapore burial ground) to remove the body of Nara-

sima packed in jute bags, clandestinely at dusk one evening and bury it. The vettians scenting foul play suitably marked the grave.

Exhumation of the body was conducted under Magisterial orders in the presence of the Professor of Medical Jurisprudence, Medical College, Madras, who looked to the careful removal of earth without damage to the body. Due to the close proximity of the sea, sapponification had set in.

A post-mortem examination was held and the wearing apparel of the victim and packing material carefully preserved.

Post-mortem examination revealed systematic linear fractures of several bones of the body in keeping with the evidence of eye-witnesses, that the deceased was beaten by the sadist Gramani with a casuarina log.

Close examination of the wearing apparel consisting of half a saree found on the body tallied with the other half found on the victim on whose statement the case was registered. A textile expert proved that both the pieces constituted one saree on which the dhoby mark tallied with that found on accused's clothing. Besides, owning race horses, the accused used to purchase bran in jute bags bearing distinctive marks of the manufacturers. The bags used for packing the body bore similar marks to empty ones found in the accused's residence.

The case ended in conviction on direct as well as circumstantial evidence at a special trial and the medical evidence was highly contested.

In conclusion, it is definite that an intelligent approach and correct marshalling of preliminary facts of a case are sure to lead to success.

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an extension building to the existing project building at Kaniambadi village, Vellore taluk. The work will be completed soon.

"May I help you" squad is functioning at three different places in the district now, viz., Vellore, Vaniambadi and Tiruvannamalai. The strength of the squad at each centre is one head constable and four Police constables found from the existing station strength. This squad has been functioning well and has been found to be very useful.

At Salem.

A Cottage Industrial Co-operative Society for the benefit of the wives of the Policemen started functioning from 5th May 1957. There are 393 members with a paid-up share capital of Rs. 413. The society provides work for the Policemen's wives during their spare hours

and also to augment the meagre salary of the Policemen. Besides, being benefited by the wages of their labour, they have the advantage of having learnt a useful handicraft. The members are regularly attending and learning the following cottage industries which the society provides:—

Cotton carpet weaving, korai mat weaving (since discontinued), tailoring, embroidery and garment making, Ambar Charka spinning and towel weaving.

The society has built two sheds to provide accommodation one at Komarasamipatti and another at Gugai adjacent to the Police lines. The two work-sheds each measuring 100 feet by 40 feet with side walls and flooring with brick and lime were constructed by men of the Armed Reserve. The society has the following machineries and equipment for imparting the above-mentioned training to the members:—

	Numbers.
Carpet looms	17
Korai mat looms	10
Usha Sewing Machines	2
Dhoti loom	1
Sari loom	1
Towel loom	2

The Inspector-General of Police, Madras, was kind enough to donate a sum of Rs. 2,000 from the State Police Families Welfare Committee.

In the year 1957-58, the society produced goods to the value of Rs. 3,100 and sold to the extent of Rs. 4,200 and paid wages to the members to the tune of Rs. 544. In the year 1958-59, the society produced goods to the value of Rs. 4,806 and sold to the extent of Rs. 5,212 and paid wages to the members to the tune of Rs. 1,080. It is seen from the above figures that the society is gradually increasing its business.

The Superintendent of Police has addressed the Inspector-General of Police that the society is manufacturing cotton carpets by the Police-women and that the society can undertake the bulk supply of carpets required by the Police Department. If a portion of the requirements of carpets, of this department, is purchased from the society it will be encouragement to the families of the Policemen who come under the low income group and this will definitely improve the present economic standard of this group, apart from being a standing income to the womenfolk. The Government after a careful consideration of all aspects involved ordered for the supply of carpets by the Police Department and allotted 5 per cent to be supplied by the society up to the total requirements.

Efforts are being made for further improvement. Since the society is financially handicapped at present, it has dropped further schemes. If Government aid is forthcoming other than a loan, the society can play an active part in raising the economic condition of the Policemen and their families which will go a long way in raising the standard of living of an important section of the public in a Welfare State.

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force and to order a judicial enquiry, the Police lose their nerve and, on the next occasion when a similar contingency arises, they do not rise to the occasion. The Magistrate or the Member of Government should weigh the consequences very seriously before taking extreme measure; but once his mind is made up, it is, in my opinion, his bound and duty to stand by those who are only carrying out his policy and his orders. So deeply have I felt that on a particular occasion in Travancore, when I was Dewan of that State, I made up my mind that the aid of the Military was necessary to supplement the efforts of the Police in putting down a series of violent demonstrations accompanied by collection of arms. In order to infuse the right spirit of responsibility in the Military and the Police, I requested the Ruler of Travancore to invest me with a military commission so that the responsibility for any measure that was taken may be directly attributable to me and was not shoved by me on to the shoulders of the Inspector-General of Police or his subordinates.

To sum up, it may be emphasised that the morale and behaviour of the Police typify and are proportionate to the calmness, strength and sympathy of the Government in office and are also a reflection of the temper and law-abiding outlook of the public.

Police Centenary Celebrations at Madurai.

Nine retired Police officials and three constables, presently serving in the Madurai Police Force were honoured for meritorious services at a parade marking the inauguration of the State Police Centenary Week celebrations.

Mr. M. Balakrishna Menon, Deputy Inspector-General of Police, Southern Range, presented their medals.

Among the retired officials honoured were three octogenarians, Ponniah Servai, Muthu Pillai and Chelliah Pillai, who, during their long careers in the Madurai Police Force, in the early part of this century, won more than 20 awards each.

Later, Mrs. Balakrishna Menon laid the foundation-stone of a colony for the sweepers in Armed Reserved Police Lines. Costing about Rs. 16,000 the colony will have 23 houses, to be built by the labour contributed by policemen.

Police Centenary celebrations at Coimbatore :

The week-long Madras State Police Centenary celebrations commenced with an impressive parade in which men belonging to the Coimbatore Armed Reserve took part.

Mr. S. Moni, Collector, unfurled the National Flag, and took the salute at the march-past. The Collector presented a purse to Mr. Santha Mian Sahab, a 92-year old retired police constable, hailing from Udumalpet, on behalf of the Coimbatore District Police Centenary Committee.

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per minute. And this was the opportunity which Srinivasa Rao was waiting for. He trained up five Sub-Inspectors within six months and they passed creditably tests at 80 and 90 words per minute held on 29th and 30th January 1910. The test was conducted by a committee consisting of the late Diwan Bahadur L. D. Swamikannu Pillai, then Secretary to the Board of Revenue and Mr. C. A. Saiter, I.C.S., Under Secretary to Government. The former, a devoted student of Pitman's Shorthand besides being a scholar and linguist, has paid glowing tributes to the talents of Srinivasa Rao in inventing the Tamil system. He has declared that this system is superior not only to system of Tamil Shorthand devised by some others but also to similar systems for Bengalee, Marathi, Hindustani, etc. The *Madras Mail*, the *Hindu*, the *Indian Patriot* and the *Swadesamitran* also expressed their appreciation of the efforts of Srinivasa Rao. In recognition of his services, the Government of Madras granted him an honorarium of Rs. 500 and conferred on him, later, the title of Rao Sahib. Of course, those who passed the tests were awarded money prizes. The Government also encouraged Srinivasa Rao to publish similar text books in Telugu and Kanarese Shorthand also, the materials for which he had prepared. His inventions have stood the test of time and lent themselves to improvements by others suggested by experience and expediency as in the case of Pitman's Shorthand. Students of his system are able to write speeds of 100 words per minute accurately, a speed comparable to 150 words per minute in English Shorthand. However, Srinivasa Rao was snatched away prematurely by the cruel hand of death in 1924, but for which he might have published advanced books on Shorthand in the Dravidian languages analogous to Pitman's. Those who follow his system are faring well in modern times both in the legislature and at public meetings where speeches are being delivered at high speeds and have earned the appreciation of speakers. And it has a good future and increasing utility.

A PYTHON!

On this sunny and hot July evening in England I am reminded of another particularly hot and windless day, also in July, whilst camping at Ulundurpet. Some Koravars had brought me a python for which I had asked, and after handling the snake I closed the deal at an exorbitant Rs. 5; but he wants to argue when one is heavy with sleep and the temperature over 100 degrees. The skin was sent to Madras for tanning. But my own skin got suddenly cold on reading the letter acknowledging the snake skin. "Dear Sir", and the letter went on "we acknowledge receipt of the snake skin, but beg to point out that it was that of a Russel's Viper and not that of a python". Is it any wonder that I did not touch another snake dead or alive for some years?

R. R. B. Truscott.

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on the highway for a longer period than is permissible, for example, and returning to find a Policeman standing near it, they will become very aggressive, very rude and, frequently, very silly. Apart from casting veiled hints regarding the legitimacy of his birth, and suggesting that he will gain rapid promotion through having caught them in a trifling offence, they will loudly deplore his tendency to harass poor, unfortunate and entirely innocent citizens!

Whenever a Policeman encounters such a person, he should, if possible, be even more courteous than he normally would be. In the first place, nothing will annoy the irate person more, and secondly, it is possible that this rudeness may be a deliberate attempt to make the Policeman lose his temper. If he does so, not only will he look ridiculous, but he will be in danger of saying or doing something which he may subsequently regret. There is no acceptable excuse for a Policeman being rude to anyone. It is part of his job to accept, cheerfully, the very occasional rudeness which he has to meet in the course of his duty.

No matter how difficult or unpleasant some part of Police work may be, it can always be done courteously. A short time ago, when the members of a class from this Centre visited a local Magistrate's Court, they heard an excellent example of the good feeling which can be established between the Police and the public. The clerk read a letter from a woman defendant, pleading guilty to the charge and containing a postscript which read: "It was almost a pleasure to have been summoned by such a young, good-looking, charming and courteous Policeman!" It is obvious that not all members of the Service can qualify for the first two adjectives, but all can do their work in such a way as to merit the bestowal of the last two! The reputation of his Force, and of the Service as a whole, rests with each individual member of it. How often has one heard someone say: "What a splendid body of Police they have at . . .!" and, after agreeing, one has enquired why the person speaking thinks so, only to find that, perhaps several years ago, they had some contact with a Policeman in that area who was cheerful, courteous and helpful. Ever since then, they have continued to speak well of the whole of that Force. On the other hand, unfortunately, one sometimes hears derogatory remarks regarding the Police of a certain area and finds that the adverse opinions expressed are based solely on the fact that a single Policeman there had, at some time, been rude, aggressive or unhelpful to the aggrieved person.

The majority of the people with whom the Policeman comes into contact are honest and law-abiding. Furthermore, the comparatively few whom he has to report or arrest are, in all probability, not wilful offenders. Apart from a small hard core of anti-social, persistent and deliberate wrong-doers, those who commit offences invariably do so through carelessness, thoughtlessness or ignorance. This applies especially to road traffic offences. No motorist has ever stopped his car, looked around and said, "Now, let me see, where can I leave my car to ensure that it causes the greatest possible obstruction and danger?" What happens is that, on reaching the shop, office or place at which he intends to

call, he leaves his car as near as possible to it, giving no thought to the fact that, as it is near a junction or a bend, he is creating danger and breaking the law.

It is equally certain that no man has ever said to his wife: "What a lovely day, my dear. Let's go out and drive to the danger of the public for a couple of hours!" He may say: "What a lovely day, my dear. Let's go for a run in the car." She readily agrees and then, full of the joy of living engendered by the loveliness of the day, he drives too quickly round a bend, crosses the white line and collides with a vehicle coming the other way. He hadn't the slightest intention of doing so, of course. Such offences are the result of carelessness and not malice. Therefore, when a Policeman is dealing with such people, he should do so quite firmly, but always sympathetically. He should never create the impression that he is enjoying doing so.

Truthfulness is another virtue which is essential in a Policeman, and continual stress is laid on two aspects of it in relation to the young Policeman's work. Firstly, in his Police career—and particular during his probationary period—he will make mistakes. No one is infallible and no one will expect him to be so. If he is truthful regarding any slip he makes, all will be well. If he makes an honest mistake, and he admits it, then every one of his colleagues—from his Chief Constable downwards—will, if it is necessary, do everything possible to help him. But if he endeavours to cover up a mistake by lying, then he will cut the ground from under the feet of those who could put the matter right.

Secondly, he will frequently be called upon to give evidence and generally before doing so, he will be required to take the oath. This procedure should never be regarded as a mere formality—just a few words to be spoken before he can commence his evidence—and he should never be tempted to deviate from the strict and absolute truthfulness which the taking of an oath involves. By reason of the high reputation which the Police have established, the Courts of this country have grown to expect a Policeman's evidence to be true. But, although the Judge, the Recorder, the Jury or the Magistrates may believe him, if he is not speaking the truth, there will always be at least one person in the Court, besides himself, who will know that he is a liar—the prisoner or defendant.

On the whole, there is very little animosity between the criminal and the Policeman in this country. Providing a man has been convicted by fair and honest evidence, he bears little or no ill-will. Indeed, frequently one of the first persons to whom a criminal comes when he is released from prison is the Policeman whose skill put him behind prison walls. It is no secret that good crime detection is frequently based on "information received", and it is equally well-known that much of this information is received from criminals. It is, therefore, important from a purely practical point of view, as well as from the even more important moral one, that a Policeman should not antagonize his potential informants by bearing false witness against them.

Furthermore, the probationary constable is reminded that the legal profession of this country also has a reputation which is second to none. When his evidence is

being tested in cross-examination by a skilled solicitor or barrister, he will be in a very unhappy—and very dangerous—position if it is not strictly true. But, if he has spoken the truth, the whole truth, and nothing but the truth, then he has nothing to fear from the most severe gruelled by the greatest Queen's Counsel in the land.

The integrity of the Policeman must be above question, despite the fact that probably no member of the community has greater opportunities for wrong-doing than he. The probationer is, no doubt, amazed to find how careless people are with their property, and astonished by the number of occasions on which he will find something which has been lost under circumstances where, if he was not strictly honest, he could retain it, and also by the frequency with which he will find lock-up premises insecure and so be provided with an easy opportunity for stealing. As with the vast majority of his colleagues, the temptation to do so will never enter his mind, but it is there and it has to be faced.

The young Policeman must be warned, too, to be chary of the person who wishes to give him something. Most citizens like the Policeman, but few will wish to give him something for nothing without some ulterior motive. It may be the subconscious one of providing a sort of "insurance" against future contingencies which may arise. The shop-keeper who does not want to take the money for the newspaper or for the packet of cigarettes which a Policeman is buying may have purely altruistic motives, but it is very unlikely that he has!

From time to time, members of the Service fall from grace. When they do, the press makes a great splash about it, and one sees banner headlines "Policeman sent to Prison" or "P.C. Convicted of House-breaking"! And that is splendid! Policemen are delighted to see these huge headlines, because they are clear proof that it is still unusual for a Policeman to offend. As long as the erring Policeman continues to rank with the conspicuous clergyman in attracting the full attention of the press the Service is safe. If ever the time comes when offences by Policemen are so common that the newspapers do not trouble to headline them, then it will be in grave danger of losing its reputation for integrity and so losing the confidence of the public.

The members of the Service are happy, too, regarding the attitude of our Courts towards Policemen who do wrong. It seems to be a generally accepted principle of British justice that the Policeman who is convicted of an offence should receive a greater punishment than the ordinary man who is similarly found guilty. This was demonstrated in the recently widely publicised Brighton case when four men were convicted of offences involving corruption. Two were sent to prison for two years and the other two (who were Policemen) for four years. Those who are trusted to set an example to other people must, of necessity, receive greater punishment when they fail to do so.

The children and young persons with whom the Policeman comes into contact in his daily work are, of course, the citizens of the future; the men and women

upon whom he will be dependent for the support and co-operation which are essential to the proper performance of his duties. He should, therefore, do everything possible to cultivate their trust, their friendship and their respect. One hears and reads a great deal today regarding the problem of juvenile delinquency but, as in most cases, it is the minority which attracts attention. We rarely, if ever, hear or read anything of the hundreds of thousands of youngsters who lead normal, healthy, decent lives.

In his work on the streets, the Policeman can do a great deal to keep the younger generation free from moral and physical danger. He should keep in touch with them as much as he can—talk to them—take an interest in their doings—and make it clear to them that he is prepared to be their friend. A great deal of useful work in the prevention of juvenile crime is done by the clubs which are run by Police forces or at which Policemen give their services. Whilst the young Policeman will not have much spare time during his probationary period—two years of intensive study and really hard work—he should, when it is ended, give serious consideration to helping his colleagues at these clubs. Anything at all that he can do to build up a friendly attitude between the youth of his area and the Police will bear fruit a hundredfold.

Before he leaves the Training Centre, the probationary constable is told how important it is that his demeanour and attitude towards his Force colleagues should be watched carefully. It is impressed upon him that, despite the hard work he has done, and no matter how great is the ability he has shown, he has gained only a basic knowledge of some of the more elementary points of Police law and practice. During the remainder of his probationary period, he will continue to receive instruction. He will continue to build up his theoretical knowledge, with the help of his Force Training Officer he will be given experience of different departments of the Force and he will return to a District Training Centre for two further Courses—the Intermediate and Final Probation Courses.

But it is in his contacts with the older and more experienced Policemen with whom he will work that he will find the greatest opportunities for gaining useful knowledge. This applies, in particular to the "tutor" constables, those specially selected men who will show him around his beats and patrols at first. He should make it clear to them, by his eagerness and modest demeanour, that he is anxious to learn and fully conscious of their ability to teach him. Only thus will he gain the full benefit of the wealth of practical experience that they have had, and of the sound advice and guidance which they can give him.

Lastly, but by no means of least importance, the virtue of loyalty is strongly recommended to the young Policeman. He must be loyal to his colleagues, to his officers, to his Force and to the Police Service. But, above all, he must be loyal to himself; if he is, he cannot then be false to any man.

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'Simplification of Highway Traffic' states that there are four classes of persons who operate motor vehicles :—

(i) Those who know the regulations and are willing to obey them.

(ii) Those who do not know them but who would be disposed to obey them if they know them.

(iii) Those who know them and are not disposed to obey them.

(iv) Those who don't know the regulations and would not be disposed to obey them under any circumstances.

It is the last three classes of drivers who need to be educated to behave better realizing their responsibilities as citizens, to use the highways and cars safely and to observe the rules and regulations of the road. The Golden rule of driving: "Drive unto others as you would have others drive unto you", and the "three C's" of driving: "Courtesy, Caution and Common-sense" should be inculcated into their minds. Just as motorists must be educated to save their own lives and the lives of others, so must pedestrians. Traffic education and propaganda must be carried on in schools and colleges, at intersections, in localities where accidents are rampant, by displaying posters, charts and photographs, through the medium of Press and pictures, radio programmes, safety conferences, schools for drivers, Exhibitions and demonstrations and voluntary Safety First organizations. By such intensive and constant propaganda the people should be made to cultivate correct traffic habits and develop better road behaviour.

The increasing demand upon our Highways from the growing population, the imposition of modes of transportation not contemplated when they were created, bring about congestion, confusion and conflict resulting in heavy toll of traffic accidents. Accidents are complicated events, the causes of which may be (a) *direct*, due to delayed perception, speed, careless movement of pedestrians and carelessly boarding or alighting, (b) *remote*, due to inexperienced driving, bad maintenance of road, inadequate arrangement, lack of enforcement of Traffic Rules and absence of traffic signs and (c) *intermediary*, such as weather condition, muddy slippery road and sharp curve. The most harmful note in accidents of any type is their damage to people, because people are the one irreplaceable thing in the entire world. Property damage can be rectified; financial loss can be compensated for, but physical injury and death are offered no replacement. If we are to have safety and protect people there should be intelligent traffic law enforcement. Records prove decisively that when traffic enforcement goes up accidents go down. The enforcement is the job of the Police. The Police have the twin functions of controlling traffic by ensuring free flow and of apprehending motorists who violate traffic laws. It is an accepted fact that traffic work like

household work is monotonous, routine and continuous and that the control of traffic is a most thankless job. So a policeman assigned to traffic duty should understand his responsibility and discharge the duties tactfully. Firmness tempered with courtesy should be the motto of the traffic enforcement staff. Improvement in mobile patrol, intelligent marking of pedestrian crossings, proper placing of road signs and proper maintenance of statistics and accident charts for scientific planning are the salient features of enforcement.

It would be of interest to have a bird's-eye view of the traffic enforcement in Madras City. In Madras we have about 4,000 man-drawn rickshaws, 1,000 and odd cycle rickshaws and thousands and thousands of man-drawn handcarts and thousands of bullock carts all moving on our highways, where, between them, the fast moving motor vehicles also travel. The rickshaws and handcarts are a barbarous transport, which may otherwise be called slavery in disguise, contribute to most of our traffic problems. During the course of the past 10 years the number of motor vehicles has increased from 7,000 to 18,000 and the population has increased from 9 lakhs to 17 lakhs in Madras. New roads have been laid, new colonies have sprung up and traffic problems have extended to several new centres of the City.

The Traffic Control in the City of Madras is done by the following methods :—

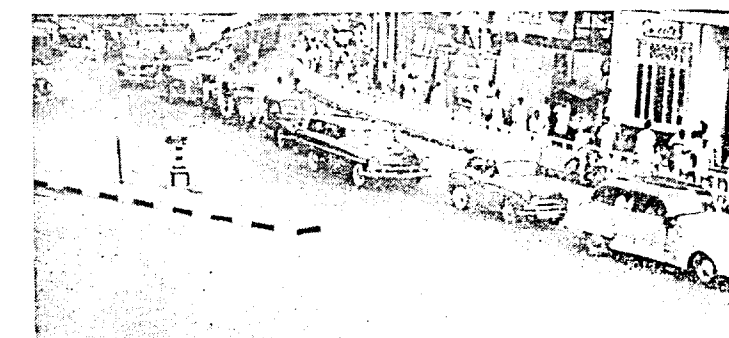
(a) Hand signals by Traffic constables at important intersections of roads.

(b) Light signals at nights, viz., Broadway and General Hospital junctions.

(c) Automatic light signal at the junction of Dr. Nair Bridge and Egmore High Road.

Besides the above, there are fixed pedestrian crossings at important places like Nethaji Subhas Chandra Bose Road, Law College, Mount Road, Thousand Lights, General Hospital Road, etc., manned by constables for the safety of public. In order to ensure free flow of traffic in congested areas like Georgetown and Kothaval Chavadi certain restrictions such as (a) One-way

The heavy Flow of Traffic in Mount Road.



traffic, (b) No parking area, (c) Time restrictions on movements of certain vehicles in certain areas, (d) Prohibition of the movements of certain types of vehicles on busy roads, and (e) No overtaking on bridges and narrow streets, have been imposed from time to time. To minimise accidents speed restrictions, traffic islands at junctions of roads, mandatory sign boards indicating the different cautions, etc., have been introduced. The speed of different types of motor vehicles at important parts of the City are being checked by laying traps frequently with modern equipments. Dual way and Double lane traffic have been permitted on Muthuswamy Iyer Road, Fortside Road and Mount Road respectively to ease congestion at peak hours. Further the 'Reversible lane' system by means of movable traffic cones has been introduced on Mount Road at Thousand Lights area to facilitate free flow of traffic during peak hours. Concrete railings on pavements of important portions of certain roads, have been erected to segregate pedestrians from Highway traffic, providing crossings at intervals indicated by mandatory sign boards. On wide portions of main roads "Lay byes" for buses at stopping places have also been provided to avoid obstruction to free flow of traffic. To enforce efficient control of traffic, surprise checks by Police Gazetted Officers are regularly conducted and suitable action taken against offenders. These surprise checks are in addition to the normal day-to-day checking by the controlling staff. All accidents, however minor they

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(ii) A case of burglary occurred in the residence of the Personal Assistant to the Superintendent of Police, Tirunelveli district and properties worth about Rs. 500 were lost. Two finger prints and a palm print were traced on the objects suspected to have been handled by the culprit which were developed and photographed at the Finger Print Bureau, Vellore. The photographed imprints were not identical with any of the finger prints of the suspected persons in this case. But an expert of the Bureau remembered the characteristics of one of the latent impressions and identified it with the finger prints of an ex-convict. The identification was radioed to the Superintendent of Police, Tirunelveli and the accused was apprehended and most of the properties were recovered.

(iii) An iron-safe in the Rajendra Mills at Salem was broken open. The Finger Print Expert who was called to the scene, traced seven latent prints on the iron-safe and cash box, and he got them photographed. In this case also, the investigating officers felt that some of the workers of the Mill would be responsible for the offence. Hence, all the workers, numbering 1,272 persons were finger-printed and their palm prints were also taken for comparison. This was a colossal job of work, as six out of the seven photographed imprints had to be compared with as many as 12,720 finger prints and the palmar portion had to be compared with 2,544 palm prints. Ultimately, three of the prints were identified as

may be, are thoroughly investigated and disposed of on legal merits by the Investigation Branch, which works in five teams throughout 24 hours under the control of one Inspector. To educate public on road safety and sense, regular propaganda machinery is set up in Traffic Department :—

1. Propaganda by mobile van.
2. Propaganda by head constables at important junctions with power mikes.
3. Displaying of slides in cinema theatres.
4. Instructing school children during school hours.
5. Educating the motor drivers by way of instructions and showing the common faults committed by other drivers.

In short the traffic problem can be compared to the observation about the weather attributed to Mark Twain—Everybody talks about it but nobody does anything about it. Everybody's business must not be allowed to become nobody's business. The efficient maintenance or traffic control is dependent on the co-operative effort by the public, the motorists and the policemen. There should, therefore, be an all round co-operation to solve these all important traffic problems.

those of the criminal concerned, a building cooly in the Mills.

(iv) A document containing a highly smudged finger impression, which was disputed in a court of law was received in the Finger Print Bureau, Vellore, for expert examination and opinion. The document was purported to have been executed by an illiterate lady. She repudiated the execution of the document and denied the thumb print on the document. The court recorded her sample left thumb impression also and sent it as well as the smudge for comparison. The impression on the document was highly smudged having been taken with cart-grease. A casual examination showed that no opinion was possible, but when the impression was examined with light passed through it, the same smudged impression revealed the pattern and the characteristics. Thereupon the impression was photographed with light reflected on the back of the document at an angle of 45 degrees. The photograph so obtained showed very clearly the pattern and the characteristics of the impression. It was of a whorl pattern. The specimen left thumb-impression of the alleged executant is an entirely different pattern, namely, a loop.

This clearly indicated that the document was a faked one and the impression was a forgery. In this case, due entirely to the photographic technique evolved by the Madras State Finger Print Bureau it was possible to present the real facts to the court in a convincing manner. The opinion given by our Expert proved the bogus nature of the document.

(Continued from page 38)

exhibitions and also to Government institutions. In the Binding Section records received from the various District Police offices are got bound.

A school is run with an Elementary Grade teacher. The inmates are taught to read and write. They are also taught elementary mathematics.

All inmates are fed with ragi kanjee at 7 in the morning. The midday meal consists of boiled rice with sambar, a side dish of vegetables and buttermilk. A similar meal is also supplied to them at 6 p.m. Besides this, they are given a handful of groundnuts every day, mutton once a week and dried fish two days every week.

Every inmate is required to bathe daily and also take an oil-bath once a week. Female inmates are given coconut oil daily for dressing their hair.

The inmates have been divided into batches of 20 and each batch placed under a maistry, who also is an inmate. This maistry ensures that the inmates in his charge take their bath regularly and keep their clothing neat. He also marches them to the industrial sections, kitchen, etc., and maintains discipline among them.

There is a dispensary in this camp with a full-time Medical Officer of the grade of Junior Assistant Surgeon. He is assisted by a male nurse, pharmacist and a woman nursing orderly. The Medical Officer examines each inmate every fortnight and records his finding in the history sheet maintained for such purposes. Those who are found requiring more advanced treatment than can be given at this dispensary are sent to city hospitals for treatment. Government have recently sanctioned the allotment of a vehicle for transport of the inmates to city hospitals, courts, etc., and back.

Decline in Serious Crimes in 1958

A perceptible decline in the more serious forms of crime, rioting, dacoity, robbery, kidnapping and abduction, house-breaking and thefts were discerned in the country during 1958.

For instance, cases of dacoity—4,451—were lower than those registered in the last five years. As compared to the year 1957, there was a reduction of 1,100 cases, almost one-fourth.

Under the head of robbery, the figure stood at 7,224 in 1958 as against 7,618 in 1956 and 7,408 in 1957. Similarly, cases of kidnapping and abduction dropped by 400 since 1956 and 300 since 1957.

Also, instances of house-breaking and thefts, which made the bulk of the cases registered, decreased by more than 8,000. The total figure in 1957 was 430,678 as compared to 342,491 in 1958. The number of murder cases came down from 10,523 to 10,149.

About 100 able-bodied beggars are daily sent for providing manual labour for construction of roads in the neighbouring Mettupalayam and Paruthipattu villages in the Block Development area. There is also a proposal to utilize the service of the able-bodied beggars of this camp for silt clearance work in the supply channels and lakes lying in the vicinity of this camp. These beggars have provided manual labour for the construction of a Nursery School and a Maternity Home at Nazarethpet and a Harijan Colony at Kattupakkam.

All the inmates are allowed recreation in the evenings every day and also on Sundays and holidays. Volley Ball and Ring Tennis and other games are provided for them. A community radio set is also provided in this camp and this provides good entertainment for about two hours daily. Besides this, Sri Nagabushanam, the District Publicity Officer, Chingleput, now and then provides a film show.

Two hundred and eighteen inmates have been rehabilitated so far. A month before the date of discharge, intimations are sent to Public Works Department contractors and to other institutions which are likely to absorb these people.

The Collector of Madras, the Collector of Chingleput, the Chief Presidency Magistrate, the Director of Public Health and Inspector-General of Prisons are the official visitors to this camp. They visit the camp once in six months and send their reports to the State Government. The accounts of this camp are audited by the Accountant-General, Madras, once in two years.

This is a good piece of social work entrusted to and performed with care by the Madras City Police. The Care Camp serves a dual purpose; firstly it solves the problem in the city and secondly it takes care of and rehabilitates these less privileged classes of the society.

The man who could not swim

An A.S.P. went camping, it was in the days of tents and horses, and he came to a river in which he had to cross but could not because it was in flood. He therefore pitched camp on one side but still managed to carry out his inspection on the other side. The weekly report then went roughly as follows :—

D.I.G. to A.S.P.—I see that you camped on one side of the river to inspect your station which was on the other side. Why did you not camp nearer the station?

To D.I.G.—The river was in flood.

To A.S.P.—Then how did you cross the river?

To D.I.G.—I swam.

To A.S.P.—I thought that you told me that you could not swim.

To D.I.G.—I cannot.

To A.S.P.—Then how did you cross the river?

To D.I.G.—I had a horse which could.

R. R. B. TRUSCOTT

(Continued from page 28)

same year was heard to exclaim time and again "Is this not as good as the Guards?" to his Aid-de-camp, a British guardsman himself.

Hyderabad Police action took three companies to the border and they took part in the Police action with conspicuous merit along with the Army. On September 14th, 1948, at Munirabad, two platoons of the Malabar Special Police with a company of first Gurkha Rifles, first Battalion of the Mysore Infantry and detachments of the Razakhars successfully. Constable Appunni Nair lost his life while gallantly defending a post against odds. He was awarded the President's Police Medal posthumously. The meritorious services rendered by three Junior Officers and three other ranks were also recognized and they were awarded the Police Medals. The Malabar Special Police, as its Commandant claimed then, "Had the unique distinction of being the first Police force in the history of War in India to be included in a Military operation order and to be assigned an Infantry task".

It was towards the close of the same year that the eight temporary companies of the Emergency Additional Force were made permanent.

There was a number of other occasions during the same period when the Malabar Special Police was called out in aid of the local Police. They are too numerous to be mentioned in detail. An expedition early in 1949 to the Minicoy Islands to keep the peace among the Islanders may, however, from its unusual nature, be mentioned in passing. And wherever it went on the call of Duty, whether in Malabar or the far-away islands in the Arabian Sea, in the crowded streets of the busy cities or the jungles of the Andhra, its officers and men continued to add fresh laurels to its glory. In an existence of 38 years, officers and men of the Malabar Special Police have won no less than 17 King's Police Medals or President's Police Medals besides Indian Police Medals of which 8 have been for Gallantry, 9 for Meritorious Service.

Yet not only on the barracks square and in action but in the field of Sports as well as the Malabar Special Police Force won renown. The force has been capturing the Coveted "Cowie Shield", the State Police Sports all round championship trophy, ever since the Sports was inaugurated in 1951. The separation of Andhra State in 1953 did not affect the Malabar Special Police but the year 1956 was a momentous one for the Malabar Special Police. Consequent on the reorganization of States on linguistic basis, the Malabar Special Police was divided into two, six active companies and half of Headquarters company going over to Kerala and the other half of the Headquarters company and six active companies remaining in Madras State. The headquarters of the latter half was shifted to Tiruchirappalli and two companies to Palani. In 1957, four active companies formed out of the Tamil personnel received on repatriation from the Special Armed Police companies of the Andhra Pradesh were added to the Madras Battalion of the Malabar Special

Police. The same year one company of the regular Malabar Special Police was deputed to Pondicherry and the remaining five companies with the Headquarters company were deputed to the Government of India for service in Assam where they still continue.

Special Armed Police.

The other unit of the Armed Police of the Madras State known as the Special Armed Police came into existence in 1947. Four battalions of this Unit were raised on the 11th December 1947. Two battalions were stationed at Red Hills, one at Tadapalligudem, West Godavari district, and one at Bellary. In April 1948, two more battalions were raised, and one was stationed at Palani and the other at Vishakhapatnam.

Each battalion had six active companies and one headquarter wing which consisted of the specialist branches, such as Motor Transport, Radio Section, Quartermaster Section, etc. An active company consisted of four platoons in the charge of a Subedar or Subedar-Major (equivalent in rank to an Inspector of Police). Each platoon consisting of four sections was commanded by a Jemadar (equal in rank to a Sub-Inspector of Police). A platoon consisted of 38 other ranks. Thus the platoon of a Special Armed Police is very much smaller than that of a District Armed Reserve. An active company is so called, because, the company actively takes part in combating the activities of anti-social bodies as opposed to the headquarters wing which supplies the necessary service and technical facilities to the active companies in addition to training recruits.

Each battalion was commanded by a Commandant of the rank of a District Superintendent of Police and he had three Assistant Commandants of the rank of a Deputy Superintendent of Police to help him. The whole force was in the charge of a Special Officer who was later designated "Deputy Inspector-General of Police, Special Armed Police Units". The Malabar Special Police served as a model of these new units of the Special Armed Police.

Most of the recruits for the Special Armed Police came from the ranks of cultivators and casual labourers with a sprinkling of educated men among them. Training was very intensive and rather hurried as it was felt that companies would be required to go out soon on active duties. Unfortunately even before the training could be completed, companies were pushed out on duties by June 1948, as the situation in Hyderabad and its borders was growing worse day by day. It could be stated here that the Special Armed Police Units were created mostly to check the activities of subversive elements of society and the outgrowing menace of Razakars in Hyderabad.

Like Malabar Special Police which was geared into action with little or no training in 1921, the Special Armed Police Units were also put into action without adequate training. Despite the lack of proper training the men acquitted themselves extremely well. There were innumerable instances of courage, presence of mind and devotion to duty which compelled recognition.

By the end of September, the Police action was over, the Madras State was required to carry on the administration of the eight Telangana districts of Hyderabad on behalf of the Government of India. Sixteen companies of the Special Armed Police were utilised along with the other Police personnel to maintain law and order in these eight districts.

In February 1950, of the six battalions, two were abolished for administrative convenience and for effecting economy and the personnel and the equipment of these two battalions were distributed among the remaining four battalions. In May, the same year, the strength of the force was increased by six companies.

By the end of 1951, conditions in Hyderabad State showed improvement and immediately after the general elections in 1952, the sixteen companies of the Special Armed Police on deputation in Hyderabad were repatriated to the parent State. With the return of the sixteen companies from Hyderabad, the Government considered that there was a surplus of the Special Armed Police companies. This, coupled with the need of effecting economy in the State, persuaded the Government to effect retrenchment in the Special Armed Police. In September 1952, the force was reorganized and the four battalions with 40 active companies were reduced to three battalions with 24 active companies, the battalion at Bellary being abolished. It must however be said that the Government made alternate arrangements to absorb many of the retrenched personnel in the other departments of the Government. Along with the reorganization of the Units, the post of the Deputy Inspector-General was also abolished. The Red Hills Unit with ten active companies was placed at the control

(Continued from page 49)

Owing to the mechanisation of various departments of the City Police, the Mounted Branch waned in the eyes of the public. Further the lack of sufficient officers trained in riding has left much of the previous mounted duties fall into disuse; and the Sowar Troop has only been used for large bandobust duties, such as during Moharrum, Kapaleeswaran temple festival, the Republic Day ceremonial with the Military and for bandobust duty during the ceremonial visits of very important personages.

During the last Maha Makam festival at Kumbakonam, Tanjore district, in February 1956, twelve horses and men of the Sowar Troop of Madras City Police were sent for duty and their assistance contributed greatly to the successful control of the large number of pilgrims attending this festival.

The Mounted Branch was augmented by one L. Daffadar and seven Sowars and eight horses in 1957 to its present strength of one Daffadar, four L. Daffadars, 23 Sowars and three V.R. with 34 horses under the Reserve Inspector, Headquarters and Mounted Branch.

The worth of the Mounted Police has been proved time and again for control of large crowds. The horse may be overshadowed by the motor cycle and car, which

of the Commissioner of Police, Madras. The Vishakhapatnam Unit with seven active companies was placed at the control of the Deputy Inspector-General of Police, Northern Range, and the Palani Unit with seven companies was placed at the control of the Deputy Inspector-General of Police, Southern Range.

The force has to its credit three President's Medal for Gallantry, three Indian Police Medals for Gallantry and 19 Extraordinary Family Pensions or Compassionate Gratuities. This is certainly no mean record for such a young force.

On the formation of the Andhra State, the Vishakhapatnam and Palani Units were allotted to the Andhra State and the Madras State was left with one Unit with ten companies at Red Hills. The headquarters of this Unit which was all along situated at Red Hills was shifted to Avadi in August 1957. It continued to be under the charge of the Commissioner of Police, Madras, till March 1959 when a new Deputy Inspector-General of Police was specially posted to be in charge of all the Armed Police Units of the State.

Ambitious schemes have been taken up for providing rent-free family quarters for all the non-gazetted staff of the Unit and good water-supply from the Red Hills lake. The men have been provided with recreation facilities and it may be of interest to know that the Special Armed Police has not taken up the place of the erstwhile Malabar Special Police in the sports field and has won the coveted "Cowie Shield" in the year 1957.

The Special Armed Police companies have been turning out yeoman service all these years. It is growing in stature and strength and it has a very bright future before it.

give speed of movements on roads and good ground, but the horse still remains supreme in crowd control and rowdy dispersal over all grounds as well as places not accessible to wheeled vehicles.

A crowd may stand steadfast when approached by a vehicle but it will certainly not stand and face a determined approach by horses.

In this respect I may quote from an article in "Police" July-August 1957, referring to the New York Mounted Police "The Police Department spends \$200,000 a year to maintain the Mounted Force of 250 patrolmen, twenty-nine officers and 258 horses. Police officials consider the Mounted district worth its weight in gold (330,000 pounds of men and horses). A horse is worth twenty men when it comes to handling unruly crowds."

The reason is quite obvious. People instinctively respect the size and weight of the horse and they also respect the man riding him. A veteran Mounted Officer summed up the value of horses controlling crowds this way: "I have heard of angry crowds overturning an automobile, but I have never heard of them overturning a horse."

Certainly the horse is the truest friend and servant of man and not merely a means of losing hard-earned money at the Race Course.

(Continued from page 13)

behind carriages and coaches in the days before motor cars were invented. Quite handsome with black spots on his white coat, he still likes to run behind a horse. Hunting men have been very active in establishing new breeds, and many varieties of dogs originate in cross-breeding to obtain special hunting qualities.

In western countries dogs are trained to lead blind persons. These dogs wear a kind of harness for the blind person to hold. These guide dogs for the blind learn to lead their owners everywhere, in crowds, through busy streets and traffic, stopping at the kerb and waiting until it is safe to cross. Thus to own a guide dog will transform a blind person's life from complete dependence on others to freedom. Of all the work dogs undertake, this is perhaps the one which appeals most to kind and sympathetic people. In the same category are St. Bernard dogs which are used to rescue lost travellers on the Alps.

The faculties of smell, hearing and physical mobility are developed to a very high degree in certain species of dogs which render them extremely useful for war and Police purposes. As a matter of fact, dogs took part in the First and Second World Wars as Red Cross dogs for feeding and aiding the wounded, as sentinels and messengers and as mine detectors. These war dogs as they are called are given several months' training at a school where they are taught to scent out mines buried in the ground with a piece of meat beside them. Then they learn to find the mine alone, receiving a tit-bit as a reward. They are still much used for guarding air-fields and depots.

Dogs were first used for Police work in India on the North-Western Frontier in 1941. After Independence, the Madras Police were the first to form and train a Dog Squad consisting mostly of Alsations. Fearless and intelligent, the Alsatian is admirably suited to assist Policemen and watchmen to patrol large areas at night. It will scent, hear and see an intruder long before a man can do so and will hold him at bay until the handler, its human partner, arrives. Many big department stores in western countries are patrolled by dogs at night and the animals can be trained to ring a bell at certain points so that their position is indicated to a watchman. These dogs are trained to pull down and hold their quarry but not to bite except at the word of command unless their handlers are attacked by the criminal.

Police dogs are trained when they are about five or six months old and will be ready for work at the end of six months. Their proficiency will thereafter increase as they gain more and more experience. Their training covers the following subjects:—

- (a) Obedience.
- (b) Watching an object or person.
- (c) Tracing a hidden article by the sense of smell.
- (d) Tracking.
- (e) Arresting an escaping offender.
- (f) Protecting the handler.
- (g) Refusing food from strangers.
- (h) Jumping obstacles.

Each dog has its own handler and the partnership is never disturbed. The handler will take the dog out for a run in the morning and in the evening, will feed it, bathe it, groom it and look after it continuously thereby establishing mutual confidence of a very high order. Of course only those constables who have a deep affinity for dogs are chosen as handlers.

The Madras Police Dogs are becoming increasingly useful in the investigation of crime. They have some sensational successes to their credit. The following statistics gives some idea of their usefulness:—

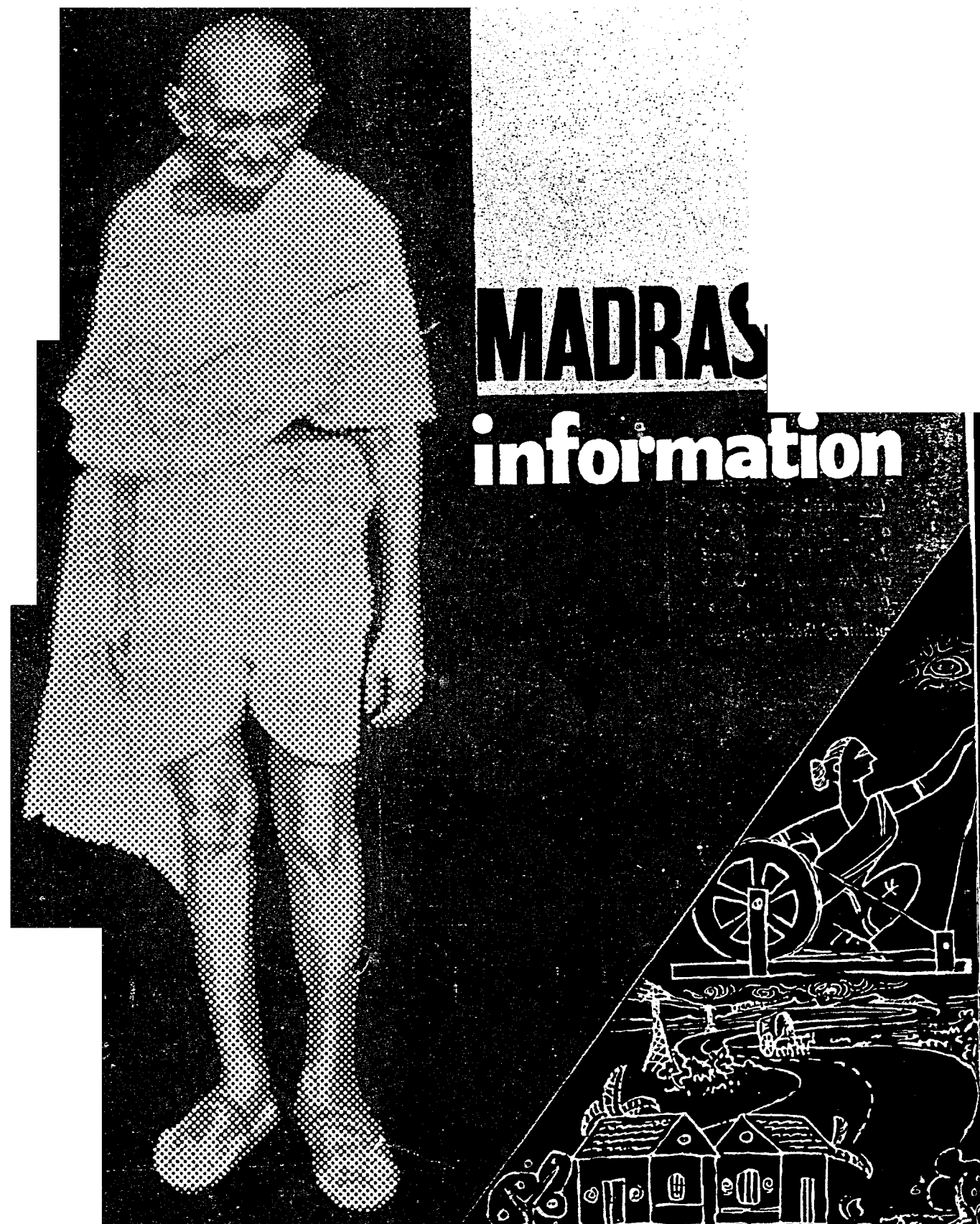
NATURE OF OFFENCES.	1957.		1958.	
	Total calls.	Successful calls.	Total calls.	Successful calls.
Murder for gain	29	19	35	23
Robbery	5	2	8	7
Dacoity	Nil	Nil	3	1
Burglaries	65	9	85	23
Miscellaneous thefts	17	5	5	1
Total	116	35	136	—

Adverting to sensational successes, I must refer to instances in which the Police dogs picked up the scent after a delay of from four to fourteen days. If this claim is made in western countries, it will not be easily believed. The only rational explanation for this phenomenon is that criminals in India usually go bare-foot which means that perspiration exuding from the pores of the feet will be left on the ground the smell of which apparently lingers on for many days. These astonishing successes have had a tremendous impact on the rural population and there have been instances of culprits surrendering themselves or abandoning stolen property merely on hearing that the Police dogs are about to arrive. There have even been two cases of criminals committing suicide after having been completely demoralized by the prospect of certain detection by the dogs.

The fame of the Madras Police dogs has travelled round India with the result that many States have sent their handlers for being trained here. War dogs of the Defence Department are also trained by the Madras Police. This is indeed a creditable record which should be kept up and improved in the coming years.

I am glad to know that this year marks the Centenary of the establishment of the Madras Police in 1859. In spite of troubles and changes of administration, the Police of Madras have done exceedingly well and it is my earnest hope that they will continue to serve our people with efficiency and integrity.

S. RADHAKRISHNAN,
Vice-President of India.

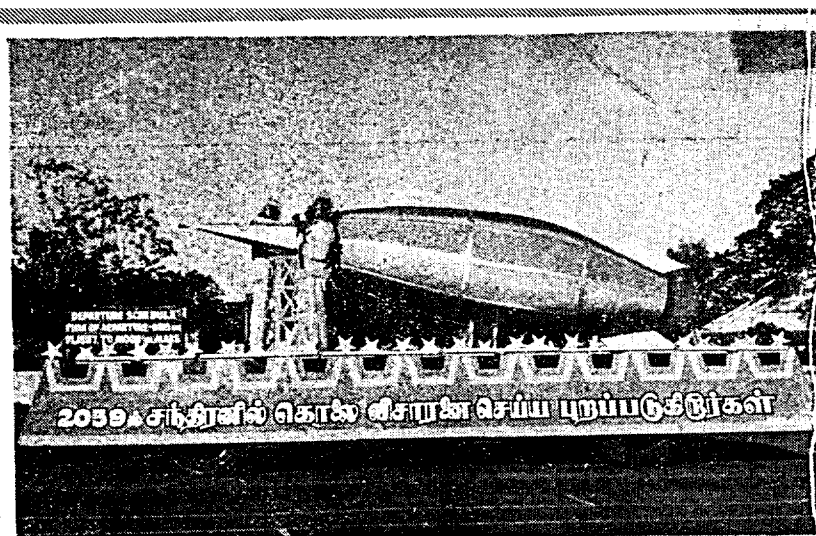
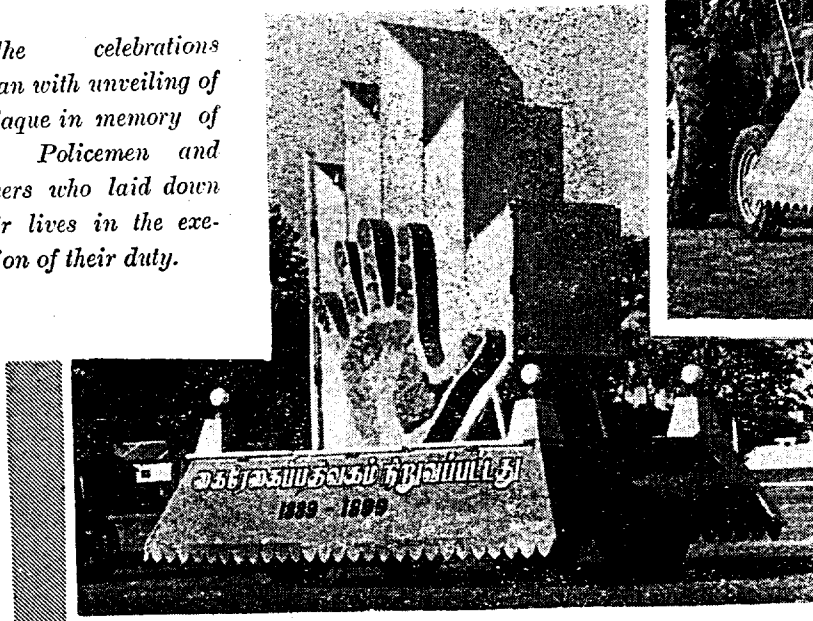




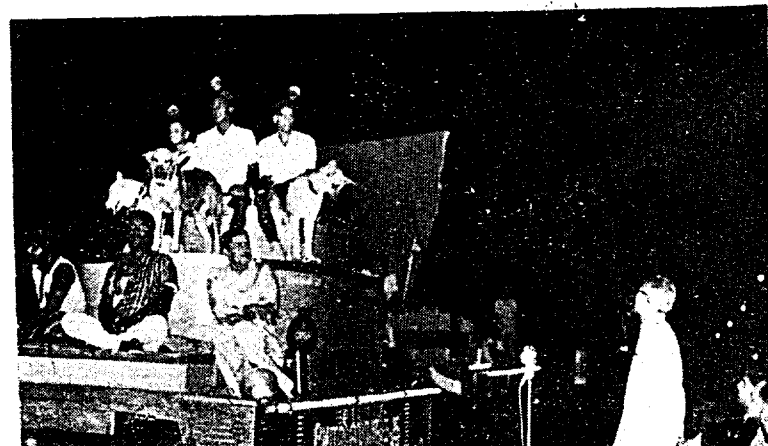
POLICE CENTENARY CELEBRATIONS

The Centenary of Madras Police was celebrated in the City with great enthusiasm.

The celebrations began with unveiling of a plaque in memory of the Policemen and officers who laid down their lives in the execution of their duty.



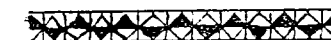
A pageant was held during which floats describing various aspects of Police activities, were taken round the main roads of the City.



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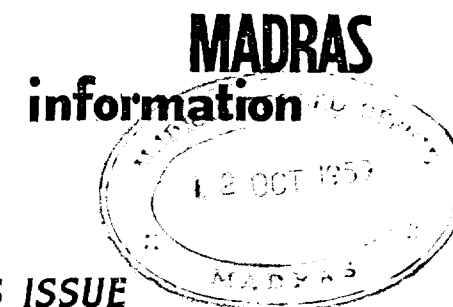
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This month's cover :

Gandhiji prepared the blue-print for the Community Development Programme we are having now. Fifty years ago, he evolved this Community Development Programme, which he called then, the Rural Reconstruction Programme. Whoever is engaged in this mighty Nation-building task draws inspiration from the most dedicated rural development worker of all—Gandhiji. Let us be worthy of him. If only we all display a fraction of the dedication and enthusiasm which he showed towards the establishment of the new Nation, we would have done our duty by the Father of the Nation.



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[The articles published in Madras Information may be freely reproduced.]

BHOODAN YAGNA

SRI K. ARUNACHALAM.

"Bhoodan Yagna" popularly known as Bhoodan Movement originated on the 18th April at Poocham-palli in Telingana when Shri Vinobaji got an offering of one hundred acres of land from Shri Ramachandra Reddy to be shared by the landless agriculturists of this village. This unique event took possession of the head and heart of Vinobaji. He spent sleepless nights over this event. Like a true scientist with a passion for facts, he pursued this idea further and further till he discovered the potentiality and technique of the law of love. He saw that anyone who has compassion in his heart and translates that spirit in his own life by sharing what he has with his neighbours, will be able to persuade others also to be compassionate and alleviate the sufferings of many. He issued an appeal for both workers and land. Thousands of acres were offered in Bhoodan Yagna in response to the appeal not only in the Communist-infested Telingana area but also in other parts of India.

India has one crore of landless agriculturist families. Will we be able to collect enough to provide them all with land? This was the real doubt even in the minds of those who believed in the non-violent way. But, Vinobaji had no doubts on this matter. When this question was raised he was in Bihar. He decided to concentrate on Bihar as a test case. More than a year of trekking followed. The Sarva Seva Sangh put its heart and soul into the Movement. Leaders like Shri Jayaprakash Narain came forward to dedicate their whole life for the furtherance of this cause of Non-Violence. The people of Bihar proved the principle of Bhoodan Yagna by donating nearly 23 lakhs of acres which is one-sixth of the cultivable land in Bihar.

A scientist formulates laws. He applies them to life only to the extent that it is necessary for him to prove his theories. Shri Vinobaji has proved the truth of this law, without any shadow of doubt. Now it is for the rest of us to work out its full implication in other parts of India. Workers will have to be trained and equipped to undertake this task of spreading the message of Bhoodan. They will go from house to house and apply this law and effect the Social change which is the crying need of the day.

In the pursuit of Bhoodan Yagna Shri Vinobaji was faced with the problem of proper redistribution of lands. He discovered "Gramdan". He claims that this is the only proper solution to many of the present-day social and economic ills. Gramdan expects the community to take full responsibility for giving security to all the members of the community. The village will have to provide work or employment for every one. If this is not done the other alternative is the development of authoritarian attitudes and totalitarianism in the country. If people look up to distant places and tend to rely on others for providing themselves with the necessities of life they lose their liberty.

So, Vinobaji's Gramdan opens to the village communities a way for retaining their independence and initiative in their own hands. Nearly 5,000 villages have decided to accept the Gramdan idea. This means that individual or family ownership in these villages is transferred to community or village ownership.

No new idea is ever accepted without a fight. The Gramdan is no exception. It is resisted by tradition bound no-changers. They see danger in this idea. They think that family life will be in peril and culture will be lost. According to them private property is an essential condition of life and progress. This might be true of mediæval times. But we are in the twentieth century. We have to face the effects of science and technology. To-day the world is on the verge of total destruction because of the misapplication of scientific inventions. The inventions and their application are wedded to narrow selfishness and rank material values. Shri Vinobaji, the seer and the scientist, sees the need for linking science with spiritual values. He is of the opinion that when love works hand in hand with science then there will be peace on earth.

Private property and ownership in to-day's complex social set up is only a myth. The Ford Company is not one man's or family's concern. It is a co-operative endeavour. This is true of almost all big and small companies. In spite of the overt competitive spirit in the industrial field, there is an undercurrent of mutual aid and co-operation. This is essential for their very survival. To the extent there is co-operation, there is growth and progress. Gramdan attempts to base the social structure on this idea of mutual aid. A person who owned only ten acres of land in a village before Gramdan will become the owner of all the land in the village. Every one will speak of "our land" and not "my land". This gives greater security than private ownership. It is possible under the principle of private ownership for an inheritor to lose his land. He will be stranded without any help. But, in Gramdan, where land cannot be mortgaged or sold away, he and his progenies are assured of a basic minimum as long as they are prepared to work.

This kind of coming together and pooling of the resources for the common good is a historical necessity in the evolution of the human race. The intellect is far too much developed and as a result man has learnt to release the mighty force that is locked up in the atom. At this critical juncture he must develop his heart so as to comprehend all humanity as one. Otherwise there is the danger of total annihilation of all life on this planet.

Consequent on the discovery of Bhoodan and Gramdan, Vinobaji has also enunciated the principles of

(Continued on page 30)

RELIEF FOR THE UNDER EMPLOYED

SRI R. PARTHASARATHI,
Director of Khadi, Madras.

The Charkha is the one simple implement which, in the prevailing context of the peasants' poverty, illiteracy and lack of technical skill, could help him add a sizable amount to his income. It would also help him and his family to provide for their own clothing needs. Mahatma Gandhi with profound insight into the real conditions and needs of rural India revived the Charkha and made it the pivot of his constructive programme.

The Government of Madras was the foremost and pioneer State to take to the Khadi programme as a rural development programme. After ten years of successful experience, this Government has been the first to set up a separate Department to develop Khadi as an essential rural industry.

The object of the Government in including Khadi work in its rural development programme is two-fold. The first is to provide remunerative employment to the unemployed and underemployed people in the rural areas. The second is to intensify Khadi development in selected areas with a view to make them self-sufficient in regard to their clothing needs. With these ends in view, the Government are implementing the programme under a four-fold scheme.

The twin objects of self-sufficiency and remunerative employment to the peasants are sought to be achieved through the Intensive Khadi Scheme. The Scheme is implemented in areas where there is a big concentration of spinners and where enough weavers are available to weave the yarn into cloth. Under this scheme, facilities are provided to spinners to produce yarn and arrangements are made to purchase the yarn and convert it into cloth. While purchasing yarn from spinners, a part of the money due to them is held in deposit and Khadi cloth to the value of the accumulated deposit is given to them.

And the Khadi produced in these centres is of high quality and in infinite varieties. Two dyeing, bleaching and printing Units, one at Tiruppur and another at Erode, help production of coloured and printed varieties and also mercerised Khadi. A silk production centre at Kumbakonam with three sub-centres at Kancheepuram, Arani and Hosur produce silk varieties with hand-reeled silk yarn. These centres produce sarees in traditional as well as modern designs.

In areas where Intensive Khadi Scheme is in operation, 65,657 spinners and 3,715 weavers were enlisted during the first three of the Second Plan. The

total number of spinners and weavers on roll under this scheme is respectively 118,808 and 4,077. The wages paid to spinners and weavers in 1958-59 alone amounted to Rs. 27,94,282 and Rs. 16,33,457. In 1958-59, 2,870,901 yards of Khadi and 22,964 yards of Khadi silk were produced. Twenty-six Khadi Sales Depots—their number has now gone up to 31—have been opened, six in the City of Madras and 25 in different district towns in the State. The quantity of Khadi sold during the year was 2,443,805 yards. A Regional Khadi Vidyalaya to train workers to implement the Khadi Schemes has been functioning in Tiruppur.

It is the aim of the Government to extend the frontiers of the Intensive Khadi Scheme areas with a view to include ultimately the entire State. With this end in view, the Extensive Khadi Scheme is implemented in areas where Khadi has not taken roots. Under this Scheme, Charkhas are distributed at subsidized rates, cotton as well as implements for carding, slivering, etc., are supplied at cost price and the yarn produced by the spinners is purchased for ultimate conversion into Khadi in the Intensive Scheme Centres. During the first three years of the Plan, 116 spinning Centres have been opened. The number of Charkhas distributed in these Centres is 14,987 and the number of spinners on roll as on 31st March 1959 is 16,728. The wages paid to these spinners in 1958-59 amounted to Rs. 1,06,414. It should be pointed out that in areas where Extensive Khadi Scheme and Comprehensive Khadi Scheme are in operation spinners are

This is a typical scene in centres where Khadi Development Schemes are being implemented. Women wait while the hanks of yarn they had spun are teled for purchase.





Young and Old are engaged in spinning with great enthusiasm.

not at their Charkha whole time. They are, most of them, casual spinners, spinning sometimes one or two hours a day or one or two days a week. So, it would not be correct to calculate their earnings by dividing the wages paid by the number of spinners on roll.

Foremost, again, among State Governments, the Madras Government have given the Charkha and spinning primary importance in their Community Development Programme, under what is called the Comprehensive Khadi Scheme. This scheme is similar to the Extensive Khadi Scheme in most respects. The scheme is being implemented in all the Blocks. The number of Charkhas distributed as on 31st March 1959 is 70,597 and the number of spinners on roll is as many. Rupees 2,12,975 have been paid as wages to spinners and 1,498,590 hanks were purchased from them during 1958-59.

The Ambar Charkha Programme, which took shape three years ago, holds out great promise in respect of increased output and consequently increased earnings by improved methods. A trained Ambar spinner can earn anything between Rs. 1.50 to Rs. 2 per day. Special emphasis is laid on this new programme and attention is paid largely to bring the entire State under this programme. The Ambar Charkha Programme provides for the establishment of Ambar Vidyalayas to train instructors and Parishramalayas to train spinners; for the distribution of Ambar Charkhas and cotton at cost price to trained spinners and for the purchase of Ambar yarn from the spinners and its conversion into cloth in Ambar production centres.

Two Ambar Vidyalayas are being run at present at Kangayam and Manimuthar with Sub-Vidyalayas at Palladam and Dharapuram. Thirty-nine Parishramalayas have so far been opened for training spinners on Ambar Charkha. It is proposed to open 20 Parishramalayas in 1959-60.

Eight main Ambar Production Centres and 26 Sub-Centres have so far been opened to distribute Ambar Charkhas and cotton to trained spinners, to purchase Ambar Yarn from spinners and get the yarn woven into Khadi. Besides these, four model weaving centres have been opened to train weavers in weaving Ambar Yarn and nine servicing Units for servicing Ambar Charkhas issued to spinners. So far 8,006 spinners have been trained by the different Parishramalayas and Charkhas have been distributed to 7,176 of them.

During 1958-59 a sum of Rs. 3,85,741 has been paid as wages to spinners and 2,604,389 hanks have been purchased. Two hundred and ninety-five weavers are at work weaving Ambar yarn into Khadi and they have produced 166,321 yards of Khadi. A sum of Rs. 75,723 has been paid to them as wages in 1958-59.

That the relief provided by the Charkha to the unemployed and underemployed peasants of the State is on a mass scale will be borne out by facts. The total number of spinners on roll under all the schemes including the Ambar Charkha Programme as on 31st March 1959 is 213,309. Total wages paid to them during the year came to Rs. 34,99,413. The number of weavers engaged in Khadi weaving is 4,372 and they have been paid Rs. 17,09,180 as wages. This is as regards Khadi work carried on under Government auspices.

Besides the Government, there are other agencies engaged in the propagation of Khadi in the State. The Tamil Nad Sarvodaya Sangh, successor of the Akhil Bharat Sarvodaya Sangh which was itself a successor of the old All-India Spinners' Association started by Gandhiji is the oldest institution in the field; its work is as large, if not larger than the Government's work in this field. The Gandhi Ashram, Tiruchengode, operates in the Salem district in a limited area. The Gandhigram in Madurai district pursues multised activities in rural uplift, one of which is hand spinning and Khadi. The Gandhiniketan, T. Kallupatti, also in Madurai district has to its credit a number of training programmes, of which Khadi fills an important place. Taking the Madras State as a whole as a result of the efforts of the Government and the other institutions working with the same objective, Khadi provides work for over 5 lakhs of spinners and weavers and distributes wages to the tune of Rs. 2 crores annually.

The average income of an agricultural family of five members is Rs. 520 per annum, that is, Rs. 44 per month. If even two members work on the Charkha, i.e., the traditional, they can easily earn a minimum of Rs. 30 a month. This constitutes 70 per cent increase in the family earnings. If it is the Ambar Charkha the earnings are much more.

The Charkha has come as a boon to many a peasant families in Madras State, as well as other parts of India. It has an important place in our rural economy.

State Transport

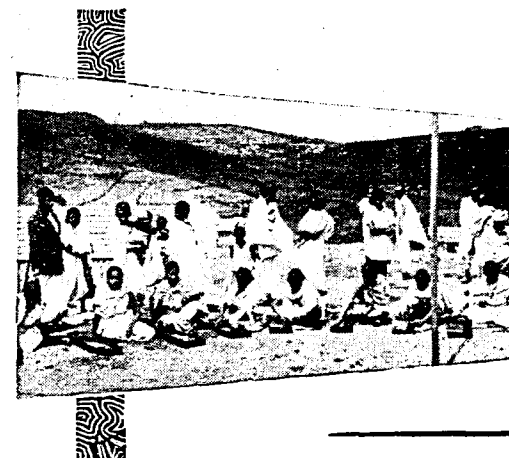
Madras City.

The fleet strength of the Madras City branch remained at 450 in the month of July. No operational changes had taken place during that month.

An average number of 335 buses were operated per day and a collection of Rs. 16,10,396 was brought in and 12,469,815 passengers were transported.

Kanyakumari.

The fleet strength of the Kanyakumari branch was 94 and an average number of 64 buses was operated in the month. The Nagerecoil-Kuzhithurai route was extended to Kaliakkavilai. The total collections for the month of July were Rs. 2,43,616.41 nP. and 882,937 passengers were carried.



The Charkha Goes to a Kotah village

Anyone who wishes to see a Kotah village may make a 14-mile trip by rugged road from Ootacamund to Tiruchigadi. The Kotahs are Adivasis of the Nilgiris and are scattered over a number of hamlets in the Nilgiri ranges. Tiruchigadi is a typical kotah hamlet fourteen miles from Ootacamund, reached by road which is partly well laid out and partly rugged and bumpy; in places there is no road as such but deep dents and ruts. Jeeps and lorries (which carry potatoes and other produce) of course negotiate the road with some effort.

The Kotahs are a well built exclusive race. Even the men wear their hair long-mostly (but, if only well groomed, they can pass off for any modern Indian dancer!). The Kotas have their own agelong customs and manners, well preserved in their shells of hamlets. So exclusive are they, that, till recently, they would not allow any outsider to take residence in their hamlet. Only recently they have graciously made exceptions in two or three cases a Gramasevika, a Spinning Organizer and a Craft Instructor who all work in the hamlet for their welfare.

The Kotahs are a hardworking people. They were once reputed to be experts in carpentry, woodwork and blacksmithy; but now it is all a lost art with them. They live by farming their small patches of land in which they raise potatoes, wheat, ragi and vegetables. Both men and women work in the fields and the crops they raise give them enough food for themselves and something more which they sell. Their wants are few and they are a self-contented lot and are fairly well off. Even in the matter of lighting the fire they are still not quite dependent on match-boxes, but produce fire by the primeval method of rubbing two pieces of wood. (A demonstration of this was given to the visiting party.)

They have their own "folk music" and dances which they execute to the accompaniment of crude instruments, drums, horns, cymbals, etc. Their language is an unwritten one and is peculiar having no definite affinity with any of the existing Dravidian languages. But most of them can talk and understand Tamil.

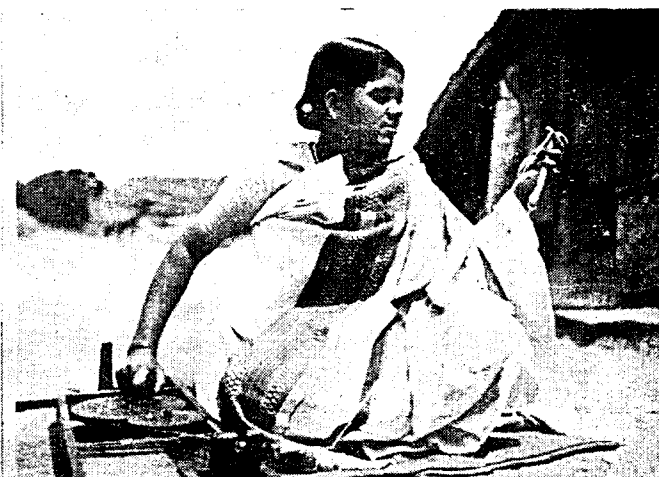
Their womenfolk are hefty and strong and have a naive charm about them. They seem to have no defined religion but they have their own rites. There is a small building, which they call the temple, where worship is conducted once a week by a priest of their own clan. The worship consists of offering of milk and nothing else. "No coconut, no camphor, no betel leaf, no fruit" asserted an elder among the Kotahs, talking of temple worship. The image (unnamed) in the temple, is akin to a Sivalingam and the divinity it symbolises seems to have a Saivite affinity.



The Kotah women learn handicrafts like fret-work.



A Kotah family spinning in front of their house.



Srimathi Rajammal who won a prize in a spinning competition.

Now, to this sequestered hamlet came the Charkha two years ago when the Government's welfare programme through Community Development spread into the Nilgiris. The Block Development Officer at Ootacamund spread his welfare net among the Kotahs of Tiruchigadi. In its wake came women's welfare also and the Kotah womenfolk are being given training in handicrafts like fretwork and embroidery. When the Block Development Officer through the Gramasevika and Spinning Organizer brought the Charkha into the Kotah homes, they took to it enthusiastically; when the Women's Welfare Department set up a training centre for fretwork, toy making and embroidery, they took to that also equally enthusiastically. But the work of introducing spinning and the handicrafts has of course been no easy job and it was as rugged and uphill as the road leading to Tiruchigadi. The village workers, undaunted by initial handicaps persevered in their effort and to-day there are about fifty spinners plying the Charkha enthusiastically and a same number of people fashioning odd shapes of animals and objects in brilliant colours for the delectation of children.

The writer who visited the place some time ago, gathered a few interesting facts and facets of Kotah life in this hamlet. Tiruchigadi consists of 86 "houses" in which the 250 and odd Kotahs live. All the families own land and are cultivating farmers. Since all of them cultivate their own land, they rarely employ outside labour. But when they do it, the labour costs Rs. 1-8-0 per man and annas 12 to Re. 1 per woman per day. If they engage themselves in casual labour, these are the wages they earn too. One typical Kotah family was taken for sample. Jogi Khambatta is the head of the family. He and his wife, his son and his daughter-in-law and unmarried daughter all work. They all spin. Rajammal, the sprightly but coy daughter-in-law, wreathed in smiles, demonstrated her skill in spinning. She had won a prize too in the spinning competition. She proudly averred she could spin two to three hanks per day but this is not regular as all of them are engaged in cultivation for six to eight

months in the year. Between them, Jogi Khambatta's family had spun 25 hanks during the previous month and earned about Rs. 5. This of course is an extra income for them. They exchange yarn for Khadi cloth too. Taking this as a typical example, Jogi's family can add Rs. 60 per annum to its total income. The total income by agriculture, according to him, is about Rs. 1,200 per annum and he gets Rs. 800 net out of that. So the Charkha adds nearly 9 per cent to their income. But this is a conservative estimate and after all these people do not spin for their livelihood. What they get out of it is extra. If they want more, they can always put a few hours more daily and double or triple this extra income.

Tiruchigadi is but a typical example in Madras State, where Community Development work and the Charkha are just taking root. There are several such villages and hamlets in the hills and plains and the Block Development Officers can certainly reach them and teach them the new way of life.

KHADI

The various Khadi Production Centres of the Department of Khadi, of the Madras Government, produced 316,590 yards of Khadi valued at Rupees 8,26,284-14 nP. in the month of July 1959.

During the month Government Khadi Sales Depots and other agencies have sold 262,184 yards of Khadi valued at Rs. 7,23,409-02 nP.

During August 1959, 320,936.04 yards of Khadi worth Rs. 8,17,454.02 were produced and 241,068.07 yards worth Rs. 7,33,071-71 were sold by the Khadi Department through its various agencies.

Between 1st April 1959 and 31st August 1959, 1,417,837.06 yards of Khadi worth Rs. 36,86,296.74 were produced and 970,780.01 yards worth Rs. 29,02,35,492 were sold.

PRESERVE WILD LIFE!

SRI M. BAKTHAVATSALAM, Minister for Home.

Wild Life is an important natural resource. So, we have it here that wild life is an integral part of our fields, our forests, our entire environment. Further, wild life figures prominently in our mythology. Our religions teach us to love and even venerate it. Even our history shows that our rulers of olden days were great lovers and champions in the cause of wild life. Thus, we have rules framed and imposed for the preservation of wild life from the days of Emperor Asoka. Our Art and Literature abound with inspiring references to the beauties of wild life. To quote Prime Minister Nehru "Life would become very dull and colourless if we did not have these magnificent animals and birds to look at and to play with". The study of wild life can be an exhilarating experience. All the time, we unconsciously enjoy wild life; now it is just a brightly coloured or sweetly scented flower, now a picturesque valley or an attractive animal. The beauties of wild life are continuing and are always there waiting for man to become aware of them. And so, it behoves us to preserve wild life in every way we possibly can.

But our wild life has suffered badly at the hands of man. Any shikar book of earlier days of this century will show this clearly. And then, there are the vast destructions by poachers and commercialized meat hunters. In our insatiable need for land and food, our wild life has been reduced to a vanishing asset. As a result, we have now reached almost the same unenviable position as many of a western country of having to look back with regret on no more than a glorious past. Some of our rare precious animals are at the verge of extinction. The Indian Rhinoceros has been reduced to mere 300 confined to two or three pockets in India. The Indian Lion is represented by an equally small number confined to a single area. The cheetah is virtually extinct. The elephant and the tiger are also struggling against odds. The urgency for preserving our wild life is therefore immediate and can no longer be ignored. It is high time that everyone in the country realized the importance of this urgent need. It would, indeed, be sad if some of our magnificent animals were to survive a few years later only in books and pictures.

It is a wonder then that we are now endeavouring to secure popular enthusiasm and support for the cause of wild life. As one of the measures towards that objective, we have been observing 'Wild Life Week' every year under the guidance of the Indian Board for Wild Life. Last year, 'Wild Life Week' was observed throughout the State with great enthusiasm and met with abundant public response. 'Wild Life Week' this year commences from the 1st of October. The observance will in fact extend over most of the month.

It might be asked what is the present state of wild life in our State and what has been done to protect and improve it. The habitat of our wild life is dwindling with the expansion of cultivation and of development work on all sides. The Nilgiris and Palni Hills are

even now well-known for their traditionally large content of wild life and were really well stocked not so long ago; but animal life is now very far from common in these tracts. Of course, we have afforded a good home for our wild life in the Mudumalai Sanctuary; but even in the forests round about there, game is reported to be getting less common. Top Slip in the Anamalais, the Hassanur Plateau in North Coimbatore and part of the Western Ghats in Tirunelveli and Kanyakumari districts still harbour a fair stock of wild life. The other noteworthy pockets are the bison in the Alagar Hills in Madurai district and in the Javadis near Vellore and the black buck in the Vedaranyam area of Tanjore district, besides the artificial oasis that is Guindy Park for chitals and black buck.

Government have been giving special attention to the improvement of our Wild Life Sanctuaries by affording conditions which would encourage wild life on the one hand and by providing amenities to visitors on the other. In the Mudumalai Sanctuary, artificial salt licks have been formed effectively. Early burning of the ground cover has been attempted last cold weather in order to afford the animals the attraction of an early season flush of green growth besides forestalling any disastrous conflagrations from late fires. Special staff is engaged intensively to patrol and watch the area, so that animals may be caused no disturbance by poachers and others. A new rest-house has been put up and adequately equipped. New roads and jeep tracks are being formed to render movement through the area easy. Some observation towers have been put up. Special facilities are being afforded for wild life photography.

The Forest Department has adopted the Vedanthangal Bird Sanctuary. While it is a happy fact that the people of the village have for decades recognized the value of the bird resort to their cultivation and therefore have cared for the birds here with zeal, organized protection is in hand only now. Besides elimination of all shooting in the vicinity of the Sanctuary, the actual area inhabited by the birds is being cordoned off by a barbed wire fence to keep off intruders and cattle. Fruiting plants and shrubs are being planted on the bund. Supply of water to the lake has been augmented by diverting into it the surplus water of a nearby tank. Steps are in hand to improve the approach road to the Sanctuary and to provide camping and other facilities on the spot for visitors.

On the occasion of 'Wild Life Week', may I appeal to you all to join me in renewing our Wild Life Pledge:—

"Born and bred in the land of Buddha and Gandhi I give my solemn pledge to protect our country's forests and their voiceless denizens from wanton and wasteful destruction."

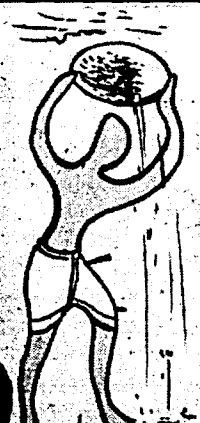
[Excerpts from the broadcast speech over A.I.R. introducing Wild Life Week on 30th September 1959.]



COOPERATIVE



FARMING



TEN-FOLD
ADVANTAGES



It is wrong to think that the idea of co-operative joint farming has suddenly been thrust on the nation. It is, perhaps, not adequately realized that the programme of co-operative farming was mentioned in the First Five-Year Plan and it forms an important part of the Second Five-Year Plan in the scheme of rural organization.

It should be clearly understood that co-operative joint farming is fundamentally different from collective farming, as practised in the totalitarian countries. Firstly, co-operative farming is, in the very nature of things, entirely voluntary and optional, whereas collective farming is necessarily compulsory, although it may appear democratic on paper. Secondly, co-operative farms, as visualised in Indian planning, should range from 50 acres to 100 or 200 acres, while the collective farms in totalitarian countries range from 5,000 acres to 40 or 50 thousand acres. It is quite natural that on account of the big size of these collective farms, the farmers tend to lose their individuality and become cogs in a huge machine. Thirdly, large-scale mechanization is an essential part of the collective farms, whereas the co-operative farms in India need not resort to excessive mechanization. In our country, owing to pressure of population, what is necessary is intensive farming and not extensive and mechanized farming.

It is obvious that co-operative farming will be practised by agriculturists in India only if they are able to see certain obvious advantages in its adoption. There are at least ten economic advantages in following the programme of co-operative joint farming:—

1. There will be a more rational use of animal and human labour through co-operative endeavour.
2. It would be possible to step up capital formation by pooling all resources for effecting improvements in agriculture, particularly irrigation and improved implements.
3. The farmers will be able to afford fuller use of scientific techniques in agriculture, like the Japanese method of rice cultivation, improved strains of seeds, green and compost manuring, insecticides, etc.
4. Elimination of economic exploitation by middlemen could be achieved through co-operative marketing of the farm produce.
5. There will be emergence of local and community leadership through co-operative planning of village life.
6. This higher form of economic organization will be able to absorb a good number of educated young men within the village and thus prevent their migration to the cities.
7. Small and poor farmers, who are regarded as non-credit worthy to-day, will be able to receive adequate credit and other facilities by joining a co-operative farm.

8. Joint farming will make for a richer and diversified village economy by the establishment of different village and processing industries to supplement agriculture.

9. The Government will be able to distribute various supplies and provide technical knowledge in a more systematic and efficient manner to co-operative farmers, rather than to a large number of individual farmers. Collection of agricultural statistics will also be much more reliable and scientific.

10. Better agricultural planning through co-operative farming will release more time to both men and women of the village for social and cultural activities.

These ten-fold advantages of co-operative farming should be carefully explained to the Indian agriculturists, so that they may feel attracted towards co-operative farms out of their own free will.

It is being propagated by the critics of co-operative farming that once an agriculturist joins such a farm, it would never be possible for him to opt out of the farm. This is also wholly erroneous. It is true that once a farmer joins a co-operative venture, he should give it a fair trial for some years. But, if after a few years, he unfortunately finds it unprofitable to continue his membership of the co-operative farm, he can leave the farm, provided he gives due notice, say, of one year, repays all his loans and other liabilities, and deposits adequate compensation with the co-operative farm for improvements on his plot of land. After discharging these obligations, he may be returned either his original piece of land or another plot of land equivalent in value. All this would depend upon the terms of the original contract at the time of farming of the co-operative farm. There should be no rigid or fixed pattern of a joint firm. There can be endless variety and flexibility to suit local conditions, in accordance with the wishes of the farmers joining together.

As has been repeatedly emphasized by the Prime Minister, our main emphasis should be on the establishment of Service Co-operatives throughout the country within the next two or three years. It is expected that the farmers will realize the practical advantages of co-operation in the field of agriculture and would start joint farms out of their own accord. There should be no attempt on the part of social or political workers to force the pace of co-operative farming in the country. There should be much greater emphasis on quality, rather than on mere quantity and numbers. The formation of bogus farms mainly for evading land reforms and securing Government financial assistance should be effectively discouraged. The existing co-operative farms, which are not functioning successfully, should be liquidated as early as possible.

I recently visited the Intensive Development block at Dhanora in Moradabad district of Uttar Pradesh. This block is being run under the supervision of the Khadi and Village Industries Commission. They have recently started eight co-operative joint farms on a purely voluntary basis and without any Government assistance. Local leaders have formulated their own bye-laws, in accordance with their wishes. I was much impressed by the successful functioning of these co-operative farms in the Dhanora block and I would invite all critics of co-operative farming to visit the Dhanora block and see for themselves the practical advantages of joint farming on a co-operative basis.

Above, all, the success of co-operative farming in India would depend upon the honesty and efficiency of social and political workers who assist and guide the farmers in forming these co-operative farming units in various parts of the country. Co-operation is essentially a way of life and only those who have implicit faith in it can persuade others to take to it.

SHRI SHRIMAN NARAYAN,
Member, Planning Commission.



The anniversary of the Southern India Chamber of Commerce was celebrated with Sri K. Kamaraj, Chief Minister, presiding.



The State Veterinary Conference was inaugurated by Sri W. R. S. Saththianadhan, I.C.S., Chief Secretary to Government of Madras.

Animal Husbandry

Sustained Effort and Patience will Yield Returns

SRI W. R. S. SATTHIANADHAN, I.C.S., Chief Secretary, Government of Madras.

The difference between veterinary science and ordinary medical science is that the veterinarians are dealing with domestic animals which have no language to tell of their ailments. It is something like the pediatrics department in medical science. Just as children are inarticulate so are our dumb friends of animal kingdom. So, veterinary science is a very difficult subject and the doctors have a hard task before them in diagnosis and treatment. Just because you are dealing with dumb animals, so much greater in your responsibility to treat them with kindness and patience and consideration. I appeal to you all to realise that, even though emoluments in the veterinary service may not be to your liking as is seen from the fact that recruitments to the Veterinary College is so difficult for lack of candidates, what you lose in emoluments, you gain in the nobility of your work and the fact that you are dealing with inarticulate life which demands a true spirit of loving missionary service.

While India has the largest cattle population in the world, about one-fifth of the world's cattle is supposed to be in India, its quality is infinitely poor. We are supposed to love cattle and the Hindu religion prohibits the killing of cattle. But while the quantum of slaughtering may be low in India, how can we excuse people who daily kill their cattle through negligence and under-nourishment and overstrain and overwork? We have acquired a large contingent of poor and under-nourished cattle which is a great liability on our economy.

The cattle draw water from the well, plough the land and carry produce to the market. They provide

manure for the field and milk and milk products. In addition, the animal's skin, hoofs, horns and bones are of use. This highlights the paramount need for improvement in the quality and condition of our cattle in India.

Some years ago, rural development of cattle wealth was rather diffused. But, now that Community Development has come to highlight rural development of all sorts, the emphasis is on the improvement of livestock. Key Village Units have been set up in the State and they cover a number of blocks. Breeding bulls are supplied to individuals and panchayats. Artificial insemination is carried out even in distant villages. Segregation of diseased cattle in special areas is being undertaken. Medical check up and free veterinary services are rendered to all farmers who require it. Vaccination campaigns against pestilences are methodically carried out by the Block staff. Mobile dispensaries go from village to village. Improvement in feeding of the livestock goes together with the improvement of breeding. Production of quality fodder, large scale uses of oil cakes, supply of wholesome water are a few of the items.

Poultry development is next in importance to cattle improvement and is also one of the activities in the extension programme. It has been said that poultry is the only 'tree' which does not require water. Poultry rearing is easy and any farmer can take it up. Poultry keeping also is now a very profitable pastime.

(Continued on page 12)

A Causeway Across THE VAIGAI

SRI S. C. NAYAK,
Chief Engineer, Highways.

This district of Madurai abounds in hills and dales presenting diversity of scenery. Palani and Tiruparankudram are hills having famous temples dedicated to Lord Subramanya which attract a large number of devotees all the year round. Kodaikanal which is at an elevation of 7,000 feet above sea level is a beautiful hill-station of repute. The City of Madurai is the second largest in the State and is also the headquarters of the two districts, Madurai and Ramanathapuram. The Thirumalai Naik Palace and the Meenakshi temple at Madurai are monuments of ancient architectural beauty. One of the largest spinning mills in the world, the Harvey Mills and a number of hand-loom weaving industries are located in the city. About a quarter of the area of this district is covered by forests which are famous for the large produce of cardamom, coffee, oranges, plantains, etc. Though this district has an area of 4,900 square miles it has got railways to a length of 190 miles only and that too of metre gauge. Hence the main mode of transport in this district is by roads which stretch up to 2,500 miles. Naturally there is heavy bus and lorry traffic on all the roads and the district has an efficient road transport system run by private enterprise.

The river Vaigai cuts this district into two halves and interferes with the north-south fast traffic for nearly half the width of the district. After the Peranai Anicut the river is bridged only at Madurai on the Benares-Cape Comorin Road. At Melakkal two important major district roads cross, i.e., the Tirumangalam-Pallapatti road and Madurai-Nilakottai road and hence thousands of vehicles have to pass through the existing bed level causeway every day. The Tirumangalam-Pallapatti road is a short-cut compared to the Benares-Cape Comorin Road, the National Highways between Dindigul and Tirumangalam and runs by-passing the crowded City of Madurai. Hence the through traffic from places north of Dindigul to places south of Tirumangalam naturally takes this road and saves a distance of more than 12 miles. The bed level causeway that is existing now gets overtopped even in ordinary floods and during monsoon there is no certainty about this route due to

the unfordability of the causeway. A look at the district map will show that about half a dozen roads carrying traffic bound for north meet at Madurai and that an equal number of roads with south bound traffic converge at Dindigul. All these vehicles crowd on the National Highway between Madurai and Dindigul especially during rainy season and this high-level causeway will help to divert a good portion of the traffic and relieve the congestion on this stretch of National Highway in general, and the too much strained Albert Victor Bridge in particular.

The cost of high level bridge will be near about 10 lakhs as against the cost of this submersible bridge which is constructed at less than Rs. 5 lakhs. Further the bed level causeway, being located on a bend of the river, gets damaged very often due to cross currents and has to be repaired constantly thus proving itself a perennial drain to the public exchequer. Raising the existing causeway by providing a battery of pipes was first thought of but the foundations were very shallow and hence the proposal was dropped. Frequent high floods cannot be expected henceforth now that the construction of the Vaigai Reservoir has been completed and the flow is under control. Hence a bridge well above ordinary floods and submersible under maximum floods alone will suit the locality best as maximum floods will be rare and may not even recur under the present conditions.

The river Vaigai is the important river of this district and brings down the life-giving waters of the Periyar lake. Across this river there is a causeway under construction near Sholavandan at a cost of about Rs. 5 lakhs and a high level bridge near Madurai at a cost of about Rs. 10 lakhs. The Albert Victor Bridge at Madurai was recently widened and provided with footpaths to relieve congestion. There is a proposal to widen the pipe-vented causeway also near the Albert Victor Bridge. Yet these three structures near Madurai cannot cope with the enormous local pedestrian and vehicular traffic, since the river runs through the heart of the City which is expanding day by day. Hence

It appears Mother Goddess has been partial to this district in having endowed its people lavishly with creative imagination and engineering skill. This beautiful bridge, harmonizing as it does, with the natural landscape all round will be a worthy addition to its structural treasures. The ancient scripts speak of Lord Chokkanatha himself having participated as a labourer in closing the breaches of this river Vaigai in spate in ancient times. Let us understand the moral behind this ancient anecdote, viz., “Dignity of Labour”, and dedicate this bridge to the hundreds of labourers that participated in its construction and the public at large who use this route.

Under the Central Sales Tax Act, 1956, every dealer who makes inter-State purchase is required to furnish to the selling dealers in the other States, a declaration in Form C prescribed in Rule 12 of the Central Sales Tax (Registration and Turnover) Rules, 1957, to avail himself of the concessional rate of tax of 1 per cent. The 'C' forms which were in force immediately before 1st October 1958 were permitted to be used with suitable modifications, up to 30th September 1959. The Government of India have extended the period of validity of the old declaration forms 'C' till 30th September 1960. Accordingly, the dealers registered under the Central Sales Tax Act can continue to use the old declaration forms 'C' with suitable modifications, up to 30th September 1960.

This department, therefore, has done well. My only criticism, is that perhaps you are somewhat lacking in imagination. While poultry and sheep are being attended to, nothing has been done so far as I know, for the improvement of duck breeding in villages. Pigs have been grievously neglected. The exotic types of poultry like geese, Guinea-fowls and turkies have been completely neglected. I make a special plea for the milch goat which had the blessings of Ghandhiji. Mr. Devalosis whom I respect for his vast knowledge of animal husbandry was a real devotee of the milch goat. He felt that it was the proper answer to the shortage of milk in villages. I have repeatedly been urging your Director to pay attention to these items as well as to take pride in trying to raise special types of Indian dogs suitable to the climate and with distinctive breed characteristics. I urge the department to give up being complacent over its undoubtedly fine achievement and to strive ever and ever for improvement and advancement not only of the regular types of livestock but also of new ones. What is needed is not only energy and determination but bold imagination and enterprise to launch out into new and fruitful pastures.

The main cause for the first is chiefly want of proper facilities for supervision at home and in the educational institutions. The stress and strain of modern living makes it almost impossible for the middle-class parent to bestow the attention that a youngster needs in the crucial period of his life, namely, adolescence. If students are not individually looked after in Colleges as they ought to be, it is evidently due to overcrowding in institutions maintained by inadequate staff whose pay and prospects are not tempting enough to make them interested in the serious and arduous task of moulding the character of the young people entrusted to their care. Want of sufficient interest on the part of staff and students may lead to improper teaching methods, inefficient supervision, non-recognition of real merit among students and routine examinations without proper tests which drive them to the utmost necessity of cramming something, more to pass the qualifying examinations than to acquire useful knowledge.

A high-contrast, black and white photograph of an open book or folder. The left page is dark with a light-colored, horizontal-lined area at the bottom. The right page is light with a dark, horizontal-lined area at the bottom. A small, dark, rectangular object, possibly a photograph or a piece of paper, is visible on the right page near the top.

4

[illegible]

A Sample Card.

actually in need of it are some of the common causes. Insufficient furniture, wooden galleries, overcrowded accommodation, insanitary conditions and unsympathetic supervisory staff add fuel to the fire.

Students cannot therefore be fully blamed for their low standard of achievement as neither the present standard of living nor the teaching methods afford the necessary scope for them to go on with their work without distraction or disturbance.

Accustomed to spoonfeeding in high schools, they have no taste for original work nor the self-reliance and perseverance necessary for any individual effort. Somehow they pass their examinations by cramming at the fag end of the year without being steady plodders throughout.

The Tutorial System.

To remedy these defects, we need not only adequate staff but also the right type to supervise the work of the students throughout the year. A single member of the staff should be put in charge of only ten to fifteen students. If this is done, indiscipline among students can be minimized to a large extent. The timetable should be so arranged that the students meet their tutor at least once a day. A record of their conduct, character and application must be kept by the Professors-in-charge and duplicates sent to the head of the institution every month with their remarks, if any. The Principal must, of course, maintain a record of all the students.

Kardex (Card Index).

In a large institution where there are thousands of students, it is really difficult to maintain records and have them for ready reference. It is here that Kardex is of great value. There is a card for each student. The headings and columns on the card may vary according to the needs of an institution and there is no hard and fast rule about them.

In the Madras Veterinary College special cards have been designed by the author to suit most of the requirements of the students and special books have been opened for each class with the help of a firm who undertook to supply them. A copy of the card so designed is given above for the information of the readers. It may be seen from this card that particulars of the students' nativity, antecedents and progress in College, hostel and extra-curricular activities are jotted down so that a student's progress can be watched periodically by an Evaluation Committee whose report reaches the Principal at monthly intervals for drawing the attention of the students and their parents, if necessary. These cards also have a passport size photo of the individuals fixed in one corner with the student's signature at the bottom for easy identity to pay his stipends, to sanction his concessions and the like which are very valuable in the case of students coming from outside the State and those coming from other countries under the Cultural Relationship Scheme.

These cards are arranged classwise alphabetically in plastic holders with only the names visible to the opener. A photo print of the Kardex system is shown

above for the information of the readers. Each card contains the following particulars: Name of the candidate, his parentage, nativity, address, hosteler or days scholar, stipendiary or not, achievements and qualifications on admission, interest in extra-curricular activities, duration of his stay in each class and in the College, attendance and marks in each subject, both in the College and University and success in examinations, etc. All these, you will agree, are very essential for judging a student's merit not only while he is in the College but also after he has left it for employment, promotions and deputations, etc., if need be, especially in the case of a professional institution, run by the Government.

A beginning has just been made in easy maintenance of records with the aid of Kardex and those interested can go ahead and perfect it. It cannot be said that Kardex is an aid to discipline but that it helps to maintain neat and compact records which have a big role to play in the maintenance of discipline. I wish it is given a fair trial in all Colleges.

Control of Guineaworm Disease

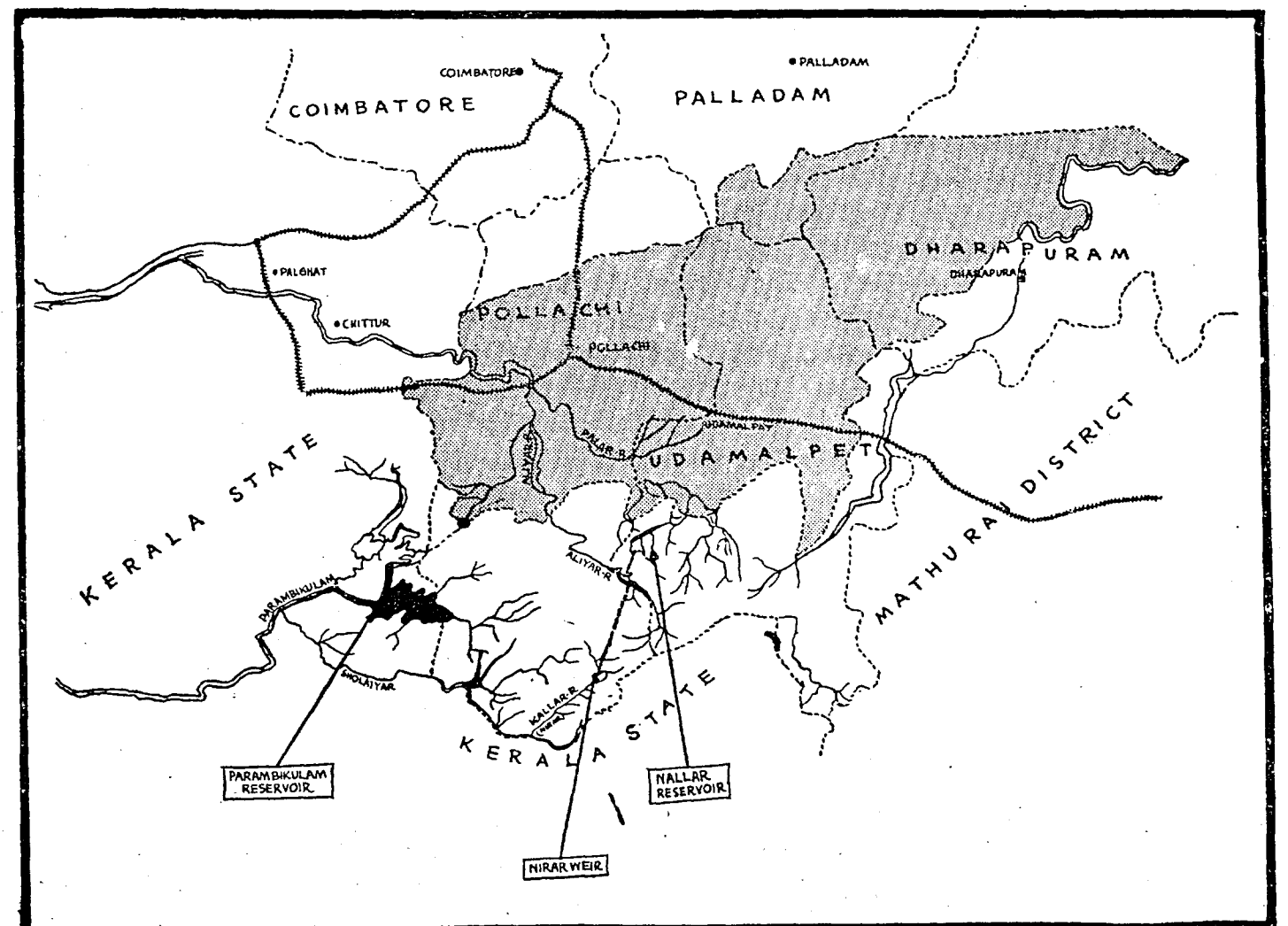
The Government have sanctioned a two-year programme for the control and eradication of Guineaworm disease in the endemic areas of the State at a cost of Rs. 90,000 non-recurring and Rs. 1 lakh per year recurring. Guineaworm disease is an important public health problem in the State in areas where step wells and ponds form the chief source of drinking water supply. Surveys so far conducted by the Public Health Department show that the disease is hyper endemic in the districts of South Arcot, Tiruchirappalli and North Arcot and moderately endemic in the districts of Madurai, Salem, Tanjore, Coimbatore, Ramanathapuram and Chingleput. The disease is to be tackled by chemical methods which aim at the destruction of infected cyclops by such chemicals as stable bleaching powder, 50 per cent DDT wettable powder and Gammexane R-120. Hitherto measures for the control of the disease, using chemical materials, have been very effective, hence the present State-wide scheme, and the programme will be worked on a continued, systematic and sustained basis. With effect from the date of introduction of this programme the schemes which are at present worked by District Boards will be merged with the State-wide programme and grants, if any, paid from State funds will be discontinued. However, in view of the fact that the vehicle of transmission of the disease is water, the permanent method of eradicating disease lies in the provision of safe potable water, and this being a long-term measure and slow of progress, the Government have, in order to obtain quick results, sanctioned the present scheme as an interim measure.

The Parambikulam-Aliyar Project

SRI U. ANANDA RAO,
Special Chief Engineer, Parambikulam-Aliyar Project.

The Parambikulam-Aliyar Project envisages diversion of a few west flowing rivers, having their sources in the Anamalais of Madras State. Waters of Nirar fully, of Parambikulam Ar subject to a maximum of 16,500 m.c.ft. and surplus from Sholiar after meeting the requirements of Kerala Sholiar Power House, will be diverted for the use of Madras. On an average we can divert about 28,000 m.c.ft. per year from the western side. During favourable years, it may be possible to divert more water from Nirar and Sholiar. A weir will be constructed across Nirar within Cinchona Plantation limits and Nirar waters diverted to Sholiar valley through a tunnel of 1,600 cusecs capacity, which is as big as the one recently constructed at Periyar. A dam

will be thrown across Sholiar within Pannimede Estate limits at the bridge site to form a reservoir of 5,200 m.c.ft. net capacity, bigger than the one across Amara-vathi, to store not only the surplus waters of Sholiar but also those of Nirar received through the tunnel mentioned above. Between Sholiar and Parambikulam valley, there is a fall of 1,300 feet which will be utilized to develop power to an extent of 70,000 kilo watts. After developing power, tail race water will join Parambikulam Ar across which a dam 200 feet high will be built at Pulicalmudi. This is the key reservoir in our Project and it has a gross capacity of 16,700 m.c.ft. and a net capacity of 12,700 m.c.ft. This reservoir will collect and store flood waters from all the rivers



The area shown in the shaded portion in the map is to benefit from the Project.

mentioned above and release as and when required controlled quantities of water for Power and Irrigation. There will be also a reserve storage in the reservoir to store surplusses of good years and to carry them over to lean years.

Water will be taken out of the reservoir through a tunnel to Tunakadavu valley which in its turn will be blocked to form a balancing reservoir from which water will be drawn through a Power tunnel towards Madras side to Sirkarpathi Power House. It is proposed to develop 25,000 K.W. of power, thus making a total of about 100,000 K.Ws. under Parambikulam-Aliyar Project. From the tail race of this Power House, two canals will take off, one at higher level, viz., at +1,400. This canal named Contour canal, to distinguish it from other canals, will flow along the northern rocky slopes of Anamalais and ultimately fall into Tirumurthi (Palar) reservoir near Dhali. Another canal will take off at a lower level called Aliyar feeder canal, and tail into Aliyar reservoir. Tirumurthi reservoir will feed mostly the areas in Udumalpet, Palladam and Dharapuram taluks, whereas Aliyar reservoir will feed the areas in Pollachi taluk. On the whole, it is proposed to irrigate 250,000 acres in all these taluks. A special feature of this irrigation is that about one-fifth or 50,000 acres will grow paddy, while the balance will raise dry crops, like groundnuts, millets and cotton. Water will be supplied in two zones and in two seasons, half the area receiving water for irrigation from July to middle of November and the second zone from middle of November to end of March. These periods are only tentative and could be advanced if required, so long as the total period of irrigation season of nine months is not exceeded. The two zones will be alternated each year.

One unique feature of this project will be the lining of all canals and distributaries with cement, concrete two and half inches to three inches thick,

which will, not only minimize seepage losses, if not prevent them altogether, but also save water to augment the ayacut under the project. Provision has been made for excavating field bothies at Government cost, down to 25 acre limit. Provision also has been made to excavate field bothies even below the limit, viz., down to 5 acre limit, if the ryots so desire, but, it will be constructed at the cost of the ryots, from whom a sum at the rate of Rs. 15 per acre will be recovered. At each 5 acre point, definite quantity of water required to irrigate one acre of paddy and 4 acres of dry crops will be issued and the ryots will be at liberty to cultivate whatever crop required by them, so long as the quantum of supply of each point is not exceeded. If more water is required, it should be supplemented from wells, whose supply also will get augmented on account of the project. Another feature of the Project is the integration of Canal waters with seepage water and surface drainage water due to rains. A few small reservoirs will be built across drainage courses and all seepages and run offs from the monsoon will be stored in these reservoirs and reused. Further to utilize underground water, permission will be granted to dig as many wells as possible to supplement the canal water. This will prevent subsoil water coming up unduly high and water-logging the valuable lands in low lying areas.

This Project is a mammoth Project, compared to those taken up so far in Madras State, as it envisages construction of 7 reservoirs—5 in Anamalais, 2 in the plains, 12½ miles of Inter-connecting tunnels, two major weirs, one across Nirar and the other across Aliyar, 30 miles of Contour Canal in a difficult terrain and 128 miles of lined main canals and several miles of distributaries. The Project is expected to cost about Rs. 31.03 crores, including 10 per cent direct and indirect charges and yields an annual return of 4.6 per cent on the sum at charge or 5.64 taking into



The Housing Colonies for the men employed in the execution of the Parambikulam-Aliyar Project were declared open by Sri C. Subramaniam, Minister for Finance. The photo on left shows Sri Subramaniam unveiling the plaque commemorating the occasion. The photo on right shows a view of the Aliyar Camp.



Sri P. Kakkan, Minister for Works, addressing the gathering.

consideration betterment fee contribution from the ryots. The Project takes into credit a sum of one crore of rupees from Kerala for providing facilities to divert 2,500 m.c.ft. from the system and another 1,000 m.c.ft. from Aliyar to Chittur area of Kerala. The estimated cost of rice, millets and cotton produced in the area is in the order of Rs. 5.34 crores per year. Work is scheduled to be completed in five years, excluding the present year which will be utilized for preliminary works.

Another special feature of this project is its feasibility for development in stages, each stage benefiting a substantial portion of the ultimate ayacut. Unlike other big projects, it is not necessary to wait till the completion of the whole Project. As an example, as soon as Aliyar Reservoir is completed, which we hope to do in three years, we may irrigate about 20,000 acres. Starting with the lowest reservoir, viz., Aliyar, we hope to build storages higher up, correspondingly increasing the areas under the Canals. By proper

planning and timing, it may be possible to achieve full project. However the gigantic work is not all plain sailing. Several hurdles, such as clearance from the Planning Commission and Kerala Government, release of foreign exchange for the purchase of machinery, posting of adequate construction staff and provision of adequate funds are still there to overcome. Given the good-will on all sides, there is no doubt that all these hurdles will be overcome one by one in due course and the project will be a fait accompli in the course of next five years.

Preliminaries like formation of roads, improvements to the existing roads, improvements to the existing and construction of new power lines and construction of camps and buildings for the staff of the construction divisions are being taken up in the first instance to enable the construction of dams and allied works to be taken up immediately on receipt of approval from Government. To attend to these works, initially four divisions with requisite staff have been sanctioned and are attending to these works.

Thermal Power Station for Neyveli

The delivery of equipment from Russia for constructing the thermal power station at Neyveli will begin in November this year, it is learnt here. The delivery is expected to be completed in the last quarter of 1961.

The thermal power station will have an installed continuous rated capacity of 250,000 K.W. and is one of the schemes included in the Integrated Neyveli Lignite Project.

The first unit of the power station will be commissioned by April 1961 and the entire power station by about the middle of 1962.

The contract for supply of plant and machinery for the power station at a cost of Rs. 12 crores was con-

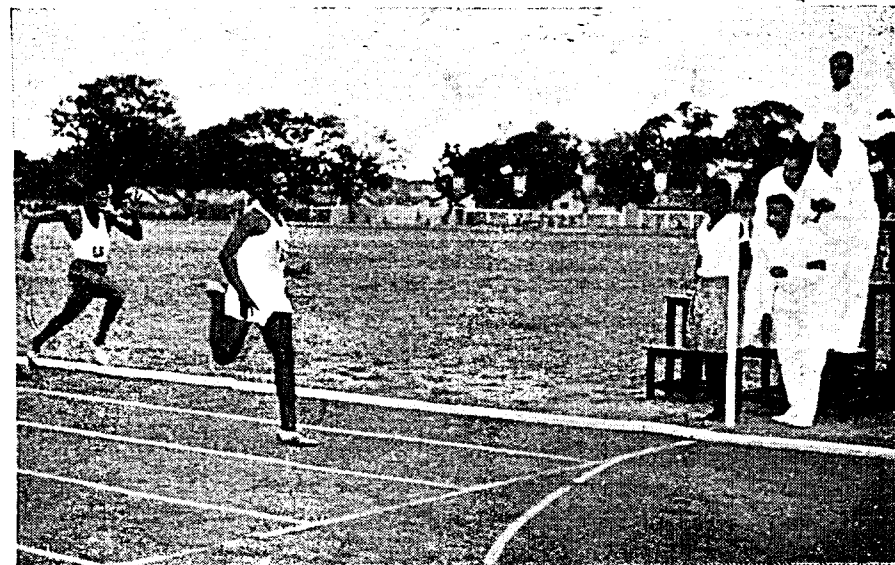
cluded with Messrs. Technoexport, Moscow, in May this year.

Earlier in March, the Neyveli Lignite Corporation had concluded a contract with the same organization for the preparation and supply of working drawings for the power house at a cost of Rs. 45 lakhs. The supply of drawings will be completed by the end of 1960.

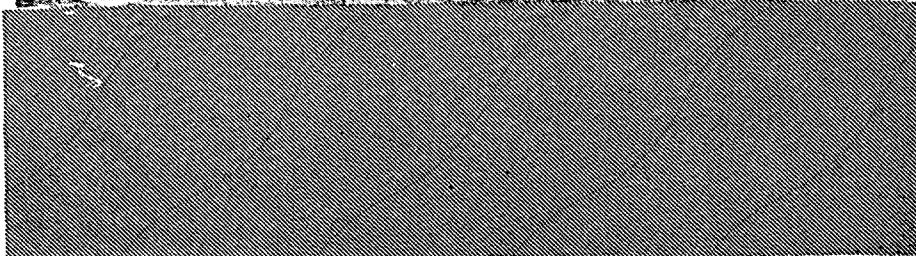
Other schemes included in the Neyveli Lignite Project are production of nitrogenous fertilizers in the shape of urea with a fixed nitrogen content of 70,000 tons per annum and the briquetting and carbonisation of lignite to produce 380,000 tons for use in domestic and other purposes.



The Sports events connected with the Police Centenary Celebrations were held on 1st and 2nd September. The Sports were inaugurated by the Chief Minister, Sri K. Kamaraj, on 1st September 1959. The events of the second day were presided over by Sri C. Subramaniam, Minister for Finance. Srimathi Shetty, wife of the I.G. of Police, distributed the prizes.

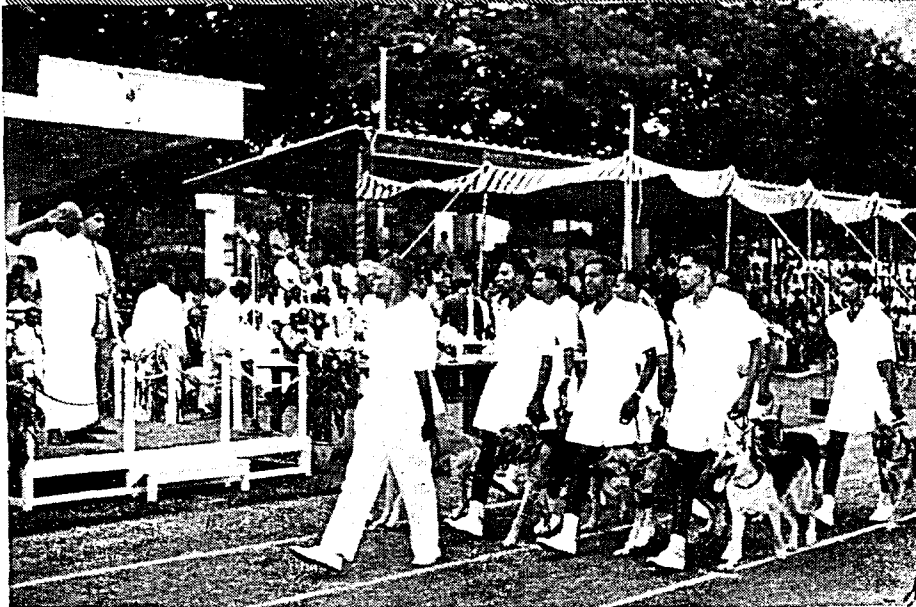


POLICE CENTENARY CELEBRATIONS

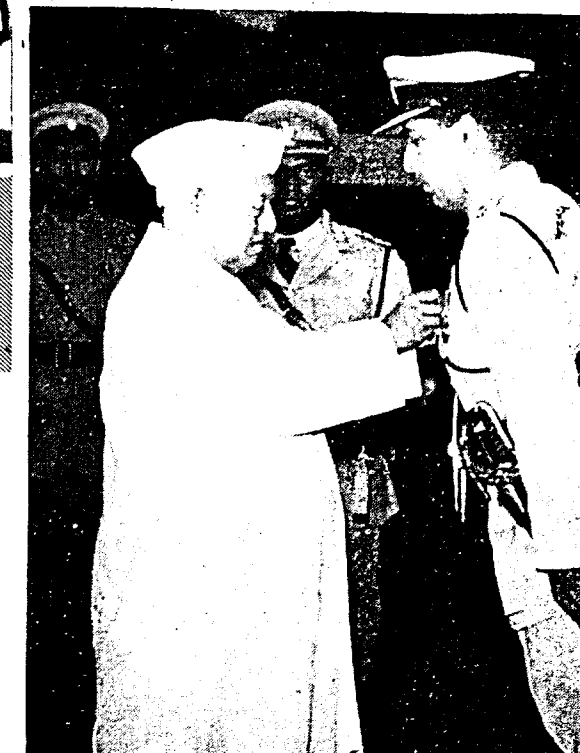
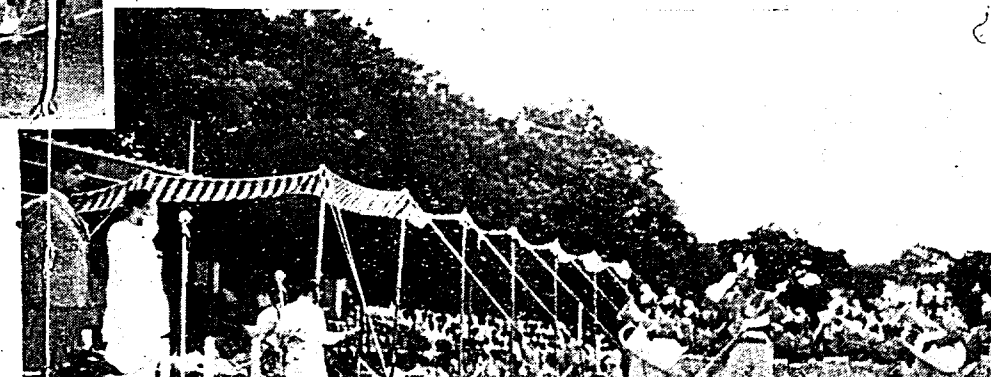


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Sri S. Balakrishna Shetty, Inspector-General of Police, was awarded the President's Police and Fire Services Medal (Republic Day Award, 1959). (Below)

Eighteen other Officers also received Medals for meritorious service.



Medal Parade was held on 5th September, when a medal for gallantry was awarded posthumously to constable Kuttan Muthan Krishnan for outstanding sense of duty and courage displayed by him. The award was received by his widow Srimathi Lakshmi Ammal. (Top left)



Great Strides in Technical Education

SRI J. G. ABRAHAM,
Director of Technical Education.

The College of Engineering, Guindy, is the oldest Engineering Institution in the country imparting both undergraduate and post-graduate courses in several branches of Engineering, with facilities for research work. The history of this College can be traced from the year 1794 when the East India Company first started a Survey School which subsequently developed into the present Engineering College. During the period of the Second Five-Year Plan, this College has expanded considerably. Under the Ghosh-Chandrakant Expansion Scheme sponsored by the Government of India, the strength of this institution has been more than doubled. At the close of the First Five-Year Plan period, the strength of this College was 125, which has since been increased to 275, including 25 seats for the new Mining Engineering course, consequent on the implementation of the various expansion schemes formulated under the Second Five-Year Plan. Post-Graduate courses in six subjects have been started in the College. Such a rapid expansion has, however, naturally resulted in a shortage of accommodation and equipment for the College. In order to meet the increased requirements for accommodation arising from the expansion of the College, a sum of Rs. 8.8 lakhs was sanctioned for the construction of additional buildings and Science Laboratories under the Ghosh-Chandrakant Scheme. An additional sum of about Rs. 2.35 lakhs was also sanctioned for the construction of buildings for Mining Engineering and the Post-Graduate course in Soil Mechanics. Even though the construction of the new buildings was originally programmed to be taken up in phased stages and completed by the end of the current Plan period, it has been possible to complete the construction practically two years ahead and also

with a substantial saving to the tune of about Rs. 2 lakhs. This saving in the original cost of construction was utilized to put up additional accommodation in the first and second floor to the extent of about 18,000 square feet, that was subsequently found necessary for the increased strength. Of this area, about 5,000 square feet in the second floor is reserved for the use of T.C.M. Experts who are expected to arrive here early next year.

The additional buildings that have now been constructed at a cost of Rs. 11.15 lakhs is primarily intended to provide extra accommodation for the doubled strength of the College under the Ghosh-Chandrakant Expansion Scheme and also to meet the demand for space required for the Post-Graduate course in Soil Mechanics and Foundation Engineering introduced in this College from the last academic year and also for the Degree course in Mining Engineering. Consequent on the introduction of the Five-Year Integrated course during the current year, however, an immediate necessity to provide additional space to the extent of 30,000 square feet has been felt. Part of this additional accommodation required for the Five-Year integrated course has been temporarily arranged in the space originally intended for the Post-Graduate course in Soil Mechanics and Foundation Engineering and the Degree course in Mining Engineering by arranging to conduct these courses for the time being in the old buildings. The new Hostel block that has been constructed at a cost of about Rs. 3.50 lakhs will accommodate 120 students. The average cost of construction of the new buildings of the College works out to Rs. 12 per square feet of plinth area for each floor against the rate of Rs. 15

allowed in the estimate. In the new Hostel block each student is provided with room space of 90 square feet besides another 90 square feet of space of verandah, lavatories, dining hall and recreation room, etc. The cost of providing this scale of accommodation including all amenities works out to Rs. 2,900 per student.

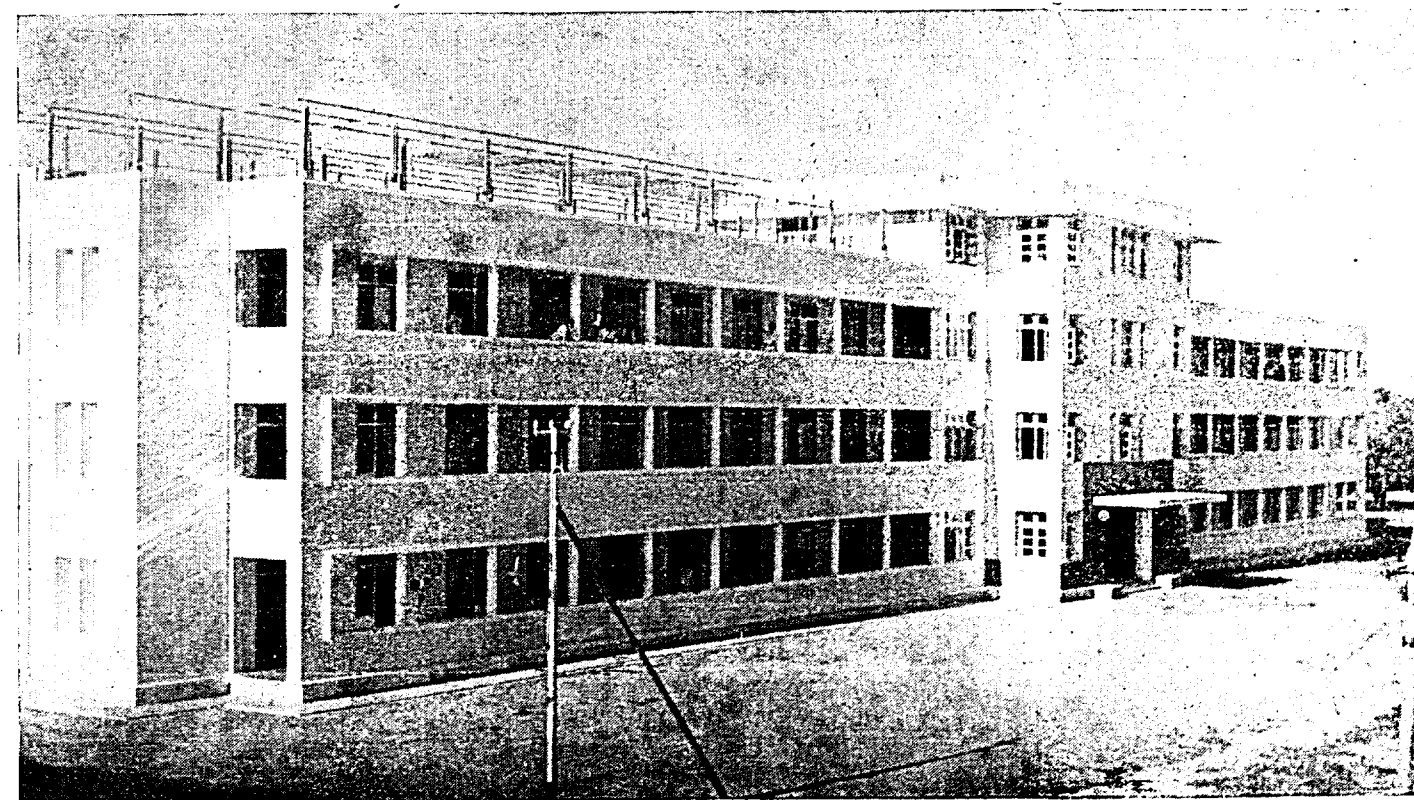
The University Inspection Commission which inspected this College in August last year, had stressed the need for enlarging the existing laboratories and workshops by providing the necessary extra accommodation as expeditiously as possible to meet the increased activities and on account of the doubling of the strength of the College envisaged under the various developmental schemes of the Second Five-Year Plan, in order to improve the training facilities and increase the efficiency and standard of practical work and training imparted to the students. It is needless to say that a reputed Institution like this College which is also conducting Post-Graduate courses and research work should not be allowed to suffer due to lack of accommodation and other facilities. The Department of Technical Education and the Government are, therefore, taking steps to remedy the situation and to provide the necessary extra accommodation, etc., for this expanding Institution by acquiring additional space contiguous to the College campus; the construction of the present new buildings is the first stage of the phased programme drawn up for the development of this premier College of Engineering.

So far during the current Plan period, about Rs. 30 lakhs have been spent on buildings required for this College including two hostel blocks as part of the Expansion Scheme. Further building works costing about Rs. 30 lakhs are yet to be taken up and completed before the end of the Second Five-Year Plan for the expansion of the existing laboratories and workshops and for their normal development and for the Post-Graduate course in Internal Combustion Engines, additional hostels, staff quarters, etc. During the Third Plan, it has been programmed to take up the construction of staff quarters, hostels, library and an auditorium at a cost of about Rs. 60 lakhs.

While speaking about the proposed expansion of this College, from the point of view of the efficient working and satisfactory administration and control of an Engineering College, it may be desirable to fix the maximum strength of any Engineering College as 1,000 which will include the members of the teaching staff and provide for an intake capacity of 180 students per annum for the Degree course. This desirable objective which has already been recommended to all Universities by the University Grants Commission, can be achieved by the opening of more Engineering Colleges instead of concentrating on further expansion of the existing institutions; and the Department of Technical Education is aiming towards securing this objective, consistent with our Government's progressive policy. However, the implementation



Additional blocks of the Government College of Engineering and the hostel were declared open by the Education Minister Sri C. Subramaniam.



The Hostel Block.

of the present programme of the expansion and development so far as it relates to the Engineering College, Guindy, will go unimpaired.

In this connection, it should be mentioned that as Post-Graduate courses are conducted in a number of subjects in this College, it would be both necessary as well as advantageous to provide full scale research facilities to the students in order to infuse a real spirit of creative thinking in them. This Department is, therefore, exploring the possibility of opening an up-to-date and well equipped Research Station to serve the various departments of Government and also the Industries in this State and to enable the Post-Graduate students of the Engineering College to undertake intensive research work there—both fundamental and applied and of practical value to the departments and the Industries alike.

A brief note on the newly formed Department of Technical Education which is now directly responsible for the co-ordination and development of Technical Institutions in this State will not be out of place here. I may say that the formation of a separate Directorate of Technical Education early in October 1957, is an important milestone on the road of progress of Technical Education in Madras State. The question of re-organizing the administration of Technical Education at all levels in this State was under the active consideration of the Government since 1950, and on the recommendations of the Co-ordinating Committee of the All-India Council for Technical Education constituted by the Government of India, it was decided to form the present Directorate of Technical Education

in order to co-ordinate the facilities, plan and execute schemes for the further development and progress of Technical Education in this State to meet the increasing demands for highly qualified technical personnel for all our developmental plans and industries. Accordingly, a State Board of Technical Education and Training with the Hon'ble Minister for Finance and Education as Chairman and a Directorate with the Chief Engineer, P.W.D. (General), as the Ex-officio Director, one Deputy Director, one Assistant Director and other nucleus staff to start with, were created in October 1957. The Directorate started functioning with effect from 14th October 1957 by taking over the control and supervision of all the Engineering Colleges and Polytechnics in the State.

Although it is not my intention now to detail the various activities undertaken by the Directorate during the past 22 months, I may just mention that since the formation of the Directorate, there has been a rapid expansion and development of technical institutions in this State. Three additional Post-Graduate courses, two in the College of Engineering, Guindy, and one in the P.S.G. College of Technology, Coimbatore, have been introduced. Seven new Polytechnics have been started bringing the total number of Polytechnics in the State to 19. The Sandwich course in Mechanical Engineering has been introduced in the Central Polytechnic, Madras, from this year. The original State Plan provision for Technical Education was revised from Rs. 121 lakhs to Rs. 199 lakhs. The total expenditure incurred since the formation of the Directorate is about Rs. 87 lakhs up to



The College Block.

the end of March 1959 against the total expenditure of about Rs. 27 lakhs from the beginning of the Second Plan to the date of formation of the Directorate. The expenditure up to end of 1959-60 is expected to be Rs. 162 lakhs leaving only about Rs. 37 lakhs for the final year of the plan.

Such speedy implementation of the various developmental schemes relating to Technical Education has been made possible because the Chief Engineer, P.W.D. (General), functions also as the Ex-officio Director of Technical Education, and the Deputy Director of Technical Education is also functioning as the Joint Superintending Engineer, P.W.D., in charge of building works relating to the Department of Technical Education. The latter arrangement particularly was brought about on the express wishes of our Hon'ble Minister for Finance and Education. These arrangements have proved to be very satisfactory and successful, because it has greatly facilitated the speedy implementation of the various construction programmes in accordance with the exact requirements of this Department and the Institutions alike.

The officers of the Technical Education and Public Works Departments have been jointly striving their utmost for the development of Technical Education in this State by implementing the several schemes efficiently and quickly. It has also been possible to obtain the required staff for the Technical Institutions from the Public Works Department, Highways and Electricity Departments, with greater facility and ease and the great advantage that could be derived from the present arrangement which is very essential in Technical Education is that, apart from that of easing the staff position in Colleges, necessary practical bias can also be given to the instructions imparted in the Engineering Colleges and Polytechnics in this State. At present, several officers belonging to the Executive line of the Public Works, Highways and Electricity Departments have been taken on deputation for teaching work in this Technical Institution. The desirability of deputing some selected members of the teaching staff to work in the 'field' or on the executive side for some time and thereby obtain the necessary practical experience, is also being separately examined by this Directorate. Such an interchange of teaching and executive staff will be of real advantage to both the teaching institutions (Colleges, etc.) and the executive Departments like the Public Works, etc. It is, however, not our intention to replace the teaching staff in Colleges, etc., by members of the executive (field) staff of the Public Works Department to any extent as a permanent measure, as it is realized that each institution must have its own full complement of regular staff.

The development of technical education is proposed to be stepped up during the Third Plan period by increasing the present plan provision by about 75 per cent so far as the State share of expenditure is concerned. We anticipate a shortage of technical personnel at the end of the Second Plan period, to the extent of about 380 Engineers. During the Fourth Plan period, the shortage is expected to go up to 960

Engineers and 540 Diploma holders per year and in order to make good such a shortage, provision must be made for starting more institutions, etc., or plan the expansion of the Training Institutions in the Third Plan period itself. In other words, to meet this shortage, some more Engineering Colleges and Polytechnics may have to be started during the Third Plan period besides exploring the possibilities of expanding the training facilities in the Institutions established during the Second Plan period.

I may also add that the question of revising the scales of pay of the teaching staff in the Engineering Colleges with reference to the recommendations of the All-India Council for Technical Education in order to attract candidates of the right calibre for the teaching profession is under the active consideration of this Directorate and the State Government.

Under the Third Five-Year Plan, we have an ambitious programme for this State in common with other States in India, for the co-ordinated development of Technical Education and increasing the out-put of technical man-power consistent with the rapid industrialization of the country. I am quite confident that the officers and staff of both the Technical Education and Public Works Departments will strive together actively and whole-heartedly to achieve this objective and in pursuance of this common aim, will dedicate themselves to the service of the country with efficiency, integrity, and devotion to duty and contribute their best for the prosperity and development of the State and our great nation as a whole.

'Teachers' Pension'

The Government have amended the Teachers' Pension Rules to provide (1) that breaks in service between the date of completion of the age of 55 and the crucial date (1st April 1955 to 1st April 1958, as the case may be) or thereafter do not affect the eligibility for pension of teachers whose age of retirement is 55 and who, having reached that age prior to the crucial date were re-employed in the same or some other school and were actually in service on the crucial date. The service put in by the teachers during the period of re-employment upto the age of 60 years will be counted for pension; and (2) that teachers whose age of superannuation is 60 years will be entitled to pension even if they had retired before the crucial date (1st April 1955 or 1st April 1958, as the case may be) provided that they were re-employed in the same or some other school, with or without breaks in service and were actually in service on the crucial date. The intention of the Government is that a trained teacher who, having attained the age of compulsory retirement prior to 1st April 1955 or 1st April 1958, as the case may be, was actually in service in the same or in any other school on 1st April 1955 or 1st April 1958, as the case may be, shall be eligible for pension subject to the condition that service put in by him beyond the date on which he attained the age of 60 will not be reckoned for purposes of pension.



Scientific Basis of TREE PLANTING

SRI C. A. R. BADHRAN, Chief Conservator of Forests.

The appeal of trees is universal. They attract and serve one and all, men and woman, young and old, rich and poor, ascetic and man-of-the-world, busy townspeople and leisurely rural folk. They appear irresistibly to the body, the mind and the spirit, in other words to Human Nature. There is no feature of human activity, material or moral, in art or in science, in which trees do not play a vital role. Trees are among the best of Nature's chosen gifts to man. Yet, he takes them so much for granted that he has constantly to be reminded that they too live and grow and have to be cared for.

Everywhere in the world, from ancient times, Kings and Rulers got trees planted along roadsides, in parks and in gardens. In the modern world, ceremonial tree planting began in America in 1872 when Governor Morton initiated Arbor days in Nebraska. About the same time, in 1873, Dr. Brandis, our first Inspector-General of Forests visualized the role of tree-lands in Indian village economy. Twenty years later, the same was emphasised by Dr. Voelcker in his report on the improvement of Indian Agriculture. Early in this century, poet Rabindranath initiated his "Briksharohan" in Viswa Bharathi and extended tree planting to the adjoining rural areas as well. But it was not till 1950, when "Vanamahotsava" was inaugurated, that tree-planting began to receive attention all over India. In January 1956, the Indian Science Congress (Botany Section) conducted a Symposium on 'Vanamahotsava', when the scientific aspects of tree planting were discussed and elucidated. At the end of the first decade of this campaign, it would be but appropriate to examine and reiterate the scientific basis of tree-planting, even apart from its cultural, historical or festival aspects.

A basis consideration has been elaborately stated by Ruskin, when he observed that "this earth belongs as much to those who come after us as it does to us and therefore, we have no right to indulge in such acts as would involve them in penalties or deprive them of the benefits which are their natural inheritance. In other words, we must leave the earth in as good a condition as we found it, even if we could not improve it in any way." One of the first of such acts, following inevitably on the high density and development of human population is the stripping off vegetation with its consequent undesirable effects for posterity. Plannet or systematic

tree-planting alone can intervene to restore the balance, at least to some extent. Such planting need not always involve land set apart for the purpose, but can be, as advocated recently by Dr. Punjabrao Deshmukh, advantageously extended "even in this age of industrialization and urbanisation, to every residential colony, every factory area, every human dwelling, every waterway, every highway, every patch of cultivation and every playground, village common or open field". In other words, all sites best suited for tree crops only or at least all sites not suited or required for other uses, must be urgently utilized for raising trees and tree crops, in the interest of posterity.

The importance of tree-cover to a Nation's physical, social and economic welfare cannot be over-emphasized. Tree-planting is the basis of forestry and horticulture; and it can influence profoundly agriculture and sericulture. It plays no mean role in the conservation of soil and water resources. It serves to ameliorate the physical and climatic conditions of the locality. Its valuable function in the control of erosion, floods and deserts is now fully recognized. It can serve to augment the production of food, fuel and fodder. Tree-planting has a facific place in any scheme of proper land-use; also in the production of additional wealth. In short, scientific tree-planting can contribute considerably to the well-being of the people.

The regular planting of trees can be developed as an active measure in the defence of the soil. Extensive tree-planting along canals (as has been done in the Uttar Pradesh) can serve to stabilize their banks. The planting of trees in shelter belts and wind breaks especially in arid areas, not only helps to protect the agricultural crops from the dessicating winds common in such area but also leads to an actual increase in yield in spite of some of the land itself having to be set apart for these tree lines. Shelter belts 30 tall can be expected to protect the adjoining fields over a depth 20 times that figure (i.e.) for 600 feet on the leeward side. Even with five per cent of agricultural land diverted to tree crops, an actual increase in agricultural yield (up to 10 per cent) can be secured as a result of correct farm forestry practices. Thus, trees (and vegetation generally) play an important part in soil stabilization, in conserving soil moisture, in regulating stream flow and in enhancing soil fertility.

That tree-planting can play a significant part in increasing the fuel, fodder and food resources of a locality will stand repetition. By judicious but complete use of all available spare sites for tree-planting, any community can become self-sufficient with regard to its fuel requirements, can provide welcome additions and variation in the fodder for its cattle and can supplement, in no small measure its own food resources. Many of our common trees like Jamun, Mango, Jack, Sissoo and Neem serve in more ways than one, yielding timber, fuel, fodder and fruit.

But not every tree will flourish in every site nor can any tree be planted successfully anywhere. In other words, each tree species has its own characteristics of habit and habitat. The choice of species is, therefore, a matter of first importance and would be governed by various scientific considerations. The species should be suitable with reference to climate and soil of the locality. Some trees do well under moist tropical (Teak) conditions, others equally so in dry tropical (sandal) and yet others in moist temperate conditions (Bluegum). Again, most trees do well on loamy soils; but only selected species can serve on other soils, for example, Babul will grow in clayey or heavy soils; Jamun in swampy conditions; Neem in heavy and even in saline soils; and cashew on sandy and derelict soils. Further, the species should not be delicate in its requirements but easy to plant and to establish; it should be capable of rapid growth and natural resistance to damage (especially in the early stages); it should preferably need minimum after-care, particularly regarding watering.

The choice of species will also be influenced by the specific objectives of tree-planting in any particular instance, subject of course to suitability. Around dwellings, fruit trees and ornamental trees may receive prior attention. Barren wastes and common grounds in villages could best be planted with fuel trees, with better quality sites supporting even timber trees. Along main highways, shade would be the major objective of tree-planting; but street margins in towns are preferably planted with trees ornamental in foliage and in flower; and both shade and ornamental varieties will have a place in gardens and parks.

Next in importance is the planting material itself. In some cases, direct sowing of seed affords good results. In most cases, however, there are distinct advantages in raising young plants in the nursery and preparing them in various ways before planting out. For individual tree-planting, it is often best that the nursery seedling is transferred into a container (a clay pot, bamboo basket, bamboo tube, etc.) in the first instance. This enables the seedling to be installed in its permanent site with the least disturbance of its root system. Thus, organized tree-planting would require large quantities of seed, transplants and other planting stakes according to the locality and the species chosen. For the work to be placed on a scientific and economic footing, seed would be collected only against actual needs but at the right time and stored suitably or utilized in nurseries till planting time.

The time of planting can have a lasting effect on the plant. In every locality, a study of the seasonal variations would indicate a most suitable season for tree-planting. In fact while July 1st has been adopted as the date each year for commencement of ceremonial planting, regular planting activities have to be timed only with reference to local conditions. For instance, in areas that benefit from the south-west monsoon, planting may begin with the onset of rains even as early as June, while in areas which depend on the North-East monsoon planting may have to be delayed till September-October of the year.

Even more important is the tending and after-care given to the planted seedling. For instance, casuarina must be regularly watered till it is established. So too all roadside or avenue or garden plants. Protection from goats and cattle must be ensured in all cases.

A correct knowledge of the scientific basis of tree-planting, whether it be in respect of choice of species, seed collection, nursery practices, planting techniques, or after-care, is therefore essential if Vanamahotsava is to be practised extensively, successfully, economically and to the lasting advantage of the people.

It should be apparent from the above that tree-planting has emerged as a scientific enterprise but one in which every one can participate equally. Besides, the planting of trees is an act of virtue, in that it is selfless, as trees take long to grow and can scarcely be of service to him that plants them. So, the practice should be developed from very early life. Let each small school child be given a sapling to plant in a suitable site. Let the child learn to care for it, to water it regularly, to help it to grow undisturbed and to protect it—so that the tree may grow with the child, tall and strong and attractive, and inspire the child throughout its life.

College Text-Books in Tamil— Authors to be Chosen by Competition

The College Tamil Committee has announced a competition for choosing competent authors for translating text-books for main subjects and writing up of text-books for minor subjects relating to the three-year B.A. Degree course, the details of which have been published in page 511 of Part I-B of the *Fort St. George Gazette*, dated 16th September 1959. The authors chosen on the basis of the best specimens will be entrusted with work of writing or translating the text-books and on completion will be paid remuneration ranging from Rs. 750 to Rs. 2,000 depending upon the subject.

Any person who has had teaching experience in any recognised college or recognised University, is eligible to compete. He should have had teaching experience of at least two years in the subject in respect of which he is competing. Government servants with necessary qualifications are also eligible to compete. The competing scripts must be sent to the Secretary, College Tamil Committee, Education and Public Health Department, Fort St. George, Madras-9, by registered post to reach before 15th October 1959.

THE ATOM AIDS AGRICULTURE

A circular enclosure, somewhat reminiscent of a Roman amphitheatre, has recently come up in an isolated corner of the quiet, extensive farmland of the Indian Agricultural Research Institute in New Delhi. Contrasting strangely with the lush greenery of fields and lawns, colourful flowerbeds and trees in the vicinity, the brick-and-concrete wall, 3 feet thick and 12 feet high, has puzzled many a visitor.

"Is the serene and dignified air of India's top agricultural research academy to reverberate with the noise of boisterous crowds cheering gladiatorial feats?" they may well ask.

The answer is that no human being, much less a crowd, would be allowed within the enclosure when Nature's great gladiator—the Atom—performs the silent feat of "mutating" living organisms.

Workers in the Indian Agricultural Research Institute have given the name "Gamma Garden" to the walled enclosure 200 feet in diameter; for, in its geometric centre has been installed a high-energy Gamma Ray source.

The source of radiation is Cobalt-60, 200 curies in strength, enclosed in a heavy lead container. A remote control mechanism, built into an operating cabin outside the only entry to the enclosure, enable the radio-active cobalt to be raised or lowered from its container.

What looks like a heavy surrounding fortification is a necessary safeguard to prevent unwary trespassers from being exposed to the radiations when the focal point is "alive". The switch gear is so designed that when the circuit is closed, the double-wall steel gate at the entrance automatically closes, and none can enter the arena.

"Gamma Garden" is India's first large-scale field irradiation facility to go into operation, the object being to study the effect of varied doses of atomic radiation on plants under controlled conditions.

The land around the Cobalt-60 source is divided into sectors, in each of which will be grown different types of crop plants or fruit trees on which experimentation is proposed. Some sectors however will receive pot-plants from research institutions outside Delhi. After Gamma ray treatment these specimens will be sent back to their laboratories for further study.

Radio Activity

The phenomenon of radio-active elements has been studied by scientists ever since the discovery of uranium at the close of the last century. In 1932 came an important discovery, enabling the artificial production of radio-active substances. This was followed by the artificial preparation of radio-active "brothers" of many natural elements—called isotopes—which possess

the same chemical properties as the stable element but have the additional propensity of atomic disintegration, which is called radio-activity.

The outcome of all this knowledge has proved a mixed blessing to the world. On the one hand we find the development of devastating atomic bombs; on the other, the growing appreciation of the peaceful applications of Atomic Energy.

To-day, mankind generally is eagerly awaiting material and physical betterment through the latter process, and one of the happiest discoveries has been usefulness of atomic energy in improving and increasing agricultural production.

Early Experiments at I.A.R.I.

Gamma Garden

As early as 1949 experiments began at the Indian Agricultural Research Institute, New Delhi, to test the reported fertilising value of radio-active soil-stimulants. The United State Atomic Energy Commission also financed extensive trials abroad on various crops in different soils. These experiments however proved that low-level radio-active radiation has no stimulating effect on plant growth.

The next significant line of research conducted by the Indian Agricultural Research Institute was based mainly on the fact that the characteristic properties of radio-active substances make it possible to detect them and trace their movement in plant tissues and in the soil. The use of radio isotopes as "tracers" has added a new dimension to research in the study of various biological problems where the purpose is not to achieve a particular effect, but to further our understanding of the complex physical, chemical and biological processes involved in the production or utilisation of agricultural products.

A well-equipped radio-tracer laboratory was established at the Institute where studies on soil fertility and crop nutrition have been in progress for some years.

There have been some noteworthy findings. One of these relates to the utilisation of phosphate fertiliser in paddy cultivation, establishing the fact that the maximum uptake of phosphorus by the paddy plant occurs when fertiliser is applied at the surface. Another is that there is little movement of phosphorus in soil, the usual range being from one-eighth inch to 2 inches, leading to a reappraisal of the merits of different methods of fertiliser application. A test for estimating the available phosphorus in soil has also been standardized.

In 1955 work was started by the Division of Botany of the Indian Agricultural Research Institution under the Institute's Second Five-Year Plan programme, on

research in plant breeding with the use of atomic radiations. Encouraged by the results obtained, the Institute now proposes to intensify research in this field, the "Gamma Garden" being a major step in this direction.

It is now generally known that higher forms of life are more sensitive to the effects of atomic radiation than lower forms. Fortunately, most plants can tolerate a very high level of external radiation continuously without visible damage.

Studies have shown that the ionising radiations emitted by radio-active substances are capable of inducing heritable changes called "Mutations" in the fundamental genetical constituents of plants.

Important results already achieved by the Botany Division include the evolution of fully awned, or "bearded", specimens of wheat with a stiffer straw and greater resistance to rust. These mutations have also given yields which are in several instances 5 to 20 per cent higher than the parent strains. Seeds of these radiation-induced types are being multiplied for further trials and release for general cultivation.

Atomic energy has also been employed to improve the appearance of the homely tomato! Gone is the touch of green at the top. It is now red all over.

Genetists at the Indian Agricultural Research Institute are also using radiation to bring about successful "crosses" between distantly related plant species.

Technical co-operation of the Atomic Energy Commission has been available to the Indian Agricultural Research Institute at all stages in the establishment of the Gamma field. The Atomic Energy Establishment at Trombay has played an important part in equipping the field. The design and fabrication of the remote control mechanism and switch gear operating the Cobalt-60 energy source has been carried out at Trombay. The source itself was manufactured in Canada in the famous Chalk River Reactor, a prototype of which is now being set up at Bombay by mutual co-operation between the Atomic Energy Commissions of Canada and India.

The plant-breeder so far dependent on the variability found in Nature and spontaneous mutations occurring at variable and infrequent intervals can now utilize the Gamma Garden to carry on experiments aimed at reproducing what happens in Nature but at a vastly faster pace and under controlled conditions. This man-made evolution of crop plants promises to be an important tool for the scientists in meeting the challenge posed by the ever-growing number of people who need to be fed.



Sri R. Venkataraman, Minister for, Industries left Madras en route to New York to take part as the delegate of India in the U.N. Assembly Session. Photo shows the Minister taking leave of his friends at the air port.

The Twin Canals of the Cauvery

SRI K. V. EKAMBARAM, I.S.E.,

Chief Engineer for Irrigation.

The Pullambadi Canal Scheme.

Lalgudi and Udayarapalayam taluks of Tiruchirappalli district have been without any irrigation facilities for long, though a large alluvial tract, suited for wet cultivation is available. Only a few rainfed tanks cater to the needs of some extends of wet cultivation. The Peruvilai channel taking-off from Cauvery river above Upper Anicut stops dead at Vellarur village. The carrying capacity of this channel and the storage capacity of the rain-fed tanks due to their limited catchments do not permit any extension of irrigation under them. A new channel has, therefore, been excavated to supply waters to the area, to supplement the storage in tanks and to command new areas under direct irrigation.

The scheme as finally decided upon, is to provide irrigation facilities to an extent of 13,283 acres under tanks and a small area of 8,831 acres under direct irrigation.

A final detailed scheme was prepared, after examination of several alternatives. The Project, as new carried out, was sanctioned for execution by the Government of Madras in their G.O. Ms. No. 3103, P.W., dated 11th July 1956. The total estimated cost of the approved scheme is Rs. 156.52 lakhs including direct and indirect charges.



The twin schemes were inaugurated by the Chief Minister.

The Pullambadi main canal takes off above the Upper Anicut from the left side and at the infall of the Ayyar into Cauvery. This is just above the head of the visiting Peruvilai channel and just below the off-take of Panguni channel. As per the final scheme now executed, an extent of 8,831 acres of direct and 13,283 acres of indirect ayacut or a total area of 22,114 acres is proposed to be irrigated by the new canal. An additional yield of 9,547 tons of rice will be realized by the completion of this Scheme.

The Pullambadi Main Canal excavated below the head sluice runs nearly parallel to and at a short distance from the existing Peruvilai Channel for a length of 25 miles down to the Nandiar River Crossing. There is no irrigation in this reach. The alignment in this section has been made in such a way as built up areas, house-sites, etc., are avoided. Only in Manachanallur village, the canal runs just behind the backyards of houses. In this reach the canal is lined with cement concrete for about 2 furlongs length at an approximate cost of 1.08 lakhs.

There are as many as 29 existing tanks in this area which will receive supplies through this new canal. Out of these, 18 tanks are improved to have sufficient storage for their ayacuts with extensions proposed under some of them. Eleven tanks which are in fair condition are proposed to be made use of, as they are.

Three new tanks have also been formed across important drainage courses at their crossing with the main canal. These are Man Odai, Andi Odai and Vettakudi Odai tanks.

The new tanks were formed with earthmoving machinery.

The Villpuram-Tiruchi Chord line of the Southern Railway crosses this Pullambadi Canal at mile 28-6-495 of the Main Canal and a new railway bridge costing Rs. 79,000 has been executed by the Southern Railway administration for the Public Works Department.

Strenuous efforts were made and no pains were spared to push through the works ahead of target dates and programmes. Adherence to quality and specification was insisted upon through out in spite of the speed aimed at and attained. Roughly 15,000 people on an average were on the work per day, though the works have been completed in a major portion of the canal, it has now been decided to let in water into this canal today, up to the first 30 miles of the main canal, to irrigate an ayacut of about 5,000 across, and for the rest of the 24 miles length of canal by the end of December 1959. But the three major tanks newly

constructed and completed across the Andi Odai, Man Odai, and Vettakudi Odai will be receiving water from their own catchments in the ensuing North East Monsoon rains and this water can easily irrigate about 1,800 acres during the next irrigation season of 1959-60.

Due to the spontaneous co-operation and tireless work of the thousands of skilled and unskilled labourers and the strenuous and co-ordinated efforts of the officers and staff of the Department, the first stage of the Project has been completed in all respects for ahead of the time fixed for the completion of the Second Five-Year Plan schemes and we are thus able to allow the people of the area realize the fruits out of the completed portions of the canal and works thereon.

The New Kattalai High Level Canal Scheme.

The uplands of Tiruchi and Tanjore taluks, lying south of Cauvery river, have had no irrigation facilities except for a small belt of land under the existing Kattalai High Level Channel tail end up to Ariyar and Uyyakondan Channel. The people of this area were pressing the Government to provide irrigation facilities from the Cauvery river.

Several alternatives were considered and one of them was for taking off a channel from the right bank of the Cauvery river at about 1½ miles above Kattalai Bed regulator and running it on a higher contour than the existing Kattalai High Level Channel for a length of 40 miles down to Ariyar and 25 miles beyond it with a reservoir constructed across Ariyar. A second alternative was to remodel the full length of 38½ miles of the existing Kattalai High Level Channel to carry the increased discharge required for the existing and the proposed new ayacut and extend this channel for 25 miles beyond Ariyar and also construct smaller reservoir across Koraiyar and Kattar. The third alternative was to have the off-take of the new channel just above the head of the leading channel for the South Bank Canal, above the Kattalai High Bed Regulator and run it parallel to the existing Kattalai Level Channel with a common bank between them down to Ariyar and to take the channel beyond Ariyar down to Theneripatti vari for a length of about 28 miles 6 furlongs for irrigating 20,650 acres in the first stage and 38,650 acres in the second stage up to Vallam. The third alternative has been finally adopted.

The scheme as finally decided upon, is for providing irrigation facilities to an extent of 12,000 acres under tanks and a small area of 8,628 acres under direct irrigation.

The scheme was sanctioned for execution by the Government in G.O. Ms. No. 2913, P.W., dated 22nd June 1956, and after preliminaries the actual execution on the scheme was inaugurated at this very place on 17th August 1957, by the Chief Minister himself.

The present scheme comprises—

The construction of a head sluice just to the right of the off-take of the existing leading channel of the South Bank Canal above the Kattalai Bed Regulator



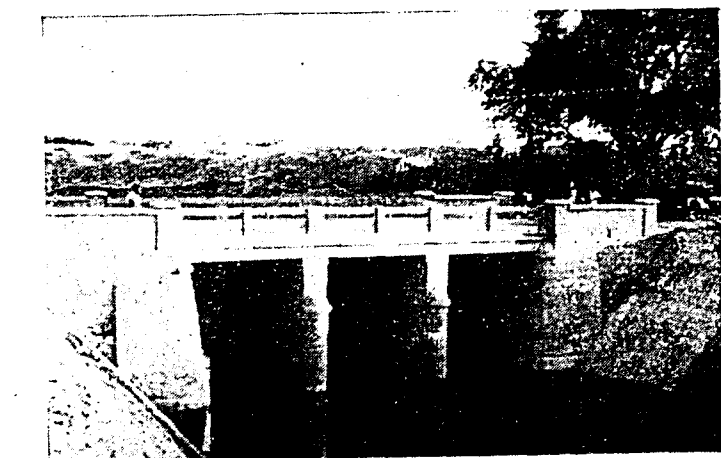
Pullambadi Canal.

across the river Cauvery, with 4 vents of 8 feet 6 inches by 9 feet and with sill at 317.45 capable of discharging about 1,170 cusecs.

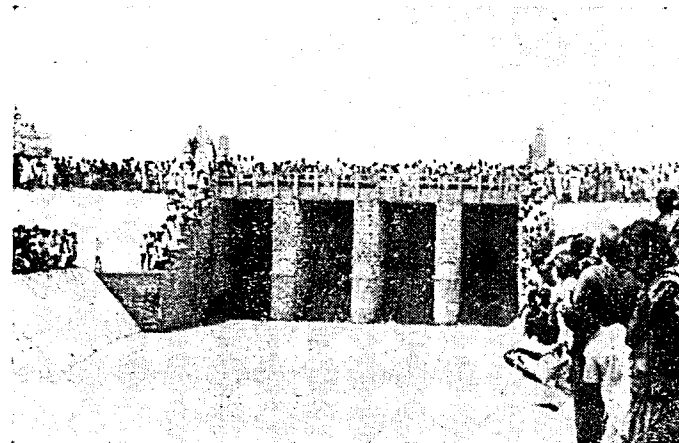
The excavation of a canal from the Head sluice for a length of 86 miles for irrigating a total ayacut of 20,622 acres of which 12,000 acres are under tanks and 8,622 acres are under direction irrigation, from branch channels. The canal has been designed to carry 1,064 cusecs for both tank irrigation and direct irrigation combined.

Supplementing the storage to the existing 119 tanks, 57 in Tiruchi and 62 in Tanjore taluks, to serve an ayacut of 12,000 acres.

Alignment of canal.—The new main canal is aligned parallel to, and close to the existing Kattalai High level channel down to Ariyar crossing. In this length of 40 miles, the first reach, there is no irrigation the canal being close to the existing Kattalai High Level Canal with a common bank between them. The second reach will be 24 miles long up to Navalapattu village and will irrigate 5,658 acres under tanks and 8,622 acres directly under the main canal. The third reach



New Kattalai Canal.



Pullambadi.

extending 22 miles beyond will irrigate 6,342 acres under tanks and will tail into the Pidari Eri. The existing and proposed ayacut will be 5,086 acres and 11,055 acres in Tiruchirappalli taluk and 3,637 acres and 844 acres respectively in Tanjore taluk.

The total cost inclusive of direct and indirect charges is Rs. 172.99 lakhs and an additional yield of 7,468 tons of rice will be realized.

It is proposed to let in water into the canal up to mile 42 7/10 only, as railway bridge at mile 43 1/10.

(Continued from page 2)

Sampathidan, Shramdan and Santhi Sena. All these when applied to life will mean the dawn of a new era. Gandhiji has shown to the war weary and violence ridden world a new way in politics by forging the weapon of non-violent non-co-operation. Vinobaji has helped to secure freedom and equality "even" unto the last in the economic world through his formulation of the principle of non-violent non-possession. In response to his call more than 80,000 acres of land has been donated in Bhoodan and 230 villages have been offered in Gramdan in Madras State alone. The work of rebuilding the structural patterns and reorganizing the village life is in progress. Our leaders though aware of the problems in this approach, know the immense potentialities in this Movement and have given it their full support. With the Co-operation of all the political parties the Government of Madras passed an Act to facilitate the donation of lands for the Bhoodan Yagna and the transfer and settlement of such lands in this State. This is a permissible legislation. This Act enables the Gramdan villages to live a life of sharing. These villages have the freedom to mould their own economic and social life.

Under the Act, a Board is constituted to discharge the functions of Bhoodan Yagna on behalf of Shri Vinobaji. A large majority of the Gramdan villages are in Madurai district. Batlagundu firka tops the list by contributing 34 out of its 83 villages. Ten of these villages have registered themselves as Sarvodaya

and some more works below are yet to be completed. Up to this point it is expected to irrigate about 4,000 acres. The remaining length of canal is expected to be opened for supply by the end of December 1959.

The excavation of the Canal has been done both by manual labour and machinery combining their operation judiciously. It is only where it was absolutely necessary to utilize machinery and where it was considered more beneficial and advantageous, has work by machinery been resorted to as in the case of embankment reaches of the canal where special consolidation and utmost care had to be bestowed. Wherever there was shortage of labour, in order not to miss the best working season and available resources, manual labour was imported from far off districts like Kanyakumari, Ramanathapuram, Salem, etc. All efforts were taken and no pains were spared to see that the works were pushed ahead well in advance of the target date, working night and day, but at the same time with a sharp eye on the quality of the work, etc. Nearly 15,000 labourers on an average were employed on the work per day.

Due to untiring efforts on the part of the thousands of labourers both skilled and unskilled alike, and the officers and subordinate of the department the first stage of the scheme up to the mile 42 7/10 has been completed well ahead of the Second Five-Year Plan period and we are happy to say that we are already bringing into beneficial use the canal and works thereon already completed.

Co-operative Societies with special by-laws. Most of these villages have opted for group farming and are carrying on their agricultural operations to a production plan which they themselves have drawn up. The experience of these pioneering villages will be a great help for the other villages.

There is a mistaken notion that the Gramdan villages are given too much help by the Government. The Government is not doing anything out of the way for these villages. They are being helped as any other co-operative farming society. Special Acts and orders are passed since the Government have come to appreciate the potentialities in this Movement. The Community Development Ministry and the Bhoodan Yagna represented by the Akhil Bharat Sarva Seva Sangha are working in close co-operation.

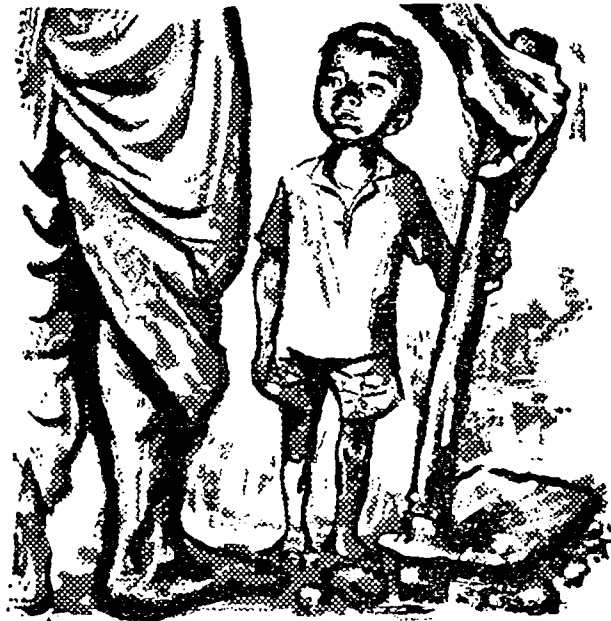
Vinobaji is trekking the land to popularise the idea and persuade the people to accept the new values and way of life. He has covered already 30,000 miles. Once a year the Bhoodan Workers numbering more than ten thousand meet him in a Mela which he calls Sneh Sammelan. The purpose of this gathering is to compare notes, assess the movement and make plans for the coming year. This year's Mela was held in Ajmere in Rajasthan. The Movement is slowly but steadily gaining strength in our State. On the surface, it looks as though there is a lull since 1957. But, those who are within know it is otherwise. This is a period of consolidation and concentration. When some solid work in some of these villages are done the movement is once again bound to proceed with greater vigour.

NURSES CLUB DAY



Sri. M. A. Manickavelu, Minister for Land Revenue and Public Health, presided over the Nurses Club Day at the General Hospital and Distributed prizes and medals to the nurses.





when tomorrow comes...

For him a spade is not yet a spade.

The telegraph wires hum a strange tune, the
distant drone of a plane means faraway places, mystery,
And imitating father is a new kind of play.

When tomorrow comes, play will turn to work.
Life will take on a different purpose. A spade
will be a spade, and care will be part of living.

Today's striving and effort is for the world
he will grow into, a world that offers a little more—
a little less of the care, a little more of the joy.

Today, as in the past, our products help to make homes
cleaner, healthier, happier. But today we are also working for ...
Tomorrow, when the evergrowing urge for better living
will demand still greater efforts. And we shall be
ready with wider service, new ideas, new products ...

Today and Tomorrow... Hindustan Lever serves the home.

PR.3-X52

High-Speed Demonstration in Tamil Typing

A High-Speed Demonstration in Tamil Typewriting by the trainees of the Government Typewriting Institute was held at Rajaji hall at 5 p.m. on 7th September 1959. The Hon. Sri C. Subramaniam, Finance Minister, presided over the function. Some of the Members of both the Houses of the Legislature and the Chairman and Members of the Official Language Committee attended the function.

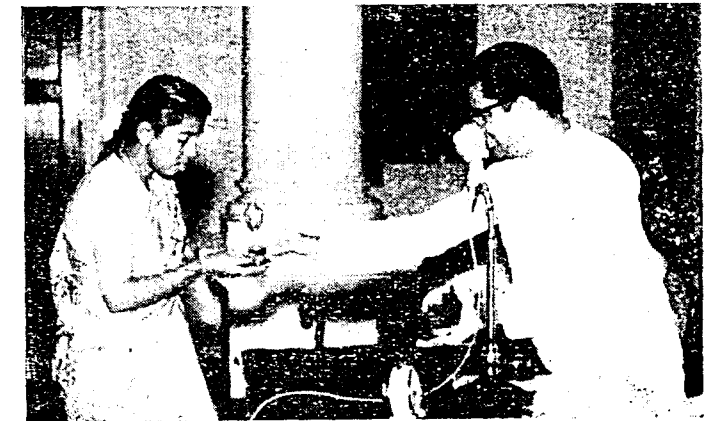
Thirty-two Government Typists including eight Lady Typists participated in the Demonstration. Mr. G. Bhaktavatsalam, Typist, Collector's Office, Tiruchirappalli, who recorded a speed of 74.7 words per minute with 2 1/2 per cent mistakes, was awarded the first prize. Sri K. V. Narayanan, Typist, Office of the District Agricultural Officer, Madurai, who recorded a speed of 70.4 words per minute and N. S. Sudalai-muthu, Typist, District Veterinary Office, Tirumelveli, who recorded a speed of 66.6 words per minute, were awarded the second and third prizes respectively. Kumari N. Alamelu, Typist, Office of the Special Deputy Tahsildar, Devakottai, who recorded a speed of 65.8 words, was the first among the lady typists.

Sri S. Venkateswaran, I.C.S., Chairman of the Official Language Committee, welcoming the Minister, outlined the various steps taken by the Government for the introduction of Tamil as the Official Language in Government offices. For the successful implementation of the scheme, hundreds of Tamil typists were required and the Institute was giving training in Tamil Typewriting to Government Typists drawn from the various departments at the rate of 200 per training course. After a great deal of experimentation and practical tests, a standardised keyboard for Tamil Typewriters had been evolved by the Committee and it has been demonstrated that it is possible to attain a maximum speed of about 75 words per minute in the new keyboard within four months.

Mr. Justice M. Ananthanarayanan, I.C.S., congratulated the excellent progress made by the institute and said that the transaction of Government business should be conducted in such a way as could be easily understood by the common man.

Sri V. K. Ramasami Mudaliar, Leader of the Opposition, paid a tribute to the Official Language Committee for taking all the steps necessary for the progressive implementation of Tamil as the Official Language. He was glad that the institute had been doing a very useful work of training hundreds of Tamil typists required for Government administration.

Dr. A. Chidambaramathan, M.L.C., said that Tamil Shorthand should also be taught to the trainees as there would be need for Tamil Stenos in future.



Sri K. Sattanatha Karayalar, M.L.A., and Sri E. M. Subramania Pillai also spoke.

The Hon. Sri C. Subramaniam, Finance Minister, commended the very satisfactory progress made by the trainees within a short period of four months in Tamil typing and congratulated those who participated in the contest. He said that he was glad that both the male and female trainees of the present batch had appreciably excelled the record of the previous batch in the matter of speed. It was really an achievement that a speed of about 75 words per minute had been recorded within a very short period and this record of speed in his opinion indicated the rapid growth of Tamil language itself. The Government were making arrangements for the purchase of more Tamil Typewriters and ere-long he hoped that all the offices where Tamil was introduced as the Official Language would be provided with Tamil Typewriters.

Sri S. Ganesa Pillai, Secretary, Official Language Committee, proposed a vote of thanks.



Harijan Welfare in the State

SRI A. GOPALA PADAYATCHI,
Personal Assistant to the Director of Harijan Welfare.

During the Second Five-Year Plan, a sum of Rupees 434.26 lakhs is to be spent for the benefit of Harijans.

During the First Five-Year Plan, 84,500 Harijans were given concessions to pursue their studies in High Schools, Arts Colleges and Technical Institutions. Besides these, hostels for Harijan students are also conducted by the Government. During 1957-58, 23 such hostels for girls and 35 hostels for boys were being conducted at a cost of Rs. 4,96,500 and 3,327 students were lodging in these hostels. During 1958-59, 27 hostels for girls and 63 for boys were run and Rupees 7,65,000 are allotted towards this.

Apart from these, 211 hostels run by private bodies were also given grants. Twelve thousand and six hundred students residing in such hostels received grants.

At present about 843 schools are run by the State Harijan Welfare Department. Seventy-two thousand seven hundred and forty-five students are studying in these schools. During the last two years Rs. 3,79,000 were spent for midday meals. During 1958-59, Rs. 52,100 were spent for the construction of new schools and repairs. A sum of Rs. 7,87,800 was allotted for educational concessions to Harijans for the year 1958-59.

Housing.—Till the end of 1956-57, nearly 150,000 house-sites were allotted to Harijans. Rs. 5,80,00,000 were spent towards this. During 1957-58, Rs. 4,40,100 were allotted for this purpose. Further, in the Second Plan, an amount of Rs. 90,45,000 has been allotted for the construction of 16,240 houses. During the year 1958-59, Rs. 18,00,000 were allotted for construction of 3,255 houses. The value of each house is Rs. 750. Of this amount, the Government gives Rs. 550 as grant. The rest has to be met by the Harijans. This amount

can also be got as loan from the Government and this loan is repayable in 80 monthly instalments.

Sanitation.—A sum of Rs. 15,00,000 has been allotted for sinking 500 wells for Harijans. During the year 1958-59, 50 wells were sunk at an expenditure of Rs. 1,50,000. Apart from these, amounts have also been allotted for the construction of drainage, lavatories, bath-rooms, etc.

Agriculture.—Most of the Harijans in this State depend on agriculture for their daily bread. The Government is giving them grants to purchase seeds, to sink wells, etc. Plough animals are also distributed free by the Harijan Welfare Department. During 1957-58, Rs. 16,19,775 were granted. A sum of Rs. 17.10 lakhs has been allotted for the year 1958-59.

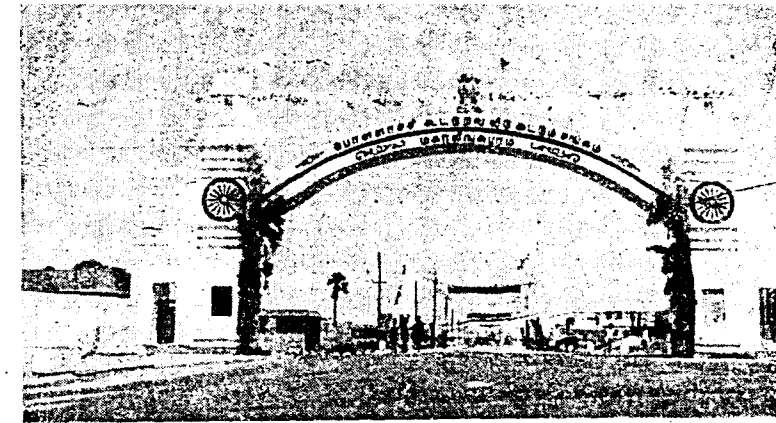
Cottage industries.—In order to enable the Harijans to add to their income by engaging in some cottage industry during spare time, they are given facilities to start cottage industries like bangle making, leather goods manufacturing, poultry keeping, etc. During the year 1958-59, 10 industrial training centres were started. Every year Rs. 3.70 lakhs are spent on these.

Removal of untouchability.—Steps have been taken to remove the feeling of untouchability from the people through legislative measures. Anybody who practices untouchability can be punished with a fine not exceeding Rs. 500 and, or, imprisonment for not more than six months. The Government is also making propaganda for the removal of untouchability. 'Harijan-Day' is observed throughout the State every year. Those who have worked for the removal of untouchability are awarded Gold Medals in recognition of their services. A sum of Rs. 26,000 has been allotted for this in the Second Plan.

The Mahalingapuram Housing Colony

The Mahalingapuram Housing Colony at Pollachi was declared open by Sri K. Kamaraj, Chief Minister, on 13th September 1959.

There are 207 housing sites in this colony of 44 acres. These 44 acres cost Rs. 1,43,280. Construction of houses



in 141 sites was started in the beginning. An amount of Rs. 5,72,000 under the State Housing Scheme and another sum of Rs. 4,24,800 under the Low-Income Group Housing Scheme were given as loan. So far 100 houses have been completed and of these 64 are ready for occupation by members.

Work on the construction of roads and bridges has also been completed. The roads also have been provided with electric lights. Arrangements are being made for the construction of a reservoir for storage and supply of water to this colony. Work on the further construction of houses is going on in full swing.



Police Centenary Scholarship Scheme—Governor's Appeal

Sri Bishnuram Medhi, Governor of Madras, has issued the following appeal in connection with the institution of Scholarships for the Constabulary's children on the occasion of the celebration of the Centenary of Madras State Police :—

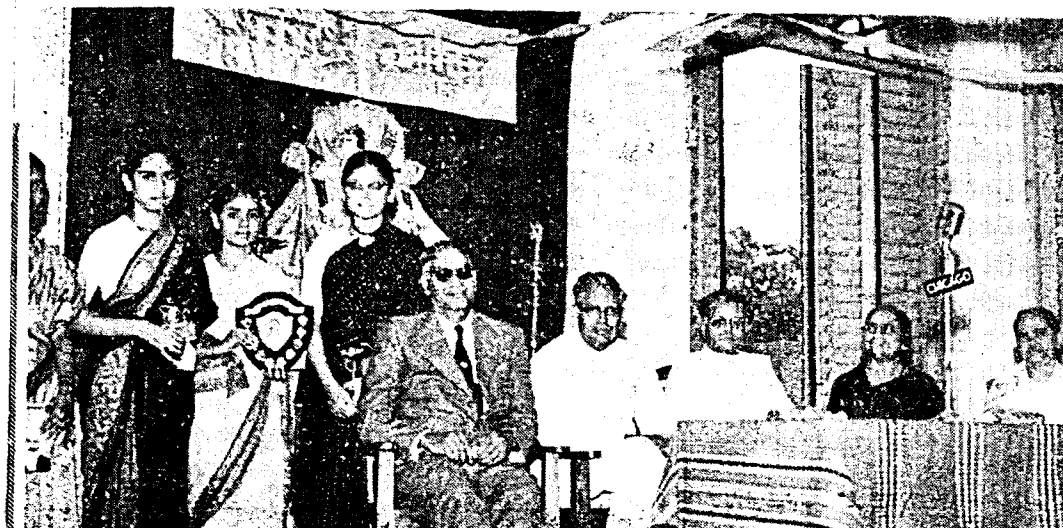
"The Madras Police was the first to be regularly organized in India in 1859 and we are celebrating its Centenary this year during the fortnight from 23rd August to 6th September 1959.

"In connection with the celebration there is a proposal for instituting scholarships for the children of non-gazetted Police Officers who intend to prosecute their studies beyond the S.S.L.C. (Matric) stage. In spite of the meagre incomes of this category of Police Officers there is a very sincere desire that their children should graduate so that they would be better equipped for the battle of life. It has always been felt that in deserving cases help should be given to them by way of scholarships. As a matter of fact, from the Police Benevolent Fund, which is a fund made up of contributions by Police Officers, scholarships have been given but the number had to be extremely limited in view of the paucity of funds. Voluntary donations are

therefore solicited for the purpose on the occasion of the celebration of the Police Centenary.

"Those who spontaneously offer scholarships may write direct to the Secretary to the Government of Madras, Home Department, Madras-9. They may also indicate the name the scholarship should bear. The minimum donation is for a sum of Rs. 15,000 to Rs. 16,000, so that when this amount is invested by Government, it would yield an approximate interest of Rs. 600 per annum. This interest is the amount of the scholarship that will be given to students. These amounts which are donated, are also exempt from income-tax and the Commissioner of Income-tax has issued a certificate exempting donations made to the Centenary Scholarship Scheme from tax under the provisions of section 15-B of the Indian Income-tax Act, 1922, subject to the limits prescribed in the said section with effect from 29th January 1959.

"We should be proud of our Police Force who are the custodians of law and order, and I appeal to the charitable institutions, business houses, industrialists and well-to-do citizens of the State to contribute generously to this deserving cause".



Bharathi Vizha was celebrated at Ethiraj College. Photo shows the prize winners with Sri R. Venkatachalan, who presided, Sri V. L. Ethiraj and others.

Book Review

Shri D. V. Raman's two volumes*, **STANDARD COSTING AND BUDGETARY CONTROL** and **TEXTILES COSTING, ORGANIZATION AND COST CONTROL** are welcome additions to the literature on costing. From Indian sources there are very few books on costing and these two volumes are sure to satisfy the long-felt want of the Indian students of costing and management. Shri Raman has brought to bear his rich experience in the managerial line in writing this treatise on Cost Accountancy.

The detailed review of conditions obtaining in Textile Industry in foreign countries and that exhaustive survey of the spinning and weaving set up in volume 2, are bound to interest the Industrialists and the students of costing and management.

A.V.J.

* Published by Sri D. V. Raman, Vignam Mandir, Sernadevi P.O., Tirunelveli district.

Vacancies in the State Transport

A number of vacancies for experienced drivers with Heavy Transport Driving Licence, exist in the State Transport Service in Madras City. All ex-servicemen and others who possess the undermentioned qualifications are advised to contact *immediately* the Employment Office of their area and get their names registered for consideration for appointment in the State Transport in Madras City:—

- (1) Literate in Tamil.
- (2) Below 35 years of age.
- (3) Height 5 feet 3 inches.
- (4) Should have a heavy endorsement for not less than three years.
- (5) Should have First Aid Certificate and Badge.

Pay inclusive of all allowances will be about Rs. 110 per mensem.

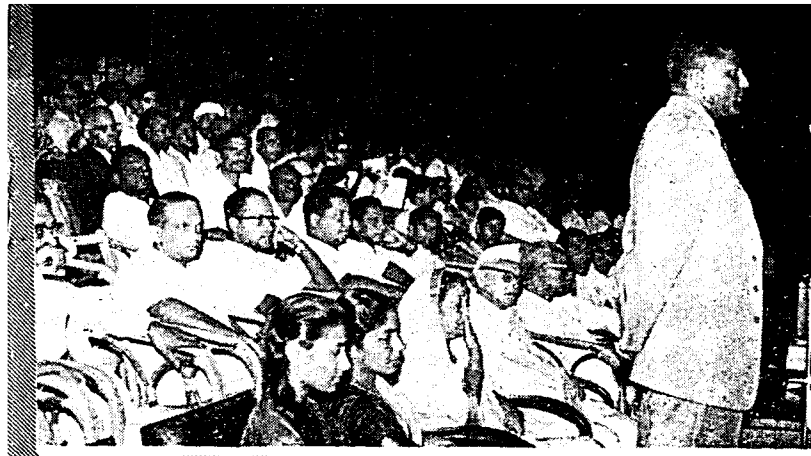
Issued by the Secretary, Madras State Soldiers', Sailors' and Airmen's Board, Madras-6.

Opening of Rice Mills—New Procedure

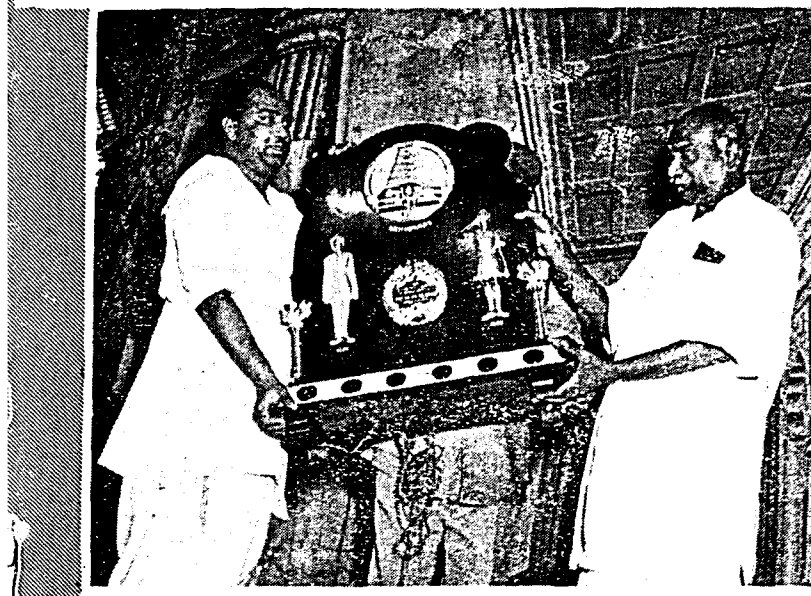
The Rice Milling Industry (Regulation) Act, 1958 (Central Act 21 of 1958), which has already come into force all over India with effect from the 22nd April 1959, will hereafter regulate the licensing of rice mills. The Madras Rice Mills Licensing Order, 1955, stands repealed with effect from that date. The new Act and the Rules framed thereunder, viz., the Rice Milling Industry (Regulation and Licensing) Rules, 1959, have been published in the *Fort St. George Gazette*, dated the 18th June 1958 and the 3rd June 1959, respectively.

Under the provisions of the repealed Madras Rice Mills Licensing Order, persons intending to start rice mills had first to construct the building, instal the machinery and then apply to the District Collector for licence. Under the provisions of the new Act persons intending to start a rice mill have to apply and get a permit from the State Government first before putting up the rice mill building or making any investment therefor. Only after securing the permit, they can establish the rice mill and then they should apply for and obtain a licence from the District Collectors who have been appointed as Licensing Officers under the Central Act. This procedure will also apply to those who intend to re-commence milling operations in defunct rice mills.

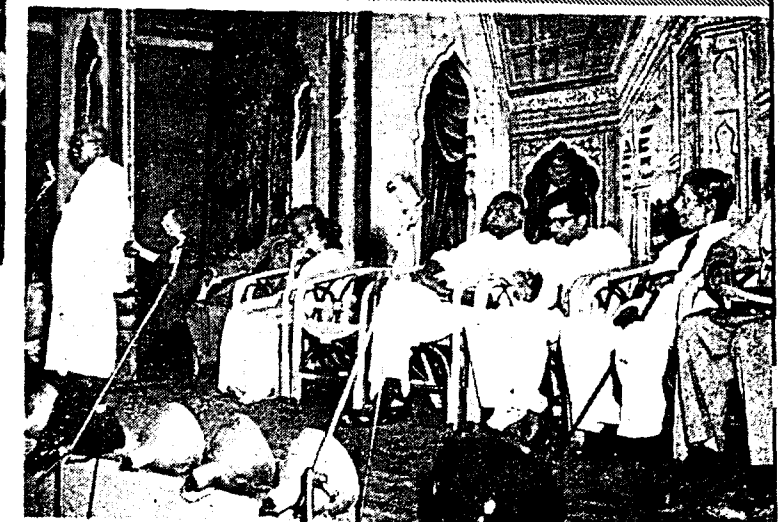
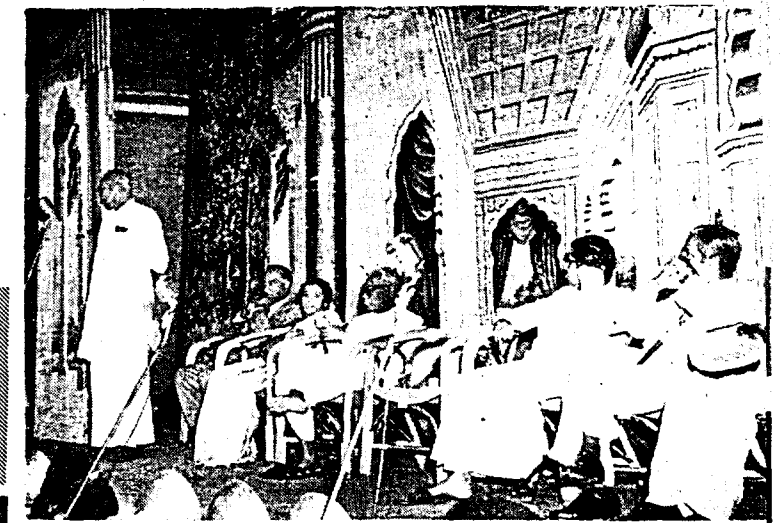
Applications for permits for starting a new rice mill or re-commencing milling operations in a defunct rice mill should be made in the form prescribed under the Rice Milling Industry (Regulation and Licensing) Rules, 1959, to the District Collectors who will forward these applications through the Board of Revenue (Civil Supplies) to the Government with the recommendations regarding the issue of permit under the provisions of the Rice Milling Industry (Regulation) Act, 1958, and the rules framed thereunder. On the strength of the permit issued by the Government, the Collectors will take action, on application, to issue the licence provided the prescribed conditions are satisfied.



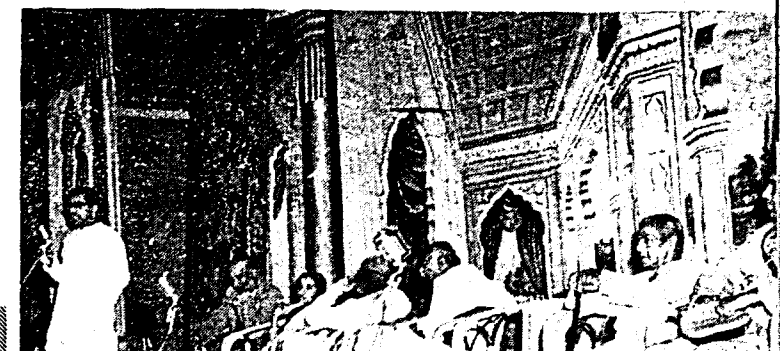
A tattoo was also held with great success. A cheque for the scholarship of Policemen's children was presented by the Minister for Home to the Inspector-General of Police.



A drama was staged by Cine Actors towards the end of the celebrations and on the last day.



A public meeting was held when the Chief Minister, Home Minister, Finance Minister and others paid tribute to the Policemen of this State.



The Animal Husbandry Block of the Veterinary College was declared open by the Chief Minister. Photo on right shows the new Block.

"He is alright! but..."

These kind words-

a solace to the anxious parents
and a cheer to the dejected boy-
only a Doctor could tell his patient
with confidence. But
his advice to put the boy on Stayfit
is serious enough, as he lacks
in Vitamins A & D.

Stayfit

CAPSULES



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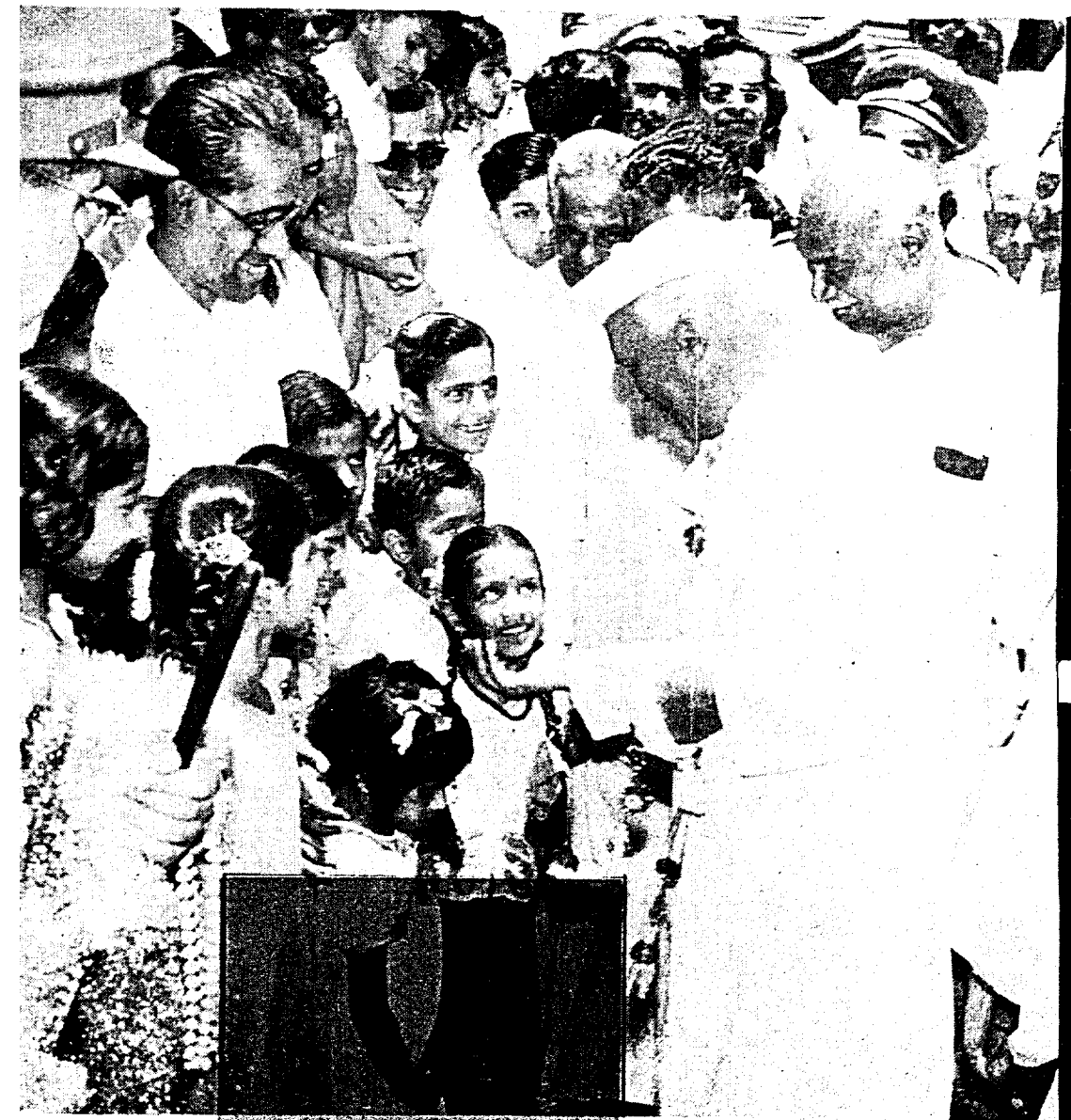
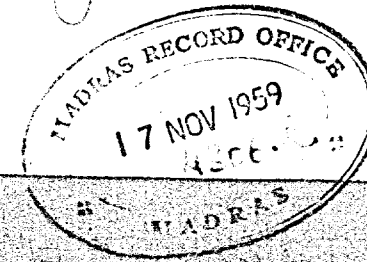
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Vitamin D 500 I.U.

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SISTA'S

MADRAS information



NOVEMBER

1959

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PLAN PUBLICITY WEEK AT MADURAI

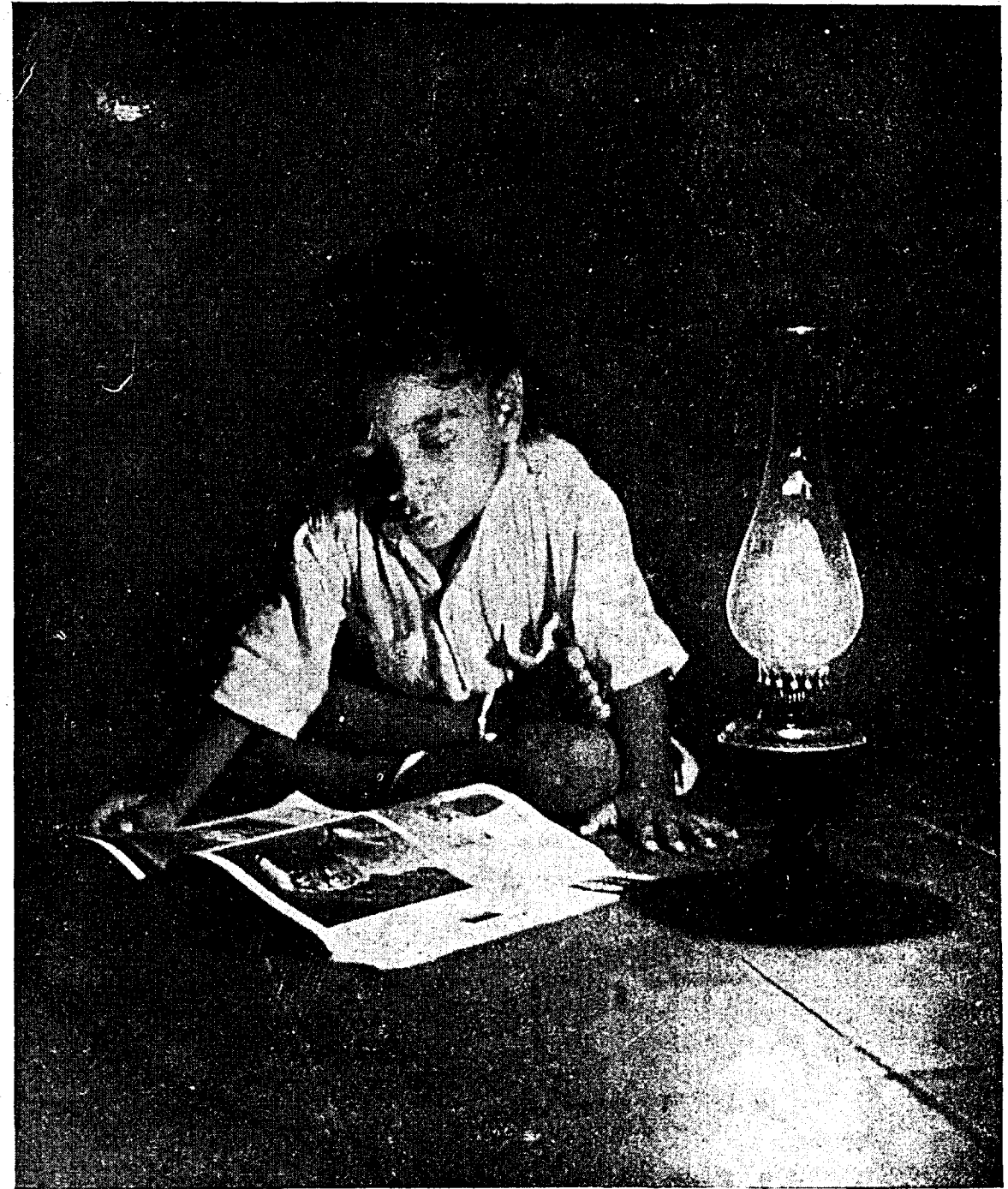
The Plan publicity Week was inaugurated by the Chief Minister at Madurai on 26th September 1959.



The best gram sevak of the district was presented with a cycle by the Chief Minister.



Srimathi Soundaram Ramachandran M.L.A., and others addressed the gathering on the last day of the celebrations.



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CONCENTRATION

*"Between the dark and the daylight,
When the night is beginning to lower,
Comes a pause in the day's occupation,
That is known as the Children's Hour."*

"We seek to Serve
and Not to Compete"

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by the Director of
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S. S. Kalathil.

This month's cover :

In the month of November, the attention of the whole Nation is focussed upon the Child, the Citizen of Tomorrow. This month is dedicated to the Children of India. It is not a mere coincidence that the birth-day of the Premier of India, Shri Jawaharlal Nehru, falls on the 14th of November. Nobody has ever paid more attention or attached greater importance to the Children of this land than our Prime Minister and the Children's Week commences on his birth-day. May our Children live long! For it has been said, "as long as the Children of a Nation remain Children, that Nation never dies".

MADRAS information

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The Child and the Home

Mrs. MARY GONSALVES, B.A., B.T.

*O Child! O new born citizen
Of life's great city! on thy head
The glory of thy morn is shed,
Like a celestial benison!
Here at the portal thou dost stand,
And with thy little hand
Thou openest the mysterious gate,
Into the future's undiscovered land.*

—LONGFELLOW.

"To know a child is to love it and the more we know it, the better we love it."

Thus spoke one of the greatest authorities on Childhood—G. Stanley Hall. His statement contains a great truth, a truth which only those who have endeavoured patiently and sympathetically to know a child can realize. The proper study of mankind is "Children", for, as the poet said, the child is father to the man and childhood shows the man as morning shows the day. The more intimately one knows a child, the more clearly one sees his faults as his, and his virtues as his own. The wonderful blossom of human life contains possibilities for good, which would surpass a poet's dream. It is then our greatest need to know the nature of this young life that we may guide it aright.

It is a mistake to assume that social training must be imposed on children when quite young and that they cannot be treated as individuals who can contribute to the making of the community life. It is true that the child under seven is necessarily dependent on adults, who are responsible for his well-being. If they fail, the child will consequently suffer.

The amazingly rapid progress in the care and education of children in recent years may be partly attributed to a generally higher standard of life and the advancement of science, but still more to an awakening of conscience. Not only is there an increasing concern for child-welfare but also a new awareness of the personality of the child, as something of paramount importance. To-day, it is difficult to assess values in any branch of medicine or philosophy or sociology without taking into account the

contribution made by the knowledge of child-life. In the mind of the child, according to Dr. Maria Montessori, we may perhaps find the key to progress and, who knows—the beginning of a new civilization.

The Swedish poet and author, Ellen Key, prophesied that this century would be the century of the child. The child holds within himself the secret of life—is able to lift the veil from the mysteries of the human soul. Even in the child there is much that is unknown. There is a part of the child's soul that has always been unknown and that must be known. This we call the unknown child. We must seek for him in a spirit of enthusiasm like those who prospect for hidden gold or who explore the outer space.

The world has long been suffering from a malaise to which the gentle ministry of woman might have brought the cure. But the trend of thought and events arising therefrom have made her a part—and not the least part—of the disease. It all originated with the so-called emancipation of woman. Woman no doubt needed alleviation of her miserable lot in some ways, but materialism sought to give this relief in a manner that made her last state much worse than the first. The institution of marriage was often attacked on the plea of the defence of women's rights, with the result that divorce and birth prevention brought about a further degradation in the status of women.

The woman pays and the race pays with her. How is the world to save itself? It is by upholding the dignity of woman and motherhood! The place of woman in the world and her work in life has long been a subject of deep interest to all those who care for the welfare of the race.

An ideal home is a sanctuary of peace and contentment. It is not just a mere accident. On the contrary it has to be built up slowly and surely—and to Woman as Queen of the Home goes the privilege. And, if she fails in this office, any success in other fields cannot and will not compensate for failure in the home. Home-Life has several features—the more prominent being the intellectual, the social and the spiritual. All women are not supposed to be founts of knowledge, yet even the

least instructed of them with some good-will and a proper realization of her mission will succeed in promoting intellectual happiness.

A home should have its own social life. It is a mistaken belief that all recreation is to be sought outside the home. The home may at times tend to become a dull place. It will therefore largely depend on the mother's gifts and initiative to arrange in the home-circle some social gatherings and pastimes. This will strengthen the bond of their attachment to the home of their birth and growth. Man's instinct clamours for the home and family as his shelter—A nation will be very much what its homes are!

In all generations, tributes have been paid by great men to their mothers. St. Augustine is full of apprehension, when he says "God forbid that upon entering Paradise, my Mother's love should have waned. She still comes to comfort me in my sorrow, she who has loved me more than words can tell". "It is the hope of seeing my Mother," says another great writer, "that makes me eager to believe in the 'Great Beyond'".

Whatever view we may hold as to the relative position of the sexes, we are all agreed on a common ground that for a certain mission, women are naturally more fitted than men. That work is the training of young children. A woman's special gifts—her quickness of perception, her boundless sympathy, her profound patience are peculiarly needed for the most delicate of tasks. If what scientists tell us is true, the first few years of life are the most important in the formation of character, then surely there can be no work on earth so fraught with momentous consequences as the training of a little child. He who said "Give me a child for the first seven years of his life and do what you want with the rest" had made a valuable discovery. In these early days, the young life is as clay in our hands to mould almost as we will. As the mind is plastic, habits can be formed now without much effort, which could only be acquired with great care and hard work later on. Then too, the early impressions are the lasting ones. There is no gainsaying the unalterable fact 'Character is the one thing that matters'. Hence the need for the formation and training of That Character.

And when is this character formed? There is no particular time as such—it is being formed all the time—everywhere, at home, in school, in the playground. The child has been aptly described by educationists as a product of nature and nurture—two great factors which go a long way in the building of the child and his personality.

It is a common fallacy to suppose that all mothers know what is good for their children. To a certain extent it's 'yes' and to a certain extent 'no'. Certain things she has learnt by instructions and experience—the rest she has to acquire from other sources like books, experienced authorities, etc. The best mothers have said that they could have avoided numerous mistakes if only they had been more enlightened. Experience no doubt teaches much, but with proper guidance, we shall have the comfort and satisfaction of feeling that we have done our best.

Perhaps next to love comes understanding of child—nature—for understanding is born of love. Some have this, others have not—but it cannot be acquired. This is a hopeless doctrine but true. Have we not seen so often

people who take to children instinctively at once. They possess something which others lack. Amongst other things, it includes the power of putting oneself in the child's place, of seeing things as the child sees them. One must be able literally to enjoy the things the child enjoys. Their joys and games must be shared as also their little woes and sorrows. There must be no talking down.

Patience is a great requisite in dealing with children. Patience like understanding can be cultivated and an added strength of character comes to those who learn by self-restraint and constant practice to check the impatient word and look.

Last, but not least—she must have a sense of humour. This will help her to tide over many a difficulty and help to make many rough places smooth.

As we consider this long list of perfections or rather qualifications, which the ideal mother should possess, we cannot help asking—"who is sufficient for these things?" There is but one answer—"My grace is sufficient for these". It is an old answer but yet so true. We may comfort ourselves with this genuine assurance and faithfully accomplish part.

Parenthood is indeed a mighty responsibility and hence should be accepted in the right spirit. The future of a nation is partly determined by the attitude and conduct of parents towards their children. The parent and the teacher are verily the two great custodians of the human race. Of the two, the parent is more important, for he lays the foundation of the child's personality. There is a great truth in the saying of Will Durant, that 'the chief end of life is to pay our Children's bills and it is the chief happiness too.

For educational purposes, there are two great principles to be borne in mind. Firstly, the home and parents are for children; children are not for the home and parents; Secondly, whatever activity in the house is conducive to the welfare of children is good and is a virtue.

The Home is the children's Kingdom and hence it should be made as attractive and homely as possible. Children are unconsciously influenced by their surroundings and if we want them to love and admire beautiful things, we must see that their taste is not spoilt in their most impressionable years by anything ugly or vulgar. Our aim should be to make the nurseries cheerful, orderly and beautiful.

A mother's place is with her child. Who is to care for its interest if she does not? To her mainly belongs the responsibility of the well-being of her children. The father too has his share of responsibility. He is not the just the bread-winner or a passive spectator in Life's drama. On the contrary, he should be an active co-operator and a sympathetic companion to the wife and a loving elder brother to the children. Only then will there be harmony and happiness in the home.

A careful mother can do much towards the formation of orderly self-restrained habits in her baby, which will greatly amplify all after-efforts in the training of character. We must not pass over an offence one day, which we treat as a serious fault the next. It is no good saying that

(Continued on page 29)

Dr. Maria Montessori

and the

Art of the Teacher

SRIMATHI RUKMINI DEVI ARUNDALE, M.P.

In all ages, the ultimate achievement of humanity, as pointed out by the greatest men and women of the world, is the spiritual development of the individual. As the individual is, the world is and the highest civilization is that which has produced such individuals who have given to man a message of hope and happiness.

Amongst the many who have given this message of hope is Dr. Maria Montessori. She brought it to the world of children and to those trustees of their lives, the parents and teachers. She realized that the teaching of the Christ, "Be ye like little children," is the highest of all teaching and pointed out the way to realize it.

If men really understand this truth, the world of children would become a happier one. To Madame Montessori the child was the Messiah, the unknown, the un-understood. She brought the knowledge of this unknown being to each one of us adults who think of the child as one who must grow like themselves. Instead of trying to fulfil the plan of the child, we try to force him into a pre-arranged pattern. The result has been not only the misery of the child, frustrated and imprisoned in this world, but the unhappiness of the world itself as a result of this lack of understanding which results in the lopsided development of children to maturity. She wrote, "The adult has become egocentric in relation to the child, not egotistic, but egocentric. Thus he considers everything that affects the psyche of the child from the standpoint of its reference to himself and so misunderstands the child. It is this point of view that leads to a consideration of the child as an empty being which the adult must fill by his own endeavours, as an inert and incapable

being for whom everything must be done, as a being without an *inner guide*, whom the adult must guide step by step from without. Finally the adult acts as though he were the child's creator and considers good and evil from the standpoint of a relation to himself." She reveals to us our defects and shows us a way to help child to grow and to liberate his own soul.

Many psychologists and educators have lived and expressed their own philosophy of education but Dr. Montessori was the most unique of them and brought to us a deeper understanding than did the others. The difference is this—others analysed and tried to understand the mind of the child while she understood the soul of the child itself. While Western psychologists showed all the complexes that we develop in our later life as resulting from childhood, she showed that the complexes are in the teacher and that with the understanding of the teacher or parent and with proper environment, the child itself can grow into manhood, a free and fully developed individual, growing into strength and beauty. Another important aspect of Dr. Montessori's life is that she became a teacher because of her love for the children and not through intellectual or scientific study. What she taught was from her own experience and insight and not from other people's ideas. The method she developed was learned from the child and not from adults.

Dr. Montessori was a rare and wonderful personality with immense charm and grace. She was the first woman doctor in Italy and was a surgeon as well as a physician.

(Continued on page 31)

In the Service of Children

SRIMATHI MARY CLUBWALA JADHAV, M.L.C.

NOVEMBER is the month when we focus our attention on the children of the world and specially on the children of our own land, for, the Children's Day falls on the 14th of this month, the Birthday of our Prime Minister. If the child in India has received and continues to receive great attention in all aspects almost from before its birth and if its health and well-being are taken care of at all stages and if opportunities for expression and culture are made available to the child, it is due to our beloved Prime Minister's Leadership.

The Pioneers.

Two great Irish Women, Mrs. Annie Besant and Mrs. Margaret Cousins and Srimathi Dorothy Jinarajadasa, inspired and started the Women's Indian Association along with Dr. Muthulakshmi Reddi, Lady Sadasiva Iyer, bringing the Indian women together. This association is the most powerful women's organization in the country. Its aims were, among others to bring home to women their responsibilities as daughters of India; to secure for every girl and boy the right of education through schemes of Compulsory Primary Education; to secure the abolition of child marriage; enforcement of the Child Marriage Restraint Act and eradication of other social evils.

Madras State was the first to organize Children's Aid Societies to establishing Juvenile Courts and creating Certified Schools for delinquent children, the movement for Compulsory Primary Education for girls and boys.

The Missionary Organizations in our State have been working through decades, particularly caring for the foundlings, the destitute child, the blind, the deaf-mute and the children of lepers. To this day no legislation has been enacted for the responsibilities and care of these groups including the mentally backward children. But the Welfare Board is giving grants and assistance for

starting workshops for the blind, deaf-mute, and other handicapped groups and the Ministry of Education is assisting with building programme for these handicapped children.

The Red Cross has always done its share for child welfare. International Agencies, Special Agencies of the United Nations, the UNICEF and the UNESCO have in many ways contributed to the care of the health of the Mother and the Child. They have supplied skimmed-milk and nourishing food in the shape of Multi-Purpose Food, Vitamins and other Health and Body Building needs, to thousands of Children.

The Y.M.C.A. and the Y.W.C.A. have been in the forefront working for the under-privileged Boys and Girls by establishing Youth Welfare. Their excellent service for street boys and their community centres both for education and sports in the congested part of the City and Districts are a by-word. The first of its kind is their well-known and well-established Boys' Town. The Muslim community also runs orphanages and institutions for Muslim children, both boys and girls.

The Corporation of Madras is one of the largest Corporations which concentrate largely on Child Care. It has 45 Child Welfare Centres and three Creches.

The Government Department of Certified Schools and Vigilance Service is doing yeoman work in the service of children. With the coming in of the Children's Act, the Children's Aid Society which was then run by private agency has now been provincialised. There is a Government Approved School in Chingleput for Senior boys while for junior boys there are approved schools in Tanjore, Ranipet and Tadepalem and for Junior and Senior girls in Madras. These institutions receive both delinquent and destitute children committed by the Courts. They receive sound education; citizenship training and are also

taught useful trades. There is no atmosphere of a correctional home in these institutions and discipline is well-maintained. The Government of Madras recognising the good work done by other voluntary institutions in Child Welfare have recognised other institutions as Private Approved Schools. One of the oldest of such Homes is Dr. Varadappa Naidu's Orphanage, has served the foundlings and young children.

The Bala Mandir, a Home for foundlings, is just over 11 years old. Sri K. Kamaraj is the President and Mrs. Manjubashini is the Honorary Secretary of this institution. This is another Children's Institution recognised by the Government and foundlings are committed to this Home by Juvenile Courts. Bala Mandir is also a Junior Approved School. It also imparts training to mothers and destitute women in child care.

Welfare Extension Projects of the Central Social Welfare Board have been established all over the country. In every district there is at least one project of the old pattern and a few of the new pattern where Balwadis and Schools, Vocational and Literary Centres and Maternity and Child Welfare Centres are functioning. The Welfare Board has launched a new scheme by which Holiday Homes for the lower income group children and others are organized.



Lady Mountbatten with the two boys she is sponsoring.

The Seva Samajam.

One of the oldest organizations that has branches throughout Southern States is the Guild of Service (Central), otherwise known as Seva Samajam.

The Guild of Service was found 35 years ago in order to bring together Social Welfare Agencies of all types. For the last 10 years, the Guild of Service has been running Nursery Schools with trained teachers in the General, Stanley and Kasturba Hospitals in the City and T.B. Sanatorium at Tambaram. Hospitalised children are taught in these Nursery Schools and when discharged, they are helped to enter the local Corporation Schools.

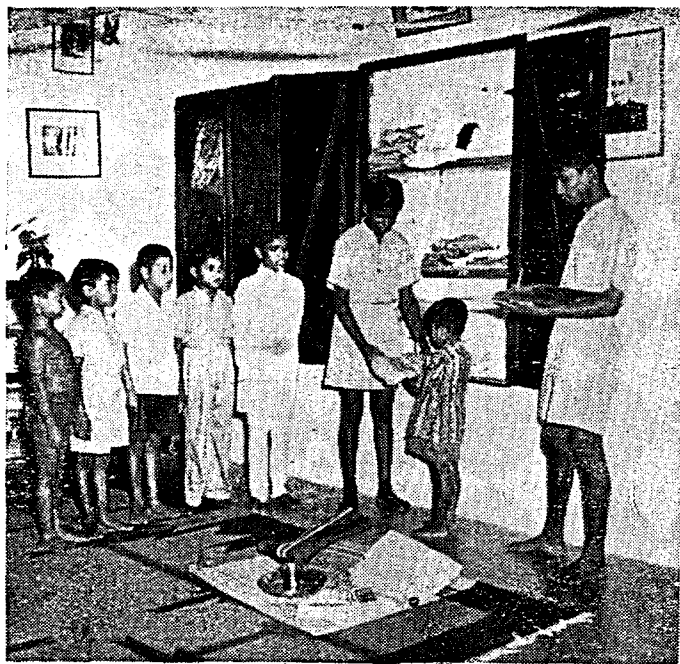
The Seva Samajam Boys' and Girls' Homes were founded in 1950 by the Guild of Service. The first Home was started with the idea of helping a few of the many destitute boys to lead a better and fuller life. There are now nearly 175 children in these Homes. Each child is sponsored by a Foster Parent and the child's maintenance charges are met by the Foster Parent. The children are being sponsored by individuals and the State and even by foster Parents from Overseas. The two Homes are recognised by the Government as Junior Approved Schools. Apart from these Homes in the City there are such Homes in Coimbatore, Cuddalore, Tanjore, Salem and Madurai, which are run under the auspices of the Guild of Service. Creches, Nursery Schools, Medical Centres, etc., are being run under the auspices of the Guild of Service in slum areas.

Bala Vihar, a Home for Backward and retarded children who need special care is the first of its kind in the State. This is run under the auspices of the Guild of Service and the Rotary Club of Madras. Here, over 50 mentally retarded children are rehabilitated and this Home is also recognised by the Government as a Junior Approved School.

The Madras School of Social Work, a two-year, full-time post-graduate training institution is being run under the auspices of the Guild of Service and the Madras State Branch of the Indian Conference of Social Work. The students are given training in all branches of social work and especially in Family and Child Welfare.



The Chief Minister, Sri Kamaraj, and Srimathi Clubwala



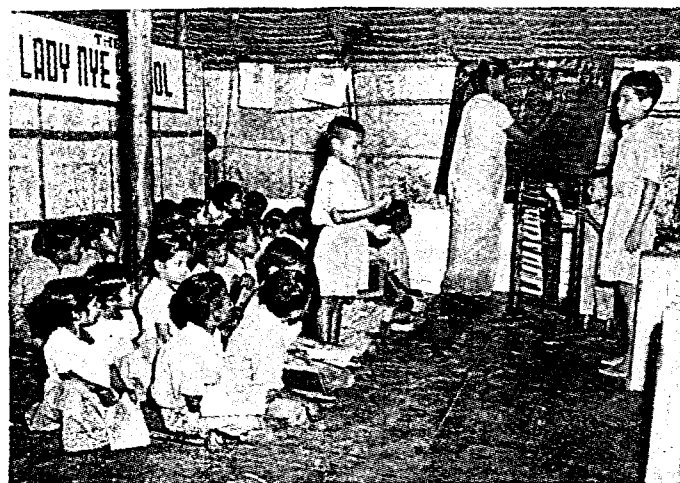
The arrival of a new boy.

The Mohite Playground for destitute and delinquent Children, Street Children, is like an open air Centre. Situated in a beautiful place, it has a Hostel, a School and a vocational Play centre for many street boys who have no place to live but the pavements. It has done and continues to do useful work for the benefit of wanderers and delinquent children.

The Children's Library and playground in the Guild of Service Information Bureau is another institution which serves the children. Besides these, there are thousands of milk centres which distribute milk to expectant mothers and children. Milk powder is donated by the National Christian Council, CARE and Catholic Welfare Agency.

The Indian Council of Child Welfare Home started under the Madras State Council of Child Welfare caters to the destitute and delinquent boys and girls. In this Home children receive education and vocational training.

The Women's Welfare Department is yet another agency which takes care of destitute women and deserted



A class room.

wives giving them education and vocational training. Along with mothers their children are also taken care of and educated while the mothers are employed as Grama Sevikas, Crafts Instructors, etc. They have their branches throughout the State and they are doing very good work for children.

The Juvenile Court of Madras is entirely manned by Honorary Women Magistrates including the Presiding Magistrate. There are 40 Honorary Women Magistrates.

Under the auspices of the Indian Conference of Social Work, Madras State Branch, a Juvenile Guidance Bureau has been attached to the Juvenile Court. Here, the cases of abnormal children and problem children are diagnosed and advice is given. It is manned by Dr. Boaz, Head of the Department of Psychology, University of Madras, who is also the Honorary Director of the Bureau.

The recently amended Children's Act of 1958, which was so ably piloted by our Home Minister, Mr. M. Bhaktavatsalam, is one of the most important Acts of the country. Our Chief Minister equals Prime Minister Nehru in his zeal for the cause and care of the child. Any request made to him on behalf of a child or any children's institution is promptly complied with. The Honourable Mr. C. Subramaniam our Education Minister is well-known for the interest he evinces for Children's Education from the Pre-Basic to Post-Graduate level.



Gardening.

Many of the older institutions had started their work under great difficulties and entirely by voluntary effort including raising of monies. Later, some of these institutions received limited Government grants. But these institutions serving women and children are receiving good grants from the Social Welfare Board. Voluntary institutions should be entrusted with more and more programmes by the Government and the services of these expert workers should be sought in the starting of new schemes. For, in voluntary work, there is no Red Tape and therefore it can succeed in bringing in many reforms and services. There is no air of patronizing in the work. The advice that we should approach social service without the seeming to patronise need not apply to the workers of Madras. They do not patronise but identify themselves with the cause. If the women of Madras have been in the forefront of making social reforms for the benefit of children and women, it is due to our great leaders who have spearheaded this movement and given us valiant support and co-operation.

Holiday Camps for Children

SRI S. R. VENKATARAMAN, B.A., B.L.

The twentieth century may rightly be called the Children's century. Not only in India but in different parts of the world great educationists and thinkers have emphasised the need for paying the greatest attention to children, if they are to be an asset to the nation. The poet, Gurudev Rabindranath Tagore who was thoroughly disgusted with the mechanical and often times cruel methods employed in teaching children, did pioneering work in child's education at his famous educational Centre, Shantiniketan, allowing children full freedom for their natural growth. About the same time Mahatma Gandhi started his new experiment at his Phoenix settlement in South Africa. In the schools started by these two great patriots children were allowed complete freedom to indulge in laughter, fun and play without fear of being rebuked or punished by anyone. In fact the children were brought up in an atmosphere which had no trace of fear of any kind. Both Tagore and Gandhiji allowed children to practice all their pranks on them. Gurudev Tagore had told in his several lectures and writings how children in his school at Shantiniketan used to climb up his knees and admire his luxurious grey beard and even play with it. We are also told that Gandhiji used to carry the children in the school at Phoenix on his shoulders and then drop them on a sloping garden plot from which they rolled down. This was followed by boisterous laughter and fun in which Gandhiji also joined. Both Tagore and Gandhiji had a way of coaxing children to learn things rightly without taxing them. Besides, children were allowed to roam about the neighbouring areas and learn things for themselves. The pioneering work of these two patriots has influenced a great deal the ideas of child education in our country.

"Children's lives should be lives of freedom, of spontaneity, of self growth, and not merely imposition and constraint. The child is a growing organism in which it has pleaded God to implant the germs of love and happiness," said the late Rt. Hon. V. S. Srinivasa Sastri.

Lord Baden Powell, the Founder of the Scout Movement was another great pioneer in children's education and character training. In his Scheme of Cub, Scout and Rover training he enforced discipline in varying degrees on boys of the Cub, Scout and Rover grades suited to their psychological, mental and physical growth and trained them in discipline and responsibilities. Madame Montessori, who though trained for the Medical profession, took up the subject of educating defective children, devised a system of education which is known as Montessori System, aiming at self-education by pupils themselves untrammelled by time-tables, set lessons in classes and textbooks. Children in the Montessori School are free from punishments or rewards alike. The only pleasure they derive is in getting things done well and efficiently and learning things by their own efforts.

Following in the footsteps of these pioneers several Children's schools on modern lines have sprung up in this country, but they are a drop in the ocean. But millions of children who are in schools, not to speak of the numerically larger number of children who are not in schools yet do not receive the attention that they need, as the school authorities have neither the trained personnel nor the resources to run children schools on modern up-to-date lines adopting the principles of Poet Tagore, Gandhiji, Baden Powell and Montessori.

When the First Five-Year Plan was put into operation it was felt that the welfare of children in our country was being sadly neglected and that special attention in regard to their education, health and way of life should be paid. The Central Social Welfare Board which was started to look after the needs of children, through its Desa Sevikas (Women Welfare Workers) has brought the children in rural areas some hope and cheer. Recently with a view to infuse some cheer and happiness in the dreary life of school-going children of parents who are unable to send their children on a holiday, the Central Social Welfare Board on the representation of the Madras State Branch of the Indian Council for Child Welfare has approved the running of Holiday Camps for children in this State. Arrangements for running Holiday Camps for children during the Dasara holidays in Ootacamund have been finalised and children from Nilgiris and the Coimbatore districts, will be drawn to these Camps. These two Camps will be run simultaneously one for 50 boys and another for 50 girls under proper supervision and guidance for 15 days in two separate places in Ootacamund itself. The Central Social Welfare Board has agreed to meet the cost of these campers for 15 days at the rate of Re. 1-50 nP. per day per child for food alone. Apart from this, the travelling expenses of campers and the cook's salary will also be met. It will be good idea if the local Holiday Camp Committees would secure donations wherever possible to build and equip a permanent Holiday Home for children.

The idea behind this Holiday Camp is that children of parents whose income is below Rs. 200 per mensem should have an opportunity to camp away from their own district and know something of the nature of the neighbouring district, its scenic beauties, its people, its places of historical and religious importance, their cultural and artistic traditions.

The routine of the Holiday Camp may be as follows :—

(1) Registration of campers with their name, age, school from which they come, place from which they come, district and parent's income.

(2) Medical check up of all campers regarding height weight, mal-nutrition, etc.

(3) *Menu*.—Healthy simple nutritive food neatly prepared and served, consisting of two meals and two tiffins. It is desirable to use plenty of milk and vegetables, fruits if they are cheap, in the daily menu. The kitchen must be run by the Camp Committee itself by employing cooks. On no account should catering be handed over to contractors.

(4) Children in camps must be taught to eat and drink in an orderly and pleasant manner.

(5) *Programme*.—The programme may consist of play, games, sight-seeing, promotion, personal hygiene, cleanliness, orderliness in keeping things, etc. They must be taken to places of interest round about, of historical, religious and educational interest, and must be encouraged to learn all about these places of interest by themselves, by putting questions to the guide who may be taking them round. The campers must maintain a diary of their visits and impressions regarding camp life, etc. Facilities should be provided for campers to witness

celebrations of festivals of village gods and witness folk dance and folk lore and village dramas. The camp should begin and end with a public function. Wherever possible, the Camp Committee must seek the co-operation of the Scouts, Red Cross workers, musicians and others interested in the holiday camps. Arrangements must also be made to take photographs of camp life, without incurring any expenditure. At the closing function a report of the activities of the holiday camps with a statement of accounts (subject to audit) should be presented to the public.

Time-table.

The time-table must be elastic so as to give children to relax and enjoy themselves. The following time-table may be adopted :—

5-50 a.m.	..	Getting up.
6-00 a.m.	..	Morning duties—Cleaning premises, bath, washing, etc.
7-00 a.m.	..	Chota.
7-30 a.m.	..	Hiking play—Songs, sight-seeing, story-telling, hobbies.
11-30 a.m.	..	Meals.
12 noon to 2 p.m.	..	Rest.
3 p.m.	..	Tiffin.
3 to 6 p.m.	..	As between 7-30 to 11-30 a.m.
6 to 7 p.m.	..	Wash, etc.
7-30 p.m.	..	Dinner.
7-30 to 8-15 p.m.	..	Diary Writing.
8-15 p.m.	..	Entertainment.
9-15 p.m.	..	Rest.

This time-table may be modified to suit local conditions wherever necessary.

In December 1959, the Indian Council for Child Welfare Contemplates the holding of four more camps, one for boys and one for girls at Periyar in Madurai district and one for boys and one for girls at Bhavanisagar in Coimbatore district.

The Indian Council of Child Welfare proposes to organize six camps, three for boys and three for girls in each district during the Dasara, Christmas and summer holidays, thus making a total of six holiday camps for each district during 1960. The District Branches of the Indian Council of Child Welfare have been requested to take steps to implement this programme. If the Council implements the entire programme in all the twelve districts during 1960, 3,600 children whose parents are unable to send their children on a holiday, will have derived the benefit of enjoying a holiday for a fortnight. This 3,600 is an infinitesimal fraction of the large masses of children in schools. The idea is to create an interest in children, parents, teachers and the public in the Holiday Camps Movements. Later on it may be possible to make these camps pay their way, provided Holiday Homes are made attractive and run on non-profit basis.

As regards accommodation, for the present we intend utilising school buildings with hostel accommodation wherever possible for running Holiday Camps. It is desirable to have as early as possible permanent and well equipped Holiday Camp Sites for children with all facilities in a healthy spot, at least in every district. At least

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The Saga of the Boys' Town

SRI P. J. ANANTHARAZ

The little fellow was trying every trick he knew to get a pice from the man at the Bus stop. He was the wrong person to whom to approach for alms. He did not give a pie. But in another way, he could not have approached a better person. For, the man happened to be a "Good Samaritan". He took him to the Boys' Town run by the Young Men's Christian Association. This happened in 1947.

Ten years later, the boy, Sukumar, was a Master tailor. able to support by himself and a family. When the boy was admitted in the Boys' Town, he had said that he had no parent living. But this started rankling his heart when he grew up and found he could earn his livelihood. (Mention may be made here, that though we had intended to pick up orphans only, once in a way a boy whom we had picked up happened to have either the father or the mother alive). However, though Sukumar knew he had a mother he did not reveal this all these years. Poor boy was ashamed to own a mother who was a beggar. It should not surprise you, dear reader, if you are let into another secret this boy had kept to himself for a long time. He told his Good Samaritan (who picked him up and took him to Boys' Town) that his name was Samuel.

Now after ten years Samuel confesses that he told these things which were not true and for which he felt penitent. Now he told his master in the Town, "Sir, I am sorry I had hidden these things from you; now I am willing to admit my fault; please forgive me. You have done, so much for me, you have made a man of me; now, Sir, help me find my mother who perhaps is begging somewhere. Now I can feed her and clothe her and give her a shelter; please, please help me find her".

Such confessions are not strange happenings to the officials of the Boys' Town. They perceived the boy's desire to rediscover his mother and save her from poverty misery and disease. What a glorious ambition! They threw a drag-net and Sukumar's mother could not be found anywhere in the Madras City.

Sukumar did not give up hopes. He was all the time looking out for his mother: he was hoping against hope. July 1957—the boys of the Boys' Town were taken to a camp site outside the City. They enjoyed the camp life as they always do. Sukumar too made the best use of this opportunity and was happy. Near the camp site was a beggar home run by the Government. Sukumar said, "Come let us go to this beggar home. If I am lucky, I may find my mother there." They did so; they went round the home; no trace of his mother. Sukumar went to a corner and there he spotted a woman in rags and her possessions were a tin vessel and a bundle of rags. Sukumar stared into her face. Lo and behold! She was none other than his mother! He was dumbfounded. The mother said (to her son) with tears flowing down in torrents, "I had a son, a son like you, rather would have been like you," and sobbed. Sukumar flung himself into her arms and embraced her and said, "Mother, I am your son." What a reunion!

Sukumar is now a tailor in the city—his mother keeping home for him. One often hears her saying, "I want a daughter-in-law and want to see my son married before I die".

This is just one of the many instances that have taken place in the Young Men's Christian Association, Boys'



Handicrafts Section.

Town. You would be interested to know how this Boys' Town was started and what is being done there for the rehabilitation of the less-privileged children. Here is how.

Have you got a kick out of watching urchins fighting with a dog for a bone that has been thrown out through the window of the Durbar Restaurant? Certainly not! You got the tear in your eyes if you belong to the right type of humanity. We find scroes of children doing some such thing outside the hotels to-day in our great City. Dregs sticking to the used plantain leaves are the bone of contention.

A quarter of a century ago, pavement dwelling was not as common as sight as it is to-day. Even then hundreds cooked, ate, slept and raised their children on the road-side. But to-day there are thousands. Ill-clad, ill-kept and unwashed children were begging in the streets, at bus stops, playing and fighting near dustbins. It was, and it is expected by many as a part of big city life. But many hearts were moved to action and many more were shocked. One of them was Mr. Wallace Forgie, the then Boys' Work Director of the Madras Y.M.C.A.

An idea is born.

The Y.M.C.A., the pioneer as ever, set upon itself the task of doing something for these urchins. The Y.M.C.A. Secretary said, "These urchins need care, need a home, and above all, they need a motherly treatment". As early as 1930, Mr. Forgie organized for these children a Club under the name of "The Street Boys' Club". Another person who took interest in this club was Mr. Samuel Thambu. During the first few years, the Y.M.C.A.

The Carpenter.



provided facilities for the boys to have bath, play some indoor games and sit down to learn their alphabets. The club rapidly grew from insignificant beginnings to a beehive of activity. The club made a special appeal to Mr. G. Solomon, who was then General Secretary of the Madras Y.M.C.A., and who not only re-christened the club as "The Under-privileged Boys' Club", but gave it an importance equal to more senior clubs in the Association. Then came a time when a plan was drawn up to create, a set-up where the boys can be fed, clothed, housed and taught, and afterwards assisted to find employment. In 1947 the club moved to the present premises of the Boys' Town near Fort St. George under the new name "Home for the Homeless Boys".

A Venture of Faith.

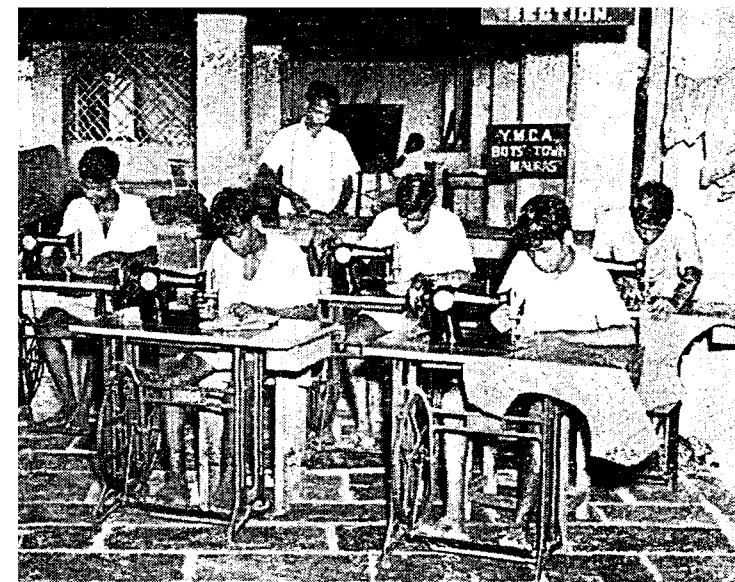
The Boys' Town was started with 15 boys and an opening balance of Rs. 350 on the 1st of May 1947. There was then no parallel to this institution in this City. Initial setbacks and unkind criticisms were not wanting. The Home, however, weathered every storm. Unkind criticisms blossomed into blessings; discouragement was displaced by encouragement. Gifts in kind and in cash began to flow from philanthropic people not only in the City, but from everywhere else.

In 1948 another step forward was taken and that was when the institution came to be known as "The Y.M.C.A. Boys' Town". It was called after the internationally famous Home for the destitute children founded by Father Flanagan in Nebraska, U.S.A. The phenomenal growth of the Boys' Town owes very much to the vision and enthusiasm of an American Negro Y.M.C.A. Secretary who was then on the Madras Y.M.C.A. staff, Mr. Lawrence C. Burr.

Started 12 years ago with 15 homeless, stranded boys and Rs. 350, the Boys' Town is living up to its illustrious name and now has a complement of 100 boys, many of them approaching adult life with vigour, discipline and confidence. It has an annual budget of Rs. 75,000, governed mainly by subsidies and donations. Individuals and firms give grants for the upkeep of the boys at the rate of Rs. 250 for a year for a boy. The boys are recruited between the ages of 6 and 7 and stay up to 18 years of age in the institution. Fifty of these boys are studying in the Elementary School run in the premises and 15 are studying in High Schools. About a dozen boys are trained in carpentry, rattan work, tailoring, mat-weaving and poultry farming. The mission of the Boys' Town is not only to feed the boys, provide them a home, teach them cleanliness and self-respect, but also to mould them into useful citizens in a welfare society. Boys who had taken up a life of begging, stealing, and picking pockets are being transformed into adults who will take their due responsibility in the building of a new society.

Local Self-Government.

The essence of institutional living is a small group, somewhat approximating a family group. This is where the Boys' Town has led the way. Boys are divided into ten small squads of groups by the simple device of dividing a large dormitory into small cloisters. The boys have their own Panchayat elected by themselves. The



The Tailoring Section.

Panchayat holds office for a period of six months. Cultural and educational activities and a wide range of audio-visual education are part of the life in the Boys' Town.

It will be an exhilarating experience to anyone who cares to visit this institution to renew one's faith in the basic goodness of man. No one is born bad; only the circumstances and environment make a boy bad or good. The Y.M.C.A. Boys' Town is, therefore, an eye-opener and a challenge to those cynics who will try and hide their indifference to human welfare under the excuse that street urchins and homeless waifs can never be reclaimed.

The Finance Minister, Sri Subramaniam presiding over the Tenth Anniversary of the Y.M.C.A. Boys' Town, said that if they succeeded in their endeavour to provide equal opportunities for all their children in the matter of education and training, it would naturally pave the way for the establishment of a socialist society. He commended the work of the Y.M.C.A. Boys' Town for the rehabilitation of the underprivileged boys. The Y.M.C.A. Boys' Town, he said, has been rendering great service, to the orphans and homeless by catering to their spiritual, mental and physical needs.

It is truly a glorious sight to see these boys sing, play, read, eat, work and sleep as brothers under the motherly care of the institution as if they had never known misery and poverty. Most of the boys enjoy Boys' Scout activities. Most of them have become good Football players; some of them have become leaders in their schools and have obtained meritorious ranks in their respective classes competing with boys from privileged home. Camping is one of their most enjoyable pastimes.

They are given every opportunity to help others; they most willingly grasp the opportunities to serve others by way of relief to the poor and the needy. A few such activities are, selling flags for relief operations, selling T.B. Seals during the T.B. Seals Sales Campaign and so on.

The boys in the Boys' Town live in a home which is always open, no gates, no locks, no keys. Do they run away? No, they do not; they dare not cheat themselves. They enjoy staying in this home; they enjoy the counsel and guidance given to them by their mentors. They follow day by day, hour after hour a happy schedule. If anyone makes a mistake, the Panchayat is called upon to judge and penalties are meted out by this democratic body.

The Boys' Town picks up boys from the streets; boys—just boys, perhaps lost boys with none to look after them. There is no other condition; no other qualification.

The Objects of the Y.M.C.A. Boys' Town are—

to provide a home for destitute boys between the ages of 6 and 17 years;

to provide an opportunity for such boys of all communities to live together as brothers;

to discourage begging and pick-pocketing;

to provide them opportunities in cottage industries so as to help them earn an honest living;

to provide free elementary education to all poor children in the locality;

to provide opportunities for training in self-government;

to establish high standard of health;

to produce useful citizens out of vagrant boys and to rehabilitate them after their stay in the Boys' Town till they attain eighteen years; and

to demonstrate the need for and the usefulness of such institutions.

This nation-building service is managed by the Board of Directors of the Y.M.C.A. helped by a local committee of management who is the immediate authority and a score of volunteers including many women.

A Class in Session.



The Juvenile Delinquent

SMT. V. T. LAKSHMI, M.A., L.T.,
Chief Inspector of Approved Schools
and Vigilance Service.

Last year, I was going to one of the southern most towns of this State in connection with my annual departmental inspection of a Government Correctional Institution there. The train journey was long and tedious and the hot and stuffy climate of the season rendered it even more boring and loathful. Fortunately, a fellow-passenger, whose curiosity could not rest until he forced out of me my identity and the object of my journey, gave me indirectly the much needed relief and relaxation, when he entered into a rambling discussion with me regarding the utility or otherwise of the correctional work carried on in our State among the juvenile delinquents. As it is commonly expected, he opined that it was next to impossible to reform even a child-deviant, as the malformation of its urges, traits, tendencies and even conduct and character had to be traced to its very birth. He dogmatically asserted that no amount of professional dogmas and propagandic enthusiasms would ever be able to sweep back the tide of juvenile delinquency, not to speak of its prevention or extermination. He even expressed whether the money spent on the delinquent child's reformation was not a huge waste and if the same could not have been diverted to the intensification of agriculture and expansion of mechanisation of industries in the country. While I was wondering whether it was worthwhile to try to correct his erroneous idea of the entire subject under discussion, an urchin's howls on the platform of the Station, where the train was halting, attracted our notice.

The boy in rags was in the iron grips of a porter, who was mercilessly screwing the ears and beating the juvenile, alternately, and interjected with abuses of vulgar nature. My inquisitive compartment-mate accosted the porter and his prey and got out of them both, the circumstances

leading to that deplorable scene. A motherless boy, the urchin was left without a home in his sixth year on the death of his father and his step-mother's clandestine love for another man and her subsequent ill-treatment of him, when he would not be an accomplice in her nefarious machinations, drove him out to become an illiterate and penniless wanderer in the street. Joining a troupe of boys, well versed in truancy and delinquent acts, he left his town and came to this place. In order to get them joining, he and his associates had planned and distributed among themselves different duties of getting money or food-stuffs daily. His allotted duty on that particular day was to get at least 50 paise. As on that day, begging from the passengers in the trains for money or food proved in vain, he attempted to pick-pocket the purse from that porter-bully's pocket, when the latter was arguing with his fellow-porter for the share of his coolie and during the process, the boy was caught red-handed by the porter and was being punished. Hearing this story, my friend's eyes were wet and he advised the porter to leave the boy. And after sermonising an exhortation to the boy, he dismissed him with a four-anna coin.

With an apology, my fellow-passenger then turned to me and said: "Poor boy! How can he be blamed. Only his orphanhood, homelessness, his step-mother's neglect and ill-treatment and the lack of his proper upbringing and training seem to be the factors, which have driven him to take to beggary and pick-pocketing to keep his body and soul together." I was stunned and even felt amazed at his sudden transformation. Before I could recover my words, the gentleman continued: "Only now, I came accidentally into the actual grip of an incident of juvenile delinquency. Now, I realise that these child-delinquents are not born, but are made by circumstances

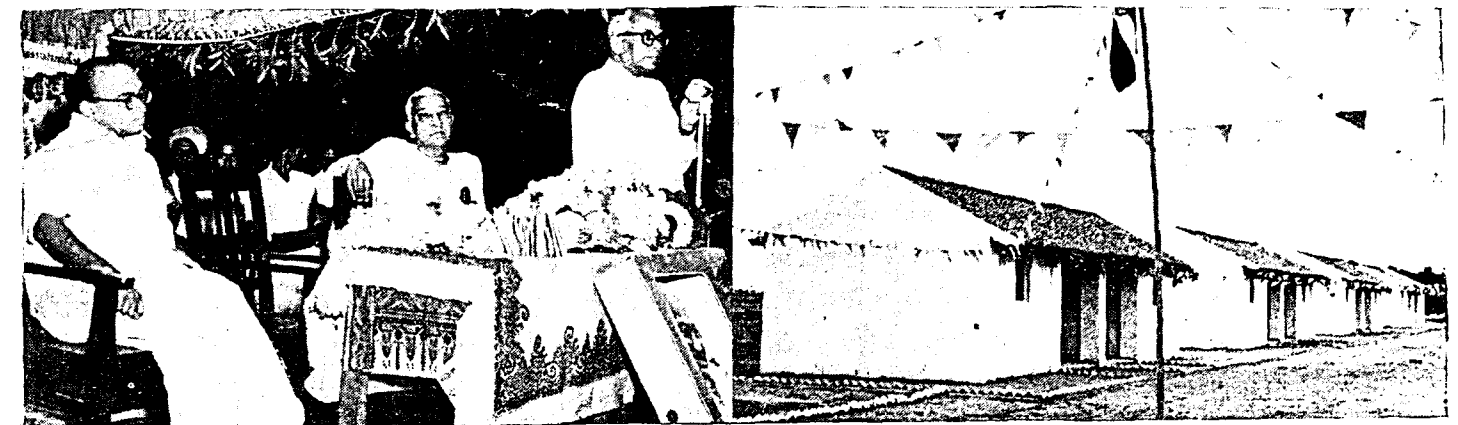
beyond their control. Hence, they can, I suppose, be reformed, if proper care and attention are paid to their upbringing and training in Care and Correctional Institutions like those under your administrative control." Agreeably surprised and happy, I replied: "You are right. I am glad that you are convinced of the significance of timely care and treatment which should be given to these juvenile delinquents who are such sinned against

Yes: It is truly so. "A delinquent child is not born but made!" One has to agree with the Psychologists that but for God's blessings and our good fortune, many of us would have been child-delinquents ourselves. It is, now, generally accepted that heredity does not play an important causative factor in shaping a child into a delinquent: For, it is psychologically proved that a criminal's child does not invariably inherit delinquent traits and that juvenile delinquency is only the result of the total environment of the child on his personality and is, therefore, socially conditioned. In plainer terms, it is the disturbed family relationship, adverse socio-economic circumstances and projection by elders of their own a typical characteristics that are the conducive factors of juvenile waywardness, truancy and delinquency. Most of the families, due to poverty, unemployment or inadequacy of means, are unable to meet the demands of their children, who, therefore, flee outside to find substitute satisfaction for their thwarted needs and suppressed wishes. While others, due to stresses and strains of the ebb and flow of the times, have no time to love their children or to control or supervise their upbringing, with the care that it requires; and hence, their children are urged to seek substitute affection and recognition through their own pursuits, outside the "family milieu." There are again parents with unwholesome habits and who are given to anti-social ways of living. Their children imbibe the natural desire of imitating their elders and start begging, pilfering, gambling, drinking and even immoral living! Thus, vagrancy and delinquency in children are said to have definitely been encouraged and developed, either directly or indirectly by the pattern of philosophy of life accepted or adopted by their families. Lastly, lack of proper schooling, absence of recreational facilities and neglected godly feelings in children drive them to resort to associate themselves with undesirables and visit

pictures of all types in order to employ their leisure and with a vain attempt to find outlets for their pent-up energy, both of which often lead to their practising anti-social acts.

Most of the juvenile delinquents are, therefore, merely the products of their home conditions and surroundings as well as the faulty structural set-up of society and its environmental factors. Their delinquent activities are only "an escape from and compensation for their emotional distress and frustration". They feel compelled to have their mental tension externalised. They are only psychopathic deviates, since their anti-social acts are largely impulsive. Most of them have feelings, although dormant, capable of being aroused to be humanised and socialised. They have become what they are only because they have been denied a home, loving parents, good upbringing, proper schooling and religious training, based on faith in and love for God, which are essential for the building up of their emotional maturity and security. They have also been deprived of economic stability, which has resulted in their developing a distress complex, which in its turn, leads to their committing acts of delinquency of varied nature and volume, only to give vent to their distress and frustration. Therefore, even at the outset, a correct approach to and careful study of the individual juvenile delinquent's problems, personality-pattern and behavioural disorders has to be made. A patient and persevering planning of a suitable treatment or training programme to help each juvenile delinquent sympathetically to recover its erstwhile lost moorings in its own individual all-round development and rebuild its powers of adaptability and adjustments to social environments of society has to be planned: For, it is in society that the juvenile has to live and lead a wholesome life of a self-respecting and self-supporting individual and useful citizen to its fellowmen. This process of humanising and socialising of child psychopathic deviants, although difficult, can be attempted at and carried on with a fair amount of success through a well-chalked out programme of homely institutionalisation; and it is this arduous but essential nation-reconstruction-work that is being done in our State by the Government through the Department of Approved Schools and Vigilance Service.

(Continued on page 31)



The Villiar Colony at Siruvedal in the Chingleput District was declared open by the Minister for Home,
Sri M. Bakthavatsalam in October.



Training in giving the proper figure to the sound starts at a very young age. The Child at the left is enabled to see the movement of the lips and recognise the sound with the aid of a mirror and head phones.



The children are taught to write the words while pronouncing them loud, so that they may correlate the letters with the spoken word.



The Deaf-mute children are made to close their eyes and recognise only the sound.

New Life For The Handicapped Children

"I cried, because I had no shoes, till I saw a man who had no feet."

This is what one feels when one pays a visit to the school for the Deaf-mute and Blind on the Mount Road near Gemini. This is one of the few institutions in this State which have undertaken a nobler and harder task of giving new life to the handicapped children among us.

In this institution the deaf-mute children are taught to distinguish and to utter sounds. After some training, they are enabled to pronounce words which do not have a complicated phonetic structure. Apart from this, they are also taught some useful handicraft so that they may employ themselves usefully in their spare time.

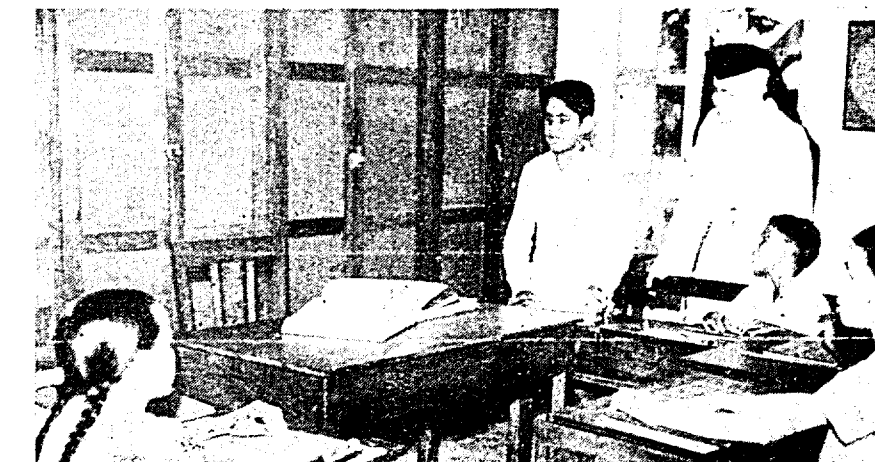
The blind children are taught to read and write in the Braille system and also some craft.



The children are also taught useful handicrafts like embroidery, knitting, etc.



Blind children are also taken care of in this institution.



A class for blind children.

Bala Mandir

As the name suggests, Bala Mandir is a temple for children. A few enterprising workers moved by the very urgent need for such an institution, started the project with a view to running it on modern and scientific lines.

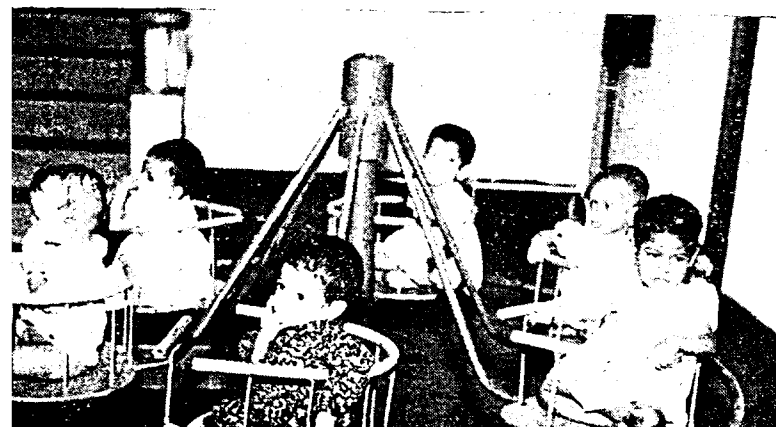
It was a small beginning, but it has now grown to be a big problem. Any unwanted child finds a home in Bala Mandir.

There is no other consideration except the helplessness of the innocent child that pleads for its ready admission into the Mandir. Caste is never mentioned. They are all treated equally. No kind of discrimination exists. Perhaps this is the reason for its rapid expansion.

Started on 10th March 1949 with two foundlings and a cash donation of Rs. 10,000 from Sjt. J. D. Dalmia, to-day the strength is 288. Madras Government was good enough to make a free assignment of 29 grounds in Thyagarayanagar. With the help of philanthropic friends, the building was completed in June 1952. It is equipped with all reasonable amenities and facilities and the entire building with its equipment and fittings is the outcome of the efforts of those who were moved by a genuine desire to contribute towards a very noble and worthy cause.

The institution is run entirely by public subscriptions and donations. In May 1951, the Madras Government recognized the Institution as a Junior Certified School for destitute infants.

Merry-go-round (In Hospital Block)



It is needless to say that the institution is growing in popularity and its aims have been appreciated by all and there are already requests to start similar institutions in various districts of the State. While the final aim of the Committee is to spare nothing towards starting similar institutions in every district, because of the great need for such homes, the immediate object, however, is to start at least one Bala Mandir in every region.

The Bala Mandir is staffed by a Doctor, Matron (who is also in-charge of the stores), a qualified Secretary who looks after the day-to-day administration and direction of the Institution, who are all resident. Besides these, there are two midwives, and ayahs at the rate of one for every five children.

The daily routine of the Mandir has also excited the admiration of those who have had an opportunity of visiting it. It may look cumbersome but proper care of children demands it. They are provided with very good food also.

Since the Child's inner being is nourished by affection, and since the chief aim of the institution is to provide the home that has been denied to these innocent children, every effort is taken to see that proper individual care is given to each child, to create a healthy and homelike atmosphere within the Mandir and to bring these children with all the love and affection necessary, so that they are not starved either physically, emotionally or mentally.

Care, skill and love are therefore not lacking, and children, whether they are received as certified infants or otherwise, are all treated alike and brought up in the same spirit. Obviously each child has a story behind it but only the management is aware of it. Some of the babies who are received come in such a poor state of health that sometimes it is a miracle they survive at all. It is the aim of the management to provide a useful general and vocational training and to provide every child with all such facilities and opportunities which any other child in an ordinary family would normally have. It runs a special Nursery school and an elementary school for the children in the premises.

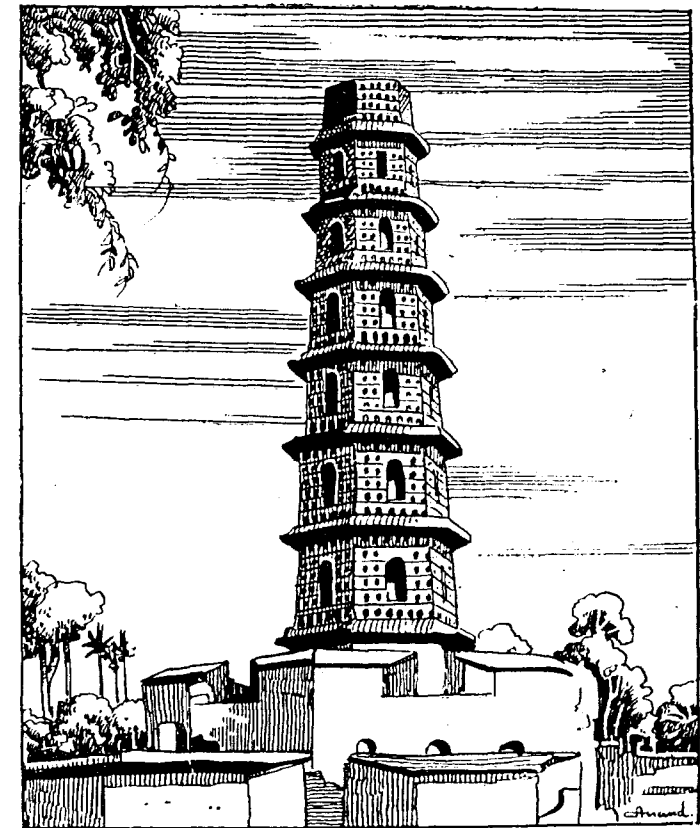
Off the beaten track

MANORA

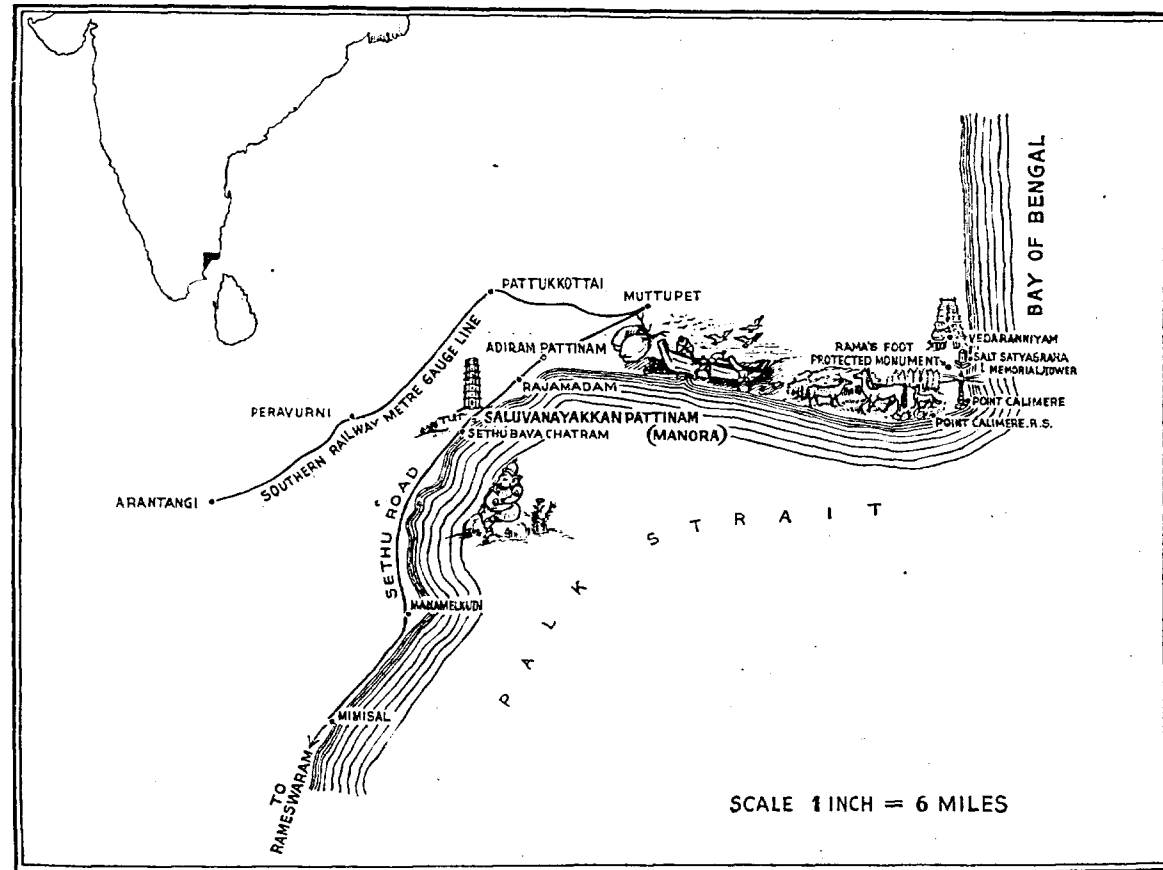
SRI S. M. L. LAKSHMANAN CHETTIAR.

In my wanderings all over the Madras State, a few places have struck me as capable of planned development as Tourist Centres. Manora (an Obelisk or Victory Tower) is one such. It is on our coastline in the now obscure village of Saluvanayakkanpattinam (Saluvanayak means Governor-General of the Nayak rulers) which was renamed as Sarabendrarajapattinam, after the name of Raja Sarabendra (Serfoji) who built Manora. It is 15 miles south of Pattukottai; but is better reached from Peravurani. Six miles east of this station on the Mayuram-Arantangi Railway line is Sethubavachatram and two miles to the north is its suburb, the site of the historic monument. If the wind is favourable, one can go by boat and land right in front of Manora. The only alternative is to go by any form of private transport along the Sethu Road and cover the last leg of the journey by managing to walk through wet land for about a furlong. Incidentally, I may state that, thanks to the efforts of the Government, this age-old coastal route of the pilgrims to Rameswaram is being revised and restored to its position as a National Highway. The labourers working in this project were the only human habitation I could notice, near Manora.

Manora is an unusual and unfamiliar monument. Its imposing tower can be viewed over three miles away in the mainland and, perhaps, from longer points in the sea. The outer approaches to the stonefort have hidden vaults where soldiers camped. The approach to it bears points of semblance to Fort St. George at Madras. Over the moat, which was watered by an inlet from the sea, is a draw-bridge suspended by means of heavy iron-chains and operated from inside the Fort by a special contrivance, which is now out of order. On the inside of the draw-bridge, right in the midst of a spacious quadrangle stands the majestic and imposing octagonal tower. The ground-floor hall level is about 35 feet high and up the ladder, the height is another 80 feet making in all about 115 feet. These figures are my own and no authentic ones are available.



The Tower



The Locale of Manora

in lime and mortar. As I went up and reached the top, I felt quite excited. As a work of architecture, Manora is far superior to the Ochterlony Monument in Calcutta or the Kutub Minar in Delhi. But Manora is not within easy reach.

Until a hundred years ago, Manora was an Observatory-cum-Lighthouse. Coconut oil and dried copra were used to keep the lights burning. The neighbourhood of Manora is known for its coconut topes and this is another appeal to the tourists from abroad; in the United States, a tender coconut costs about a dollar (Rs. 4/95). * Dessicated coconuts can also be manufactured on a large scale.

The builder of Manora, Raja Serfoji II (1798-1832) evinced keen interest in architecture and scientific discoveries. He had a museum containing the air-pump, electric machine, astronomical instruments, etc. He owned and used a pleasure yacht. He kept here a collection of books on ship-building. He established well-endowed Chatrams (to feed poor pilgrims who were en route to Rameswaram) at Sethubavachatram (where his Guru lived) in the south and at Rajamadam, three miles to the north of Manora, both notable monuments of his charity. But, sentiment alone was not the reason for his locating the monument here. The anchorage is safe as the sea is projecting into the mainland, at this point. It is locally called Pillayar's Bay (பிள்ளையார் குடா) as the protrusion is like Pillayar's pot-belly.

* Dessicated coconut is prepared from coconut by first removing the husk and shell, then pouring off the brown skin from the Kernel and passing the white meat through cutting or shredding machines to produce chips of varying degrees of fineness. They are finally dried in hot air-driers and packed in tin-lined cases similar to tea-chests. Dessicated coconut is used in the preparation of confectionery, cakes, biscuits, pastry and puddings. 6,900 coconuts yield one ton of dessicated coconut.

Sethubavachatram was a fort, a port of call and a summer resort. Small crafts were plying between Nagore, Nagapattinam, Point Calimere, Mimisal and also Kanke-santhurai in Ceylon. According to the Senior Prince of Tanjore, records speak of launching ceremonies of new vessels built here. Even to-day, the area all around Manora is populated by sea-faring and fishing communities. Shallow draft sea-going craft are still constructed in Muthupet, within an hour's trip by boat. Muthupet is also known for its bird-sanctuary, the Mecca of the sea-water birds of the Penguin species. From mid-October to mid-February, these winged friends flock in their thousands in the five-mile stretch of salt-swamps and backwaters between the sea and the river.

It is well to remember that the builder of Manora was a good judge of horses and a deadly shot. The Reserved Forests of Kodiakadu (near point Calimere) even now have a wealth of the Pony breed of horses, jackals, deer and other wild life.

Foreigners feel that we in India always speak in terms of 'thousands of years' and that it is not possible to date our monuments with any degree of certainty. Manora is an exception and we are on sure ground as its date is specific. It was built to commemorate the British victory over Napoleon Buonaparte at the Battle of Trafalgar

(Continued on page 32)

The Coimbatore

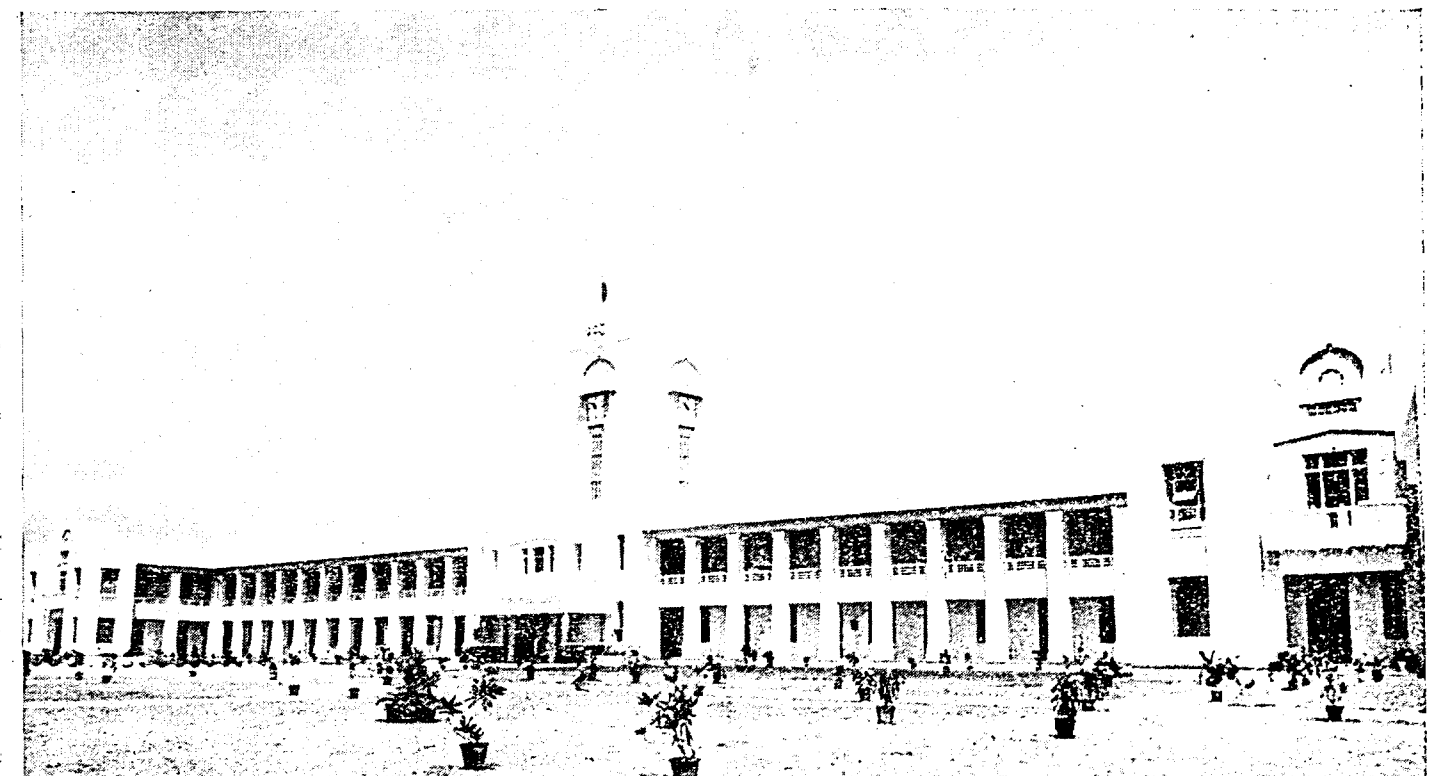
College of Technology

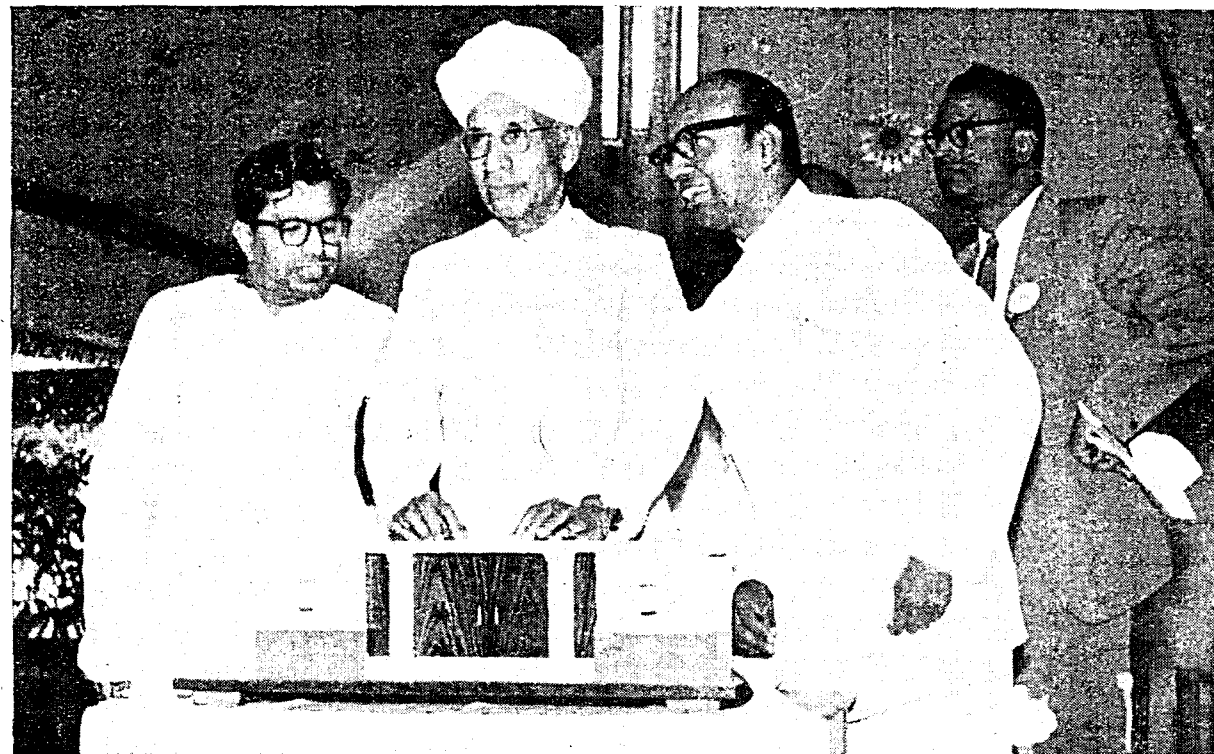
SRI J. G. ABRAHAM,
Director of Technical Education, Madras.

Sponsored as one of the Post-War Schemes, the Government College of Technology was started in the year 1945, under the name "Arthur Hope College of Technology," in the premises of the National Electric Works, Coimbatore, portions of which were given free of rent to Government by the well known philanthropist-cum-industrialist of this city, Sri G. D. Naidu, who also gave a munificent donation of Rs. 2.00 lakhs for the establishment of this Institution. The initial intake capacity of this Institution was 75 which was increased gradually to 90 and later on to its present strength of 120.

The paucity of accommodation and the lack of other facilities, compelled this Institution to have the 1st year students of 1948-49 and 1949-50 batches admitted in the College of Engineering, Guindy and later transferred to this College for their further Course of study from the second year onwards. From 1950-51 onwards students of the 1st year classes are being admitted into this College directly. Originally, this Institution trained students only in the Civil and Electrical Engineering branches, leading to the B.E. Degree of the Madras University and the first batch of Final Year students in these two branches

The College Building.





The College building was declared open by the Vice President of India, Sri S. Radhakrishnan.

passed out in March 1949. After the visit of a University Commission in 1952, affiliation for starting a Degree Course in Mechanical Engineering also was granted and the first batch of Final Year Mechanical Engineering Graduates passed out of this College in March 1954.

As already mentioned above, the lack of adequate accommodation has been a severe handicap to the progress of this Institution. In the year 1949 a site covering 46 acres in the Agricultural College Estate was acquired, and construction of Laboratory and Workshop Buildings was started. The site in the Madras Forest College area, known as the "British Evacuee Camp," about a mile away from the College and covering about 10.5 acres in extent was also acquired and remodelled as quarters for staff and hostel for students. The shifting of the College to the present site was carried out in June 1950,

The Hostel Building was declared open by Sri C. Subramaniam, State Minister for Education.



when the name of the Institution was also changed as: "Government College of Technology". But the problem of adequate accommodation was still not satisfactorily solved and it continued to be an impediment to the progress of the Institution.

Although plans for putting up suitable permanent buildings for this Institution were drawn up as early as 1952, the proposals took a final shape only after the advent of the Second Five-Year Plan. Thanks to the progressive developmental policy of the Government of Madras, and the particular interest evinced by our Hon'ble Minister for Finance and Education in the progress of Technical Education in this State as already mentioned by me at the outset, the construction of permanent buildings for the College at a cost of Rs. 18.5 lakhs was sanctioned in 1956. The foundation stone for the Main Building was laid by Shri Sri Prakasa, former Governor of Madras in August 1956. The work was actually taken up in the month of September 1957 and completed in two years. The building has a total plinth area of about a lakh of square feet taking into account the areas in all the floors. The building portion alone was estimated to cost about 16 lakhs. Its actual cost of construction will not exceed the estimated cost in spite of the fact that the foundations had to be taken to a greater depth of about 14 feet during execution against 8 feet provided for in the Estimate. Here I must make a special mention of the good work done by the contractors Messrs. Raghava and Veera in tackling a difficult situation arising out of deep foundations in loose soil. I have also to make a particular mention about our Consulting Architect, Mr. Vincent Issacs, who has paid special attention to the design of

this building and the imposing elevation and the pleasing architectural features which you see are mainly due to him.

It may not, I hope, be out of place for me to mention here briefly the service rendered by the Directorate of Technical Education in the development of Engineering Education in this State. The First Five-Year Plan with its emphasis on agricultural and rural development programmes is over and we are now in the middle of the Second Five-Year Plan, much larger in scope than the first, and with a stronger emphasis on the industrialisation of this country. In spite of the progress already made, it is estimated that this State will, still, have to face a shortage of 1,900 Engineering Graduates and 500 Diploma-holders at the end of the Second Five-Year Plan. It has, therefore, become imperative to create facilities to increase the output of trained technical personnel by all means at our disposal and I am glad to say, that Madras State with its reputation for pioneering work in the field of Engineering Education has made significant contribution towards the progress of Engineering Education in India. Two new Engineering Colleges have been established in the Second Five-Year Plan bringing the total number of Colleges to seven. The progress during this period has been so rapid that by the end of the Second Five-Year Plan, the output of Engineering Graduates is expected to be doubled. The growth of Polytechnics training Diploma-holders has also been equally rapid. As against six Polytechnics functioning in this State prior to the First Five-Year Plan we now have 19 Polytechnics, five being in the Public Sector. Two more Polytechnics will be established by the end of the Second Five-Year Plan bringing the total to 21.

Another important fact which I have to mention in this connection is the uniformly spontaneous and very helpful co-operation that the Department has been getting from the private sector connected with industries in this State. As you know, a number of technical institutions (Engineering Colleges, Polytechnics, etc.) are sponsored and run by private industrialists. I am happy to say that every one of them has been co-operating with the Department of Technical Education in expanding and improving the standard of Technical Education in this State. Needless to say, this is a very desirable and encouraging feature and the Directorate of Technical Education hopes to maintain and foster such a co-operative spirit and

good relationship between the Department and the Industries and thereby achieve the common objective of training technical personnel of the right standard and in sufficient numbers to meet the growing requirements of the country as a whole, in its onward march of progress. A large number of the Graduates and Diploma-holders in Engineering and Technology produced by the Engineering institutions in this State gets absorbed elsewhere, i.e., by Government of India and other States and various organisations, both public and private. It may therefore be seen that the efforts which the Department of Technical Education of the Madras State Government, are making towards the expansion and progress of Technical Education are of national value and importance, and they are not arrived merely at serving the needs of this State only.

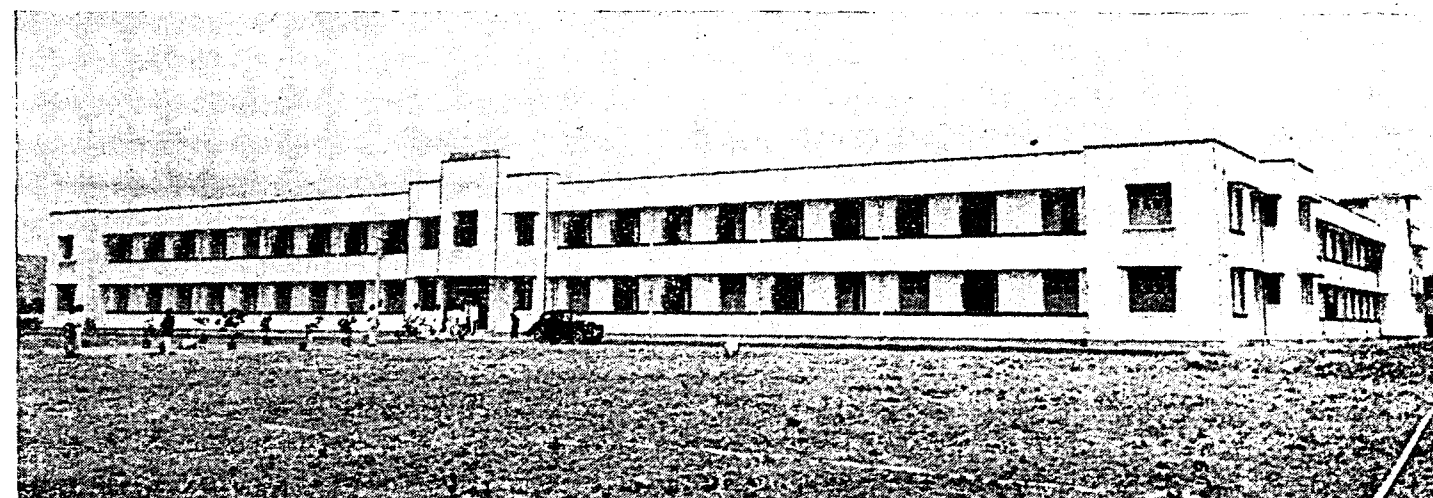
The scheme of expansion for the Government College of Technology, Coimbatore, envisages an increase in the present intake capacity of the institution from 120 to 180 during the Third Five-Year Plan. At the time of starting the institution, Post-graduate courses in the following subjects were contemplated:—

- (1) Public Health Engineering.
- (2) Agricultural Engineering.
- (3) Automotive Engineering.

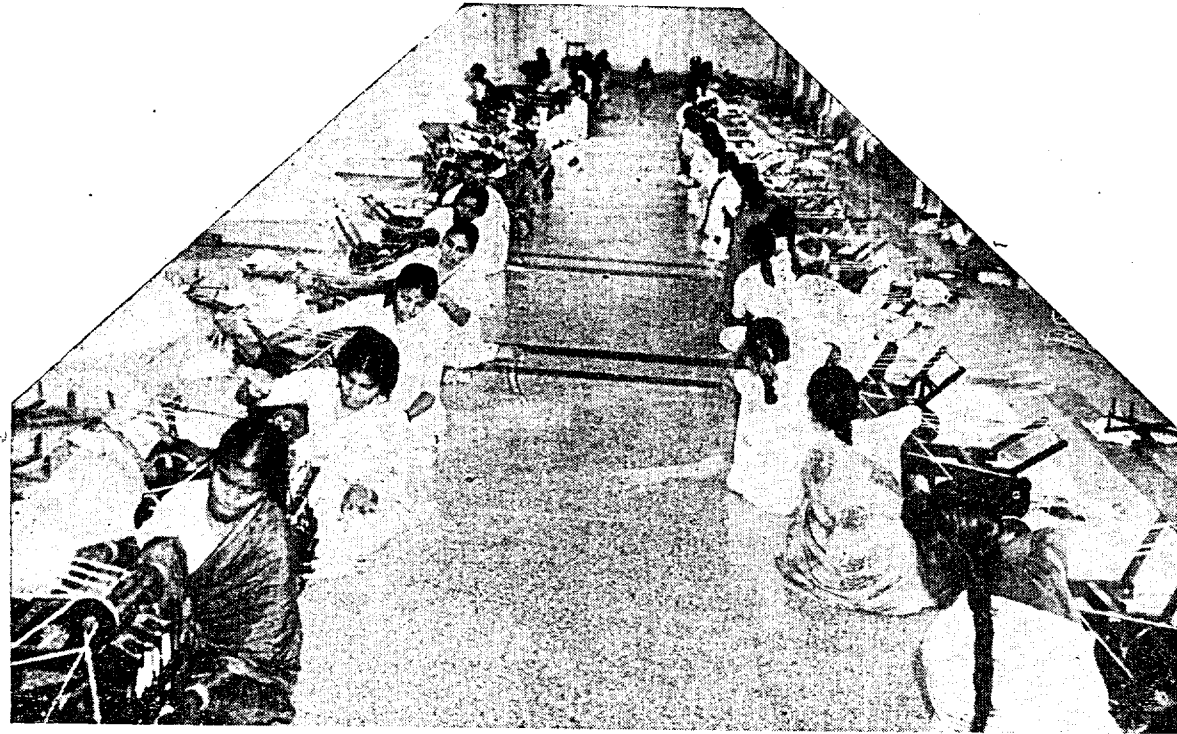
But the Board of Studies in Engineering of the University of Madras suggested that the starting of the above Post-graduate courses might be deferred till permanent buildings were put up at least for the basic courses. Now that the main building for the College with the ancillary buildings has been completed, it is proposed to take up the question of starting the Post-graduate courses in this Institution during the Third Five-Year Plan and I hope the State and the Central Governments will consider these proposals sympathetically and thereby further the expansion of Engineering Education in this State.

Madras Engineers have established a high tradition for efficiency not only within this State but throughout India and even abroad. It is my earnest hope that both the present as well as the future generation of Engineers and Technicians of this State will not only uphold this high tradition but will also endeavour to build it to still greater heights keeping the motto of "efficiency, integrity and service" as their watchword and beaconlight in the discharge of their onerous duties and thereby help the establishment of a truly prosperous Welfare State.

The Hostel Building.



KHADI WEEK



The Khadi Week celebrations in the city started with a mass spinning programme on 2nd October, Gandhiji's Birthday.



At a Coffee Party—a scene from tableau presented by the Students of Queen Mary's College.

DRESS PARADE



Different modes in Khadi.



Miniature dressing table for Milady-prize for one of the children who participated in the Khadi Dress Parade.



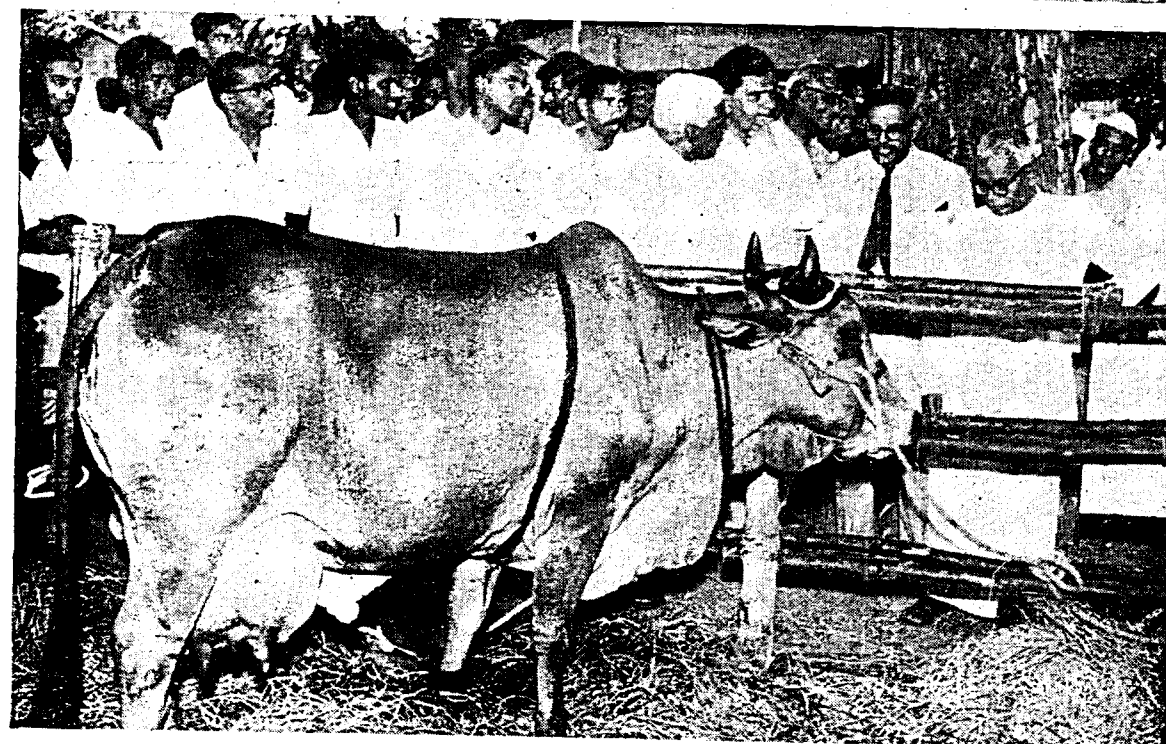
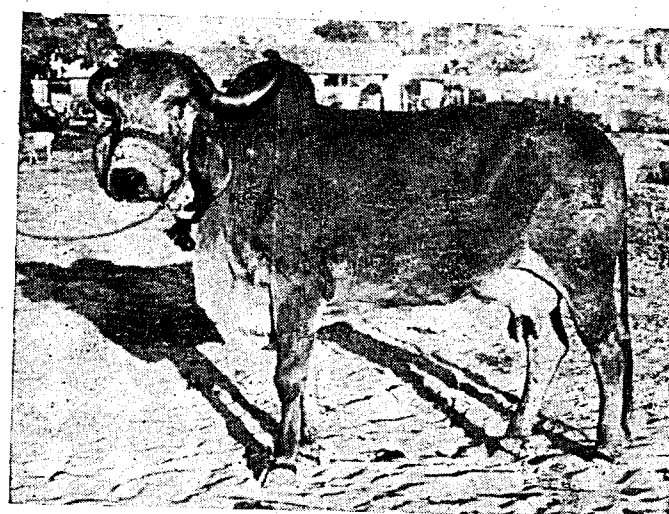
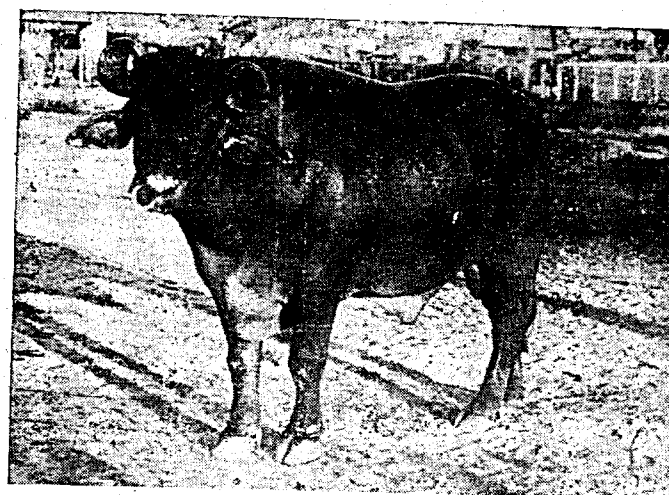
The tiny tot who participated in the Khadi Dress Parade receiving a prize from Smt. Medhi.



The Khadi Dance.

CATTLE SHOW

The South Regional Cattle Show was held in the City from 26th September 1959. The photos on this page show some of the best entries to the show.



The Madras Dairy and Milk Project

SRI C. G. RANGABASHYAM, I.A.S.,
Milk Commissioner, Madras.

With a view to reorganize the milk supply position in the City of Madras, a scheme known as the Madras Dairy and Milk Project has been drawn up by the Government of Madras and included as a part of the Second Five-Year Plan. The scheme, which involves a total outlay of Rs. 123.8 lakhs, is well under way and scheduled to be completed within the Second Plan period.

The project consists of two parts—the Milk Colony and the Central Dairy. It is proposed to set up a Milk Colony to house 4,000 milch animals by evacuating the cattle from the congested areas of the City and also establish a Central Dairy equipped with the most modern and up-to-date plant and machinery for processing and distribution of milk to the citizens. A plot of land measuring 703.23 acres in Madhavaram, about 7 miles from the City, has already been acquired for this purpose. The Milk Colony will provide accommodation for 4,000 milch animals as also the resident owners of the animals in 8 units of 500 animals each. The first of these 8 units offering accommodation for 500 milch animals is ready for occupation and was inaugurated by the Union Food Minister, Sri S. K. Patil, on 15th October 1959. Towards the establishment of the Central Dairy the plans and estimates of the Dairy building at a cost of Rs. 20 lakhs have already been drawn up and the foundation-stone for the Dairy building at Madhavaram was laid on 15th October 1959 by the Union Food Minister.

The Government are examining the question of bringing in legislation to evacuate the City stables in the congested parts of the City. Meanwhile, the first of the 8 units in the Milk Colony, which is now ready for occupation, will be thrown open to those who voluntarily seek accommodation therein. In the interests of the producer-owners themselves, it has been decided to admit only such of those with a minimum of ten milch animals that seek accommodation, as otherwise it would be uneconomic to manage them in the colony. Such of those who own less than ten milch animals, which is the minimum requirement, will however be helped by issue of liberal loans to make up the minimum required. It is proposed to collect a rent of Rs. 6 and a licence fee of As. 8 per month per milch animal that is sought to be housed in the colony. The producer-owner will be offered accommodation for his milch animals at the colony at the above rates and will be provided with free residential accommodation for himself or his representative to manage the animals belonging to him in the colony. The Government undertake

to purchase all the milk offered by the producer-owner at a rate that will be fixed mutually allowing for a reasonable margin of profit. Veterinary aid and other facilities for the proper upbringing and management of milch cattle will be made available free of cost at the colony. Arrangements will be made to obtain concentrates required for cattle feed at reasonable rates and make them available to the producer-owners. Similarly, green fodder required for the milch cattle will be made available at very cheap cost from the adjoining grass farm at Kodungaiyur now run by the Corporation of Madras. The cost of the concentrates and the green grass supplied to the producer-owners will be recovered from the weekly or fortnightly milk-bills, as the case may be, that will be preferred by them. The milk offered by the producers will be accepted on butter fat basis—separate standards being set for cows' milk and for buffaloes' milk. As there is a vast area in the colony, facilities will be made available for grazing of milch cattle. Provision is being made for accommodation for near-parturition animals. The Government will afford all facilities for the care of dry animals in the nearby Government Salvage Farm at Alamadhi.

In addition to the above facilities, all the requirements of a township, such as school, playgrounds for children, parks for recreation, hospital, postal facilities, police station, etc., are being provided for to make living in the colony as comfortable as possible.

Towards the establishment of the Central Dairy, the Government of New Zealand have offered a generous aid of £215,000 (Rupees 29 lakhs) for the purchase of plant and machinery by inviting global tenders. The plant and equipment schedule has already been drawn up and it is hoped that the Dairy building will be completed and the plant and machinery installed by the end of 1960. It is proposed to handle 1½ to 2 lakhs pounds of milk in the Dairy. Cows, milk, buffaloes, milk and toned milk (with 3 per cent fat) will be made available separately to the consumers in the City at very reasonable rates. An efficient system of quality control will be rigorously enforced. Provision is being made to manufacture such milk products as butter, ghee and ice-cream also. Arrangements will be made to set up depots in different parts of the city for sale of milk and milk products to the citizens.

(Continued on page 32)



when tomorrow comes...

For him a spade is not yet a spade.

The telegraph wires hum a strange tune, the
distant drone of a plane means faraway places, mystery.

And imitating father is a new kind of play.

When tomorrow comes, play will turn to work.

Life will take on a different purpose. A spade
will be a spade, and care will be part of living.

Today's striving and effort is for the world
he will grow into, a world that offers a little more—
a little less of the care, a little more of the joy.

Today, as in the past, our products help to make homes
cleaner, healthier, happier. But today we are also working for...
Tomorrow, when the evergrowing urge for better living
will demand still greater efforts. And we shall be
ready with wider service, new ideas, new products...

Today and Tomorrow... Hindustan Lever serves the home.

PR.3-X52

(Continued from page 4)

baby must not have a certain thing given to him just because he cries for it. If the next time we break our own rule by at once giving him when he cries for it. As a result, our own work of training becomes harder and has a harmful effect on the child, who finds it difficult to be obedient and self-controlled—hence the need for kindness seasoned with firmness.

Food habits should be inculcated from the very beginning. Food should be made as attractive as possible. Worry, excitement and ill-temper are fatal to good digestion. Children should be taught from the start that no remarks are to be made about what is set before them. The diet should be varied, the meals taken in cheerfulness and peace. Food should be taken slowly and there should be fixed timing and intervals. Table-manners are important and should be taught early in life. Children should eat with the mouth shut and quietly. They must not talk when the mouth is full. It is a golden rule to avoid eating between meals and children must be trained in this habit as early as possible.

We therefore should not expect children to remain quiet without occupation. On the other hand, we must not forget that those natural instincts need to be trained. They must however curb their restlessness at times. They must be taught for instance not to fidget at meal-times nor interrupt when their elders are talking. They should be trained to amuse themselves quietly when they are in the room where their elders are working.

It is very important in these days when children are indulged so much more than is good for them that they should be taught to take thought of others. We must aim in our teaching to strike the "golden mean". We must allow for the natural activity of the child and at the same time remember there are times when the natural activity must be restrained.

Another characteristic of early childhood is timidity. Children vary in regard to their fears and what seems amusing to one child is grotesque and frightening to another. Babies are often frightened by anything which is unfamiliar. An unknown face or the sight of its mother dressed in black causes a cry of terror.

The fear of the unknown or unusual is very common in young children. Again the sight of anything deformed or ugly is a source of terror to many children. We are told children would never fear the dark if the idea were not put into their minds by older people. They hear such unwise remarks as "Isn't your little boy afraid of being left alone at nights?" And they at once begin to think that there must be something to be afraid of. Some children especially those of a highly imaginative nature have a instinctive dread of the dark. Prof. Sully says "the absence of light and the oncoming of night have as we know a lowering effect on the functioning of the body". In fact, the very darkness of the night tends to make anyone gloomy. The wisest plan is to leave a little light in the room. Fear is extremely harmful to little children. Untold injury may be done to the nervous organism of a child by a fright in early life. All threats as "a bogey-man will get you" should be taboo in the nursery. Another characteristic of childhood is the trust and confidence

which children place in those set over them. If we are trustworthy and altogether trustful, they will trust and respect us.

The imitative Faculty of childhood, is so obvious that it hardly needs any elaboration. Children are described as a type of monkeys who copy their elders. It is hardly too much to say that in training them, our example is practically everything.

Who is not familiar with the perpetual "why and how"? Very often the little child is snubbed and told not to be inquisitive. Curiosity is a valuable characteristic. The child would learn but little without it. Times there will be when we have to confess. "I do not know" or "you are too young to understand". But we can always show patience and sympathy. Let us beware of undervaluing the child's intelligence. Above all, let us not tell him anything which he will later have to unlearn.

The fundamentals of hygiene should not be overlooked. We must notice how children breath. They ought to breath the nose with the mouth shut. Children should be taught to sit and stand upright without stooping. Ungainly attitudes besides spoiling the appearance of a child have a bad effect on his growth and development. A narrow chest, curvature of the spine and one shoulder higher than the other are among the evils which may result from wrong postures of the body.

Activity is the child's element. The average healthy child should be on the go for a great part of each day. We should teach the child to amuse itself from a very early age. It should be left at some safe place to kick its legs about before it can sit up. When a little bigger it can be given bricks or some simple toys to play with. As for toys, the simpler they are the better. The clever mechanical toys which grown-up people think so ingenious are not the best for children. They leave nothing or little to the imagination. The dolls have their own place and value especially to girls. They become real people to the girls who nurse them and also provide a training in motherliness. Brick too are good. Only those who have watched a little child with them know how many and various are the things which can be built with them. Small toys should be avoided as also painted things.

We must be judicious in the choice of books for children. Once we put them on the right path of choice, then their powers of judgment will be well-developed to guide them in to the future. Hence while young they should be taught to love good literature. Frightening ugly stories should be avoided. Now a days we find a surfeit of the comic element. This according to Miss Mason induces a frivolous habit of mind.

A mother or a teacher need not be learned. This does not mean that she must not strive to improve herself. God nowhere promise to supply our deficiencies when he ourselves are careless and idle. The little child must be led on by degrees as he is "able to bear it" from truth to truth. It is important the child's first ideas should not be connected with fear. They should not think of the parent as a punisher of wrong-doing. To tell a child that God does not love him because he is a naughty boy is not only mischievous but untrue. All children are born good—they are only made naughty by bad or faulty training.

It is not only not kind, it is cruel to spoil a child. It makes him a misery to himself and to others. An only child is in great danger of being spoilt unless the parents are willing to take some trouble in the matter of training. Another cause of spoiling is the mistaken idea that to let a child have its own way means happiness to him. Gratification of his whims is in no way happiness. It is the greatest possible mistake to imagine that unlimited licence means happiness. Children are really happier when they are under discipline if that discipline is loving and firm.

To speak of a child more than is necessary has a harmful effect. It is likely to make him shy and uncomfortable. Then too, the sort of conversation not meant for children and to which children listen does much harm. They really listen far more than their elders think and if they do not understand fully, they often get a general drift of the conversation and their character is day by day being influenced for good or evil by what they hear.

Is childhood then the happiest time of life? It is difficult to say; the sorrows seem so trivial to us are often so great and often so hopeless to a child. A broken doll to them may be a real calamity. Sorrow to the old is sorrow; to the young it is despair.

The virtues of truthfulness and honesty should be inculcated in children while young. The want of this may lead to disaster later on. If we can teach a child to say 'no' to himself when he wants to do something, we have taught him something which will be of value to him all his life.

Training of children would be sadly incomplete if respect for elders is not included. It is an old doctrine no doubt but has its own place and value. In these days when so much importance is attached to the child's personality, there is a tendency to give these youngsters undue latitude with the result that we have children monopolising conversation and interrupting elders in a way that is rather unbecoming.

Let us then have this great truth before us that no work which we do for little children is lost or in vain. It is like the good seed we scatter far and wide, which will meet us on the other side. No doubt, at times our patience is sorely taxed and our spirits are at a low ebb but our efforts are not without effect. This will be proved by the children in our charge. And are they not worth all our labours? What would world be without them?

"Suffer little children to come unto me and forbid them not; for of such is the Kingdom of Heaven."

These appealing words seem to ring through the ages to all generations for all ages with a perennial freshness. They hold a new-born hope—a hope born of love from which we may draw lessons of strength and kindness.

Child study does lead us into many fields but underlying it all is one unifying principle the training of the child and Preservation of the Home. Methods may come and methods may go; children are born and children die, but the child and the Home go on for ever.

(Continued from page 10)

one of these Holiday Camps sites should be located in a hill station or a Reserve Forest. Excepting Tanjore district, which has no hills or mountains nor forests, every other district can boast of at least a hillock with water facility.

To begin with it will be a great help for the children of the State if Government would select two or more such ideal spots for children's Holiday Camps in each district and equip them with minimum requirements for 50 campers. Such a camp, I am sure, will become very popular with children and youths if arrangements are also made for healthy and wholesome food to be served at reasonable rates. The Indian Council for Child Welfare and its District Branches are always willing to extend their fullest co-operation in this matter to Government for realising the ideal of having two Holiday Camps for children in every district by the end of 1960.

(Continued from page 5)

At first she wanted to be an actress but a voice within her led her to medicine. Being a doctor, she became an educationist through her professional contact with defective children. Her interest in these children who were called mentally defective, awakened her to her mission. By teaching them in her own way she not only discovered a method known to-day all over the world as the Montessori method but she also discovered the child. What she gave to the world as the Montessori method was what she took from the child himself. In this way she brought salvation to the child and to man. To the child, learning became a creative expression and every subject became an expression of joy. The school room was no more a miserable centre of toil but a home with every possible means of self-expression and self-development. Madame Montessori never believed in toys because they did not lead the child anywhere. She discovered that the actions of the child which we often call mischief are the result of an inner urge for constructive and creative activity. She gave an outlet to that energy by developing the Montessori materials which were playthings through which both discipline and knowledge were acquired.

Madame Montessori's method of teaching was to give as little oral instruction as possible. When she was with children, she neither overwhelmed them with the indignities of caresses nor did she draw their attention to herself. She was there watching, smiling, understanding and ready to help when help was wanted. Hers was the most unselfish love for the child I have seen. Yet by her presence she drew the child's love and respect. She abhorred the idea of talking down to children and treating them with disrespect. She saw in each one of them the potentialities of the fully and harmoniously developed human being and to this potential she gave her respect.

To the end of her days, Dr. Montessori gave expression to newer and newer ideas based on these principles of disciplined freedom and the divinity enshrined in the child. She knew the mystery of the child, the representa-

tive of Sri Krishna who came to conquer the hearts of men by His divine play. She combined in her educational principles the true art of teaching and learning. Artist in her being, sensitive to beauty and brilliant in intellect, she has shown how worthy of respect is the sublime spirit of the child. She gave maturity to the child and to the adult the realization that in him who understands the child is born the spirit of eternal youth.

(Continued from page 15)

As a correctional worker in the field for over two decades, I am usually interested in contacting varied types of juvenile delinquents, undergoing institutional treatment and training in the Government Approved Schools in our State. Even from a frequent but random sampling from a motley crowd of juvenile delinquents, ranging from a homeless and economically deprived child taking away a brass vessel to enable it to go to have its daily bread from the crafty sale thereof, to an impulsive and distressed juvenile doing away with another youngster, due to his subjective mental emotional tensions, I have proofs to convince that no child is born delinquent or much less a criminal; but, it is the peculiar abnormal conditions of home and complex environmental factors in society which are responsible for turning out many a juvenile, a wanderer, uncontrollable truant, delinquent and ultimately an offender, if they are not properly guided and checked at every stage of their pre or temporary delinquency.

State Transport

City Branch.—The fleet strength of the Madras Branch of the State Transport Department was increased to 453 buses during the month of August 1959.

An average number of 343 buses was operated every day and these buses brought in a revenue of Rs. 16,14,346.34. A total of 1,106,243 miles were covered and 12,395,216 passengers were served.

Specials were operated to Periapalayam and Tirupporur.

In the month of September 1959, 345 buses were operated every day. The total collection for the month was Rs. 15,33,066.96. 1,098,856 miles were covered by these buses and 11,915,112 passengers were served. The fleet strength remained at 453. Specials were operated to Periapalayam, Tirupporur and Covelong.

Kanyakumari Branch.—The fleet strength was 83 and an average number of 65 buses was operated every day. The total collection for the month was Rs. 2,93,583.42 and 316,576.1 miles were covered. 1,011,190 passengers were carried.

Specials brought in Rs. 1,141.16.

The fleet strength for the month of September 1959 was 84 and 63 buses were operated daily. The month's collection was Rs. 2,88,508.40 and 1,036,011 passengers were served. Specials brought in Rs. 412.44

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(Continued from page 20)

in 1814. There are inscriptions to this effect in the monument itself, in Tamil, English, Telugu, Urdu and Marathi.

In November 1958, two-thousand cannon balls of steel and alloy of different metals in 4, 12 and 22 lb. weights were discovered—around Manora, by chance, when a ryot dug a well. If the area can be opened up and excavations undertaken, interesting finds may be unearthed.

Though Manora has not been damaged by cyclones it has not been spared by human hand, by visitors and village-folk. Floors have been ravaged and walls disfigured. One can never forgive those who have inscribed their names, some shabbily and hurriedly written, others engraved with painstaking care. What a shame to our national character!

If the place could be made beautiful and pleasant, Manora will be a Tourist-attraction; it can bubble with acvitivity and be remunerative to the inhabitants of an underdeveloped area. Tourism is as paying an industry as any other and will help mitigate unemployment.

Lack of picture-postcards and informed guides needs no mention. I am tempted to say that in places less significant than Manora, Americans have put up canteens and cafeterias, swimming pools and Field Museums (presumably by Historical Societies) where every available information about the monument is carefully recorded. Everything is done to take care of the transport, accommodation and entertainment of visitors. We too can do likewise. Proximity to the Bird Sanctuary and the Horse-breeding area is a strong point suggesting Manora's development as a Tourist Centre. The advantageous location of a Bay within the Palk Straits offers unique opportunities for pleasure-boating. Above all Manora is a monument that needs to be properly preserved. If it continues to be uncared for and to fall into a state of sad decay, coming generations will blame us for our neglect. Conservation-work and Archaeological exploration will give an impetus to our national pride.

(Continued from page 27)

As the Milk Colony will be able to provide only one-fourth of the total requirements of the Dairy—only about 50,000 lb. of milk a day can be obtained from the 4,000 milch animals in the Colony—it is proposed to set up an organisation for collection of milk on a large scale from rural areas in the neighbouring districts of Madras, such as Chingelput, North Arcot and South Arcot by intensifying the development of rural milk co-operatives, issue of liberal loans to the primary producers and setting up milk collection centres and chilling plants at a few select places. Arrangements will be made to transport all the milk so collected into the city by insulated vans. During the Third Five-Year Plan period provision will be made to arrange for transport of milk even from such long distances as Coimbatore and Ootacamund by rail tankers.

In order to co-ordinate and control milk production, collection, processing and distribution, it is proposed to set up eventually a Milk Board with statutory powers. As a first step towards this direction an Advisory Board has already been set up with the Minister for Agriculture as the Chairman consisting of five prominent non-officials representing varying interests and the officials concerned. It is hoped that this Advisory Board will, in course of time, evolve itself into a statutory Milk Board.

From the foregoing account it will be seen that the project has been conceived with the three-fold object of (1) rehabilitating the city milk-men and their trade, (2) putting more money in the hands of the ryots in rural areas by encouraging them to take to Dairying as an economic proposition in addition to agricultural operations, and (3) above all to make good quality milk available in sufficient quantity to the citizens of Madras at reasonable rates. The above objectives, though seemingly formidable, are not difficult to achieve. Bombay and Calcutta have already advanced far in this direction. There is, therefore, no reason why Madras should lag behind. Given the good-will and co-operation from all sides the Government of Madras are confident that this Project, which is making its humble beginning now, will grow into a mighty venture and it will not be ere long that it satisfies the long-felt need of the citizens of a growing city like Madras.

Book Review

“Petrorkalukku”

This is a collection of short stories written by a Russian author, Mackerenkov and translated into Tamil by Sri N. Vanamamalai and Sri S. Shanmugam.

The translation is very ably done and the translators have endeavoured to present the author's ideas perfectly. The short stories are based upon incidents which take place in real life and therefore make very interesting reading.

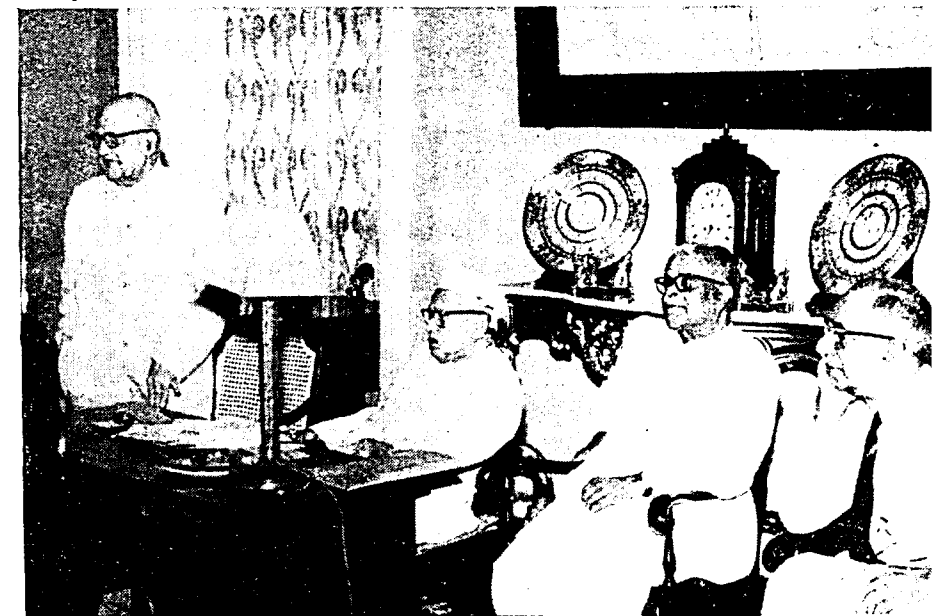
‘Petrorkalukku’ published by the
Nellai Publishing House, Ltd.,
Tirunelveli Junction.

Price Rs. 6-00

48)
The City Corporation Day was celebrated. Photo shows the Mayor, Sri A. P. Arasu with the Chief Ministers of Madras and Andhra Pradesh.



The Madras Branch of the Institute of Public Administration was inaugurated on 5th October 1959 by Sri V. T. Krishnamachari, Vice Chairman, Planning Commission.



Srimathi Lourdhammal Simon, Minister for Local Administration, presided over the Bharath Scouts and Girl Guides Day at the Wenlock Park, Triplicane.



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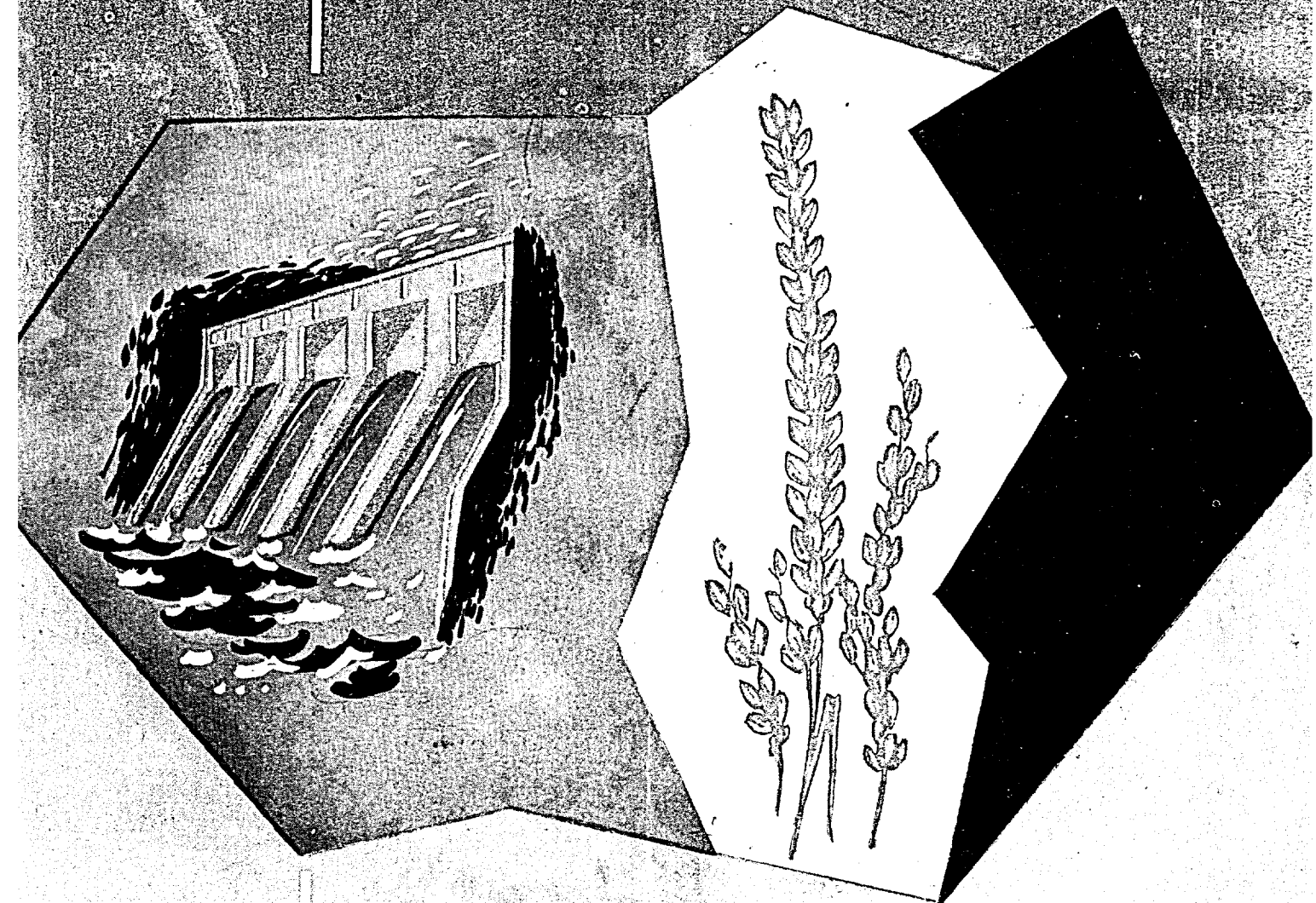
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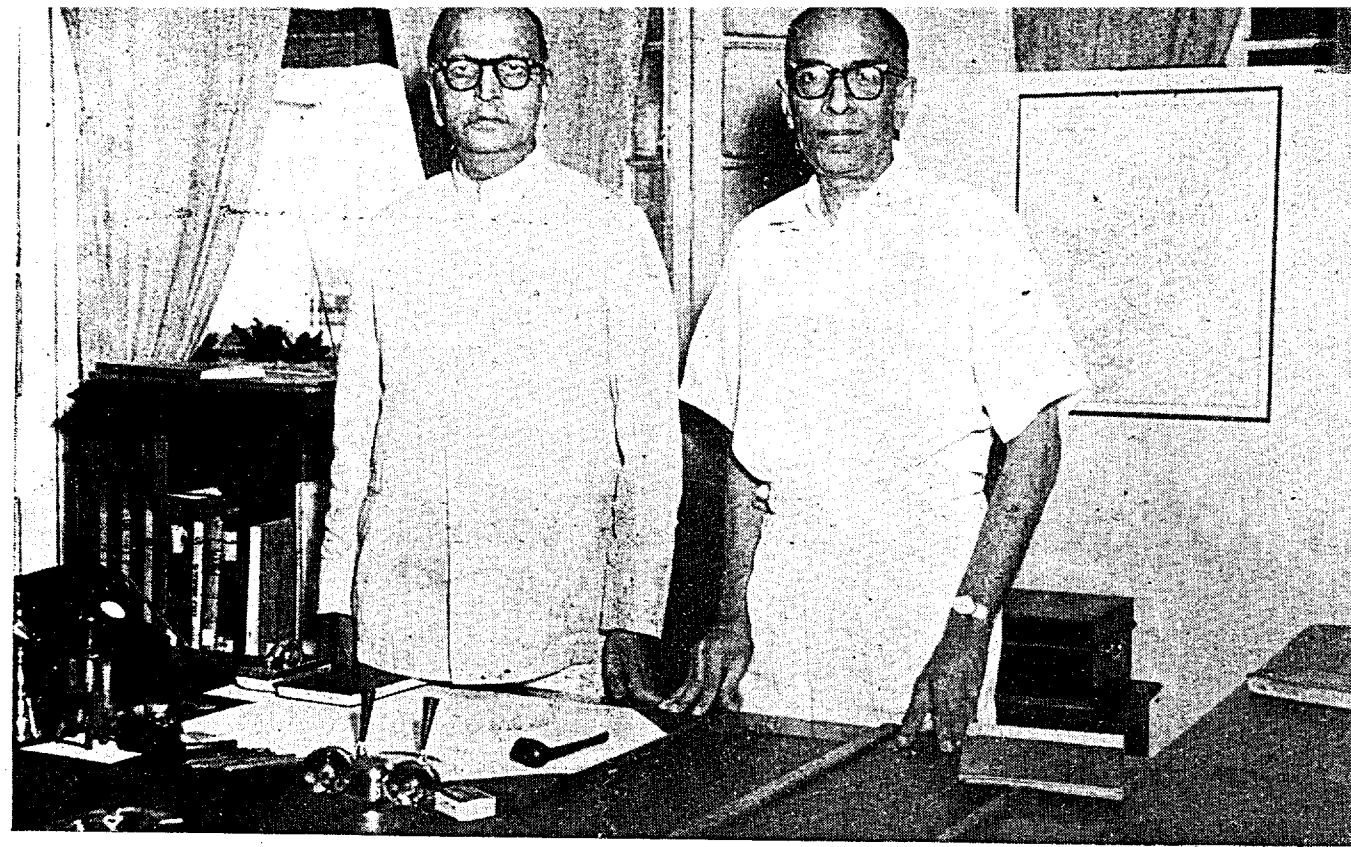
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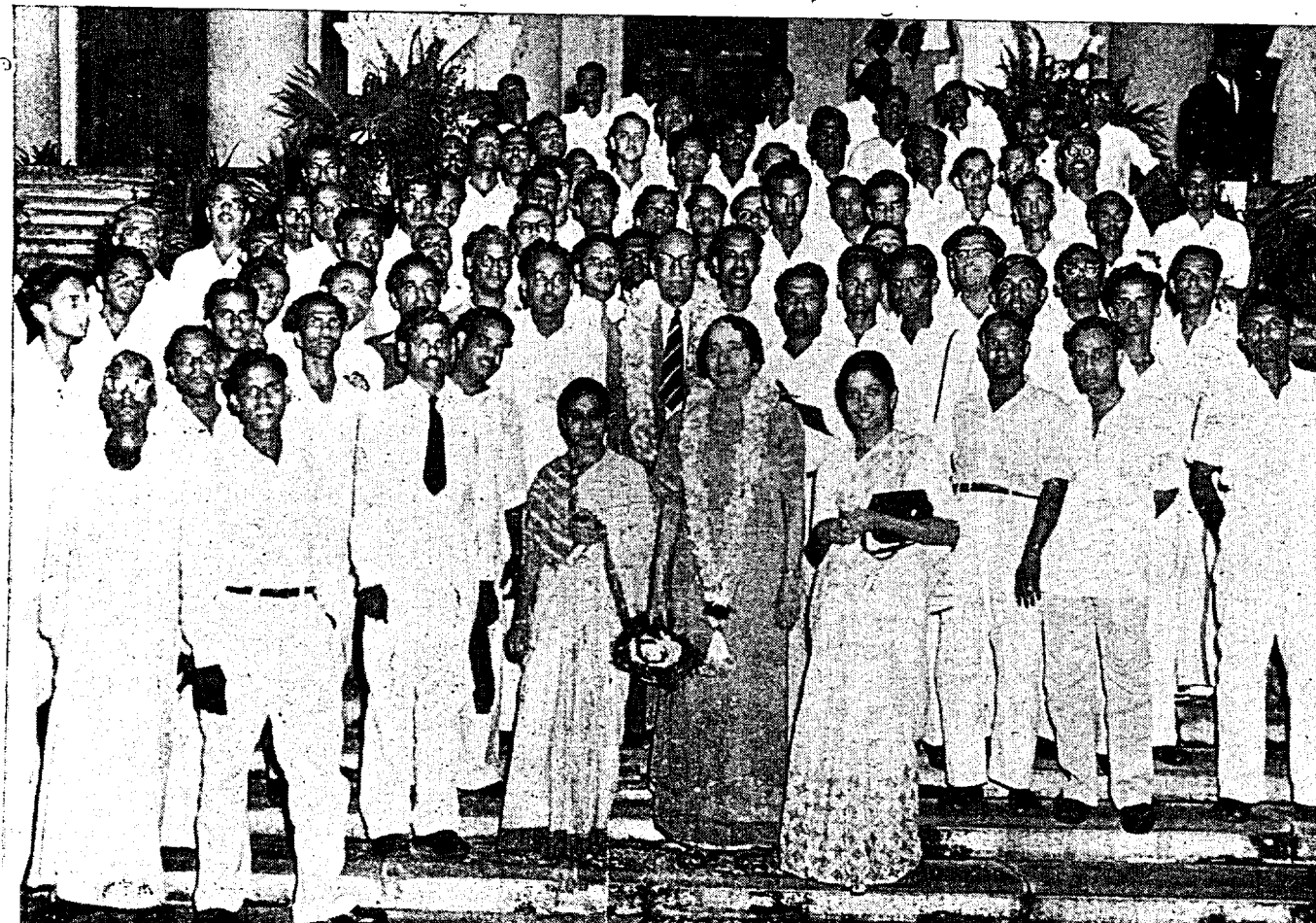


DECEMBER 1959 20 nP



Sri T. N. S. Raghavan, I.C.S. (left), took charge as Chief Secretary to Government on 14th November 1959 from Sri W. R. S. Sathianadhan, I.C.S., who is going on leave preparatory to retirement.

At the farewell party, got up in honour of the retiring Chief Secretary.



A BIRD'S EYE VIEW

SRI K. V. EKAMBARAM,
Chief Engineer for Irrigation.

FIRST OF TWO PARTS

Irrigation in Madras dates from time immemorial. Of the 32 million acres in the State, 15 million acres are already under the plough. Of this, 2.0 million acres are having fairly stable irrigation from rivers through canals and channels; 2.2 million acres through tanks; 1.3 million acres under wells and small sources. The rest are all rainfed. All this irrigation is, however, not adequate to produce enough food for the present population estimated around 34 millions. The State is therefore obliged to import foodgrains from outside to cover gaps in food production.

Cauvery, Vaigai and Tambraparni are its principal southern rivers. Palar, Ponnai, Araniar and Courtalaiyar are the medium rivers in the north. Almost all these basins have been having irrigation from very ancient times and of the dependable volume in Cauvery waters, over 90 per cent has been used up already. Vaigai's own flows have been availed completely and the diversion of some 20,000 to 25,000 m.cft. from the adjacent west-flowing Periyar river has been necessary. This too had by now been so rapidly appropriated that the localization of the last few thousands of acres under Vaigai scheme had to be kept in abeyance to reserve a margin for water-supply to town. All usable flows of Tambraparni have also already been exhausted.

Most of the northern rivers Palar, Ponnai and Courtalaiyar have been so completely availed already that none of these rivers have any more flows for new irrigation. Even the stabilisation of existing irrigation in these basins is now causing a great concern during dry years and intensive improvements to each source, big and small, are being made to minimise distress.

Sustained growth over centuries has resulted in Madras over reaching its meagre water potential. Import of water is essential. It was in response to this urge that a welcome agreement with the Kerala State in regard to the waters of the Parambikulam, another west-flowing stream, has just been brought about. This water will be of great potential help to a dry area in a zone not adequately served as yet. Speedy efforts are therefore being made to secure its full benefits early.

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and Not to Compete"



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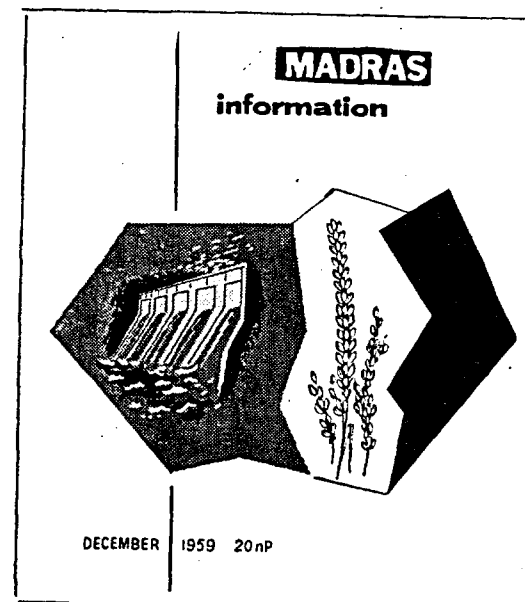


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This month's cover :



For a predomi-
nantly agricultural
State like Madras,
irrigation is the
prime life-giver.
Madras harnessed
all possible water
resources for irriga-
tion. The article on
page 2 of this issue
gives a clear picture
of all the irrigation
projects in the State.

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The total water potential of all rivers including Parambikulam is of the order of 16 million acre feet in an average year. Of this, about 13 million acre feet have already been used up before the Plan periods started. Another 1.5 million acre feet will be availed by the First and Second Five-Year Plan Schemes. What will be left will correspond mostly to that margin which cannot be depended upon. Hence, virtually, all the 100 per cent of the available potential, including those in prospect, has been utilized in anticipation by now. Of the 5 million acres under irrigation, about 2 million acres grow two crops. There are over 5,600 channels totalling to about 14,000 miles tanks 30,000 in number. Wells total to 800,000.

BEFORE INDEPENDENCE.

Cauvery, Palar, Ponnai, Vaigai and Tambraparni have all been having irrigation ever since history. Kaveripauk tank in Palar basin in North Arcot is said to be 14 centuries old. The Grand Anicut in the Cauvery basin in Tanjore is said to belong to the 2nd century A.D. Most of the distributaries in the Tanjore delta are artificial in character and they are even older, that is, they belong to pre-Christian Era. Of the 8 anicuts on Tambraparni, 7 are pre-British. All these continue still in excellent service. Statement I gives an idea of the Irrigation Systems in Madras now in operation.

During the British administration improvements to irrigation works received great attention. Anicuts (diversion weirs) were provided at almost all irrigation offtakes, which for centuries past were being served only by temporary bunds. Important works of this class are Palar, Cheyyar and Poiney anicuts in North Arcot, Shatiatope, Pelandorai, Vriddhachalam and Ponnai anicuts in South Arcot; Upper Anicut, Lower Anicut and regulators at Cauvery-Vennar offtakes in Tanjore. There were also a few new extensions to new areas. Barur tank in Salem; Srivaikuntam anicut scheme in Tirunelveli; the combined irrigation and Madras City Water-Supply System in Chingleput.

Diversion of the west-flowing waters of the Periyar by the construction of the Periyar Reservoir and the foreshore tunnel has to be thought of as an adventure, considering the period in which they were undertaken, namely, the nineties of the last century. A system of channels lower down the Vaigai fed by the waters so diverted also came along with it and this is known now as the Periyar System. It is functioning from 1895. The Cauvery-Mettur Scheme was also conceived shortly thereafter but due to inter-State complications and the rather formidable size of the river itself, construction of the Mettur Dam could actually commence only by 1925. It was completed and the new canal (Grand Anicut Canal) making use of the stored waters started its service from 1933, a year ahead of the opening of the dam in 1934.

Periyar Reservoir stores about 15,600 m.cft. of which 10,000 m.cft. are available at the tunnel level. In an average year, it sends about 22,000 m.cft. to the Periyar area of 140,000 acres. Mettur Reservoir stores about 93,500 m.cft. and handles about 360,000 m.cft.

a year. It is intended to support a new area of 301,000 acres in addition to an old area 1.35 million acres in Tanjore delta and in the river margin in Tiruchirappalli, Coimbatore and Salem districts. The flow is a bit inadequate for the total area and in a dry year, even the old area feels some distress. Considerable remodeling has been done to rectify defects and improve the efficiency of local distribution, so as to secure maximum duty for the available waters.

After Independence the tempo of irrigation development has been stepped up and various schemes were started. Nine schemes were taken up during the First Five-Year Plan at a total estimated cost of Rs. 28.98 crores to benefit 346,000 acres new and to stabilise supplies to 123,500 acres of existing irrigation.

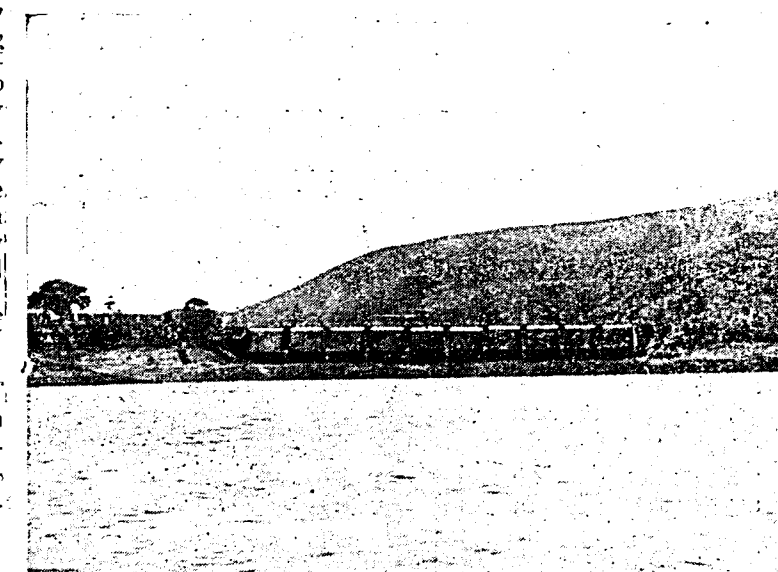
These projects are briefly dealt with below :—

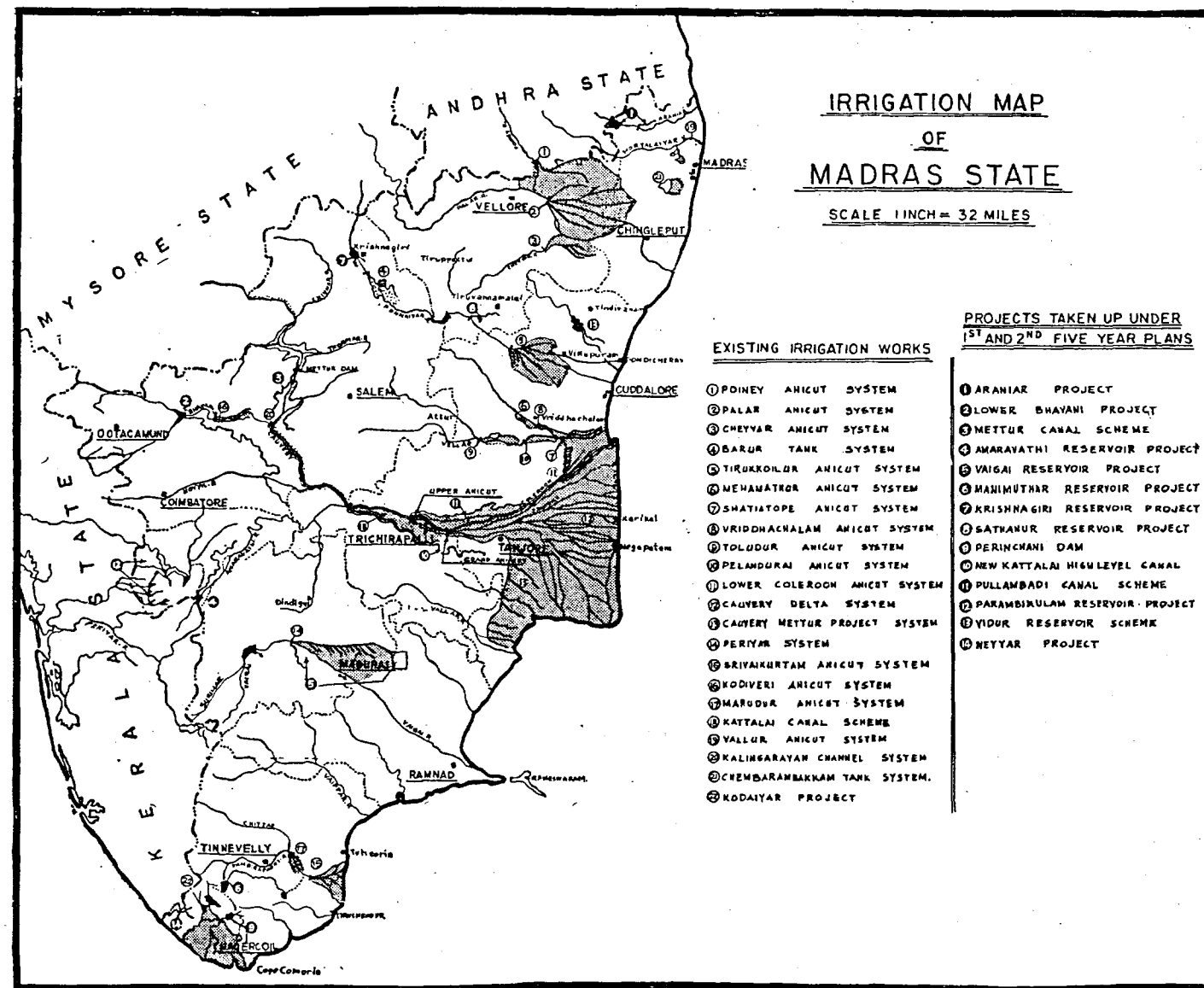
FIRST FIVE-YEAR PLAN.

Lower Bhavani Project.—The Project comprises a reservoir across the Bhavani river about 20 miles from Mettupalayam, storing about 32,000 m.cft. It benefits 207,000 acres in Gobichettipalayam, Bhavani, Erode and Dharapuram taluks of Coimbatore district and Karur taluk of Tiruchirappalli district. This is essentially a project for irrigation of dry crops, cotton and cereals. Low-lying water-logged fields are alone intended to grow paddy. The main canal is 124 miles long and it takes off from the right side of the river. The length of the distributaries is about 560 miles and of field channels about 1,200 miles. To aid development all field channels down to 50-acre blocks are also being excavated at Government cost wherever necessary. The cost of the project is Rs. 951 lakhs.

Manimuthar Project.—This project comprises a reservoir of 5,500 m.cft. built across the Manimuthar, a tributary of Tambraparni. The dam site is 5 miles

The Periyar Reservoir





from Kallidaikurichi Railway station in Tirunelveli district. The reservoir is not so much for new irrigation as to supplement supplies to existing precarious sources. Some 83,000 acres of existing lands under the several Tambraparani channels along the river and also certain precarious rainfed tanks within the area are assured by it. In addition, a canal 28 miles long takes off from the right side of the dam to supplement supplies to about 300 Nos. of existing rainfed tanks, which suffer on account of poor and ill-distributed rainfall and it is these 20,000 acres under these tanks which thus get assured supplies that are classed as new irrigation.

The project is estimated to cost Rs. 505 lakhs.

Mettur Canal Scheme.—A new canal taking off from the right side of the Mettur dam has been excavated to irrigate 45,000 acres in Coimbatore and Salem districts. This canal bifurcates at mile 4¼ and the left side canal which is 39 miles long crosses the Cauvery by a pressure aqueduct and irrigates 27,000 acres in

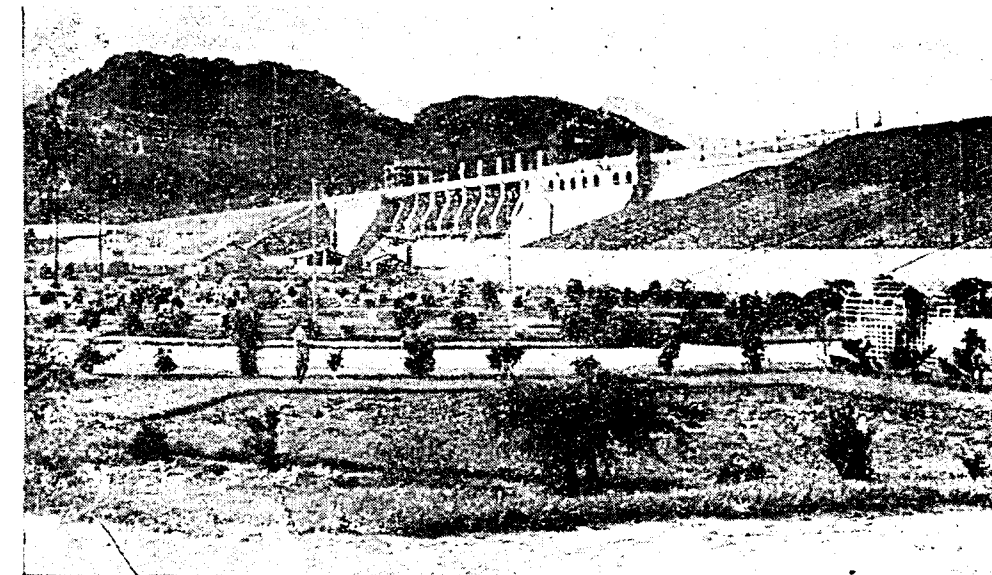
Salem district. The right-side canal is 26 miles long and irrigates 18,000 acres in Salem and Coimbatore districts. Under this scheme the cultivation is paddy and irrigated dry crops in alternative zones by rotation.

The cost of the project is Rs. 183 lakhs.

Araniar Project.—This Project consists of a reservoir built across the river Araniar in Tiruvallur taluk of Chingleput district and two channels, one on either side of the river. A pick-up anicut, 11 miles downstream of the reservoir has been built and a channel is taking off on the left side above this anicut to feed a number of tanks. The total area that is expected to be benefited is 3,000 acres new and 8,500 acres existing. Irrigation is all for paddy cultivation. The cost of the project is Rs. 106 lakhs. As a result of Andhra separation, the reservoir and the channels have fallen in the Andhra area and the redistribution of water is still under discussion. The reservoir also has not been filled up to the full level due to land acquisition not being completed.

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The Amaravathi Dam in
Coimbatore district



Sathanur Reservoir Project.—This project comprises a reservoir built across the Ponnai river near Tiruvannamalai in North Arcot district to store 4,600 m.c.ft. and a pick-up anicut across the same river 4½ miles below the dam site. A canal 22 miles long takes off from this anicut to irrigate 21,000 acres for paddy cultivation, including 3,300 acres of existing wet lands. The estimated cost of the project is Rs. 263 lakhs.

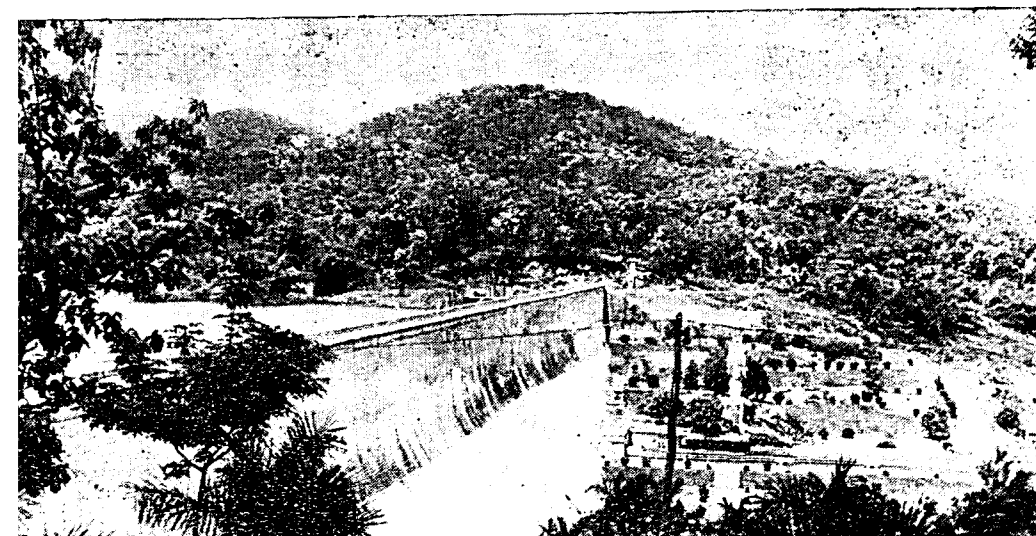
Krishnagiri Reservoir Project.—This project consists of a reservoir of 2,400 m.c.ft. capacity built across the same Ponnai river in Krishnagiri taluk of Salem district. There are two canals, one on either side to irrigate about 9,000 acres including about 2,500 acres of existing wet. The estimated cost of the project is Rs. 202 lakhs.

Amaravathi Reservoir Project.—This Project comprises a reservoir of about 4,000 m.c.ft. capacity built across the Amaravathi river about 14 miles south-east of Udumalpet town in Coimbatore district and a canal 40 miles long on the left side to irrigate 21,000 acres in Udumalpet and Dharapuram taluks of Coimbatore district. The new area will raise mostly dry crops and partly sugarcane and paddy. Also 32,000 acres of existing irrigation under the Amaravathi are also to be established. The estimated cost of the project is Rs. 324 lakhs.

Vaigai Reservoir Project.—This consists of a reservoir of 6,800 m.c.ft. capacity built across the Vaigai river near Andipatti village, in Madurai district, for storing the waters that are drawn from the Periyar lake for power development during non-irrigation season and also some of the surpluses available at Periyar and Vaigai rivers. The new irrigation under the scheme is 20,000 acres. A canal 22 miles long takes off from the right side of the Peranai regulator to irrigate 10,000 acres in Thirumangalam taluk. The balance of 10,000 acres lies on the fringes of Periyar delta. The estimated cost of the project is 330 lakhs.

Cauvery Delta Drainage Improvement Scheme.—This scheme consists of 12 key schemes intended to relieve drainage submersion in the Cauvery delta under several drains. The improvements are intended to ensure better yield from the area and to increase food production to the value of Rs. 4 lakhs a year.

Perunchani Dam.—The major irrigation work in the newly transferred Kanyakumari district is the Kodayar Project under which the waters of the Kodayar and the Paralar (which combine to form Kuzhithuraiyar), and the Pazhayar are harnessed and used for irrigation purposes. In the early part of this century a dam called Pechipara dam was constructed across the



A view of the Perunchani Dam in
the Kanyakumari district

STATEMENT No. 1.

Projects under operation in Madras State.

Serial number and name of Project.	Actual estimated cost in Lakhs of Rupees.	Year of commencement.	Year of completion, i.e., date of closure of construction.	Area irrigated or to be irrigated.	Districts benefited including the area irrigated in each district.
(1)	(2)	(3)	(4)	(5)	(6)
				ACS.	ACS.
1 Poinoy Anicut	3.04	Not known	1887	22,462	North Arcot. .. 22,462
2 Palar Anicut	35.29	1854	31st March 1896	78,668	Chingleput .. 24,102
3 Cheyyar Anicut	12.29	1852	Do.	22,687	North Arcot .. 54,566
4 Barur Tank	4.52	1888	31st March 1891	6,887	Chingleput .. 494
5 Trunkoilur Anicut	3.91	Not known	31st March 1895	23,400	North Arcot .. 22,193
6 Mshamthur Anicut	0.87	1870	March 1891	4,555	Salem .. 6,887
7 Shathiatope Anicut	10.90	Not known	31st March 1895	33,000	South Arcot .. 28,000
8 Vaidachalam Anicut	1.08	Do.	31st March 1893	8,829	Do. .. 4,555
9 Toludur Anicut (Regulator)	26.23	1913	31st October 1825	25,000	Do. .. 33,000
10 Polandurai Anicut	6.92	1870	31st March 1893	12,839	Do. .. 8,829
11 Lower Coleroon System (Anicut).	3.02	1835	30th June 1903	107,926	Do. .. 25,000
12 Cauvery Delta System (Anicut).	93.86	1836	31st March 1889	900,926	Do. .. 12,839
13 Cauvery Mettur Project (Dam).	725.82	1926	30th September 1934	332,000	Do. .. 84,244
14 Periyar System (Dam)	108.36	1887	31st March 1897	143,000	Tanjore .. 23,685
15 Srivaikuntam Anicut	17.75	1863	31st March 1889	26,000	Tiruchirappalli .. 44,008
16 Kodaveri Anicut	1.77	Not known	1893	15,183	Tanjore .. 856,918
17 Thadipalli Channel	1.44	Do.	31st March 1894	4,821	Do. .. 177,000
18 Arakankottah Channel.	0.60	Pre-British	1893	21,000	Tiruchirappalli .. 155,000
19 Marudir Anicut	45.25	Not known	1st Dec. 1926	66,632	Madurai .. 143,000
20 Kallangarayin Channel	0.76	1872	31st March 1893	5,216	Tirunelveli .. 26,000
21 Kalingarayin Channel	1.80	Not known	1893	14,116	Coimbatore .. 15,183
22 Chembarambakkam Tank.	7.61	Do.	31st March 1893	13,000	Do. .. 4,821
23 Kodaiyar Dam	80.6	1897	1936	60,000	Tirunelveli .. 21,000
					Tiruchirappalli .. 66,632

Kodayar river to hold 3,500 m.c.ft. This was intended to augment supplies to irrigation under Puthen dam constructed about 1,000 years ago across an adjacent river Paralar and also to bring new lands under irrigation. The water from Pechipara (Kodayar) Reservoir is taken by a channel on the left flank of the dam and let into the Paralar above Puthen dam wherefrom 2 channels take off to irrigate 60,000 acres wet in Kalkulam, Thovala and Agasteeswaram taluks. Even the linking of the two rivers did not give enough waters to cope up with the water needs of the ever-increasing irrigation areas and the conversions. As Puthan dam is only a diversion weir much water surpluses over it without use. To conserve this surplus, a dam called Perunchani dam has been constructed across Paraliyar above the Puthan dam. The storage created is 2,300 m.c.ft. This can therefore be deemed to be auxiliary to the Kodayar Project.

Two of the nine projects taken up under the First Five-Year Plan were completed during the First Plan

period itself. The remaining seven schemes were continued during the Second Plan. These two have since been completed in all respects except for fitting crest gates and some finishing touches.

(To be concluded)

SALES OF KHADI.

Khadi sales during Deepavali month.

The retail sales of Khadi through the Government Khadi Sales Depots and Centres (excluding Blocks) during the month of October this year amounted to Rs. 13,73,693.51 nP.

The retail sales during October last year was Rs. 3,22,154.75 nP. The sales during the month, this year have registered an increase of 326 per cent over sales during the corresponding month last year.

The Principles of Agricultural Extension

SRI P. P. I. VAIDYANATHAN, I.C.S.

The aim of agricultural extension is to help the thousands of rural families to help themselves by the application of physical and social sciences to their daily tasks of farming and being useful members of the community. The aim of extension is to change the people in order that they may live better and healthier lives—in other words, to make their farms yield more and enable them to live a happier life. Extension has been described as out-of-school, roadside education. While the educational institutions are concerned with students of a particular age devoting their whole time to learning, extension is concerned with millions of the adult population whose whole time is devoted to earning a livelihood. The persons engaged in extension work are the teachers, and almost the whole of the population form the students, and any place in the village or the fields is the location. Viewed in this light, the problems of extension take the form of the problems of large-scale education under difficult conditions. The methods adopted and found successful in education, can often be used in agricultural extension. The difficulties experienced by the extension workers turn out to be the difficulties the school-master is facing every day, only in a different garb. The plan for the development of the mind is in this matter very much like the plan for the development of the country. The growth will be fastest when it takes place in all directions; and any imbalance or over-emphasis on one aspect will in the long run slow down the pace of progress.

Agricultural extension is only a part of general extension, and the two may in some respects be compared to general education and vocational education in agriculture. The student has to be equipped with a good general education, before he can be given any specialized training in agriculture, and even while learning agriculture, he runs up against problems which cannot be strictly called agriculture. In the same manner, extension covers a vast field of human welfare and agricultural extension is only a specialized section of it. If agricultural extension is to be effective, there should be a co-ordinated task of general extension covering all the aspects of rural life such as health and general improvement.

Agricultural extension does not consist in merely making modern scientific knowledge available to the farmer, but it also includes training of the farmer in thinking on scientific lines. The farmer has first to know what science can give to him and to his farm, and he will be prepared to adopt science only if it gives immediate tangible advantages. So the first aim of extension is to translate the results of scientific research into the ordinary farming practices. Farming communities are usually conservative, because agriculture is a risky occupation, and as the resources of the farmer are limited, he cannot afford to take chances with his little fortune. This extreme prudence on the part of the farmer is often termed inertia by the impatient extension workers and economists, but the farmer has found that this prudence has enabled him to survive. This inertia is all the greater in a subsistence economy like the one prevailing in India, where a farmer adopts farming, generally because he is accustomed to it, and not because he has calculated the pros and cons of it. The first step in agricultural extension is to make the farmer adopt one or two fairly obvious measures which will give immediate returns. Good examples of these are the use of ammonium sulphate as a fertilizer and the use of improved varieties of seeds. The farmer has only to wait a few months, and then he can see the obvious advantage of the scientist's advice.

One of the first consequences of introduction of such scientific knowledge in the farmer's mind is to make him discontented with some of the prevailing practices. Spiritually, this may be a loss, but materially, it is a definite advantage, because it is this discontent with his own lot, which provides the motive power for all agricultural improvement. The discontent will translate itself soon into an effort, and it is the task of agricultural extension worker to guide this effort on proper lines, so that the discontent never ends in frustration.

We may now examine some of the principal features of agricultural extension. The first fact to be realized is that extension of agriculture cannot be effective in an otherwise stagnant community. Merely introducing technical know-how in a community which is stagnant

in respect of education and health and cultural activity will not lead to any useful results. Agriculture, especially in a stagnant economy, is carefully held in its place by a number of checks and balances, and it cannot be effectively improved unless there is an advance on all fronts. It will obviously be realized that mere increase in production of a particular commodity without adequate steps to transport and market the produce is only asking for trouble. But it is not equally clearly realized that the pace of agricultural or industrial production in a backward country is to a great extent decided by the pace of progress in education, health, food and social habits.

The second fact to be borne in mind is that although the farmer is highly individualistic he cannot move forward by himself. He is a unit in the village community and he can advance only to the extent that the village community advances. The position is particularly important in India, where the village as an organic unit still exists as a powerful factor. In fact, one of the chief reasons for the migration of bright young men from the villages to the towns is that they find themselves too advanced and thereby prove misfits in the village society. So, the aim of the extension worker should be not merely to tackle the individual farmer but also to tackle the village community as a whole, so that they either move along with the progressive farmer, or at least do not prove a hindrance to his innovations. The same argument can be applied to the home also. Agricultural Extension Service in the United States of America is based on the fact that the farmer will not improve himself unless his wife also is enabled to improve herself. This is translated into practice by a Joint Farm and Home Extension Service. In India, the same principle has led to the idea of Community Development.

The third basic principle of extension is that local leadership should be used as far as possible. It is one of the principles of education of children that the aim of education is to draw out the abilities and talents of the child, the teacher merely being an outside agency facilitating such a development. In the same manner, the extension worker should consider himself merely an adviser and guide who places adequate facilities and knowledge before the rural community to enable it to develop itself. His aim should be to create the necessary momentum in the community itself and to a great extent this can be achieved by paying adequate attention to creating the necessary local leadership. It is the general experience of extension workers that farmers fall into different layers. The top 10 per cent can be said to be the really progressive farmers who do a lot of thinking themselves. In their case, it is only necessary to mention the facts and the basis of these facts, and the farmer can be expected to adopt the new measures. He may be cautious, but once the idea is passed on to him, he tries to come to a firm opinion about it and if he is convinced, he assimilates the idea wholly. The next lower layer, consisting of about 30 per cent, are farmers who are prepared to try new methods, provided they are adequately demonstrated to them in their own lands, or in the lands of a reliable neighbour. They are not against innovation, but are not prepared to take any risk themselves, but prefer to watch their neighbour

doing so. The remaining 60 per cent, which may be called the bottom 60 per cent, form the real problem in extension, because they are steeped in their traditions, and so stagnant in their thinking that they will not be prepared to innovate even after their neighbours have done so. The position is made worse still, by the fact that they form the poorest class.

The method of dealing with each of these classes has necessarily to be different. But the extension worker will be well advised to make a beginning with the top 10 per cent, rather than waste his energy on the bottom 60 per cent. A good example is furnished by the Crocodile Clubs of Germany. These are chains of farmers' clubs, which met occasionally at a suitable place, the name itself being given by the name of the inn "The Crocodile" where the first club was started. The Crocodile Club is really a clearing house for information among the progressive farmers of a number of villages, and this is an ideal gathering so far as the extension worker is concerned. The extension workers made full use of these gatherings with the result that agricultural extension went apace among the progressive farmers in a large area through discussions among farmers themselves. The extension workers could cover the maximum ground by taking advantage of these gatherings.

A fourth principle to be remembered is that extension is only a means and still depends a great deal on the condition of the people and their resources. There is nothing that can be said to be an ideal pattern of extension, just as there is nothing which can be said to be an ideal pattern of village life. Before trying to devise an ideal pattern, one would naturally want to know the nature of the people, their customs, their traditions, in addition to the nature of climate, resources, the crops, etc. So, all that can be said about any pattern of extension is that it should provide for the essentials, such as the imparting of scientific knowledge, the development of scientific thinking and the promotion of local leadership. The exact manner in which these aims are to be achieved, can be devised to suit the local conditions and it is quite possible to devise two quite different methods which are equally satisfactory. The result of this is that the experience of the administrative pattern of any country whether it be the United States of America or China or Japan cannot be copied bodily into any other country without courting disaster. Even in India conditions of village life differ much from State to State. Thus, in most regions, the compact village is the unit and the people of the village meet often daily, but in Kerala and parts of Madras, the farm houses are scattered and each farmer lives in the middle of his lands and does not meet his neighbours often. The methods adopted in these regions have necessarily to be different.

The fifth principle is that agricultural extension should be essentially democratic in character. This means that the ultimate choice of what should be done and how it should be done, should be left to the good sense of the farmer. As stated already, extension is very similar to education and in education, it is the voluntary effort of the learner which counts, and it can never be substituted by any kind of compulsion by the teacher. Extension is concerned with the growth and

ovement of the individual, and this can be effective to the extent to which the individual co-operates. Extension is essentially democratic in philosophy and nature. This statement holds good even in countries where the political organization is totalitarian. There is a tendency in such countries to drive the farmers by giving a dose of compulsory improvement, experience has shown that such efforts always fail. An impatient totalitarian administrator has to wait, until the farmer really adopts as his own, the improvement suggested, however irritating the delay might be. An extension worker has to realize it all the while, when he is dealing with particularly obtuse but conservative farmers. The changes he can bring about by compulsion are not lasting, whereas the changes which are brought about by the momentum created within the village community will soon merge with local tradition and practice.

The sixth is that extension is to a great extent limited by the facilities the State can provide in the way of supplies and funds. The basis of extension is education and advice cannot be effective, unless it can be backed up by financial resources. Particularly, in a poor rural country, the extension worker has constantly to remember the great limitations of resources and finance within which the extension worker has to work, and he can prescribe remedies only within these limitations. If he recommends a particular insecticide or fertilizer, he has got to see if these chemicals can be easily obtained by the farmer. He has also to see if the farmer has adequate funds for investing in such improvements. The service of the Department of Agriculture is all-important in extension work, because these services are what the farmer can really undertake on his own and therefore decide the limit to which the advice recommended by the extension worker can be adopted.

Finally, there is a fact which is often forgotten that the extension worker should have something to "extend". As an educator, there is always a large fund of basic knowledge which has to be imparted to any person, but when dealing with an adult making his living in a changing world, the nature of the knowledge asked for is constantly changing along with the problems. The extension worker has to find the edge which the farmer wants should be in the form of solutions to the problems he has to face, and these solutions must be satisfactory and effective. It is wrongly assumed that the farmer in India is far behind in agricultural science, and therefore, the extension services are going by imparting the existing knowledge to the ignorant farmer. That may be so to some extent, but as the large bulk of the farmers are concerned, even in their case, the time may soon come, when the lands are covered by improved seeds and enriched with optimum dose of fertilizers and green manures. They will then begin to ask questions about further facilities he has to face, especially when changing the pattern of cropping. It must be admitted that the research wings of the Agricultural Department of the State are not in a position to answer all such questions which are suddenly raised, and it is time that the extension workers make an effort to strengthen their research so that answers may be readily found for such questions. The Extension Service in the United States

is fully aware of this fact and as a matter of fact has made itself a limb of the Land Grant College, which is responsible for agricultural research. An effective extension service has to be supported by continuous agricultural research carried out intensively on a national scale.

We may now examine some of the methods adopted by the Agricultural Extension worker in this task. In India, works on Hindu polity four methods have been recommended to the Kings in dealing with their neighbours and subjects, viz., 'Sama, Dana, Bheda and Danda', i.e., giving advice, bribing, causing factions and lastly punishment. These methods can freely be translated into practice in dealing with any class of people and the farmers are no exception.

The first method is to give evidence. The extension worker has to realize that he is essentially an educator and education of the farmer is the dominating task assigned to him. In the multitude of other responsibilities, thrown on an agricultural officer, there is generally the tendency to attach greater importance to functions involving petty patronage, relegating the task of propaganda and advice to the background. Patronage is always highly tempting to the petty bureaucrat, but in the case of the Agricultural Department, the result of entrusting such patronage is often to divert the workers from the main task. Under the conditions prevailing, it is often necessary for the officers of the Agriculture Department to take over service functions like grant of loans, distribution of seeds, provision of agricultural machinery, etc. But these arrangements should always be considered temporary, and a deliberate attempt should be made from time to time to divest the department of these functions.

Verbal advice may be of some use to the very progressive farmers, but goes completely above the head of the ordinary farmer. It is necessary to support the advice properly with a proper demonstration which the farmer can see and appreciate. Originally, the Department of Agriculture concentrated on Demonstration farms and the farmers were invited to visit the farms and see for themselves. The farmer came and saw, but he was not convinced that any of these improvements can be effected on his own fields. The State with its resources can do many things on its farms, but how can the farmer follow? This was probably what he thought or may be he shrewdly guessed that most of the State farms were not paying their way through. The result has been a switching over of the Demonstration to the farmers' fields, and this has been proved by experience to be one of the best methods of carrying the message of extension to the farmer. Plots laid out on his own fields cultivated by him along with the other fields can convince even a conservative farmer especially when the demonstration is repeated over two or three years on different fields. The number of demonstrations now is rapidly increasing and every year in Madras State about 20,000 demonstrations are laid out on the farmers' lands. They started with the lands owned by the best kind of farmers, but gradually the emphasis shifted to the lands of the middle type of farmer and even to the farmers of the bottom 60 per cent or the stagnant type of farmers.

The second principle is 'dana' which can be translated as bribing, and is put into practice by the Agricultural Department in the form of a subsidy. Subsidies are demanded vehemently by the farmers, and their representatives for every conceivable form of assistance, such as subsidies for fertilizers, for improved seeds and even for green manure seeds. The only case where subsidy has been really effective in spreading a recommended method was in the case of nitrogenous fertilizers in the early days and superphosphates in recent times in some States. Generally speaking, the subsidy should be indirect such as in meeting transport charges or certain possible losses, rather than in the direct form of a cut in the prices. The Departmental officers are usually vehement in demanding subsidies for every type of service, but in most cases grant of subsidy will only result in throwing away good money. If the thing is attractive, the farmer can be made to adopt it, but the tendency is to resort to subsidy as the work is said to be made easier. A careful combination of demonstration and subsidy will be highly useful in tackling the chief problems likely to arise in future, viz., changing the patterns in the use of fertilizers, such as in facilitating a switching over from Ammonium Sulphate to Urea or to a balanced mixture, or in changing the cropping pattern, altogether.

The third method recommended in politics is faction, and this may be left alone so far as the farmers are concerned, as factions among them are too numerous already. In a slightly modified form this may be used by rousing the competitive spirit amongst them. Crop competitions of various types have been effective to a

great extent in popularizing more intensive cultivation, but it must be remembered that whatever results these competitions have, are confined to the top 5 or 10 per cent of the farmers who are progressive already, and do not require anything other than verbal advice. Some attempts have been made recently to use the competitive spirit amongst the villagers by judging teams of farmers, but it is rather too early in the day to say that this had had any effect.

The fourth method recommended is punishment or compulsion. There is a certain amount of vague or airy discussion about compelling the farmers to adopt improved agricultural practices, to conform to certain crop patterns and of penalising them for any deviations. Apart from these being totalitarian in concept, it is very doubtful if any of these measures will do any good and on the other hand, it is very likely that they will do a certain amount of harm. It is really for the farmer to decide what he should do, and to allow every administrator to enforce his fads is to court disaster. Anyway, in a predominantly rural country, there is no apprehension of farmers as a class allowing themselves to be dominated by a bureaucracy enforcing such controls. There are, however, stray instances in which compulsions have been useful and effective, such as in enforcing the Pest Control Order and the restriction of the cultivation of cotton to certain approved varieties in some zones. These restrictions have been found to be generally beneficial, but really speaking, the enforcement is done more by the local opinion rather than by positive measures adopted by the administration.

(Continued on page 36.)

MADRAS INFORMATION—ANNUAL 1960.

It is proposed to bring out an Annual Number of the 'Madras Information' in 1960 in the place of the February issue. This Annual Number of about 124 pages will contain a large fare of articles from eminent men in public life, scholars and Heads of Departments, and is priced at Re. 1 per copy. Readers desirous of purchasing the Annual will please remit the price of the required number of copies to the Director of Information and Publicity, Fort St. George, Madras-9, by Money Order or by Indian Postal Order or by cheque drawn on any Bank in Madras City, with full and clear postal address, so as to reach the office not later than 12th January 1960.

There will be no separate issue of the 'Madras Information' for the month of February 1960. The existing subscriptions will be extended by a month to compensate for this.

Requests for adjustment of the price of the Annual from the existing subscriptions or by Book adjustment in the case of Government Departments will not be complied with, as it is a Special issue.

Director of Information and Publicity,
Madras.



"The earth sustains even those who dig into her", so runs an old saying.

The quality of sustenance, however, goes down if "digging" is not done properly. Practice of unsuitable methods of agriculture, excessive deforestation and over-stocking of grazing land can cause soil erosion and reduce the productivity of land.

Soil, the upper layer of earth, having depth of a few feet to a few yards, is composed of disintegrated rock with admixture of animal, vegetable and mineral matter in variable proportions. Fertility of land depends on the quality of this soil. If this is removed soil erosion sets in and the land becomes unproductive.

Already, large areas of land have gone out of productive use because of wind and water erosion and this process is continuously at work. One-fifth of the area in hilly regions, pastures, waste lands and ravines is estimated to be in an advanced stage of erosion. Deserts, which cover about 50 million acres, are in the grip of erosion themselves and produce conditions conducive to erosion in adjacent areas. In fact, a high proportion of agricultural land under cultivation suffers from soil erosion of one kind or another.

Sloping and undulating land which is under cultivation has, specially, suffered from sheet and gully erosion. A recent survey of some areas in Bombay which are exposed to scarcity conditions, has shown that more than two-thirds of the cultivated area has been eroded severely and about one-fourth of the land has been rendered useless for agricultural purposes. Similar conditions exist in parts of Madras, Mysore, Andhra, Orissa and Madhya Pradesh.

Soil conservation measures such as contour cultivation, strip cropping, mulch farming, bunding, terracing, gully plugging and check damming, carried out in a planned manner, can do much to arrest deterioration of land and, in due course, restore its productivity.

A good example of what the soil conservation methods can do to restore the productivity of land is provided by Parner, a village 70 miles from Poona. Good land in that area had been lost by erosion over a number of years. Bunding was an absolute necessity. When this fact was brought home and a certain degree of financial assistance was given by the Government, the villagers evinced commendable enthusiasm for the work and actually contributed nearly 75 per cent towards its cost. Large scale bunding operations were carried out. The result was that early this year, the yield had gone up by 100 per cent.

Soil conservation is not new to India. Terracing of paddy fields and building of bunds have been practised in many parts of the country since ancient times. Anti-soil erosion measures like dry farming, contour trenching, gully plugging, bunding and terracing have been introduced in the States of Bombay, Uttar Pradesh, West Bengal and Madhya Pradesh during the last 25 years.

More systematic soil conservation work was, however, started during the First Five-Year Plan, as part of a national drive for increasing agricultural production. Continued during the Second Plan, the programme includes use of land according to its capacity, constant protection and enrichment of soil and a war against erosion. Survey, research and training are its necessary adjuncts.

The work is to be carried out in a concerted manner over 3 million acres in those tracts which are seriously affected by soil erosion. The programmes drawn up for these areas attempt to tackle erosion problems of all kinds—for agricultural lands, deserts and coastal sand dunes, river valley projects, hilly regions, ravine lands, waste lands and lands eroded by sea. The goal is to utilise natural resources to man's best advantage and maintain and enhance, wherever possible, land productivity continuously and permanently.

This fodder attempts to give a few suggestions on the adoption of contour cultivation and strip cropping—two effective methods for preventing soil erosion in certain areas.

CONTOUR CULTIVATION.

The up-and-down method of cultivation, practised in many parts of the country, is one of the causes of soil erosion. On steep slopes this practice enables rain water to gather velocity, facilitating "run-off" water to erode soil and cause, by stages, what are called sheet, rill and gully erosions. Thus, the upper layer of the fertile soil is washed away and considerable quantities of usable water is lost to the soil resulting in reduced yields.

Contour cultivation is one of the practices which on a limited slope, reduce soil and water losses and increase production. All operations of cultivation starting from ploughing, sowing, inter-culturing, etc., should be done in contour or across the slope of the land. Thus each plough line acts as a barrier or a small bund along which water would stand, preventing the loss of both water and soil. Conservation of water is very important, especially, in scarcity areas, as this increases the soil moisture and prevents loss of fertile soil. Contour cultivation, along with other improved farm practices, can increase crop yield substantially.

STRIP CROPPING.

Strip cropping is another practice which can also help in the conservation of soil and moisture.

In this method crops are grown in strips or bands at right angles to the slope of the land. The bands act as barriers or obstructions to the flow of silty water. Strips are alternately planted with erosion permitting and erosion resisting crops.

When the strips are laid down as above, the erosion resisting and close growing crop strip reduces the speed of the run-off water coming from the erosion permitting strips and checks the eroded soil from being washed away. The run-off water enters the next strip with reduced speed and, therefore, causes less damage. Moreover, a greater quantity of water becomes available to the crop as strip cropping makes it possible for water to remain longer in the fields.

TYPES OF STRIP CROPPING.

There are four types of strip cropping :—

- (i) Contour strip cropping.
- (ii) Field strip cropping.
- (iii) Wind strip cropping.
- (iv) Buffer strip cropping.

1. *Contour strips.*—The strips are laid out in contour, i.e., across the slope, or at right angles to the slope of the land. This is the most effective form of strip cropping.

2. *Field strip cropping.*—In this case, crops are laid out in strips across the slope but approximately in contour. This system is used on lands too irregular for contour strip cropping.

3. *Wind strips.*—These strips are laid out at right angles to the direction of the prevailing wind.

4. *Buffer strips.*—These are grass strips left over permanently in the field.

The following points should be borne in mind while laying out a strip cropping system of cultivation :—

- (i) It must be made to fit into the farming pattern.
- (ii) It is to be used as a means of introducing an effective cover to control soil and water erosion.
- (iii) It should fit easily into the crop rotation. The strips should be rotated from year to year by shifting the erosion resisting crop strips upwards in a regular sequence.
- (iv) Strips should be as nearly in contour as practicable.
- (v) Soil, slope, rainfall and degree of erosion should be taken into consideration in determining the width of strips.

Selection of erosion resisting crop.

Normally this crop should be a close growing one, such as, legume or pulse or grass. In selecting a suitable crop, the following considerations should be kept in mind :—

- (i) Intensity and critical period of rainfall.
- (ii) Life period of the selected strip crop.
- (iii) Canopy and root development it affords.

The growth of the crop should be such that it develops maximum foliage so as to withstand the onslaught of heavy rains. In order to get good foliage the seed rate of legume and pulse crops may be doubled or trebled, according to requirements.

EFFICACY OF STRIP CROPPING.

The efficacy of strip cropping will depend upon the width and kind of cover crop. The width and the seed rate of close growing and erosion resisting crops have to be determined on the basis of local conditions.

A study was carried out in the scarcity areas of Bombay State and as a result of this following widths of erosion permitting and erosion resisting crops have been recommended for slopes up to 3 per cent. These can be adopted in other areas with necessary modifications to suit local conditions :—

	Width of strips.
Erosion resisting crops	24 ft.
Erosion permitting crops	72 ft.

The strips are rotated every year so that in a period of four years the entire field is completely rotated. In this system *ploughing and manuring, at the rate of 5 cart-loads per acre*, is done on one-fourth of the area. Superphosphate is applied at the rate of 1½ to 1 cwt. per acre in the strips to be covered with erosion resisting crops.

Strip cropping reduces soil and water losses and gives increased yields.

Thus, contour cultivation and strip cropping go a long way not only in the reduction of soil and water losses but also in increasing food production permanently without much investment. Combined with good seeds, in correct quantity and spacing, crop rotations and a suitable fertilizer programme, these simple practices form a stable system of crop management, which would help save the soil and increase crop production on a permanent basis.

Sheep Rearing In Madras

SRI R. SRINIVASA IYER, M.L.A.

Madras State can well be proud of its achievements in Animal Husbandry within a short span of 12 years since Independence. Varieties of sheep reared in Government Farms and by private breeders were exhibited. In this brief article, I shall confine myself to the activities of the Madras Government in sheep breeding at the Government Sheep Farm, Dunsdale, Nilgiris.

Australia exports about 1,000 mil. pounds of wool of various grades, from very fine to coarse, a year. India exports only about 30 mil. pounds a year of coarse wool classified as carpet wool—an inferior variety—in world market. Madras State does not export since all that is produced here is consumed by B. & C. Mills. The wool of the Nilgiri sheep is the best in India—Clothing type. India is importing fine quality wool from other countries.

The wool industry has been thriving in India from pre-historic times. Reference to wool garments are found in the scriptures. Yet we are producing only primitive types of wool—Carpet wool. The Nilgiri sheep is a really fine wool producing breed. This breed seems to have been evolved out of many imported breeds in the last century. It is pre-eminently suited to the climatic conditions of the Nilgiris district. But it was fast dying out due to lack of proper care. In order to salvage the same, the Madras Government started a sheep farm in 1950 at Dunsdale, 6½ miles from Ootacamund on the Ooty-Mysore Road, with a foundation stock of 200 ewes and 6 rams. This farm is situated in very picturesque surroundings. To this will be added the Sandynulla Reservoir which the Madras State is constructing to augment the supply of water to Pykara Dam for producing electricity. The work done at this farm should be of immense interest to the public as this has proved that it is possible to produce very fine wool in larger quantities than now by cross-breeding, selective breeding and better care.

Selective breeding with selected rams was adopted and various matters relating to sheep husbandry was first studied. To improve the yield of wool which was found to be poor—only 1½ pounds per animal per annum—cross-breeding with superior woolly variety of



Cross-bred Lambs at the Dunsdale Farm.

Romney Marsh Rams imported from Australia has been started in 1955. Since then, cross-breeding with the imported rams and selective breeding with local rams are carried out in the above farm.

As a result, we find substantial improvement in the size of the animal and the production of wool besides considerable superiority in the fineness and length of the wool. Comparative figures are given below :—

Class of animal.	Wool yield per annum.
Nilgiri Ram	1 lb. 6 oz.
Do. Ewe	1 lb. 5 oz.
Romney Marsh Ram	7 lb. 15 oz.
Cross bred Ram	5 lb. 11 oz.
Do. Ewe	3 lb.

Individual performance—

Details.	Weight of animal in lb.	Wool yield in lb. oz.	Length of fibre.	Thickness of fibre.	Crimp.	Medulation.
Nilgiri Ram 110	155	1.5	91.50	22.9	8	0.30
Romney Marsh Ram.	155	12.0	183.50	46.30	2	9.54
R. Cross Ram.	115	6.0	125.08	33.56	4	1.85

The price of Romney Marsh Ram imported comes to about rupees one thousand per head including transport charges. This price is at the concessional rate given for purposes of Government use. The cost of this cross-breeding experiment is borne by Central and State Governments contributing equally since 1957 and before that purely by the State Government. One hundred and twenty-five cross-bred rams have been distributed to farmers in Nilgiri district, and they have found them very useful to up-grade their own sheep. They have taken to it with enthusiasm and this farm is not able to cope with the demand of local ryots for cross-bred rams.



Cross-bred Ram

The most important problem of sheep husbandry is providing green grazing throughout the year. Nilgiris is in the grip of severe frost from November to March and local grasses die out. In this Farm, several kinds of grasses are grown under different conditions and some have been found to thrive well at all times of the year. Varieties of grasses and greens more nutritious than local varieties for sheep have been tried and found successful. Some of these most important grasses which have withstood the adverse climatic conditions of Nilgiris are given below :—

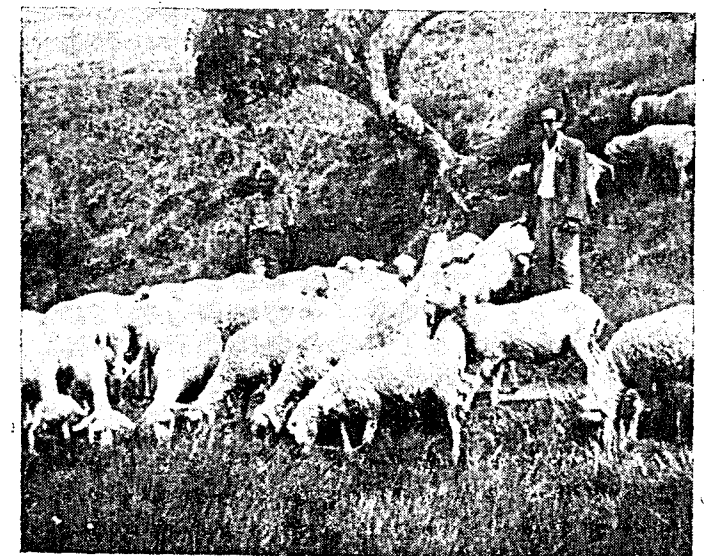
1. *Eragrostis Curirija* (love grass).
2. *Lotium perenne* (Perennial rye).
3. *Phalaris tuberosa* (Tuber grass).
4. *Festuca cletior* (Fescue grass).
5. *Agrostis Terivis* (Brown top).
6. *Dactylis glomerata* (Cock's feet).
7. Veldt grass.
8. 'Kale'—which is a most valuable plant giving large amount of green and foliage even in frost season. It is gratifying to note that within a short period, this farm has been able to carry out so much work in this direction and thereby make it possible to meet their demands in all seasons. It is understood that during 1958-59, 122,000 lb. of green fodder has been produced. The propagation of these grasses have been highly

appreciated and this farm is supplying slips of these to Kashmir, Himachal Pradesh, Bihar, etc.

The policy of the Madras Animal Husbandry Department is to supply highly pedigreed rams in villages, keep in close touch with them, observe their performance and maintain proper standards of health and wool production. They have taken up the study of various problems relating to improvement of sheep with reference to production of quality wool, increasing the weight of the animal, capacity to withstand adverse climatic conditions and so on and thus increase the value of the animal to the farmer. Ryots in and around Ootacamund, particularly Kappatherai and Kakka-thope have evinced great interest in this programme as it is highly beneficial to them. This has also helped them to at least partially meet the heavy demand for meat in the district. It must be possible to increase the sheep population to at least five times its present number and evolve a mutton type of woolly sheep as is done in Australia and New-Zealand by the activities of this farm.

Cross-breeding with Romney Marsh Rams achieves this two-fold object of producing more wool of fine variety and also market lambs for mutton. In sheep breeding, it is essential that an increase of over 120 to 150 per cent in flock strength is achieved every year by production of lambs. Such increase in numbers will easily facilitate the disposal of a large number of ram lambs for mutton and retention of the female stock for breeding purposes and culling of the older female stock. It is seen that in this farm all the lambs born in October-November 1958 have been reared. This is indeed a good record. It is hoped they will further endeavour to keep up this record and come up to the standard of foreign breeders.

The Wool Analysis Laboratory.—This laboratory which was established in 1956 as a State scheme is now part of the sheep farm, Ooty. Wool fibre has no substitute. Wool is a textile fibre and it is important that



A Flock of Nilgiris Ewes



Cross-bred Lambs

the requirements of the manufacturer are studied. The wool produced must have strength, elasticity, uniformity of thickness, full of crimps and resilience. These attributes of wool produced at the farm and elsewhere are studied at this laboratory. The result of the analysis are the basis for further improvement of the breed. There are proposals to expand it and ere-long this should be accomplished. A permanent building and better equipment are an immediate necessity.

Extension work.—The villagers usually cling to their time-honoured modes and practices. Research carried on in the farm must be constantly carried over to the villages. Hence, flockmen and the sheep breeding officer are constantly contacting the villagers and advising them on all aspects of good breeding. A large number of sheep have been de-wormed, deticked and shorn by the staff. Yet this work needs to be intensified. The present practice of merchants paying so much money per animal for the wool is really cheating the farmer. An effort should be made to form a co-operative society of sheep breeders to collect all the wool and sort them and sell the same at better price for the benefit of the farmer. Then the farmers will really reap the benefits of the activities of the farm and their own labour.

Poor grade rams in villages are eliminated and good pedigreed rams supplied from the farm to the shepherds. These are a source of great encouragement to the breeders and acts as a liason between the farm and the villagers. Each can then understand the problems of the other and endeavour to solve them. Thirty-one rams in 1955-56, 39 rams in 1956-57, 24 rams in 1957-58 and 39 rams in 1958-59 have been distributed. Efforts should be made to distribute more rams every year without loss of quality.

Within the short period that this farm has been in existence, we find great improvement in the quality of

the wool, the size and weight of the cross-bred animals and we see several herds in nearby villages comparatively far superior to other native flock in the vicinity. The villagers spoke appreciatively of the results when we enquired of them. The Romney Marsh Rams imported are getting old and new rams must be imported at once. It will be better if this farm undertakes cross breeding with Cheviot sheep also.

I gathered the above information when I and some friends, members of the Madras Legislative Assembly, visited the farm in April 1959. Recently in the second week of September, the Commissioner of Animal Husbandry and Members of the Indian Council of Agricultural Research visited the farm and laboratory and it is hoped their visit will help this farm to develop its activities greater than now. His Excellency the Governor of Madras, the Hon. Ministers for Food and Agriculture, Government of India, Government of Assam and the Commissioner of Animal Husbandry, Government of India, have appreciated the good work done at the farm and laboratory.

The Government of Madras have been taking very keen interest in the development of Animal Husbandry in the State. The exhibits of Madras Government at the recent Regional Cattle Show held at Teynampet, Madras, have proved the superiority of their work. The Animal Husbandry Department deserves to be



Nilgiris Ram



pecial grass pasture where soil conservation measures have also been adopted

congratulated for its development of the Red Sindhi, the Gir, the Kangayam, the Umblacherry breeds of cattle and the Murrah buffalo which all comes up uniformly well in all their farms, Hosur, Orathanad, Chettinad and so on. They are introducing Haryana and Tharparkar breeds also. They are starting a live-stock farm in each district. They have opened sheep farms at Chinna Salem, Kattupakkam and Kodaikanal recently. They have opened several poultry farms and a poultry research station at Teynampet, Madras. Their Institute of Preventive Medicine at Ranipet has earned a good reputation for the usefulness of the vaccine for Raniket disease among fowls. It is hoped that with the additional allotment for Animal Husbandry in the Third Five-Year Plan, the Madras State will be able to rank first among the States of the Indian Union in Animal Husbandry.

Improve Your Ragi Crop

SRI L. SIVAGNANAM, B. sc. (Ag.), Assistant in Millets, Agricultural College and Research Institute, Coimbatore.

In Madras State, Ragi is cultivated in 10 lakhs of acres with an estimated production of about 5 lakhs tons of cleaned grain. Over 60 per cent of the area in Madras is raised under irrigation and this accounts for the high average yield of the crop. More than half, the area of this crop in the State is confined to Salem and Coimbatore districts. The remaining area is distributed in the districts of Madurai, Ramanathapuram, Tirunelveli, South Arcot and Chingleput districts.

Ragi crop is grown successfully in all kinds of soils provided water and adequate quantity of manure are available. This crop can withstand alkalinity to a certain extent. Five pounds of Ragi seeds of good viability (say 85 to 90 per cent) sown in five cents nursery area would be sufficient to transplant an acre. Ragi responds well to manuring and it has been proved that in addition to the normal dose of the farm-yard manure, 40 pounds of nitrogen (200 lb. of Ammonium Sulphate) and 30 pounds of phosphoric acid (150 lb. of Super Phosphate) per acre, has been found to be an economic dose for raising a successful crop of Ragi in garden lands. A nine-inch spacing either side and one healthy seedling per hole has been found to be optimum. While harvesting selected well mature earheads are threshed and are reserved for the next season's sowing.

Good seed is one of the important factors for obtaining good yield in this crop. The Madras Agricultural

Department has released strains of varied duration to suit every tract in the State, to fit in with the local system of crop rotation. These strains have been released not only from the Central Agricultural Research Institute, Coimbatore, but also from the Agricultural Research Stations, Palur in South Arcot district and from Kovilpatti in Tirunelveli district. These strains have recorded 35 to 70 per cent more grain yield than the respective locals.

In places, where there is water scarcity or limited supply of water, the short duration Ragi strain Co. 7 (100 days) can be successfully grown, because of its short duration. One of the striking features of this strain is that it can be grown all through the year, without any appreciable reduction in yield. However, the best time for sowing this strain is during March when yields up to 3,500 lb. of grain obtained under well-manured conditions.

The white grained strain Ragi Co. 6 can be cultivated by farmers who are interested in good quality grain as it has a higher protein contents. Ragi K. 2 is noted for its resistance to blast disease and its non-lodging habit.

Further details regarding Ragi crop can be had from the Millets and Pulses Specialist, Agricultural Research Institute, Lawley Road P.O., Coimbatore-3.



SRI T. JA ADEV, B.Sc. (Hons.), A.I.F.C. (Hons.),
Conservator of Forests, Salem Circle.

In view of the great economic importance of Cashew (*Anacardium occidentale*), Madras Forest Department had undertaken large-scale cultivation of this valuable species under one of the Second Five-Year Plan Forestry Schemes. On account of its edible kernels and the oil extracted from its shells, cashew is valued very much and is grown on a large-scale both in the private sector as well as by the State Forest Department. It is proposed to complete regeneration over an area of about 45,000 acres by the Second Five-Year Plan period in the reserved forests of Madras State. It involves an average annual planting of about 9,000 acres.

SELECTION OF SITE

Though cashew can thrive on a variety of soils, from experience gained, it has been found that it does not thrive well in clayey and very saline soils. When large tracts are taken, patches of Kalar (Saline) soil occur and in such areas, cashew, even if it succeeds, does not show any healthy development. In swampy locations also it is not successful. In reddish-brown earth, it thrives well in the East Coast of Madras State. It has come up in badly eroded soils, sandy areas, in the hard laterite soils and deep red loam and in rich alluvial soils. Though it occurs in areas from 16 inches rainfall to 160 inches of rainfall, its optimum growth is seen in regions with 35 to 45 inches of rainfall. It is found that the growth in inland areas in Salem Circle is not so encouraging and casualties occur heavily in the first few years. In East Coast the species thrives best in the belt of about 30 miles from the coast.

PREPARATION OF SITE

Ten feet wide regeneration strips are cleared 33 feet apart from centre to centre. These regeneration strips are also broadened to 15 feet to be eventually cleared completely in one lot as the crowns of the trees develop. Stumps are uprooted to a minimum depth of 6 inches. In areas where cashew grows well, the regeneration spots are located 16½ feet from each other along the centre of the cleared strip. In areas where cashew does

not grow so well as east coastal regions, that expace-ment is 22 feet by 22 feet and only 10 feet wide strips are cleared to standwith. At the regeneration spots a pit of the size 1 foot by 1 foot by 1 foot is dug, and the dug-out earth is allowed to weather before it is refilled. The soil around the pit is dressed to the form of a saucer to 3 feet radius. The pit is so filled that the seed bed is in the form of a slightly raised mound in the centre of the saucer. This is necessary to prevent the evil effect of excess water stagnating in the saucer, during the spells of heavy rainfall. It also helps in the young seedlings having proper soil aeration. The seed is sown in the middle of the seed bed. The seed is dibbled about 2 to 3 inches below the top level of the seed bed, so that the fleshy cotyledons may not come above the ground level and render the germinating seedlings to rodent attack. Container plants are used for replacement of casualties. Under the existing method 80 regeneration spots per acre are available.

A Cashew Plant at the Vandalur plantation



Fencing will be done with the locally available cut materials. The species is not browsed by cattle. Further the regeneration plots are adequately protected by the plot mazdoors against illicit grazing and thus prevent injury by trampling, etc.

SEEDS

Cashew seeds weigh 60 to 100 per pound, depending on the quality. For the purpose of regeneration, it is necessary that good quality seeds are procured. Good yielders have to be selected and seed selection will have to be confined to high yielding trees. For the plantations raised in Madras State, most of the requirement of cashew seed is obtained from the trees marked in private topes in the Panruti area of South Arcot district. There are 80 regeneration spots per acre. About 180 seers per acre will be required including replacement of casualties and the quantity required for raising container plants. Normally container plants will have to be raised to the extent of 25 per cent of the total number of regeneration spots in favourable locations and to the extent of as much as 40 per cent in the areas, where casualties are heavy. Provision on average of $2\frac{1}{2}$ lb. of seeds per acre is normally made. In bad years as much as 4 lb. per acre may become necessary dependent on the number of redibblings to be done. The District Forest Officer, Cuddalore, purchases seed cashew in the Panruti area by locating about 300 good-sized, high-yielding trees. As it is essential that seeds required for regeneration work should be procured after proper selection by the technical staff of the Forest Department, it is not possible to buy seeds in the open market by inviting tenders. The District Forest Officer is specially authorized to purchase seed cashew for regeneration work without the usual method of inviting tenders adopted for the purchase of other commodities.

NURSERY

As a result of the experience gained, provision is made for raising container plants to the extent of one-third (33-1/3 per cent) of the total number of the regeneration spots in the case of plantations to be raised in Chingleput district and 40 per cent in the case of South Arcot district and elsewhere. Dibbling of the seeds in the containers is usually done in the month of September. The quantity of container plants to be raised may be modified by the extent of success achieved by direct dibbling in the regeneration areas, which is done during the month of August or in the latter half of July, according to the nature of rainfall of the locality. When the seedlings are raised in bamboo baskets they are usually placed on raised platforms. Wherever possible pots are used as containers (7 inches by 4 inches by 3 inches). Polythene or alkathene, bags have also been tried but not yet used on a large scale. On the day the container plant is planted out in the field, they will be watered and taken to planting site. As the plant has a sensitive root system, naked transplants do not give the desired degree of success.

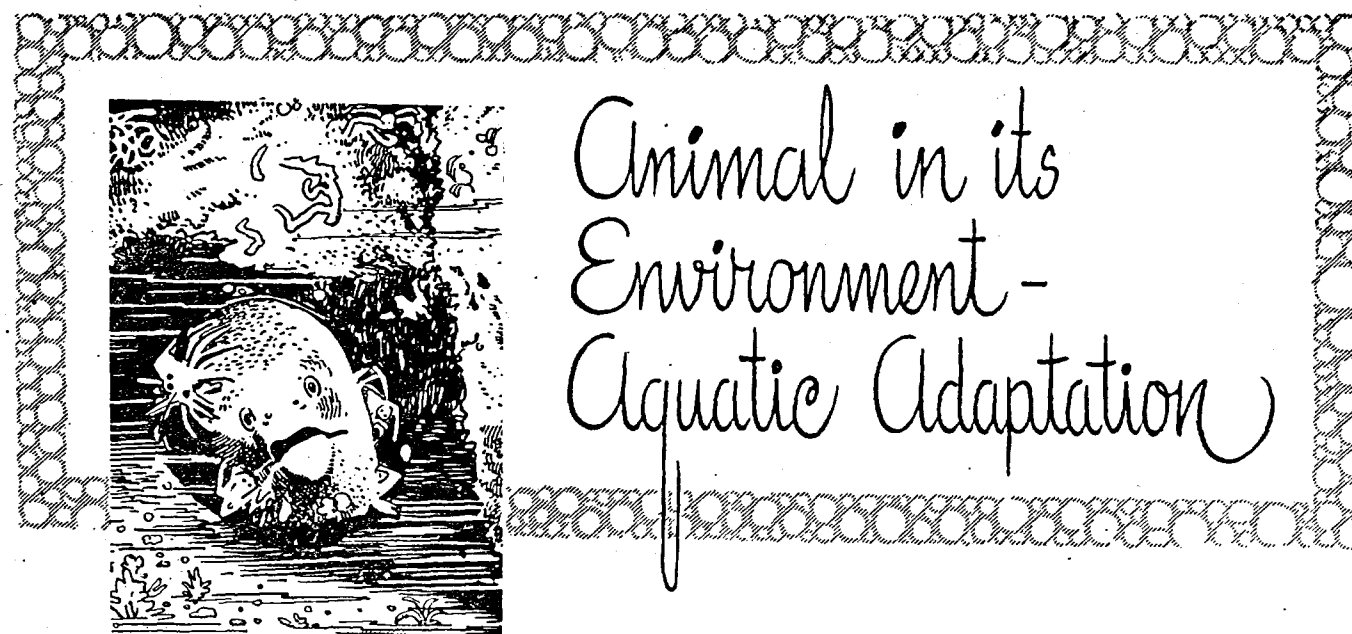
One seed per regeneration spot is dibbled in the prepared seed bed at the centre of the saucer. With the fall of a good shower connected with the break of the south-west monsoon, dibbling is commenced (middle of July to middle of August). It usually takes about fortnight (11 to 20 days) to assess the results of dibbling. In spots where no germination is noticed, redibbling will be done by going over the area systematically once in a fortnight. During the first week of September, the exact quantity of container plants to be raised can be assessed from the stocking achieved in the regeneration area. If more plants than what is normally provided for is necessary, it will have to be raised during this month. Hence it is necessary to have an adequate stock of containers. Storage to a certain extent in Alkathene or Polythene bags will meet the needs of such an emergency, even if as a rule, pots or bamboo baskets are used for raising the nursery seedlings in the first instance. After the beginning of October all casualties are replaced by using container plants and not by direct dibbling. Direct dibbling of healthy selected seeds give easily 50 per cent success even in unfavourable conditions, if redibblings are done methodically.

MAINTENANCE

The saucer should be kept free from all weed all the time. The regeneration strips will be cleared of all regrowth by plot mazdoors in the first year. In the year of formation, plot mazdoors are employed at the rate of one for every 50 acres. It was found by experience that for the second and the third year of the plantation, all the maintenance works could not be achieved effectively by a system of permanent mazdoors only, and hence only one plantation watcher is employed for every 500 acres for protection against illicit grazing

(Continued on page 21.)

The Cashew plantation at Vandalur near Madras



SRI D. D. PETER DEVADAS, B.A., Director of Fisheries, Madras.

Aquatic adaptation is a biological fact which is true of every animal or plant that lives in water either wholly or partly. The aquatic habitat of living organisms will come under the following categories so far as the sea is concerned:—

The *littoral*, where tide, wave and shore furnish a variety of homes for a wide assortment of organisms;

the *pelagic*, through which light penetrates; and

the *abyssal*, where animals live under great pressure, eternal darkness, perfect quiet and extreme chill.

Next comes the fresh water habitat.

The physical, chemical and biotic conditions vary considerably in the aquatic media. The organisms will have to live among helpful neighbours or preying enemies. The forms of animals are often adopted to a striking degree to the habitat in which they live. Peculiar environmental complexes cause animals to assume particular structural adaptations.

The littoral part of the sea has a characteristic fauna and flora quite distinct in many respects from that of the open sea. Animals living in the inter-tidal zone lead a hard life. They are subject to the impact of waves, and they also have to endure alternating periods of wetting and desiccation. So, they are gifted with structures for adhesion, burrowing, resistance to impact, etc. Remarkably some of the same variety of animals that live near the low tide mark lay eggs while the rest of those that live near the high tide mark give birth to young ones. As animals on the beach have many opportunities to die, they have very great powers for propagation. A mussel was observed by a Scientist to lay 12 million eggs in a quarter of an hour.

The rise and fall of the tides plays an important part on the animals like crabs, snails and some fishes that live on the tidal zones, and they adapt themselves gradually to air breathing necessitated by being left out of the water for a considerable time. Some adequate animals have adapted themselves to respire both in open air and in water. A duck can remain under water for 23 minutes, a hippopotamus for five minutes, a dugong (i.e., sea-cow) for 12 minutes, and a diving whale for more than one hour. Limpets attach themselves to rocks to escape being washed ashore by the waves. Some shell-fishes live inside the rocks keeping only a small hole for breaching during low tide. The hole is purposely kept too narrow for preventing the entry of a crab's claw, or a bird's beak. Such animals can be got at only by breaking open the rocks. They set the entry into the rock by boring through with the help of the foot which is provided with hard crystal like things. Thus the boring animals secure enough moisture, shelter, security from being dashed to pieces by the waves and above all a safe abode from the attacks of hungry enemies.

Like the sky-serapers of America, some limpets and oysters attach themselves to each other to add to the weight so as not to be washed away easily.

The sea-anemones prefer the tidal zone. They come out from the niches of the rocks, spread out like flowers, with the sticky surface to catch fishes and shrimps that happen to come in contact with them. They fold over their incautious victims and eat them.

The stinging cells of the sea-anemone, the lasso of the ribbon worm, the forceps of the crab, the rasping file of the whelk, the beak-jaw of the cuttle fish are the wonderful gifts of Mother Nature to the lower animals to adapt their lives to suit the arduous nature of the littoral regions of the sea. Further, they are gifted

with the power to regrow a limb or arm or tentacle lost during their fight for food or existence. As an extreme measure of defence from a preying animals, a sea-eucumber can eviscerate all the systems from its body and still it can escape with its head and skin, and regenerate all the systems back again.

Now, coming to the animals of the pelagic regions, fishes are the primary aquatic forms which constitute the bulk of the animals of this region. They never had a terrestrial ancestry. They seem to have evolved from more primitive aquatic progenitors. As a consequence their adaptation to a watery medium is perfect, and they do not suffer as those secondarily adapted do, through their inability to breathe water. Contour in an aquatic vertebrate is all important, for Nature as a marine architect conforms to rules of mathematical precision, a study of which has aided very largely in ship designing. In the case of the fish, the head, body and tail are compressed into a beautifully curved spindle-like form, the entire surface of which is accurately rounded with no protuberances, which would retard the swift passage of the animal through the water. Its locomotion is effected by lateral undulations of the flexible body aided by the fins. The body is thrown into series of reversed curves, which begin at the head, pass along the body and disappear at the tail. The static water enclosed in the incurved places is pressed upon, causing the fish's forward movement. The pectoral fins which are placed on the sides, behind the gills serve as balancers and they also check the way of the fish while the tail fin aids in the propulsion.

As a further adaptation to aquatic life, all fishes above the sharks may have a structure known as the swim bladder, a hollow organ filled with air or gas. Its function is largely hydrostatic, in that it maintains the fish at a certain depth of floatation. In the case of non-vertebrates they have several adaptations to keep themselves buoyed up. The jelly-fish have a disc-like umbrella. The sea butterflies have out-stretched lobes of museles that look like wings.

Secondarily aquatic forms are the lung breathers, which through stress of circumstances—unhospitable lands where food was scarce or competition severe were forced to return once more to their primal home of their remote ancestors. The chief handicap for them was only the lung breathing. Some of them called amphibians lead a double life spending part of their time in water, and part in the land. They are really terrestrial forms showing partial aquatic adaptations only, by possessing webbed feet and a laterally compressed swimming tail, which may bear a fin-like expansion along its upper margin. Examples are sea-lizards, turtles, etc. Crocodiles and alligators live in fresh water. Among birds, I can mention cranes, pelican, ducks and geese. Otters, beavers and hippopotamus are examples of mammals.

As in primarily adapted forms, the body contour becomes spindle-shaped. This assumption of the fish-like form is best seen in the fully aquatic orders, where the facial portion of the skull elongates, the neck shortens and the number of the vertebrae of the body gets less as there is no need to support the weight of the body as on land. The tail elongates and flattens in some

cases. To ensure greater stability of floatation the chest in aquatic types is modified in such a way as to bring the internal cavity higher towards the back. The bones of the swimming forms tend to become lighter and spongy. But in the case of bottom-feeding animals like walrus and sea-cows, the bones are heavier in order to go down against the buoyancy of the water.

The animals have had to eliminate also retarding excrescences like external ears, which do not have function to serve in the submerged state. In the case of whales, seals and walrus the ears are reduced completely. The nostrils forsake their old terminal position at the end of the snout, and move towards the top of the head as in the case of whales.

The eyes in amphibious types also tend to shift higher on the face as in the hippopotamus, whose nostrils, eyes and ears can appear above the surface of the water, while all the rest of the head and body remain submerged. Fleshy fin-like expansions of the body-wall occur in the whales. Turtles move about with the help of their expanded limbs. The limbs of the turtles are so adapted as to be used as oars when they swim in the sea, and as "mammooties" when they burrow on the sea-shore to lay their eggs and cover them with sand.

Webbed feet are the first natatorial adaptation. It may be either a lobe-like expansion of the skin on either side of the toes, or of actual connections from digit to digit.

The legs of the turtles, the forelimbs of the whales and the tails of the sea-snakes are flattened so as to be used as flippers. In all cases the meaning of the flattening is the same. It is an adaptation which secures a good grip of the water.

As there is no use for hairs for water animals, they are shed while a layer of fat is developed in the case of mammals like whales as a compensation, just beneath the skin. This serves admirably for the retention of body heat.

Skin glands such as sweat or oil glands are reduced in aquatic animals, as their secretions will be simply washed away by the water. Similarly there is no need for secretion of saliva too, since food is taken in along with water.

The teeth serve in many cases merely as bars of a cage to retain the slippery prey from escaping. In the case of whale-bone-whale they are used as sieving plates for straining in the victims and letting water escape.

Now, a few facts about the abysmal region: The deep seas ranging in depth from $2\frac{1}{2}$ to 6 miles are about 100 million square miles in area. The challenger deep which is 5,269 fathoms deep can easily submerge Mount Everest, the highest mountain of the world. Even at a depth of 2,500 fathoms the pressure is $2\frac{1}{2}$ tons per square inch, which is 25 times greater than the pressure experienced by the piston of the railway engine. So the pressure in the deep sea must be terrific. Still the pressure is not felt by the animals living there, as their body-tissues are permeated by water. The deep sea is very cold also, the temperature ranging from 28 degrees to 34 degrees F. Eternal winter reigns there. It is also very dark, since sunlight cannot penetrate

(Continued from page 18.)

beyond 1,500 meters of water medium. That is why there are no plants in the deep sea. It is a world of dreadful night, except for the fitful gleams of the phosphorescent light given forth by the deep-sea animals both sedentary and wandering. It is very calm and silent also, since no sound can reach that depth. The deep-sea is thus the most monotonous place with eternal winter, eternal silence and eternal night. In other words it is a deep, dark, cold, calm, silent, monotonous world. Still it is not too deep or too bad for life to exist.

The deep-sea crabs, prawns and sea-spiders have very long and lanky legs to walk over the treacherous sea floor called ooze—the settled dust of the sea. These long-legged animals walk as if on stilts. The crinoids have long stalks to keep their polyps outside the ooze. The fishes have long-stalked eyes and wide gaping mouths. They have enormous head with strong jaws and teeth. Their bodies are round as they do not have to swim much. The deep-sea fishes are necessarily highly carnivorous as they have absolutely no vegetation to feed upon. They have an elastic stomach to accommodate a victim even larger than themselves gulped through the wide mouth. The prawns have long feelers which are more than a yard long. These are sensory organs, which play the part of eyes in the absence of eyes. The deep-sea fishes have similarly barbels several times longer than their bodies. The deep-sea animals have organs to illuminate the darkness. A cuttle fish has about 20 of these luminous parts. Fishes have these luminous plates just under their eyes. They use these at will, to search for their prey or to warn off their enemies. To avoid being smothered by the ooze, animals carry their eggs, and later on their young ones, on their body or limbs.

In the case of fresh water animals, those which live in non-perennial waters will have to adapt themselves to the conditions of draught. Some of them are able to shorten or lengthen their larval or adult stages at their will according to the conditions of water in which they live. When the water dries up in a pond, the animals usually go down to the mud and lie low in a state of latent life called hybernation. Some crustacean animals have been known to lie like this alive for forty years in dried mud. A fish which has a lung-like organ was observed to live in mud for nine months without any water.

The gnats and flies have a very long stage in the water. They have their pipe-like organs jutting out of the water to breathe the air.

The water spider, after forming its diving bell-like web on the floor of the pond takes air bubbles entangled in its hairs on its legs and body and fills up the web with air for the use of the young ones.

It will be seen from these facts, how Mother Nature as a careful house-keeper has wonderfully provided for her aquatic children.

and all the other works in the second and third years are carried out by employing mazdoors on muster roll or as a piece work. The intervening growth between two regeneration strips is retained as a measure of biological control of the pests of cashew in the early stages. It was found in areas where clear felling was resorted to, the cost of reclearing the regrowth was costly and there was also a higher incidence of pest of cashew in the year of formation. As the cashew grows, the question of the gradual reduction of the intervening growth will have to be resorted to. The intervening growth also serves as a soil conservation measure. In due course of time, when all growth other than cashew in the regeneration area is cleared, there is likely to be considerable sheet erosion. Provision will, therefore, have to be made for trenching and bunding at convenient intervals depending on the nature of terrain and the degree of slope, when the clearing of other growth is done. Until then the intervening growth itself would serve to arrest to a great degree the force of erosion.

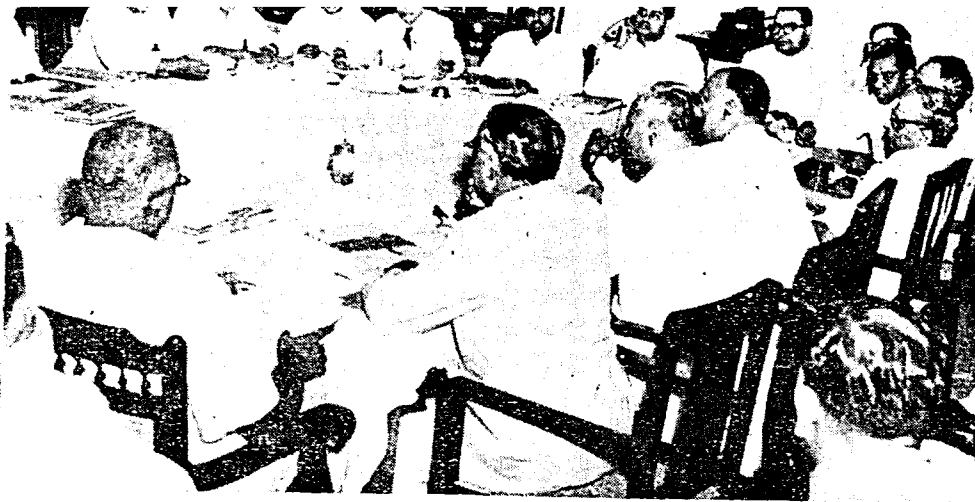
However it is necessary to have, even in the year of formation at least ten feet wide regeneration strip clear of all growth. The experience gained indicates that, for the better development, cashew, it should have sufficient space allround free from all growth. In the third year or the fourth year, the strips will have to be widened to 15 feet in most cases. It is a strong light demander. It is drought-resistant to a considerable degree and in fact it is observed that new flush of leaves put forth just before the commencement of the hot weather.

PROTECTION FROM ANIMALS

In the year of regeneration, there is the fear of man stealing the seeds that are dibbled in the area. In the later stage, theft of the fruits, comes in. Grazing animals do not damage cashew very much and it is not easily browsed. Goats are found occasionally to browse on cashew leaves, where there is nothing else found in the area. There are many insects that are found to damage cashew. Dark brown thrips, mealy wings and grasshoppers eat the leafy portion. Cashew also suffers from die-back of some of its shoots. A shoot borer (*Plocaederas ferrugineas*) also affects cashew.

It is necessary to have Foresters at the rate of one for every 500 acres of current year's regeneration area, one for every 1,000 acres of one-year old plantation and two for every 1,500 acres of two-year old plantations. For raising and maintaining continually an area of 1,000 acres annually a Ranger is essential, who will also have other works in the territory to attend to.

The average cost of raising one acre of cashew is about Rs. 45 per acre. At present Rs. 6 per acre is provided for the second year maintenance and Rs. 2 per acre for the third year maintenance. Provision of at least Rs. 5 per acre per annum has to be provided for future maintenance as more intensive cultural operations, including the widening of the strips will have to be done.



A two-day Conference of the Collectors in Madras State was held on 6th and 7th November to discuss the implementation of the reforms in Local Administration. Sri R. A. Gopalswamy, I.C.S., Development Commissioner, presided over the Conference

The All-Party Planning Committee which was recently constituted, met for the first time in October. Photo shows Sri C. Subramaniam, Finance Minister, addressing the Committee



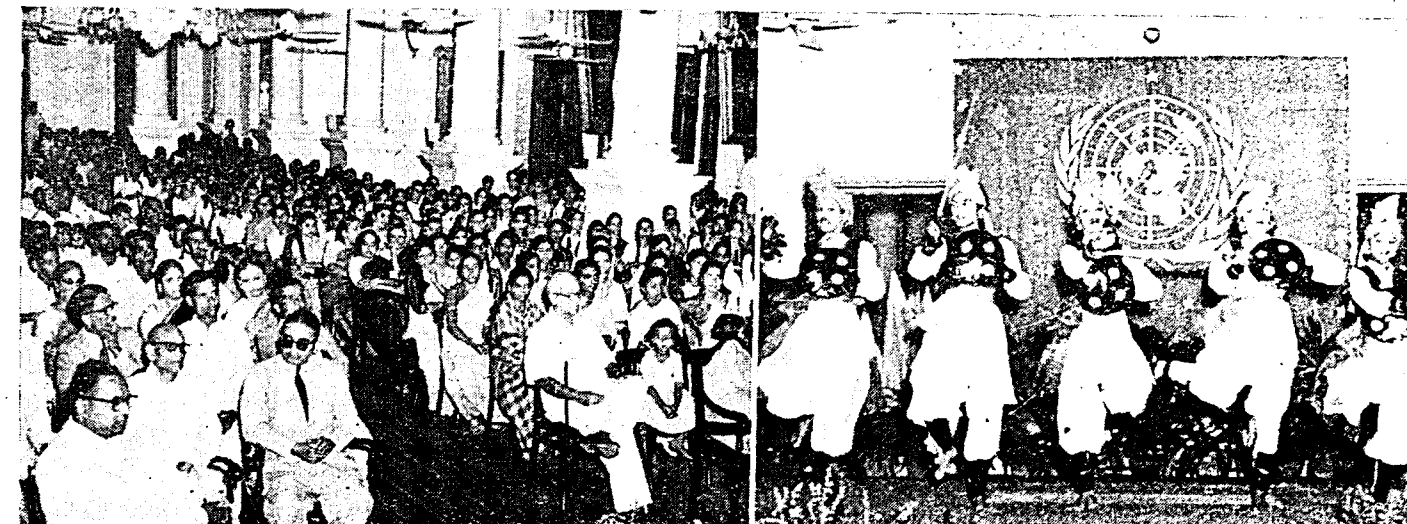
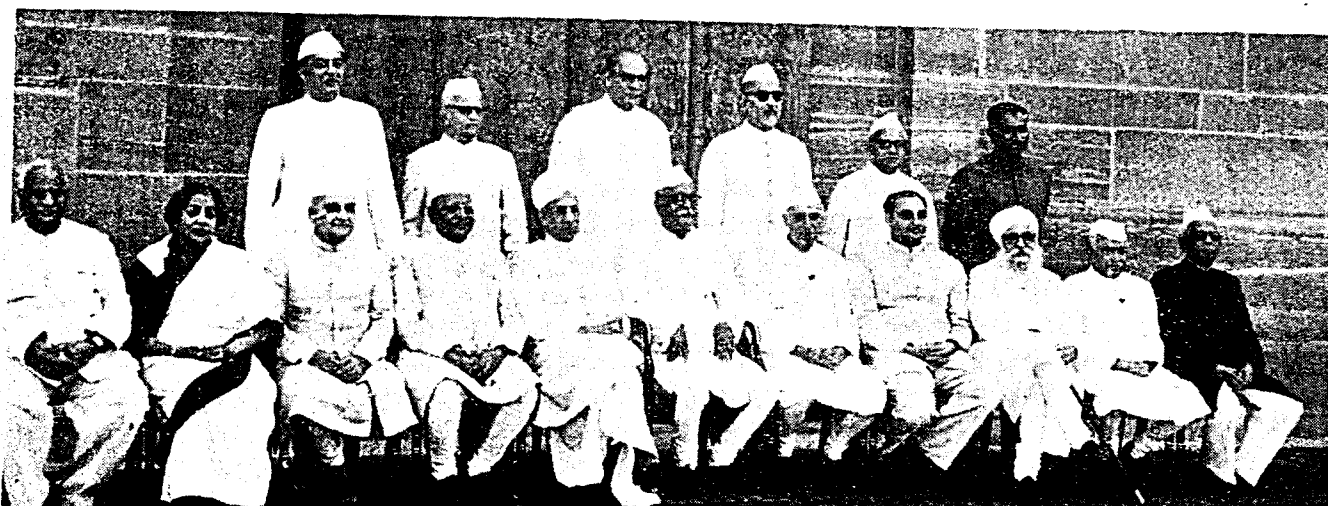
A Conference of the Directors of Information of the States in the Southern Region was held on 27th October 1959. Sri B. V. Keskar, Union Minister for Information and Broadcasting, presided over the Conference



Sri M. Bhaktavatsalam, Minister for Home and Food, convened a meeting of officials and non-officials of Chingleput district, on 2nd November 1959 to devise ways and means for improving Agricultural production. This was the first of several such conferences convened in all districts

The President, Dr. Rajendra Prasad, inaugurated the Annual Conference of State Governors at Rashtrapati Bhavan on October 27. Except for the Governor of Mysore, all the other Governors, the Sadar-i-Riyasat of Jammu and Kashmir and Lt. Governor of Himachal Pradesh were present

The United Nations Day was observed in the City on 24th October 1959. The Governor of Madras presided over the public meeting held at Rajaji Hall. Photo shows a part of the gathering and a scene from the variety entertainment staged on the occasion



Reviews

MY SOCIALISM

By M. K. Gandhi, published by Navajivan Publishing House, Ahmedabad. Compiled by R. K. Prabhu, pp. 58, Price : 50 nP.

The booklet under notice is very timely in the context of the present Indian scene. The Congress is trying to translate into practice the principles of Socialism, while there are others who vehemently oppose its policy. And it devolves on every patriotic son of the soil to know the views of the Father of the Nation on the question of socialism which has assumed extraordinary significance in these days. This booklet will be very useful for that purpose.

According to Gandhiji, real socialism has been handed down to us by our ancestors who taught : " All land belongs to Gopal, where then is the boundary line? Man is the maker of that line and he can, therefore, unmake it ". Gopal literally means shepherd ; it also means God. In modern language, it means the State, i.e., the people. That to-day the land does not belong to the people is true, but the fault is not in the teaching. It is in us who have not lived up to it, says Gandhiji.

He avers that Socialism was not born with the discovery of the misuse of capital by capitalists but it is explicit in the first verse of *Ishopanishad*. It, therefore, goes without saying that the idea of socialism, at least so far as India is concerned, is as ancient as the hills. It was not a sudden innovation in our land. But the credit goes to the Western countries, for scientifically defining socialism.

The definition of socialism by Gandhiji is revealing : " Socialism is a beautiful word and so far as I am aware, in socialism all the members of society are equal—none low, none high. In the individual body, the head is not high because it is the top of the body, nor are the soles of the feet low because they touch the earth. Even as members of the body are equal, so are the members of society. This is socialism. In it the prince and the peasant, the wealthy and the poor, the employee and the employer are all on the same level. In terms of religion there is no quality in socialism. It is all unity".

His idea of society was that while we were born equal, meaning that we had a right to equal opportunity, all had not the same capacity. Gandhiji wanted to bring about an equalization of status. The working classes had all these centuries been isolated and relegated to a lower status. They had been *shoodras*, and the word had been interpreted to mean an inferior status. He wanted to allow no differentiation between the son of a weaver, of an agriculturist and of a school-master. Economic equality was the master-key to non-violent independence. Working for economic equality meant abolishing the eternal conflict between capital and labour. It meant the levelling down of the few rich in whose hands was concentrated the bulk of the nation's wealth on the one hand, and a levelling up of the semi-starved naked

millions on the other. A non-violent system of Government was clearly an impossibility so long as the wide gulf between the rich and the hungry millions persisted, Gandhiji proclaimed.

Regarding equal distribution, Gandhiji wrote as early as March 1921, that what India needed was not the concentration of capital in a few hands, but its distribution so as to be within easy reach of the 7½ lakhs of villages that made this continent 1,900 miles long and 1,500 miles broad. The real implication of equal distribution was that each man should have the wherewithal to supply all his natural needs and no more. For example, if one man had a weak digestion and required only a quarter of a pound of flour for his bread and another needed a pound, both should be in a position to satisfy their wants. To bring this ideal into being, he said that the entire social order had got to be reconstructed.

If Indian society was to make real progress along peaceful lines, there should be a definite recognition on the part of the moneyed class that the ryot possessed the same soul that they did, and that their wealth gave them no superiority over the poor, Gandhiji used to say times without number.

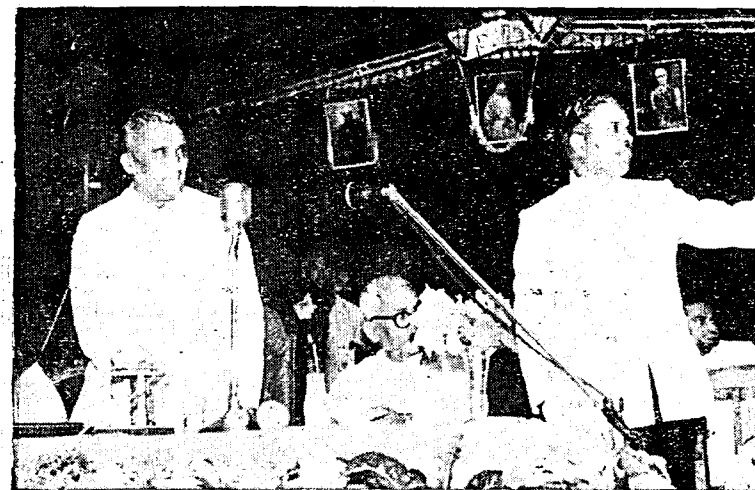
Gandhiji wrote in 1939 : " I value individual freedom but you must not forget that man is essentially a social being. He has risen to his present status by learning to adjust his individualism to the requirements of social progress. Unrestricted individualism is the law of the beast of the jungle. We have to learn to strike the mean between individual freedom and social restraint. Willing submission to social restraint for the sake of the well-being of the whole society, enriches both the individual and the society of which one is a member".

Again, " in a democracy the individual will is governed and limited by the social will which is the State, which is governed by and for democracy. If every individual takes the law into his own hands there is no State, it becomes anarchy, i.e., absence of social law or State. That way lies destruction of liberty. Therefore, they should subdue their anger and let the State secure justice".

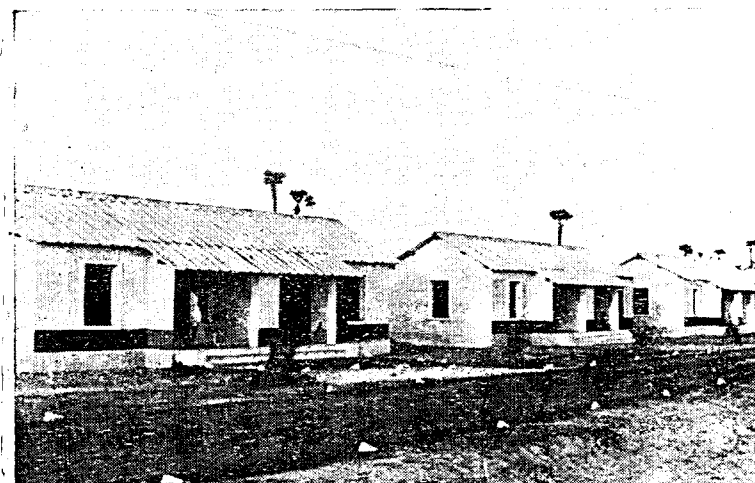
This small book is enough to show that Gandhiji was a great socialist, and his socialism was for the promotion of the welfare of one and all. The doctrine of the greatest happiness of the greatest number enunciated by Jeremy Bentham did not find favour with him. His theories of economics were founded on the principles of morality.

Mr. R. K. Prabhu, who is a Gandhian scholar and who has compiled this booklet which purports to contain the relevant passages from the writings of Gandhiji which speak about socialism, has done full justice to his job. This booklet can be used as a *vade mecum* on Gandhian socialism.

S.T.K.



Sri S.K. Patil, Union Minister for Food, declared open the Madhavaram Milk Colony near Madras on 15th October 1959



Houses for the Milkmen



Calving and Veterinary Shed



Milking Shed



Sri K. Kamaraj, Chief Minister, inaugurated the Welfare Extension Scheme at Kilpadappai in the Chingleput district on 22nd October 1959



**a time
of joy...**

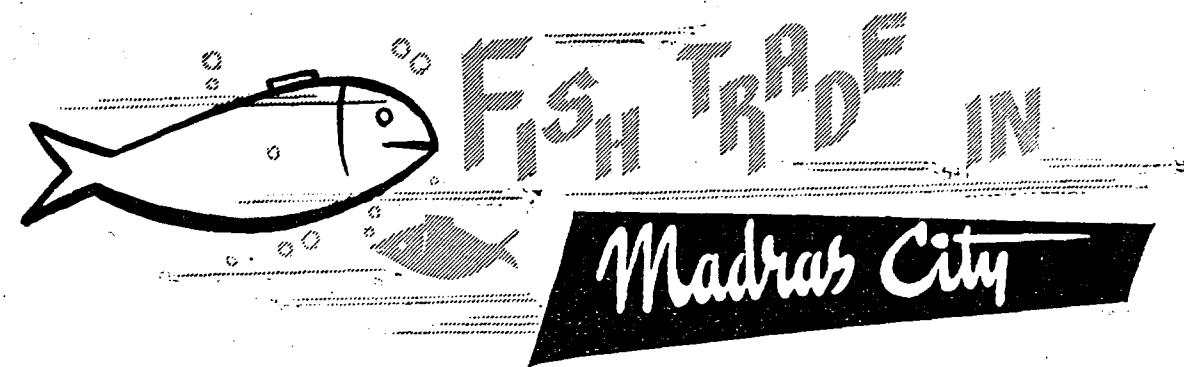
When swords of lightning no longer flash,
the roll of thunder loses its echo, the
pitch laden sky clears and the sun breaks
through wisps of cloud cotton-like
in the sudden blue—that is the time
of the harvest, and the year's work is done.

For this end; the effort, the toil. For a
world that offers a little more—
a little less of the care, a little more of the joy.

Today, as in the past, our products help to make homes
cleaner, healthier, happier. But today we are also working for...
Tomorrow, when the evergrowing urge for better living
will demand still greater efforts. And we shall be
ready with wider service, new ideas, new products...

Today and Tomorrow... Hindustan Lever serves the home.

PR-10-X52



Sri V. D. SPURGEON, Deputy Director of Fisheries (Marine), Madras.

"Fishery" like "Agriculture" and "Veterinary" is a food producing industry. But unlike the latter two, the success or failure of fishing industry ultimately depends on proper retailing of fish. Generally speaking, all fish go to the retailer. Retailing is the pivot on which fishing and allied industries like boat building, net making, fish curing, fish freezing, etc., revolve.

In United States or United Kingdom or Canada, one finds it delightful to visit a retail fish stall. People long to go to the fish retailer and make purchases in person.

The fish stall is well planned and neatly built; attractively decorated, thoroughly cleaned and protected from flies and dust. A model stall will be an open fronted shop with three roll-down shutters. The frontage is between 18 to 20 feet across, the shop being approximately 25 feet deep. The walls are covered with white-glazed tiles. The whole floor is covered with black and white marble clippings giving a mosaic effect. Where the floor meets the wall, it is curved instead of forming a right angle. Consequently, there are no corners or crevices to harbour dirt and dust. A large white marble slab is built in the centre of the shop, the front of the slab standing back about 12 inches from the shop front proper and about 10 feet wide. The front of the slab is raised about 2 feet from the ground and is built in three sections; giving the staircase effect and rising to a height of 4 feet at the back. Behind the slab or by the side of it is an 8 feet table with the marble top. On this stands a pair of automatic scales, with a wooden chopping block. The stall has a small depression in the floor along the walls to enable the water and melted ice to drain away quickly. In the markets of large cities there is a refrigerator worked by electricity. Fish shops are decorated with crotons, flowers, aquaria, placards, pictures, nets and ice.

FISH STALLS IN THE FAR-EAST

In the city of Hongkong, there are 40 retail fish markets. Every one of them is a beauty spot for a foreign visitor to visit. The central retail market in the heart of Hongkong City is the biggest. It is a modern three-storeyed concrete building.

Retailing is noteworthy in Hongkong. It is this stage in marketing that is vital for the industry and

consumer alike. If retailing is inequitable or done under insanitary or unhygienic conditions then the entire structure of fishing industry will tumble down.

Forty stalls are kept so spick and span that a visitor is overwhelmed by the absolute cleanliness of the place. Fish is a highly perishable commodity. But the way in which Hongkong dealers handle them, display them and sell them, gives altogether a different impression of fish.

All stalls are 15 feet by 8 feet with concrete half-walls in between. Live fresh water fish are kept in cement cisterns, buckets, etc.

Dead fish are beautifully displayed on platforms made of split bamboo. Some shops have wire matting on which to display fish. This helps to drain off blood, slime and water as they keep falling continuously. A few keepers go a step further and spread out plastic sheets under fish. The price of fish is noted on plastic index cards.

Many fishes are filleted artistically and attractively arranged. A person who is not keen on fish cannot resist the temptation offered by the sight of fish in this market.

The fish-stall buildings are Government owned and retailers are licensed by the department. The licences are neatly framed and hung in each stall. The fish retailers are required to be clean. They all wear water-proof apron and shoes.

The fish-stalls in Bangkok, in Rangoon and Colombo, are all quite neat and tidy. In Ceylon fish-stalls are scrubbed with fibre brush every day and washed well with waste soap powder. These stalls are not assigned an obscure nook or corner but they are located in busy thoroughfares, next to a grocery shop or fruit stall or ice cream parlour. But in India the fish is always shown a corner in a general market and looked down upon as a food for the poor and the down-trodden. It is useful to compare conditions obtaining in Madras fish-stalls today with those of other countries and try to emulate them.

There are eight fish markets in the city. Details of these are given below in the order of volume of business conducted:—

The Seven Wells Market.—This is a very important retail fish market in the city both from the point of



A fish stall at the Choolai Fish Market. Please see the fish arranged in groups on the Cudappah Slabs on the floor. The vendors also sit on the floor with their fish.

view of size and business turnover. It provides accommodation for 159 stalls which are located on Cuddapah platforms of 2½ feet height. There is fly nuisance and sanitary condition is not quite alright.

The Chintadripet Market.—The market building is a very old construction with long platforms of 2½ feet height roofed with country tiles. There is provision for 37 stalls, each measuring roughly 8 feet by 3 feet. Each stall can accommodate two vendors. Some stalls are provided with desk like structures with cement or Cuddapah tops for displaying fish.

The market is more important as a wholesale market. It is found congested almost on all days. The volume of fish that is brought in and the number of vendors and customers who visit this market are so much that on many occasions the platforms become full and the vendors have to spread their fish on the corridors not only causing hindrance to customers but also rendering the fish section unseemly.

The fly nuisance is much. The general upkeep can improve.

Another stall in the Choolai Market. Please note that the slabs for exhibiting the fish are raised from the floor level.



The Zam Bazaar Market.—This is an important wholesale and retail fish market. It is housed in a very old building and provides accommodation for 150 fish stalls. It is very busy on all days. The old and low building renders the stalls unattractive. As the income from these stalls is much a new building can be erected to improve matters.

The Purasawalkam Market.—There are 52 fish vendors. Stalls are on platforms 3 feet height with Mangalore tile roofing. Each vendor has a space of roughly 8 feet by 4 feet. The general condition of the fish section is not good. The serious drawback is the location of latrine very near the fish stalls. Decent customers cannot go round the fish section without holding their noses because of the latrine right by side of the fish stalls.

The Old Washermanpet Market.—This is one of the very busy spots in the North Madras. In this area this market is leading in retail fish business. The market building is a very old one. Provision is available for 42 fish stalls each measuring roughly 5 feet by 5 feet. Stalls are located on long common platforms with Mangalore tile roofing but there is no partition between the stalls. The general condition of the market is not up to the standard.

The Thousand Lights Market.—By virtue of its central location between mufassal and city areas, it attracts good crowds. This deals both in wholesale and retail fish business.

The old fish section was abandoned and a new construction was put up recently in the area adjoining the market. It provides accommodation for 26 fish vendors. Each stall roughly measures 7 feet by 7½ feet and it can accommodate two vendors. No partition in between stalls. Desk-like structures with sloping Cuddapah slab tops for display of fish are provided. One notable feature is that the walls and platforms have highly polished surface (Redoxide finish) to facilitate easy washing. Flies are much in evidence.

The Choolai Market.—It does a sound retail fish business. The building is old with accommodation for 53 fish stalls. Except for five stalls measuring 8 feet by 6 feet, all other stalls measure roughly 4 feet by 6 feet. Stalls are not separate and they are located side by side on common platform with no partition in between. Fly nuisance is terrific here.

The Kondithope Market.—Twenty-three fish stalls are available, each measuring roughly 6 feet by 10 feet. As usual stalls are located side by side on common platforms. Sufficient water-supply and lighting arrangements are lacking.

Thus fish retailing in Madras State presents problems that are peculiar to Madras. Fish stalls do not look attractive, nor are the fish vendors, who are mostly women clean themselves. Though the Corporation conservancy staff is doing a good deal to maintain perfect hygienic condition in fish markets the improvements

(Continued on page 32.)

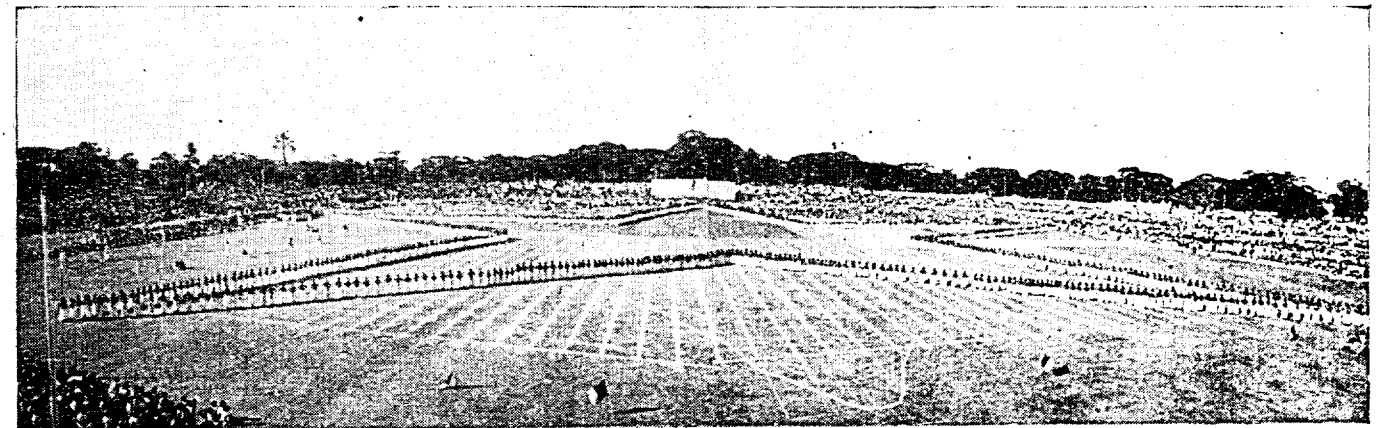
Improved Paddy Seed

The Madras Agricultural Department has now completed the analysis of the data relating to a pilot survey conducted for assessing the area covered by improved paddy strains during the year 1958-59. This random sample survey was conducted between November 1958 and January 1959, during which period the main paddy crop was reaching maturity in a major area of the State. Results are available in respect of 1,119 villages covering all districts of Madras State excepting Nilgiris. This represents more than 5 per cent of the total number of villages including hamlets in Madras State.

The results of survey indicate that improved paddy seeds have covered an average of 63 per cent of the paddy area in the State. The largest coverage of 82 per cent is noticed in North Arcot district followed by South Arcot in which the coverage is 80 per cent. In Coimbatore the coverage is 76 per cent and in the districts of Tiruchirappalli, Madurai and Salem, the coverage is between 65 and 70 per cent. In Tanjore,

Chingleput and Tirunelveli the improved strains occupy between 60 and 65 per cent of the area and in Ramanathapuram it is only 45 per cent. In the district of Kanyakumari improved strains have covered 4 per cent of the area since merger. Suitable strains are being tested. During the period of the survey 46 strains of paddy were found growing in the State. The recently evolved blast resistant strain Co.25 is grown in nine districts and is found in 15 to 20 per cent of the holdings. The oldest strain evolved by the department, namely, GEB.24 still holds the foremost place in eight districts and covers 25 per cent of the holdings. Other important strains are ASD. 5 and TKM. 6. TKM. 6 is a new release and is suited for a wide variety of conditions. It has very fine rice and will soon replace other varieties.

It may be mentioned that this is the first time a survey of this kind has been organized in India on a Statewise basis and the study has provided very valuable data for planning for further work in regard to the areas where further intensified distribution of improved seeds is required.



Children's Day was celebrated in Madras on 14th November 1959. Photo shows one of the tableaux staged on that day at the Madras Stadium.



The new Administrative Offices building of the Hindu Religious and Charitable Endowment Department was declared open by Sri M. Bakthavatsalam, Minister for Home and Religious Endowments, on 2nd November 1959.



Sri S. M. A. ASLAM, M.A. (Dip. in Geo.), A.I.F.C., Personal Assistant to the Chief Conservator of Forests, Madras.

Any attempt in assessing the role played by forests in the economic structure of a country has to be viewed against a background of the changes brought about by a variety of factors, and Madras State is no exception to this. With the implementation of the State Reorganization Act of 1956, large areas of forests in Malabar and South Kanara had to be transferred to Kerala and Mysore States. Thus, almost overnight, Madras State found itself in a very adverse position due to a sharp decline in her timber wealth.

Since the beginning of Organized Forestry and in particular under the British regime, major attempts had been made to grow and augment the indigenous species to cater to the needs of the local population. It was considered that it would be better to concentrate on local species, which would be within their habitat and normally found to grow naturally rather than experiment with non-indigenous ones. However, attempts were made on a small scale to introduce certain "exotics" in the Nilgiris and the Upper Palnis.

The term "exotic" merely denotes a plant growing in a site so far removed from its natural habitat that it subjects itself to a set of new environmental factors.

In an exotic habitat, problems may arise owing to unsuitability of climate or soil or due to the absence of certain biotic factors. Similar problems arise owing to the presence of adverse biotic factors to which the tree has no inherent immunity or resistance.

Physiographic factors such as geographical position, latitude, elevation, slope and aspect are also equally important considerations in the choice of an exotic. Quite apart from all this, climatic or soil conditions or even biotic influences are seldom optimum and may themselves be limiting factors.

The role of exotics in this State has seen three distinct phases, each reflecting a degree of enlightenment towards scientific advancement.

The first phase began when Capt. Dun and Capt. Cotton in about the middle of the nineteenth century, realizing the ideal configuration in the Nilgiris and

Kodai Hills introduced wattle and bluegum. The Kodai Hills were tackled subsequently. These tracts with a wide diurnal range of temperature and varying rainfall helped the acclimatization of these two species so well that it is hard to regard bluegum or wattle as alien in origin. In view of the good response observed and the high coppicing power of bluegum, Gamble introduced certain other species of eucalyptus in the Nilgiris. After Gamble left, no new schemes were introduced till 1905 when Sir Francis Spring raised certain hardwood species of eucalyptus with a view to producing timber for the railways. Although the configuration of the country, which is reflected in the widely different types of vegetation, was fully understood by these pioneers, yet the other genus of exotic eucalyptus, did not thrive well in these tracts, and their attempts at establishing these other species of eucalyptus merely remained an item of botanical interest. In general, the observations were that with the exception of eucalyptus, globulous and wattle the pioneers did not achieve any measure of success with the other exotics. A careful analytical survey of their work shows that—

- (1) there were gross mistakes in introducing the exotics to altogether unsuitable areas thus predestining the trail of failures;
- (2) lack of silvicultural knowledge of the exotics and their environment; and
- (3) there were really no serious attempts at establishing these exotics species as there were enough forest lands at that time which could cater to the demands of the local population and the railways.

Exotic forestry entered its second phase when it was subsequently realized that the indigenous forests though considered extensive in area could not really serve the needs of the State. These ill-clad tracts which were considered as "wasting assets" were unable to fulfil the needs for timber and fuel, etc. Added to this, the knowledge of silviculture of some of the "ever-green" and "shola" species was so scant that it was felt it would take years of intensive research and practical experience to know the very fundamentals of their management.

The position demanded the creation of other resources to provide for the future. Between 1948 and 1950 under the post-war schemes comparatively larger areas were taken up under bluegum on the Nilgiris and Kodai Hills. The total area under regeneration under the post-war and First Five-Year Plan was 1,100 acres. The inflated price for wattle bark (tanning content) gave a fillip to the extension of wattle (mostly *acacia mollissima*) in the Nilgiris and in the Upper Palnis during the post-war period. Two thousand eight hundred and fifty acres were brought under wattle during the First Five-Year Plan.

With the decision of the Government of India, to implement the States Reorganization coupled with the liberal finance placed at the disposal of the Madras Forest Department under the Second Five-Year Plan and with the initiative of the Government of India to retain a third of the total land area under forests, the role of exotics entered on its third phase, when afforestation was regarded as the logical form of land use for all idle land. Large areas were also available in the ex-panchayat and ex-zamin forests. Thus, in favourable climate, exotics planting in the State was given a boost.

As might be expected the greatly accelerated tempo of afforestation demanded radical changes in every phase of the work and as a sequence, trials with exotic species also assumed greater urgency. Thus, there was an over-riding need for raising the maximum number of trees in the shortest possible time. The empirical knowledge already built up by the State was now supplemented with important additional data derived from experimental and research plots. Apart from these considerations, it must be admitted frankly that the silviculture and management of our fuel forests which is worked on "Coppice with Standards" is antiquated and has left us with a heritage of "Forest line". The indigenous trees raised from old coppice stools show a certain absence of vigour in later life which prevents them from extending to the margins of the forest outwards or from contributing to fresh development. They appear to be the remnants of a receding flora formerly more widely distributed under more favourable conditions. This feature is more pronounced at the foot-hills of the mountains and in the plains where most of the natural forest growth has been destroyed and the remaining fragments over exploited to satisfy the needs of the population. A speedy re-establishment of a proportion of these forests is necessary and in particular for the following purposes:—

- (a) Provision of fuel and timber; and
- (b) soil and shifting soil stabilization.

Most of the indigenous species cannot be established quickly by taking advantage of an early rainfall. In areas where periodic droughts are very frequent and common, most of the indigenous species cannot fit in well with the period of dormancy.

Finally in the congeries of species such as we have in the Indian Peninsula, there are very few trees which are not subjected to the influences of nature and silvicultural art and very few of them could develop themselves into "Selective strains" due to hybridization or seed provenances.



A Wattle Tree

With a view to evolving a system of balanced and complementary land use, under which each type of land is allotted to that form of use which would produce most and allow for the least deterioration, the following schemes towards intensifying the growth of exotics were taken up during the Second Five-Year Plan Period in Madras State:—

Creation of Industrial Plantations such as wattle and bluegum.—There is a provision of Rs. 9.12 lakhs for raising 10,300 acres of wattle and 1,600 acres of bluegum in the districts of Nilgiris, Madurai and Salem.

Cashew cultivation.—The object of this scheme is to extend the cultivation of this exotic species on a plantation scale to meet the growing demand for cashewnut, cashew shell oil and also to recloth the denuded ex-panchayat forests of Chingleput, South Arcot, Ramanaapuram and Tirunelveli districts.

This ambitious venture on such a gigantic scale, has won the appreciation of the public. The amount set apart for this scheme is Rs. 25.16 lakhs and the target fixed in terms of acreage is 45,000 acres.

Casuarina was grown on large acres in South Arcot district. In addition to these large-scale plantations, successful experiments have been conducted to grow—

Dalbergia Sissoo,
Eucalyptus hybrid,

Eucalyptus Saligna (Grandis),
Eucalyptus Camaldulensis (rostrata),
Eucalyptus citreodora,
Eucalyptus rudis, and

Pinus insignis; in all the different tracts of this State.

Judged from the large-scale plantations of cashew, bluegum and wattle and the trials conducted with the others, exotic species have assumed great importance in the economy of the Madras State not only from the point of view of the progress of afforestation and forest improvement, but also from the pattern of exotics establishment which has taken concrete shape since 1950. This is further borne out by the fact that most of the exotics introduced are fast growing, high yielding and "aggressive" trees. The future changes are therefore likely to be towards widening the scope of the range of species planted. They also demand greater attention to the selection of provenances within the species and the development of mixed stands in place of the almost universal monocultures which has been the standard practice up to the present. Obviously, afforestation is proceeding at a greater pace than at any time in the past. It is therefore safe to predict that exotics will continue to have an overwhelming influence over the

(Continued from page 28.)

effected are in no way comparable to the condition of some of the Far-Eastern markets. The reasons for this kind of state of affair are many. Many of the buildings in which fish markets are housed are very old and of designs which are out of date. No amount of alterations can make them attractive and neat. These old buildings must be completely pulled down and in their places new markets on modern line must be constructed. Fish as a commodity is of a special nature. It is very delicate and is always found associated with water, blood, muscilage and smell. Even slight carelessness on the part of the vendor or customer will render the fish section dirty. By merely increasing the number of scavenging staff or water taps, fish stalls cannot be made clean and attractive. The vendors as well as the customers must realize the importance of cleanliness in fish markets and act accordingly. For this, propaganda and education are necessary among the vendors and the public. Model fish stalls must be constructed.

Fish can be displayed in refrigeration display cabinets just like sweet-meats or cakes and fish stalls can be allotted good buildings even on the main thoroughfares as in Eastern and Western countries.

STEPS TAKEN BY THE DEPARTMENT.

The Fisheries Department of this State helps the fishermen bring their catches quickly to the city markets from the various landing centres lying within a radius of 25 miles from the city. For this purpose, the department has given motor vehicles on hire or hire-purchase system to the fishermen co-operative societies. These societies transport the catches along with the owners to the city markets for nominal fees. After the sales are over the fisherwomen are taken back to their respective



Photoprint of the Children's Day Stamp which was issued on November 14, 1959.

The stamp, which has been issued in the denomination of 15 nP., shows two boys outside a children's home. They are looking with anxiety and wondering whether they will be admitted into the home. The stamp has been printed in olive green by the photogravure process, at the India Security Press, Nasik Road.

improved economy of this State provided such long-range planning is aided by an assured continuity of adequate funds from the Government.

villages. Besides these motor vehicles, the Department has introduced recently three-wheeler Lambrettas also for transporting fish. The department is endeavouring to popularize co-operative marketing in fish trade. It encourages fishermen co-operative societies to take fish market leases, fish wholesales, by giving them necessary financial aid. It gives them loans at low interest to enable them to clear their debts to middle-men and to take part freely in fish trade without any encumbrances. In the city it has given a subsidy of Rs. 2,500 to the Thousand Lights Charities for constructing a fish section in the Thousand Lights Market. Also it has given a subsidy of about Rs. 4,000 to the City Corporation for constructing modern fish stalls with fly proof stalls, display tables, lights, etc., at Ayanavaram, T. Nagar and Maenichols Road Markets.

OUR AIM

The fish retailer as well as the fish market owner in Madras must rise up to the standard of their counterparts in East or West with the help and guidance of State Fisheries Department. The Public Health Department and municipalities should enforce strict measures over fish stalls. Just as there is an all-out effort to abolish slums from the cities and suburbs, so also there must be a campaign to abolish dirty and neglected fish stalls from the cities of this State. Towards this end, the Sanitary, Health and Fisheries Departments together with the co-operation of the Local Administration Department must strive hard and with a spaced programme for the next five years. Fish stalls in important cities like Madras, Madurai, Tiruchirappalli, Coimbatore, Ootacamund, Ramanathapuram, Dindigul, Tuticorin, Nagapattinam, Villupuram, Chingleput, etc., must be changed from their present sad state into model stalls on par with fish stalls of Far-Eastern countries at least, if not, like the excellent fish stalls of advanced West.

Khadi Week—A Review

Khadi Week was celebrated this year throughout the State on a grander and wider scale than during the previous year. People of all persuasions in small villages as well as in big towns participated in the celebrations with great enthusiasm and the message of the Charka was carried forth to every nook and corner of the State.

The Department of Khadi submitted to the Government detailed proposals for the celebration of the Week. Simultaneously it sent a copy of the proposal to the Khadi and Village Industries Commission with a request that steps might be taken to have the Khadi Week celebrated on an All-India basis. The Government accepted the proposals and in their G.O. Ms. No. 48, Rural Development, dated 19th September 1959 accorded sanction to the incurring of an expenditure not exceeding Rs. 45,200. The Khadi and Village Industries Commission too accepted the Department's suggestion to celebrate the Khadi Week on an All-India basis and issued instructions to all the State Khadi Boards and institutions all over the country for celebrating the Gandhi Jayanti Week as Khadi Week. Also the

Commission obtained Government's sanction for allowing a special extra rebate of 1½ annas in the rupee for all cotton khadi purchases and 12 nP. in the rupee for silk purchases for a period of six weeks starting from 2nd October 1959.

The Department of Khadi took all possible steps to make the Khadi Week a State-wide celebration. With a view to broadbase the celebrations by enlisting the support and co-operation of all people, it was suggested that a Celebrations Committee could be formed in each district with the District Collector as Chairman, the District Khadi Officer as Secretary and influential non-official men and women drawn from all walks of life as members. The Celebrations Committee in each district was also instructed to take the active help and co-operation of Khadi institutions like the Tamilnad Sarvodaya Sangh, Gandhi Ashram, Tiruchengodu, Gandhigram and Gandhiniketan, T. Kallupatti, etc.

A common pattern of programme for the Week was drawn up and sent to all the units of the Khadi Department, the Block Development Officers, the District Publicity Officers and others. The programme included



Spinning Demonstration in Ambar Charkha conducted at Vellore on 4th October 1959. 280 Ambar Spinners from all over the North Arcot district participated in the Demonstration.

exhibitions, public meetings, processions, spinning competitions and demonstrations, hawking of Khadi, arrangement of cultural programmes, elocution competitions, etc. The Government sent circulars to the District Collectors asking them to arrange the implementation of the Khadi Week programmes in their districts through their own units as also through the agency of the Khadi and Rural Development units. The co-operation of All-India Radio and important newspapers and journals was also secured to popularise the programmes of the Week and to educate the public on the place of the Khadi in the economy of India and about the great progress made in the production of quality khadi to suit all tastes and purposes. The Department of Khadi designed special posters for use during the Week, brought out an attractive and informative illustrated booklet in English and Tamil with pictures, maps, charts and statistical data giving a complete picture of Khadi work carried on by the Government and other voluntary organizations in the State and published a folder containing facts and figures in support of Khadi and in answer to the critics of the Khadi ideology. These were sent to the units of the Khadi Department, Block Development Officers and other bodies arranging the Khadi Week celebration. Slides in English and Tamil were prepared for exhibition in ten theatres in the City and thirty theatres in all the important towns of the State where there are Government Khadi Sales Depots. Arrangements were made to exhibit those slides in different theatres from the 1st to 31st October. Thus the ground was fully prepared for the celebration of the Week in the City and in the district centres.

In the City.

Khadi Week in the City was inaugurated by Sri M. Bhaktavatsalam, Home Minister of Madras at a crowded public meeting at Rajaji Hall on the 2nd October 1959. The Exhibition jointly organized by the Khadi Department with the Tamilnad Sarvodaya Sangh and the Khadi Gramodyog Bhavan was opened by Sri M. P. Sivagnanam. The second day of the Week was observed as "Spinners' Day" and more than 150 spinners both on the Ambar and Kisan Charkhas participated in the spinning competition. Fifteen prizes, six for Ambar spinners, six for Kisan Charkha spinners and three for the spinners on Thakli were awarded.

The third day was the "Children's Day". The celebration of the Children's Day and Women's Day was entrusted to a sub-committee with Srimathi Parvathi Srinivasan as Chairman and Srimathis Manjubhashini, Sarojini Varadappan, Mary Clubwala Jhadav, Indira Ramadurai, Meenakshi Venkatachalapathi and Razi Muhamad as members. As a result of the tireless work of the Chairman and members of the Sub-Committee, a number of children's and women's clubs and institutions came forward to participate in the Week, each with a budget of interesting programmes.

The Children's Day had a two-fold programme. One was the Children's dress competition in which 42 children of age groups ranging from 3 to 12 participated. Prizes were awarded to a number of children who were

adjudged to be the best in their respective age groups. The other was the Children's programme arranged at the "Children's Theatre". A number of schools and children's clubs participated in this function, chief among them being Vidya Mandir, Mylapore, Nungambakkam Children's Club, Church Park Presentation Convent and Kanya Gurukulam. The programme included dances, songs, dialogues and a dress parade. A packed hall witnessed the different shows put up by the children. The institutions and clubs which participated in this variety entertainment were awarded prizes. At the end of the show Srimathi Bishnuram Medhi gave away the prizes. Srimathi Soundaram Kailasam and Sri K. Sarangapani also addressed the children.

The fifth of October was celebrated as Industrial Workers' Day with Sri T. S. Pattabiraman presiding. Sri S. A. Rahim and Sri T. K. Krishnaswami addressed the workers who had assembled at the Rajaji Hall. The next day was the Students' Day which was celebrated at Bertram Hall, Loyolla College, with Rev. Sundaram, S. J., Principal of Loyolla College, in the Chair. Sri C. Subramaniam, Finance Minister of Government of Madras inaugurated the day, with a speech in which he explained the economic importance of Khadi and asked the students to take to Khadi which had innumerable varieties to cater to their needs and tastes. Srimathi T. N. Ananthanayaki also addressed the students.

The Women's Day of the Khadi Week was celebrated at the Queen Mary's College on the 7th October. A number of colleges and women's associations participated in the celebrations. S.I.E.T. College arranged a dance performance while the Queen Mary's College put up a Fashion Show. Leading women of Madras produced a small show entitled "Khadi in a Coffee Party" which effectively brought out the varied uses to which Khadi could be put and the varied styles in which it could be used. Kanya Gurukulam and Nungambakkam Ladies' Club had each an interesting programme. Srimathi Ambujammal presided over the function and Srimathi Bhaktavatsalam distributed prizes to the institutions that were adjudged to have come off well in the programmes arranged.

The same day an elocution competition for college students was held at Rajaji Hall. Twenty-one students from ten colleges participated in the competition. All the participants in the competition showed great understanding of the economics of Khadi. Prizes were awarded to the winners in the competition. The concluding day of the Week was observed as Khadi Workers' Day. On that day a songs contest was held in which 30 persons participated. The songs were all on Khadi and prizes were awarded to the winners in the contest. Sri T. Chengalvarayan presided over the concluding day's function. Sri K. P. V. Giri, Srimathi Saraswati Pandurangam and Sri A. K. Chandrasekara Mudaliar addressed the gathering, pointing out the need for encouraging Khadi.

The Exhibition at Rajaji Hall jointly organized by the Khadi Department, the Tamilnad Sarvodaya Sangh, Khadi Gramodyog Bhavan, Khadi Development Co-operative Society, Limited, attracted large crowds. There was also an exhibition of Village Industries

organized by the Department of Industries and Commerce. Some of the best varieties of Khadi in silk, cotton and wool were displayed in the Exhibition. Charts, maps and pictures recording the progress of the Khadi Schemes in the State sponsored by the Madras Government were also displayed there. On an average 3,000 people visited the Exhibition during each day of the Week. A Sales counter was also opened at the Exhibition and Khadi worth Rs. 6,590 was sold. All the visitors among whom were a number of distinguished men and women were highly impressed with the Exhibition.

In response to the request of this department all the leading newspapers and periodicals (English and Tamil) in the State brought out special supplements on the occasion of the Khadi Week, chief among them being "The Hindu", "The Mail", "The Indian Express", "Swadesamitran", "Nava India", "Dinamani", "Tamil Nadu", "Dinamalar", "Ananda Vikatan" and "Kalki". The department supplied them statistical data and other background material required for their use in the supplements. The Khadi and Village Industries Commission sent articles by the Chairman of the Commission and others together with statistical materials relating to the progress of the Khadi Movement in India. Messages received from the President, Vice-President, the Finance Minister of India and the Chief Minister, the Finance Minister and the Home Minister of Madras, were also sent to the newspapers for publication.

At the request of this department, All-India Radio, Madras and Tiruchirappalli, arranged special broadcasts for the Khadi Week. The Madras Station presented a number of interesting programmes on Khadi. The significance of the Khadi Week was explained by Sri M. Bhaktavatsalam, Home Minister, Sri C. Subramaniam, Minister for Finance, and Sri Venkataraman, Minister for Industries and Labour. A song on Khadi specially composed for children by Sri Azha Valliappa, a discussion on Khadi by a group of prominent women included in the Women's Programme and an interview with the Khadi shoppers at the Gramodyog Bhavan were the highlights of the Madras Programme. The Tiruchirappalli Station, besides relaying the talks of the Ministers, had some special programmes of its own. Of them, an interview with an Ambar spinner, two features entitled "Yaarkum Nallan" and "Kai Kodukkum Khadhar", and an eye-witness account of the celebrations of Khadi Week proved very interesting and instructive.

In the districts, the Khadi Week was celebrated on a grand scale this year. Each district had a Celebrations Committee with the District Collector as President, the District Khadi Officer as Secretary and a number of influential non-officials of the area as members. This ensured the co-operation of a wide cross-section of the people in each district. The pattern of celebration in the districts was broadly the same as that in the City. There was a big exhibition in the headquarters of each district, besides many small exhibitions in towns and villages of the State. The exhibitions proved a big draw everywhere. Hundreds of people visited these

exhibitions every day of the Week. At Tirunelveli, about 5,000 people visited the Exhibition each day. At Madurai, more than 50,000 people visited the Exhibition during the Week. At the Exhibition held at the headquarters of Chetput Block in North Arcot district, more than 3,000 people visited the Exhibition each day. The celebrations were organized in all the blocks also.

In all, 196 exhibitions were held during the Week in the State. The number of meetings held, the processions taken out, the spinning and elocution competitions conducted and the cultural programmes arranged indicates the tremendous enthusiasm shown by the people everywhere. From reports received so far, the celebrations were held in 1,024 places including big towns. One thousand fifty-seven public meetings were held. Three hundred and forty processions were taken out. One hundred and thirty spinning demonstrations were held and 769 spinning competitions were conducted. There were charkha demonstrations also in 14 places. Elocution competitions for students held in many places in the districts number 187. Fancy dress competitions were arranged in 53 places and the number of variety entertainments held during this Week was 331. Khadi was hawked in 290 places and mass spinning demonstrations were held in 106 places. These figures show the tremendous response of the people to the call for the celebrations of the Khadi Week. Women participated in the celebrations in large numbers. The enthusiasm of the students was in evidence everywhere and this is borne out by the large number of students who came forward to participate in elocution competitions held all over the State. The fancy dress competitions held all over the State show the great interest that children and women evinced in Khadi. The fancy dress competitions in which women and children participated in such a large number and with such enthusiasm have helped to demonstrate the versatility of Khadi.

The meetings arranged in connexion with the Khadi Week everywhere were largely attended. In a number of places Ministers of Madras State and Central Government participated in these meetings. The Chief Minister

School children engaged in Takli mass spinning on 2nd October 1959 at Coimbatore



addressed a public meeting at Srivilliputhur and visited the Exhibition conducted by the Khadi Department. He also paid a visit to the newly opened sales section in Aruppukottai Khadi Sub-Centre. The Home Minister addressed meetings in Arcot, Poonamallee and Kancheepuram Blocks during the Week. The Revenue Minister addressed a number of meetings in North Arcot district during the Khadi Week and also distributed prizes to winners in a spinning competition held at Mayuram. The Minister for Local Administration addressed meetings in South Arcot district while the Minister for Public Works attended a number of functions in Coimbatore, Chingleput and Madurai districts. The Finance Minister visited the Khadi Exhibition at Salem. Sri S. V. Ramaswami, Minister for Railways, inaugurated the Khadi Week Exhibition along with the Union Minister, Dr. K. L. Srimali. Besides Ministers of Madras State, distinguished persons also participated in Khadi Week Celebrations in Madras State. Sri E. Goubert of Pondicherry opened the Khadi Exhibition at Cuddalore on the 2nd October. Distinguished non-officials like Dr. C. P. Ramaswami Iyer, Thavaperumthiru Kunrakudi Adigalar also participated in the Khadi Week Celebrations held at Ootacamund and Muthupet (Tanjore district) respectively.

The processions taken out in connexion with the Khadi Week were picturesque and colourful in many places. In Tirunelveli, Srivilliputhur and Coimbatore, huge processions were taken out, caparisoned elephants leading them. On the inaugural day at Salem there was a mile-long procession in which thousands of people participated. Reports of processions from other places also show that people joined these processions in large numbers.

Reports received from Government Khadi Sales Depots, Government Khadi centres and blocks show that Khadi to the value of Rs. 3,97,125.64 was sold during the Khadi Week alone (from 2nd October to 8th October). Reports for more than 50 blocks are yet to be received and when these reports are received, the Khadi sales during the Week would definitely exceed Rs. 4 lakhs. Last year Khadi sales during the Khadi Week totalled Rs. 1 lakh. Besides Government Sales Units, the Madras City Khadi Development Co-operative Society, Limited, sold Khadi worth Rs. 2,782, Gandhi Ashram, Tiruchengodu, Rs. 8,781 and the Khadi Gramodyog Bhavan Rs. 42,243. Figures of sales from Tamilnad Sarvodaya Sangh are not available.

ERRATA

Please correct the captions appearing below the photographs on page 24 of the November issue of Madras Information as follows:

(1) Top—Spinning competition held in the Rajaji Hall on Spinner's Day—3rd October 1959.

(2) Below—Khadi in a Coffee Party—a scene from the tableau produced by leading women of Madras City.

(Continued from page 10)

So far we have considered the scope of extension work and the basic principles. It will be clear that extension is an extremely complex task and not every person can be a successful extension worker, but at the same time, it is possible to ensure a certain amount of minimum efficiency in the average extension worker. What are the qualities which are needed for a successful extension worker? As extension is very similar to education, it can broadly be stated that the qualities of a good teacher will be a good asset to any person embarking on agricultural extension. He has first to fit well into the environment, and it is not easy for a person with the urban background to fit snugly into a village environment. The villager has to feel that the extension worker is not an outsider, but one who is one of themselves at least in outlook. He must have the general qualities of patience and persuasiveness. He must be able to spot out the local leaders and potential leaders and make full use of them without getting involved in local political factions. He must also be able to select the items of work which meet a felt need and are likely to catch on.

All these are really general qualities required by any extension worker, but there are certain qualities which are essential in a person dealing with agricultural extension. He must have a good scientific training in agriculture. This is fairly easy to acquire, as the Agricultural Colleges provide a thorough grounding in Agriculture to their students who usually take up extension work after they pass out of the College. But apart from knowing the basic principles, he must also be in a position to get the necessary information from the different persons in the department. Scientific agriculture is far too vast a field for any one to master all, and the extension worker should be able to know the source from which he can get really sound information on any special branch or crop. But even more important than scientific knowledge is the knowledge of local farming. An Extension worker must be thoroughly conversant with the agricultural practices. He should be able to take on and run a farm in the area, if given a chance. Unfortunately, many of our Agricultural Graduates do not satisfy this condition, and to that extent, they are sadly handicapped while they do extension work. A farmer knows his job thoroughly, and he is not likely to accept advice from anyone, who is not at least as proficient in the field of agriculture. The only way of ensuring this is by providing the new entrants to the field adequate facilities to acquire such knowledge and experience of farming. In the United States, a raw Graduate is not appointed as County Agent, but is posted as an understudy and is allowed to take over the full duties of a County Agent only after the expiry of two or three years in a subordinate post. This aspect of the matter has been emphasised by the Royal Commission on Agriculture which has stressed that "a recruit should not be employed on work which brings him into direct contact with the Cultivator, until his capacity for such work has been gauged by considerable practical experience." This is, no doubt, an absolutely sound principle to lay down, but how it is to be implemented to-day, when there is such a dearth of agricultural graduates staffing extension positions, is a baffling problem.

SECRETARIAT ASSOCIATION



Sri W. R. S. Sathianadhan, I.C.S., Chief Secretary to Government, presided over the Music Competition programme conducted by the Secretariat Association in October. The photo on left shows a part of the gathering.



The Anniversary of the Last Grade Government Servants Union which was celebrated on 13th November 1959 was presided over by Sri W. R. S. Sathianadhan, Chief Secretary to Government.





GANGA GETS THE APPLAUSE...



Yes, loud & continuous
applause. When she was
about to enter the
stage, mother was however,
very apprehensive.
Will Ganga also swoon from
weakness as did the
neighbour's daughter the
other day? Father brushed
her fears aside saying,
she is brought up on



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(A Kerala Government Concern)

SISTA'S