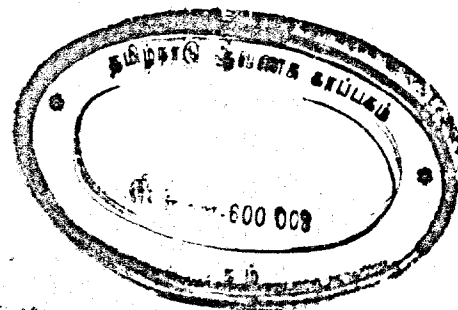
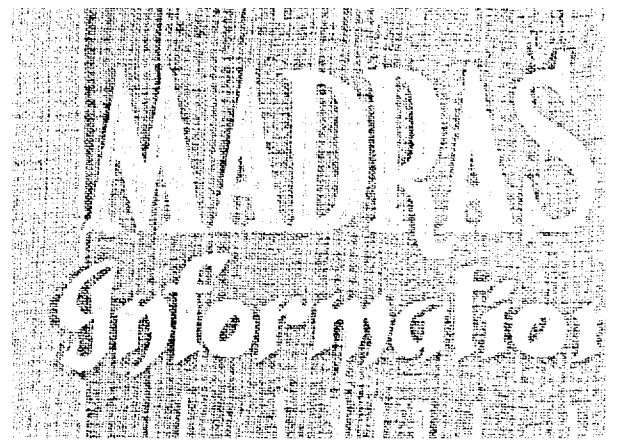






"Service Week" under the auspices of the Secretariat Association was inaugurated in November 1939 by Sri Bishnuram Malli, Governor of Madras.



The Chief Minister, Sri P. Ramaswami, convenes an informal Press Conference to explain the programme for the re-organisation of the Local Administration set-up in the State. Photo shows the Chief Minister and Mr. R. A. Chelvanayakam, I.C.S., Development Commissioner, with the Pressmen.

"We seek to Serve
and Not to Compete"

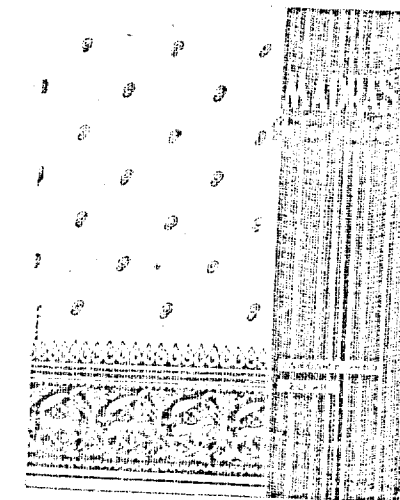
Published every month
by the Director of
Information and Publicity,
Fort St. George,
Madras-9.

Annual Subscription
Rs. 2-25.

Advertisement rates
on request.

Cover Design
by Chella.

This month's cover



The All India Handloom Week which will be celebrated throughout the country from 31st January as a great festival by the weavers will focus people's attention on the handloom industry which has been producing a wide range of wondrous textiles. This issue of the *Madras Information*, the cover page of which carries a handloom saree design, contains articles on the problems of this industry which is the widespread cottage industry in the State.

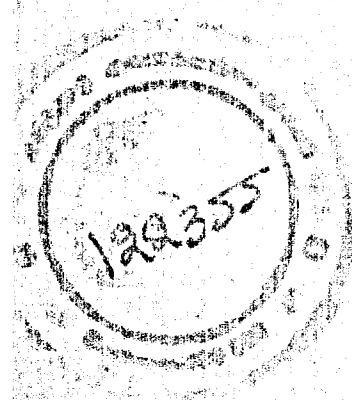
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[The articles published in *Madras Information* may be freely reproduced.]



Handloom Industry in Madras State

T. S. SANKARAN, I.A.S., Director of Handlooms, Madras.

India has been a producer of cotton cloth from time immemorial and is generally regarded as the birth-place of cotton manufacture. Cotton was used for textiles even at the remote period of Indus Valley Civilisation. In the absence of the machine, made inevitably on handlooms and they had a virtual monopoly. The requirements of handloom cloth not only within this country but also abroad were met by the Indian Handloom. The tradition of handloom weaving in the country has been long and distinguished and the skill of the Indian handloom weavers has been of a very high order. The Industrial revolution in England and the policy adopted by the British Parliament in regard to its trade with India resulted in the collapse of the Indian Handloom Industry which had been at the peak of its glory affecting a large number of weavers and artisans. The blow to handloom industry was not from Britain alone. The slow industrialisation of the country and the expansion of the textile mill industry caused further set back to the handloom industry. The growth of industrialisation affected the fortunes of the handloom industry in a large way, though as the largest cottage industry in India, it continued to occupy a prominent place in the general economy of the country.

IMPORTANCE OF THE INDUSTRY

It is estimated that there are nearly 28 lakhs of handlooms in this country which provide means of livelihood to over one crore of people. In spite of this pre-eminent position in the general economy in the country, the fortunes of the handloom industry have been subject to violent fluctuations and the plight of the industry was particularly distressing a few years after the end of the Second World War. The boom enjoyed by the handlooms and mills during the war and immediately after the war could not last for ever. The dispersed nature of the industry, the small financial resources of the handloom weaver and the precariousness of the market made the condition of the handloom

weaver pitiable. It was realized that *ad hoc* measures could not set right the situation and what was required was a well co-ordinated effort directed towards increasing the efficiency of the handloom weaver and making him self-reliant and self-supporting. Of the several steps taken by the Government of India for the rehabilitation of this industry, the most important were the setting up of the All-India Handloom Board and the constitution of the Cess Fund.

ASSISTANCE FROM GOVERNMENT

The functions of the All-India Handloom Board consisted of advising the Government on the problems of the industry, examining schemes for development and recommending assistance from the Cess Fund. The Cess Fund was constituted by levying an additional excise duty on all mill cloth other than for export manufactured within the country. It was decided that the best remedy to the ills of the industry was to organize it on sound co-operative lines and, therefore, all assistance to the handloom industry was made available only through co-operatives. In addition to such direct assistance the handloom industry was indirectly assisted by curtailing production of dhoties by mills, reserving certain varieties of cloth for production exclusively by the handloom and by levying a general excise duty on mill-made cloth. These measures have greatly helped the handloom industry and the condition of the industry to-day is in striking contrast with what it was during 1951-52.

MADRAS LEADS

Out of the total 22 lakhs of commercial handloom in the country, 4.56 lakhs of looms are in Madras State. As pioneers in the field of handloom co-operatives, it was natural that Madras State should take a lead in the implementation of Cess Fund Schemes. The Madras Government have formulated several handloom development schemes with assistance from Cess Fund and these

(Continued on page 5)

Indigo—Its uses in Ancient and Modern Times

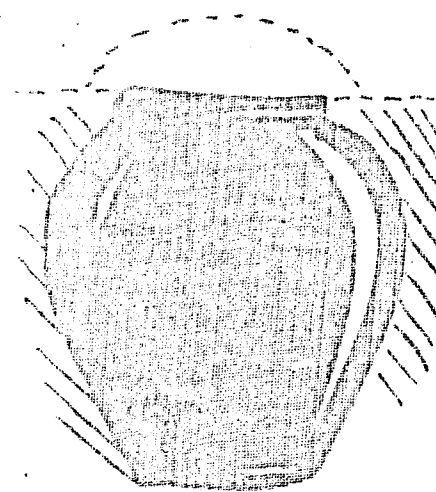
Dr. K. I. NARASIMHAN, Ph.D. (Bom. & Manch.),
Deputy Director (Dyeing), Weavers' Service Centre, All-India Handloom Board, Madras.

Indigo dyeing was being practised from time immemorial and seems to have had and is still having an appeal for ever, the most critical and fashionable American and European markets. In Asia indigo dyeing is carried out particularly in the old civilisations of the south and east, though it also flourishes among many races primitive in technical matters, chiefly in Indonesia and Indo-China. In Africa it can be traced across an area extending from the Mediterranean coast land to the Sudan and on to the Guinea coast even among the primitive tribes, though it is apparently non-existent in the southern parts of the continent, barring Madagascar. Even before the days of Columbus there is evidence of indigo dyeing among the civilized peoples of the Andes and Mexico and to this very day Navajo Indians and certain tribes on the Rio Negro practise the craft.

Considering the cultural influences exerted by the civilisation of India upon the Malayan Archipelago and thence on New Guinea, on Melanesia, on China and Japan, and again as far as Asia Minor, Egypt and even parts of West Africa, one might be inclined to think that the spread of indigo dyeing in the Old World originated from Southern Asia.

PRIMITIVE METHODS

Generally speaking, primitive peoples work direct with fresh indigo bearing plants and seldom do they resort to processes for preserving the dye or extracting and so concentrating the colouring matter.



An earthen pot of about 5 feet height and holding about 5 gallons liquid, as in use in India.

A typical example of manufacturing indigo using fresh *Indigofera* leaves as carried out in Western States by Negro women is as follows:—

Leaves are pounded and put in an earthen pot, adding a strong wood-ash lye and urine. After a few days the liquor is ready for direct dyeing.

In eastern Indonesia, the natives pound the *Indigofera* leaves and set a vat with water. To this they add the tannin-bearing bark of a tree as well as some sliced lime. They claim that these additions separate the useless and non-potent constituents from the good dyeing solution. The scum floating on the top of the bath is poured off from time to time. After three days they take the leaves out of the pots, knead them well and then carefully strain the solution. The clear liquor is stirred by hand till frothing sets in, then it is allowed to stand for about an hour when the impurities are skimmed off. This procedure is repeated for a week, whereupon dyeing is commenced in a perfectly clear bath. The dyes of year are left to the weather for several nights. During the days between they are removed from the pots to dry in the sun incidentally thus enhancing the colour each time.

If the dyeing is not done with fresh plants but with the dyestuff, the indigo must be vat-dyed, that is to say, it must be converted into a soluble form. The primitive races use only the fermentation vat. In regions technically more advanced, such as India or Japan, the



Dyeing indigo in a small pot as in Sumatra (Indonesia).



Vats beaten into rock, as employed by the Karo-Bruk in Sumatra for Indigo dyeing.

fermentation is produced artificially with the aid of sugary substances or with substances already in a state of fermentation. In general, and particularly when plants are used, indigo vats set by primitive folk show a low degree of concentration. To obtain depth in colouring, the dyeing process must be frequently repeated and sometimes it takes months, even years, as is the case in the Batak countries, to produce the effects desired.

INDIGENOUS PRODUCTION OF INDIGO

Coming to India, the home of Indigo plant proper (*Indigofera tinctoria*), indigo was not only extensively cultivated in several parts of the sub-continent, but extracted and purified indigo was also exported to European and other countries where it was a highly valued commodity. Even the Romans and Greeks in their glorious era, did not know enough about indigo and several misconceptions about its sources and preparation were held by them. The European Craftsmen were accustomed to use wood which also contained indigo but yielding only about one-thirtieth of the amount obtainable from a similar quantity of *Indigofera tinctoria*. A few sketches showing different methods of dyeing indigo appear in these pages.

The notable areas of indigo trade in India in the fifteenth century were Kulam on the West Coast, Gujarat and Cambay, North Bengal, Bihar, Killinur in Southern India, etc. During the nineteenth century the production of indigo was substantially increased by intensive cultivation in the Indian sub-continent. In the period 1814 to 1830 Indian production had averaged 7,400,000 lb. per annum and went up to 2,190,000 lb. in

1896-97. But at the very moment when indigo, King of the dyestuffs, was realising maximum prices on the market, it was doomed by the founding of the coal-tar industry in Germany and by about 1937 indigo cultivation was almost non-existent. To-day we depend more or less on the imported indigo produced synthetically from coal-tar based raw materials.

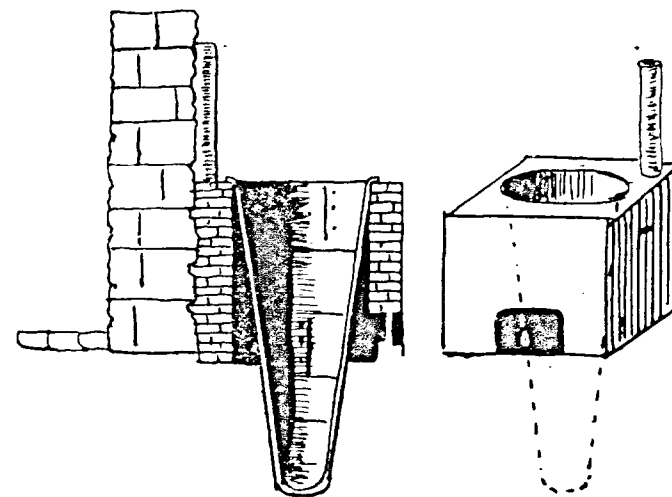
FOREIGN DEMAND

A good deal of indigo produced in the country was used in dyeing and printing of cotton cloth and such goods were exported as well. In the seventeenth century East India Company exported Guinea cloth (now known as Madras Handkerchief) to East Indies and West Africa where it was in great demand on account of its rich brilliance of colour. These goods were dyed with indigo, turmeric, bark extracts and leaf decoctions, etc. Even in those days, various attempts were made by weavers in England to copy this cloth without success.

A similar situation existed during the eighteenth century in the case of cotton handkerchief printed with indigo and various other vegetable colours including Madder Reds, etc., and exported to Europe in the form of shawls and squares. They had typical names such as 'Surath' (Red or Lilac), the 'PATNAS' (Red and Black with madder), the 'Porcelains' (Dark or light indigo blue with white), 'double face' (Dark Indigo blue squares with white resist patterns reserved on both sides of the material), the 'double blues' (graded shades of blue), the 'Red and Blues' (Dark Indigo and White with 'illuminations' of red or dark red and pink designs), the 'yellows and blues' (white under light blue indigo grounds with iron banking red applied



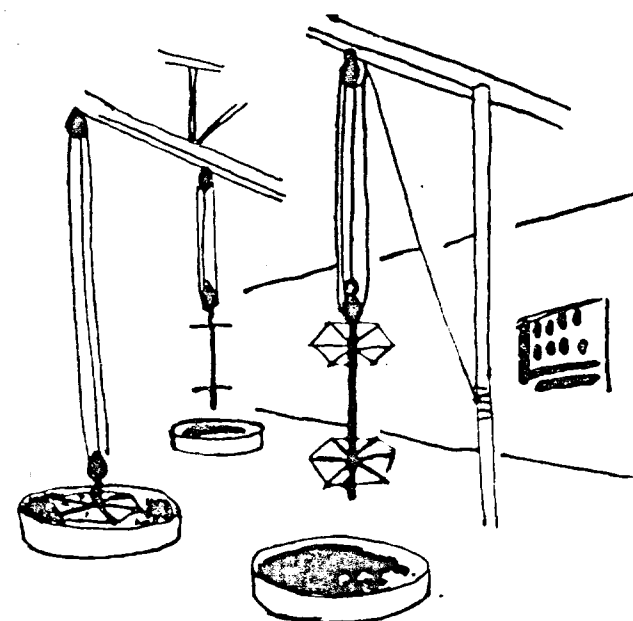
Indigo Vat being set in Yemen (Arabia). The dyer keeps stirring the liquor in the barrel till froth is formed.



An eighteenth century indigo dyeing vessel as used in France.

later). The printing was done with wooden blocks and later by means of engraved copper plates. A similar demand for 'bandana' type of Indian prints also existed at that time.

In the present times there is a revival in demand for indigo-dyed materials, particularly in African and American markets and more than 40,000 weavers engaged in this type of work in Madras and adjoining States, may again hope to be benefited by the present renewed interest in this indigo-based fabrics.



Cloth dyeing of indigo in Germany (1936) done by hooking cloth on the star frame and then lowering into indigo blower vessels.

PUBLIC HOLIDAYS IN 1960.

The Government of Madras have declared the following as Public Holidays in the year 1960, under the Negotiable Instruments Act. These holidays are in addition to 'Sundays' which are expressly defined as Public Holidays :-

Friday, 1st January 1960	New Year's Day.
Saturday, 9th January 1960	Vaikunta Ekadasi.
Wednesday, 13th January 1960	Bhogi.
Thursday, 14th January 1960	Pongal.
Friday, 15th January 1960	Mattu Pongal.
Tuesday, 26th January 1960	Republic Day.
Thursday, 25th February 1960	Mahasivarathri.
Monday, 28th March 1960	Telugu New Year's Day.
Tuesday, 29th March 1960	Ramzan.
Wednesday, 13th April 1960	Tamil New Year's Day.
Friday, 15th April 1960	Good Friday.
Monday, 6th June 1960	Bakrid.
Thursday, 30th June 1960	Half-Yearly closing of Bank accounts.
Tuesday, 5th July 1960	Mubaram.
Saturday, 6th August 1960	Avani Avittam.
Monday, 15th August 1960	Independence Day.
Friday, 26th August 1960	Vinayaka Chaturthi.
Tuesday, 13th September 1960	Sri Jayanthi.
Tuesday, 20th September 1960	Mahalaya Amavasya.
Wednesday, 28th September 1960	Ayudha Pooja.
Thursday, 29th September 1960	
Friday, 30th September 1960	Deepavali.
Wednesday, 19th October 1960	
Thursday, 20th October 1960	Vaikunta Ekadasi.
Wednesday, 28th December 1960	
Saturday, 31st December 1960	Annual closing of Bank accounts.

All Government offices under the control of the Government of Madras will remain closed on all the days mentioned above except 30th June and 31st December 1960. All penultimate Saturdays except the penultimate Saturdays in the months of January 1960, October 1960 and December 1960 will also be holidays.

(Continued from page 2)

schemes cover almost the entire field of activity. A comparative study of the progress in the development of handloom industry in the several States with assistance from Cess Fund reveals the enormous advance made in our State. The various institutions and organisational set up in our State have become models for other States to copy.

In addition to the direct assistance to the handloom weavers within the co-operative fold, vigorous steps have been taken in our State to assist the handloom industry in general in obtaining adequate supplies of raw materials like dyes, chemicals, art silk yarn, etc. As a result of the sustained efforts of the Madras Government, the Export Incentive Scheme has been thrown open both for weavers within and outside the co-operative fold. In the face of the abnormal increase in the prices of dyes, chemicals and other raw materials, these Export Incentive Schemes have really come as a boon in general to the handloom industry.

It is hoped that in the years to come the handloom industry will continue to maintain the satisfactory progress that was maintained during the previous years.

Co-operation and the Handloom Industry in Madras State

M. P. NACHIMUTHU,
*President, The Madras State Handloom
Weavers' Co-operative Society, Limited,
Member, All-India Handloom
Board.*

The Co-operatives as democratic institutions, are assigned a vital role in our national Plans. The Weavers' Co-operative Societies entrenched in the rural areas of our country, provide employment to millions of weavers. About 20 per cent of the total number of handlooms in India are concentrated in the Madras State. Therefore, Handloom Industry occupies an important place in the economy of the State.

The steady expansion of the activities of the weavers' Co-operative Societies in this State led to the establishment of the Madras State Handloom Weavers' Co-operative Society in the year 1935 with a view to co-ordinate and regulate the activities of the primary societies. In this State there are about 5 lakhs of looms, out of which 2.02 lakhs are in the co-operative fold. There are now 976 weavers' co-operative societies affiliated to this apex society and the Madras State Government have also invested Rs. 3 lakhs towards share capital of the State Society.

SOCIETY'S OBJECT

The prime object of the State Society is the organisation of the Handloom Industry on a commercial basis and the expansion of the market for the handloom fabrics. For the purpose of attaining this object, the State Society arranges the purchase of such raw materials and appliances as are required by the affiliated societies, advises the weavers' co-operative societies in regard to the production of easily marketable fabrics and also arranges to market their finished products. In short, the State Society functions to develop, assist and control the work of the weavers' societies.

As the prime raw material in the production of cloth, yarn is required in grey, dyed and bleached form by the primary societies. The yarn required by these societies is distributed to the societies through the fifteen yarn units run by the State Society. The weavers' societies in the State require about 7,000 bales of yarn per month and the State Society has been able to purchase and sell about 25 per cent of their requirements every month. During the year 1958-59 the State Society supplied 16,332 bales worth Rs. 162 lakhs. During the year

1959-60, i.e., from July to October (four months), the State Society purchased 6,827 bales for Rs. 64 lakhs and sold 7,283 bales for Rs. 69 lakhs. The State Society has obtained a credit accommodation of Rs. 40 lakhs from the Reserve Bank of India for this purpose.

CO-OPERATIVE SPINNING MILL

As a first step towards attaining self-sufficiency in the matter of supply of yarn, the State Society has sponsored the South India Co-operative Spinning Mills at Pettai, Tirunelveli, with 16,000 spindles. This has gone into production since July 1958 and the monthly production is 750 bales of yarn in 20s counts. The entire production is distributed to the Societies through the State Society. Two more mills at Srivilliputhur and Tiruchendur are now under formation on co-operative basis and with the starting of these mills it would be possible for the primaries to get some portion of their requirements of yarn at reasonable rate.

The State Society also arranges to supply bleached yarn from the Yarn and Cloth Processing Centre set up by the State Society at a cost of Rs. 8 lakhs. The requirements of coloured yarn by the primaries is met from the four dye factories maintained by the State Society for the purpose.

Regarding their requirements of dyes and chemicals, the State Society recently obtained an import licence for Rs. 3,35,000 from Government and is arranging to import dye stuff for supply to the primaries.

IMPORT OF ART SILK YARN

The need for making available the art silk yarn at reasonable rates to the handloom weavers was felt. Recently the State Society was allowed to import art silk yarn worth Rs. 8 lakhs under the import licence issued by Government and distribute the yarn to the Handloom Weavers' Associations and Weavers' Co-operative Societies as per the distribution statements of the Director of Handlooms. Besides, the State Society also undertakes to purchase reeds, beards and improved types of looms and distributes them to the Weavers' Co-operative Societies under Cess Fund Scheme.

(Continued on page 7)

The Co-operative House Mortgage Banks.

V. BALASUNDRAM, I.A.S., Registrar of Co-operative Societies.

The House Mortgage Bank at Salem is one of the 20 proposed to be formed in Madras State. Already 11 have been formed, and this is the 12th bank. The formation of such banks is an important landmark in the development of co-operative credit in the urban sector. Hitherto, co-operative credit in the urban sector has been confined only to short-term and medium-term credit—with the exception of a few centres in the State where house mortgage banks have been functioning for some years. It is only recently, that attempts have been made to solve the problem of long-term credit in the urban sector, in a fairly comprehensive way.

While the formation of the primary house mortgage bank is an important event in the progress of urban co-operation, this event is not an isolated development, but part of an integrated and comprehensive plan of co-operative development, the objective of which is the economic betterment of the people both in rural and urban areas, agricultural and non-agricultural.

To meet the credit needs of the urban population—particularly middle-class people—there are 142 urban banks in our State. Practically every municipal town and every other town of importance has a co-operative urban bank. These co-operative urban banks are perhaps the soundest of their class in the whole country. Most of them work on their own deposits and do not depend on the Central Banks. They provide the short-term, medium-term credit needs of the urban population. There are again co-operative housing societies in urban areas. These have been in existence for more than 30 years. They are providing the long-term credit needed by the urban people for building new houses.

But there have been no co-operative institutions except four (at Coimbatore, Erode and Madras), to provide long-term credit to the urban population for keeping the existing houses in good condition, for redeeming debts subsisting on houses and for other such requirements. This long-felt need is proposed to be met by forming co-operative house mortgage banks in the municipal towns of the State. To begin with, 20 such banks are proposed to be formed and the Life Insurance Corporation has come forward to advance loans up to Rs. 20 lakhs in the first instance, to the recently formed Central House Mortgage Bank to be given as loans to the primary house mortgage banks. Government have also agreed to participate in the share capital of the Central House

Mortgage Bank to the extent of Rs. 5 lakhs. The authorized share capital of the Central House Mortgage Bank including the Government share capital is Rs. 20 lakhs. It is expected that the Central House Mortgage Bank will begin to issue loans shortly to the primary house mortgage banks. We have already some experience in the working of primary house mortgage banks and we are having seasoned co-operators like Sri Venkataswami Naicker and Sri M. S. Palaniappa Mudaliar, who have considerable experience in these primary banks, on the Board of the Central House Mortgage Bank.

The formation of this new bank is an asset to the Salem Co-operative Movement. I have no doubt that in line with other flourishing co-operative institutions in the Salem district, the Salem House Mortgage Bank will render a useful service to the citizens of Salem town.

(Continued from page 6)

This apex society also maintains one weaving factory at Cuddalore, and four pattern weaving factories (under Cess Fund) at Madras, Salem, Madurai and Tirunelveli installed with frame looms and improved types of weaving appliances. New patterns and designs are produced in these factories and they serve as models for the primary societies to adopt. Training is also imparted to the weavers in these factories in studying the working of improved types of looms and in evolving new designs.

NETWORK OF EMPORIA

The most important function of the State Society is the marketing of the handloom fabrics. A network of 299 emporia and depots are run by the State Society throughout India for the marketing of handloom cloth. The sale of cloth during the year 1958-59 amounted to Rs. 208.40 lakhs. When there was an accumulation of stocks with the Weavers' Co-operative Societies, the State Government advance loan to the State Society for procurement of cloth and thus help the primary societies in giving steady employment to the weavers.

The Madras State Handloom Weavers' Co-operative Society has contributed in its humble way to the development of the Handloom Industry as a forerunner of apex co-operative institutions in the whole of India. This apex society contemplates plans for the expansion of its activities in the pursuance of its aims, keeping in view the role it has to play.

The New Set-up in Local Administration

The Government have settled the programme of implementation of the Madras District Development Councils Act, 1958, and the Madras Panchayats Act, 1958.

The Madras District Development Councils Act, 1958, has to be given effect to as the first among the preparatory measures preceding the implementation of the Madras Panchayats Act, 1958. The Government have decided to bring the Madras District Development Councils Act into force from 1st December 1959.

The expansion of rural developmental activities has reached a stage at which the need has arisen for constituting areas smaller in extent than the revenue district immediately for purpose of rural development. The Act provides for representation of every Municipal Town and every Block in the district, including Blocks in which the National Extension Service Scheme has not yet been introduced. Further, the Council will include all the Members of the State and the Central Legislature of the district together with the Gazetted Officers of the Government connected with planning and development. If a District Development Council is constituted on this basis for a whole revenue district, it will have unduly large and unwieldy body. It is, therefore, necessary that a compact local area within a revenue district has to be delimited as a Development District for the purpose of the Act. The City of Madras is unaffected by the Act. The three revenue districts of Chingleput, Kanyakumari and Nilgiris are declared to be Development Districts under the Act. The remaining nine districts have been delimited into eighteen Development Districts at the rate of two for every revenue district. The twenty-one Development Districts are as follows:—

- (1) Chingleput.
- (2) Kanyakumari.
- (3) Nilgiris.
- (4) North Vellore.
- (5) South Vellore.
- (6) North Cuddalore.
- (7) South Cuddalore.
- (8) East Coimbatore.
- (9) West Coimbatore.
- (10) North Madurai.
- (11) South Madurai.
- (12) East Ramanathapuram.
- (13) West Ramanathapuram.
- (14) North Salem.
- (15) South Salem.
- (16) East Thanjavur.
- (17) West Thanjavur.
- (18) North Tiruchirappalli.
- (19) South Tiruchirappalli.
- (20) North Tirunelveli.
- (21) South Tirunelveli.

A notification required under section 3 (2) of the Act for this purpose was published in the Extraordinary issue of the *Fort St. George Gazette*, dated the 30th November 1959.

DEVELOPMENT DISTRICTS

The division of the Revenue District into Development Districts will have effect only in relation to the working of development schemes in the district. The Revenue District will continue to be the territorial unit for purposes of land revenue and general administration as at present. The headquarters of the revenue district will be the common headquarters of both the District Development Councils.

Under section 4 (1) (c) of the Act, all Chairmen of Panchayat Union Councils in the district will be members of District Development Councils. Until Panchayat Union Councils are established, the Act provides that a person chosen by the Presidents of Panchayats in a local area shall be a member of the District Development Council. As Panchayat Unions have not yet been constituted, one representative for every development block will be chosen by the Presidents of Panchayats in that block. Statutory rules relating to the procedure for choosing Block representatives on the District Development Councils were also published in the Extraordinary issue of the *Fort St. George Gazette*, dated the 30th November 1959.

Under section 4 (3) (b) of the Act, a Member of Parliament and a Member of the State Legislature chosen to represent a constituency which consists of, or comprises or which relates to a district or any portion thereof other than a district in which he has his residence should intimate his decision as to the district in which he desires to serve as a Member of the District Development Council to the District Collector concerned within a prescribed period. A rule prescribing 15 days as the period under this provision was also issued in the Extraordinary issue of the *Fort St. George Gazette*, dated the 30th November 1959.

The Government have fixed 1st January 1960, the statutory date on which District Development Councils should be formally brought into existence. The notification necessary for this purpose under section 4 (1) of the Act has been published in the *Fort St. George Gazette*.

THREE MAIN OPERATIONS

The Government have decided that the Madras Panchayats Act, 1958, should be brought into force in all the areas of the State except the transferred territory (Kanyakumari district and Shencottah taluk of Tirunelveli district), with effect from 1st January 1960.

The implementation of the Madras Panchayats Act, 1958, involves three main administrative operations

which may be distinguished from one another as (i) completion of panchayat coverage; (ii) Panchayat Union Constitution; and (iii) Rural Development Devolution.

The first operation, namely, "completion of panchayat coverage" will commence on 1st January 1960 in all blocks and will be completed on or before the 31st December 1960. With the completion of this operation, all the rural areas of the State will be covered with Panchayats.

The administrative operation referred to as "Panchayat Union Constitution" begins when a preliminary notification is published by Government under sub-section (1) of section 7 of the Act, specifying the blocks where Panchayat Unions are proposed to be constituted. An intermediate stage of this operation is reached when statutory objections, if any, are heard and the territorial limits of the notified blocks are finalized by an intermediate notification under sub-section (3) of section 7 of the Act. The Block then acquires statutory status as a "Panchayat Development Block". Thereafter the members of "Panchayat Union Councils" are to be chosen, including co-opted members, wherever necessary. A final notification will then be issued under section 11 (1) of the Act, constituting a Panchayat Union Council for every Panchayat Development Block.

PHASED PROGRAMME

It is proposed to divide all the Development Blocks in the State delimited under the National Extension Service Scheme of Community Development into three batches so that a phased programme of constitution of Panchayat Unions can be put through within the time-limit, namely, 2nd October 1961, specified under the Act.

The first batch will comprise 75 select blocks which are a little over one-third of the total number of blocks where the National Extension Service Scheme has already been introduced.

The second batch will comprise all other blocks where the National Extension Service Scheme has already been introduced.

9

The third batch will comprise all the other blocks of the State (i.e., Blocks where the National Service Scheme has not yet been introduced).

The calendar of dates for the publication of the preliminary notification under section 7 (1), intermediate notification under section 7 (3) and final notification under section 11 (1) of the Madras Panchayats Act, 1958, of each of the three batches has been fixed as follows:—

Blocks.	Date of preliminary notification under section 7 (1) of the Act.	Date of intermediate notification under section 7 (3) of the Act.	Date of final notification under section 11 (1) of the Act.
(1)	(2)	(3)	(4)
First Batch Blocks.	1st January 1960.	14th April 1960.	2nd October 1960.
Second Batch Blocks.	1st July 1960.	2nd October 1960.	14th April 1961.
Third Batch Blocks.	14th April 1961.	1st July 1961.	2nd October 1961.

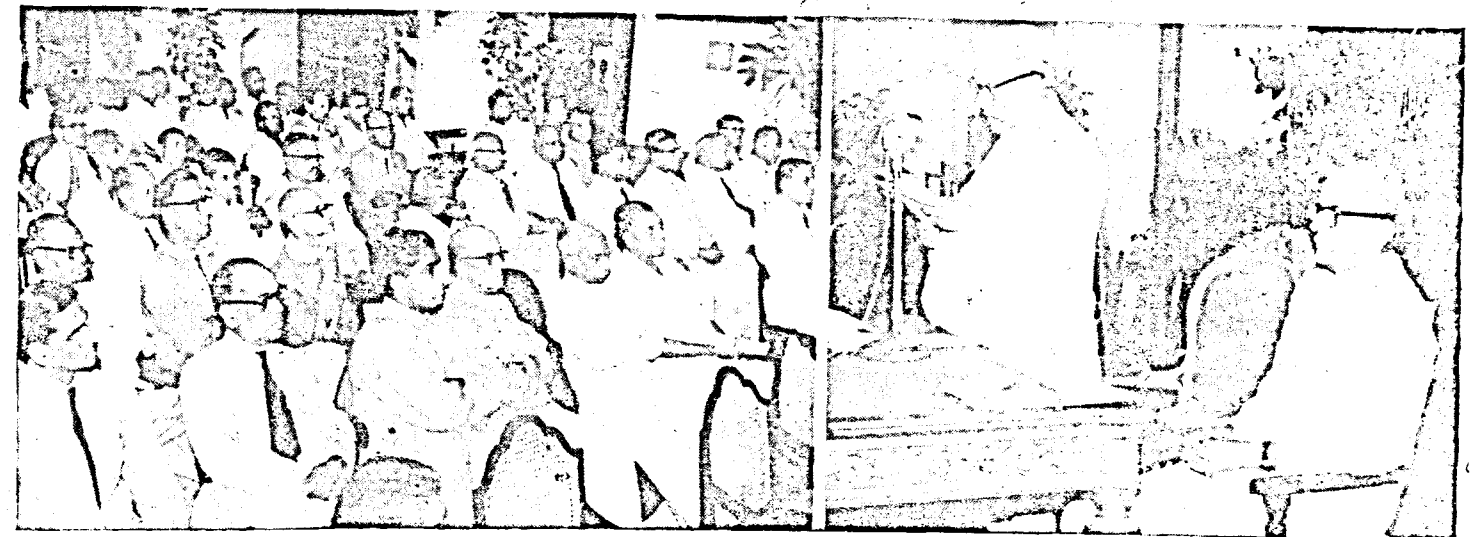
It is necessary that the Panchayats should be actively associated with all the measures taken to implement the new Panchayats Act, and bring Panchayat Union into existence in accordance with the phased programme.

Government have, therefore, decided that the Committees already constituted under the National Extension Service Scheme should be enlarged to include all the Panchayat Presidents of the Block. The similar committees will also be constituted in all the other blocks in which the National Extension Service Scheme has not yet been introduced.

The functions of these Block Advisory Committees will be as follows:—

(i) All functions at present performed by the Block Advisory Committees under the National Extension Service Scheme of Community Development.

(ii) Advising the Panchayats in the Block as well as all the official agencies concerned, in respect of the implementation of the Madras Panchayats Act, 1958.



The Regional branch of the Indian Institute of Public Administration was inaugurated by the Governor of Madras on 20th November 1959



10
10/6/13

K. V. EKAMBARAM,
Chief Engineer for Irrigation,
Government of MADRAS

(Second part.)

SECOND PLAN SCHEMES.

[Irrigation Schemes taken up before the advent of Independence and during the First Five-Year Plan were discussed in detail by the author in the previous issue. The second part gives full particulars regarding the projects which have been and are being executed under the Second Plan and the schemes that are envisaged for the future.]

Besides continuing the seven unfinished projects, the following four other projects were also taken up during the Second Plan.

Under the New Kattalai Canal Scheme, it is proposed to excavate a canal from the right side of the Kattalai bed regulator across Cauvery in Tiruchirappalli district. It will irrigate 8,622 acres of dry lands directly under the Main Canal, and 12,000 acres under existing tanks, of which 8,723 are existing wet lands. The upper reach of the canal was thrown open for irrigation from 17th September this year. The estimated cost of the scheme is Rs. 172 lakhs.

The Pullambadi Canal 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 13,282 acres come under tanks and 8,831 acres direct. The upper reach of the canal also was thrown open for irrigation from 17th September 1959.

The estimated cost of the scheme is Rs. 157 lakhs.

The Vidur Reservoir Project envisages a reservoir across the Varahanadhi near Vidur in South Arcot district, about 4 furlongs below the junction of Varahanadhi and Thondiyar and a left side channel for irrigating an extent of 3,200 acres, of which 1,000 acres will be in Pondicherry State.

The cost of the scheme is Rs. 67 lakhs and will be shared in the ratio of 11:5 between Madras and Pondicherry States.

PARAMBIKULAM PROJECT

The most important major multi-purpose scheme included in the Second Five-Year Plan and recently commenced is the Parambikulam Aliyar Project. The project envisages the diversion of a few west-flowing rivers having their sources in the Anamalais of the Madras State. These are all inter-State rivers having their sources in the Madras State and emptying into the Arabian Sea after flowing into Kerala State. The harnessing of these water sources came up for active consideration by the Madras State after the separation of the

Andhra State, as the residuary Madras State had no major source of irrigation. Much spade work had to be done before arriving at an agreement with the Kerala State for the utilization of these waters for the mutual benefit of both the States.

It is a good augury that a working plan for the sharing of the Parambikulam waters has been mutually agreed upon after prolonged deliberations. The willing co-operation of the Kerala Government is really laudable and deserves particular mention. As finally agreed, 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 Sholiar Power House in Kerala will be diverted for the use of Madras. On an average about 28,000 M.C.ft. will be available for diversion. The scheme in brief is as follows:—

INTEGRATED DEVELOPMENT

The scheme aims at an integrated development of the Nirar, Sholiar, Parambikulam and Aliyar basins to the best advantage. Diversion and storage works with inter-connecting tunnels enable the grouping of the flow of these rivers. The Nirar is tapped at the highest level, viz. (El. plus 3750) and the Aliyar at the lowest elevation of plus 920. The stage by stage diversion of waters from Nirar to Aliyar enables the utilization of the falls in levels for the generation of power. The tail race from the last power house at the foot of the hills on the eastern side will feed the two reservoirs across Aliyar and Palar in the eastern plains from where canals take off to irrigate an area of 250,000 acres of semi arid lands.

A weir will be constructed across Nirar within Cinchona plantation limits and Nirar waters diverted to the adjacent Sholiar Valley through a tunnel of 1,600 cusecs capacity. A dam across the Sholiar within Pannimade Estate limits, will be constructed to form a reservoir of 5,200 M.C.ft. net capacity to store the surplus flows of Sholiar river in addition to the flows diverted from Nirar between Sholiar and Parambikulam Valleys. There is a fall of 1,300 feet which will be utilized to develop power to an extent of 70,000 Kilowatts. The tail race will join the Parambikulam river across which a 200-foot high dam will be constructed Pulikalnudi. This is the key reservoir in the whole scheme and will have a gross capacity of 16,700 M.C.ft. and a net capacity of 12,700 M.C.ft. This reservoir will store the waters diverted

3-A

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7

from the two rivers mentioned above and release as and when required controlled quantities of water for power and irrigation.

Water will be taken out of Parambikulam Reservoir through a tunnel to the Tunakadavu valley which in its turn will be blocked to form a balancing reservoir. Waters from the adjacent river of Peruvuripallam also will be diverted into Tunakadavu from where a tunnel will lead the waters to the Sarkarapathi Power House in the Madras State. Twenty-five thousand Kilowatts of power will be generated here making a total of about 100,000 Kilowatts for the whole project.

SYSTEM OF CANALS

Two canals will take off from the tail race, the higher one, called the plus 1,400 Contour canal, will feed the Tirumurthy Reservoir across Palar near Dhali after flowing along the rugged slopes of Anamalais. The other one, flowing at a lower elevation will feed the Aliyar Reservoir formed 1 mile below the Vannanthurai bridge on Ponnachi-Valparai road. These two reservoirs together will feed an area of 250,000 acres in Ponnachi, Udumalpet, Palladam and Dharapuram taluks of Coimbatore district. Of this, 1½th will be wet and the rest dry. The entire system of the canals and distributaries will be lined to reduce seepage losses. The underground seepage waters will be collected in a few reservoirs across drainage courses and re-used again.

This is a mammoth project requiring the construction of 7 reservoirs, 12½ miles of tunnels, two weirs, 30 miles of contour canal and 128 miles of lined canals. The project is estimated to cost about Rs. 31.03 crores.

The total outlay in all the above projects so far has been Rs. 33.00 crores. Already 3.20 lakhs acres have been brought under irrigation representing an achievement of 87 per cent of their ultimate potential (excluding Parambikulam scheme).

ECONOMY IN COST

Most of the Dams in Madras are both of masonry and earth, masonry being used in the river portion and earth in the flanks. This has resulted in great economy in cost. Also all the projects have been executed mostly on job work or piece work system, eliminating the intermediary contractors. This has yielded very good results in effecting economy in expenditure. No project was taken up without prior detailed investigation. So much so, there was very little need for effecting any major

alterations in design or scope of the projects during execution. Further the canal systems were simultaneously in progress when the dams were rising. Consequently whatever useful storage potential was created, was put to beneficial use then and there though to a limited extent and partial achievement was thus secured even before the projects were completed in all respects.

Further in Madras it has been the usual practice to excavate water courses up to 150-acre blocks and acquire land required for field channels up to 25-acre limit at Government expense leaving the ryots only to excavate them within the group of fields owned by them under the guidance of Government officials. This rule has of late been relaxed in special cases and water courses were excavated even up to 50-acre limit. There had been no difficulty in bringing the water to the field at the shortest time.

That the ryots are anxious to avail of the benefits of the projects will be evident from the fact that in Muniyandur Project the ryots came forward with a loan of one crore of rupees at a time when the Government did not permit taking up the scheme immediately.

MINOR WORKS

Attention is paid not only for major irrigation works but also for minor works which are quite large in this State. Madras is noted for the number of irrigation tanks existing all over the State. There are 30,000 tanks in all. Some of these formed by ancient rulers are still functioning. These and other minor works such as river channels are being improved under various schemes such as Grow More Food, and Special Minor Irrigation Programmes to make them function efficiently and serve the ryots fully. The total expenditure incurred to end of March 1954 on Special Minor Irrigation Programme work is 36.50 lakhs. Two hundred and four continuation works and 276 new works have been taken up for execution.

Most of the tanks have lost their useful capacity by gradual silting. So a novel scheme of "desilting-cum-reclamation" of these tanks has been evolved to rejuvenate them to irrigate their normal ayacut. Already 15 works in Chingleput district have been carried out as an experimental measure. The results are yet to be assessed.

HOPES FOR THE FUTURE

Madras State, once the Premier State of India, has after the separation of Andhra and States Reorganization, lost much of its water potential. Mighty rivers like the Godavari and the Krishna have gone over to Andhra.

The only major river Cauvery has been exploited fully. Every other river has also been harnessed. As such, it has become inevitable to look for an integrated development of large rivers in the neighbouring States on a zonal basis to increase food production. Given the good will and co-operation of our good neighbours schemes can be designed and executed for the mutual benefit of all. The following multi-purpose projects are worth mentioning.

ALADI PROJECT

Another dam across the Periyar about 15 miles below the existing dam is possible within Kerala limits. The site for the dam is very ideal. The dam, called the Aladi dam, is intended to store the run off below the existing dam. The catchment area (excluding that above the existing dam) will be 127 square miles with high intensity of rainfall. A reservoir of 29,000 M.Cft. storage is possible by the construction of a dam 210 feet high above bed level and 1,500 feet long. By the diversion of the waters by a six-mile long tunnel to Madras State, it might be possible to utilize the waters for the benefit of irrigation of 200,000 acres both direct and indirect in the most backward areas of Ramanathapuram or Madurai district. By such diversion 116,000 K.W. of power can also be developed on Madras side.

One other great advantage of this scheme is that it can store all the surplus waters of the existing Periyar lake and thus make it possible to utilize the entire runoff from its catchment.

PAMBIAR PROJECT

Another river in Kerala whose waters can also be diverted to the eastern side of the Western Ghats is the Pambar. This river has its source almost near that of the Periyar but on the south and empties into the Arabian Sea.

Proposals are feasible to form three reservoirs with a combined capacity of 11,480 M.Cft. across the three major tributaries, Kakiyar, Anathoda and Pambar and interconnect them by means of tunnels.

If the waters are diverted eastwards from the Central (Anathodu) reservoir by means of a tunnel 12 miles long to discharge into Resinge Ar which is a tributary of Vaipar river, power to an extent of 177,000 K.W. can be developed on the eastern slopes where a fall of 2,450 feet is available.

The water let into Vaipar river can be also utilized with advantage for irrigation of 2 lakhs acres in Tirunelveli and Ramanathapuram districts. Here too there

are many tanks in which the summer power discharge can be stored.

Two of the tributaries of the Panalur river, viz., Chendurni and Kulathupuzha rivers rise in the Western Ghats south of Shenkottah. These rivers are now unexploited. There is considerable flow of water from the catchment area of about 94.5 square miles which can be utilized by diversion to the eastern slopes of the hills. Dams can be constructed across the Chendurni river about 2 miles south of Tammalai Railway station and across Kulathupuzha river near Mavalanad on the Quilon Trivandrum road to store about 15,000 M.Cft. in each. The two reservoirs can be interconnected by a tunnel 6 miles long and water diverted from the reservoir on the Chendurni river by a 9 miles tunnel to the eastern side of the ghats to be let into the Gatananadhi, a tributary of the Tambraparni. The waters so diverted can be utilized for irrigation of 16,000 acres in Tirunelveli district.

DIVERSION OF KRISHNA AND GODAVARI WATERS

The rivers Krishna and Godavari in Andhra State carry about 72 Mill. acre feet of water annually. Till now the waters of these rivers have not been put up to any large use and consequently they are wasted into the sea. It is only recently projects like Tungabhadra and

Nagarjunasagar in Krishna basin have been taken up. Any surplus that is left in the Krishna river after meeting the needs of these projects can be turned over to Madras. As regards Godavari, it is believed no proposals exist to utilize its waters in full. It is to be examined if it will not be feasible to divert from the Godavari, sufficient supply to the Krishna to meet the demands of the existing Krishna Delta and release a corresponding volume of the Krishna flow higher up to the benefit of Madras State. It is expected that nearly 6 to 8 lakhs of acres can be irrigated in Madras State by this arrangement.

The irrigation potential of these inter-State projects will be far in excess of the potential created by the completion of the projects under First and Second Plans put together. As regards Madras State the benefit of the diversion of these inter-State rivers will be more than half of the potential created for the past so many centuries. The power developed by these projects will also be very considerable. It is hoped with the co-operation and good will of our kind neighbours and with the good offices of the Union Government, such schemes which look like dreams now, will become realities ere long and usher in an era of prosperity and happiness to the people of this region.

Madras State Irrigation Schemes taken up during I and II Plans.

Serial number.	Name of Project.	Actual estimated cost in lakhs.	Year of commencement.	Year of completion.	Area irrigated or to be irrigated.	Districts benefited indicating the area irrigated in each district.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Araniar	105.85	1951	1957	2,500 New 8,670 Existing 4,900 2nd crop in favourable years.	Chingleput 2,500 New 8,670 Existing 4,900 2nd crop in favourable years.
2	Lower Bhavani.	951.0	1949	1955	207,000	Coimbatore 202,500 Tiruchirappalli 4,500
3	Mettur	193.0	1944	1950	45,000	Coimbatore 17,200 Salem district 27,800
4	Amaravathi	324.0	1953	1959	21,000	Coimbatore 21,000
5	Vaigai	330.0	1954	1959	21,000	Madurai district 13,000
6	M. Nimutbar	503.0	1950	1958	20,000	Ramanathapuram 7,000
7	Krishnagiri	202.0	1955	1958	7,500	Tiruchirappalli 7,500
8	Sathimur	233.0	1954	1958	20,000	Salem district 2,200 South Arcot 4,700 North Arcot 13,300
9	Perunchani Dam	(Taken up by Kerala State)	1957	1959	20,662	Tiruchirappalli 16,141
10	Kattalai	172.29	1957	1959	22,114	Tanjore 4,481
11	Pullambadi	156.52	1957	Progressing.	3,200	Tiruchirappalli 22,114
12	Vidur	67.49	1958	Progressing.	3,200	South Arcot 2,200 Pondicherry 1,000 State

(Effect of Prohibition on Bees

V. MAHADEVAN, Agricultural College and Research Institute, Coimbatore.

Honey bees have the habit of collecting any kind of sweet fluid from nature. To satisfy this craving, they generally visit flowers and collect nectar secreted in the nectaries. In addition, the extrafloral nectaries on the leaves of cotton plants and the transpired water from cabbage also constitute the source of food for bees. The sweet fluid secreted by the cholan shoot bug as well as the mango hopper is the major source of honey during the months of November and January every year in certain localities and large quantities of this fluid, known as "honey-dew-honey" are collected by the bees and even consumed by the ignorant people.

IN URBAN AREAS

In towns where the cultivated crops are less, the habit of collecting anything sweet appears to be more varied and interesting. They can be seen gathering the sweet fluid available from rotten and over-ripe banana, date fruits, etc., from fruit shops. They also congregate in large numbers and get a good drink of the syrup from sweetmeat shops, thus becoming a nuisance to those preparing sweets. In flower shops, it is a common sight to see bees collecting watery substance from rose garlands, lily and other flowers. Bees are also seen sometimes getting attracted to moist "Kumkumam" pasted on the different parts of idols kept for worship under banyan trees. Occasionally they are also seen sitting on fresh nightsoil.

ADDICTED FOR LIQUOR

Thus, bees have the instinct of responding to a peculiar smell, taste, etc., and developing that instinct as a habit. The habit of taking toddy and getting

"addicted to drink" was evolved in a like manner. In this connection it will be interesting to know how the honey bees had this liking for liquor and how they were affected by it during the pre-prohibition days. Bees got attracted to toddy by its strong smell and visited toddy pots tied to palm trees during tapping season and after drinking an appreciable quantity got drowned in the liquor due to its intoxicating property and never returned to their hives. Considerable reduction in population in bee-colonies was the resultant effect during the tapping season. It was a common sight in those days to see a number of bees hovering over toddy pots and getting into them, while the liquor was being carried from place to place. The bees were so mad after toddy, that when the pot became empty just after the tapping season, colonies of bees used to build their nests in the pots and many wild swarms were obtained from such receptacles.

AFTER PROHIBITION

When prohibition was first introduced in 1939 as an experimental measure in Salem district, the author had the opportunity to visit certain plantations in Yercaud. It was noted that the flowers of a number of crops and plants were teeming with a good number of active and energetic bees. The coffee planters and fruit growers on the Shevaroy hills were glad to see the large number of bees visiting the flowers and doing the service of cross-pollination among them resulting in better yields.

Now that prohibition has come to stay in the State, there will be no loss of bees due to the effect of toddy. The bee-keepers can get more honey and the planters, fruit-growers and agriculturists more yield from their crops.

New Strain of Ragi Proves Resistant to Lodging

G. RAMABHADRAN, K. DIVAKARAN and L. ANAVARADHAM, Agricultural Research Station, Koilpatti.

Lodging in cereals is an economic as well as cultural disadvantage. It hampers the harvest, spoils the grain and soils the straw. Especially when squally weather prevails during harvest a dishevelled crop is a common sight.

Resistance to lodging and high yield are combination in cereal strains. This, and improved strain of Ragi has been achieved in the Agricultural Research Station Ragi K2. The strain matures in 120 to 125 days and has a yield of 2,500 lb. of grain per acre. It is well adapted for growing in the main or monsoon season (August to December) under irrigation where the crop has the full advantage of the north-east monsoon showers. Irrigation is necessary for transplanting and

later on to supplement rainfall if and when necessary. In addition to its resistance to lodging and high yield, Ragi K2 is also resistant to piricularia infection also. On account of these economic qualities the strain is gaining rapid popularity in tracts where it has been found suitable.

Ragi K2 has been tested and declared suitable to the southern districts of Ramanathapuram, Madurai and Tirunelveli of the Madras State. Millets being highly tract-bound, the performance of the strain cannot be predicted in other parts without trials. However it is expected that Ragi K2 can be successfully grown during the main (August to December) season in areas where Ragi varieties of 120 days duration and more are in cultivation.

South

Indian

Temple Images

G. VENKATACHALAM, Member, All-India Handicrafts Board.

The art of the image-maker in South India is as old as the art of the temple-builder. The earliest literary reference to the art of image-making in South India is to be found in the Tamil classic, *Silapathikaram* (about 2nd century A.D.); and the earliest extant example of the *stapathi's* art are to be seen in the rare bronze masterpieces of the Pallava period in the 8th century A.D.).

Great and wonderful as are the monolithic marvels of Mahabalipuram and the awe-inspiring rock-cut temples of Ellora, greater and more beautiful are the exquisite figures of gods, goddesses, saints and kings cast in metal by the *stapathis* of old. A perfect South Indian bronze is one of the highest achievements in plastic arts, as it combines in a remarkable manner deep spiritual vision, fine technical skill and an age-old tradition.

HEREDITARY ART

This art is hereditary and has been confined to a few families in cities like Tanjore, Madurai and Tirunelveli. Even the names of the masters who gave to the world such immortal works as the Tanjore Nataraja and Thillai-avilagam Rama are unknown. What things of rare beauty some of these old images are, especially those of the early Chola period (9th to 13th centuries), only those who had seen them in their shrines and felt their unique spiritual presence could know. Perfect in their forms and flawless in their technique, their presence is more ethereal than physical. This is not something imagined but a reality to be experienced by every sensitive person.

Ideal beauty is the basic conception behind all Indian sculpture, and the degree of success that an artist achieves in this direction depends not only on his following religiously the injunctions of the iconographic texts and the rules of the grammar of *Silpasashtra*, with regard to proportions and measurements but also on his intuitive genius and skill.

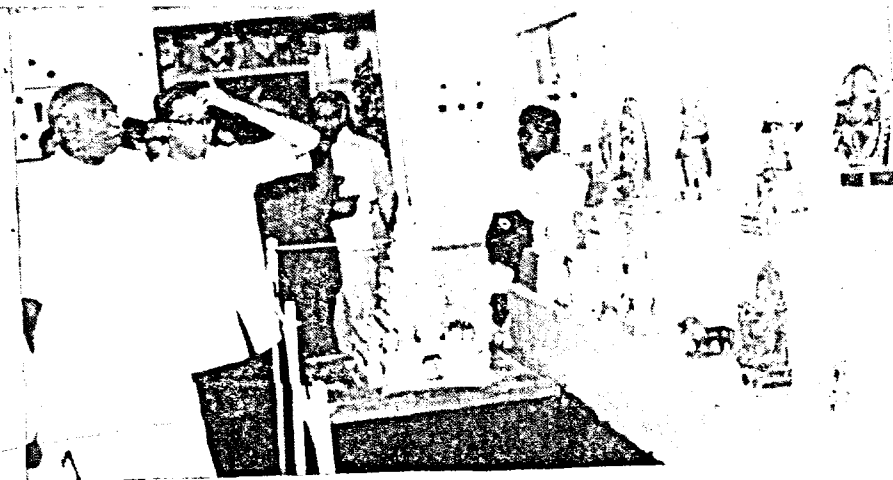
The South Indian bronzes have rightly won a world-wide reputation for their intrinsic beauty and artistic merit. Rodin, Bourdelle, Epstein and other Western sculptors have spoken in most laudable terms about their grace, strength, loveliness of form and figure; and the museums of the world have vied with one another in acquiring them for their collections. Boston, New York, London, Berlin and other cities possess some of the best specimens of this art.

The great Saiva temples of the Chola, Chera and Pandyan kingdoms contain some rare and unique images in their inner sanctuaries. The Natarajas of the Brihadiswarar temple at Tanjore and the Nageswarar temple at Kumbakonam; the Kunjitapada Nataraja of Kodumudi; the Rama-Sita images of Thillai-avilagam; the Kalyanasundaramurti of Vedaranyam; the recently unearthed groups of bronzes at Gangaikondacholapuram, Tandonthottam and Sirkazhi; the Chola goddesses, Annamapurna and some of the other examples of this art. The Pollo-rama images of the four Saiva Saints (now in Colombo museum) are some of the finest sculptural masterpieces discovered outside India.

DESIGN CENTRE

Realising the importance of this art-craft and the immediate need for restoring it to its past glory, the All-India Handicrafts Board has recently started a bronze-casting section attached to its Design Centre at Bangalore. Traditional master-craftsmen from Tanjore and Mysore are now employed not only to copy old images but to experiment with new methods of casting. An instructor from Nepal is now working at the Centre to introduce the lost wax technique in South India. Very soon the Bangalore casting technique in South India. tion to give a correct lead in the future will be in a position already done in the case of ivory and stone. It has is expected that with the Production Centre at Channarayana and the skilled craftsmen at the Mysore Channarayana Technical Institute, the Design Centre will be able to put on the market good samples, which will gradually eliminate the crude, ugly ones that are now flooding the market.

Handicrafts Week was inaugurated on 6th December 1959 by Sri K. Kamaraj, Chief Minister of Madras.



Some of the articles in the exhibition held on the occasion of the Handicrafts Week.

The Regional Seminar on Book Distribution, Promotion and Market Research was inaugurated on 30th November 1959 by Dr. A. L. Mudaliar, Vice Chancellor, University of Madras, Sri C. Subramanian, Minister for Finance, presided.



Housing of Poultry



Dr. S. RAJAN, G.M.V.C., B.V.Sc.,
Instructor in Animal Husbandry,

Rural Extension Training Centre, Bhavanisagar.

Poultry keeping has come to be accepted as a profitable subsidiary industry, which augments the income of the villagers, provided this is done on scientific lines. To provide incentive and to encourage this extensively, lots of money are spent on the poultry development schemes in our Five-Year Plans. But the handicap to rapid extension is the problem of finding proper and economic housing of poultry, as the present-day houses with asbestos roofing which costs nearly Rs. 350—Rs. 450 per house are beyond the reach of a poor ryot.

With a view to find a simple solution for this, studies and experiments were undertaken at the Rural Extension Training Centre, Bhavanisagar. We have been successful in these experiments and have evolved a simple and cheap design of a poultry house.

The materials used for constructing the poultry houses were ordinary bamboos. Bamboos are easily available in villages and the making of the house does not require any technical skill. One carpenter can finish this construction within one and a half days. Split bamboos are preferred to whole bamboos because they are cheap and labour is reduced. Whole bamboos, if taken, have to be split up and this means more labour for the carpenter and cost of construction also goes up.

Roofing.—Ordinary jumbu or korai available in the villages can be used as roofing material and in experience it has been found that this type of roofing can withstand heavy rain and sun without any discomfort to the birds lodged inside. (Sketch No. 1.)

Advantages of this bamboo house—

Cheap cost of construction.

It is within the easy reach of the poor ryot.

A smaller floor space is found adequate for rearing many birds and this obviates the need for finding more area especially in congested houses where the availability of enough open space and free runs is a big problem.

It has been proved that birds reared in these houses are free from worms.

Since provision has been made in this house for giving feed and water in abundance, the ryot need not spend much of his valuable time in feeding and watering birds. The birds will take care of themselves. All that a ryot has got to do is to spend only 5 minutes in the morning and 5 minutes in the evening for feeding and watering the birds and another 5 to 10 minutes a day to collect eggs. (Sketches Nos. 1 and 2.)

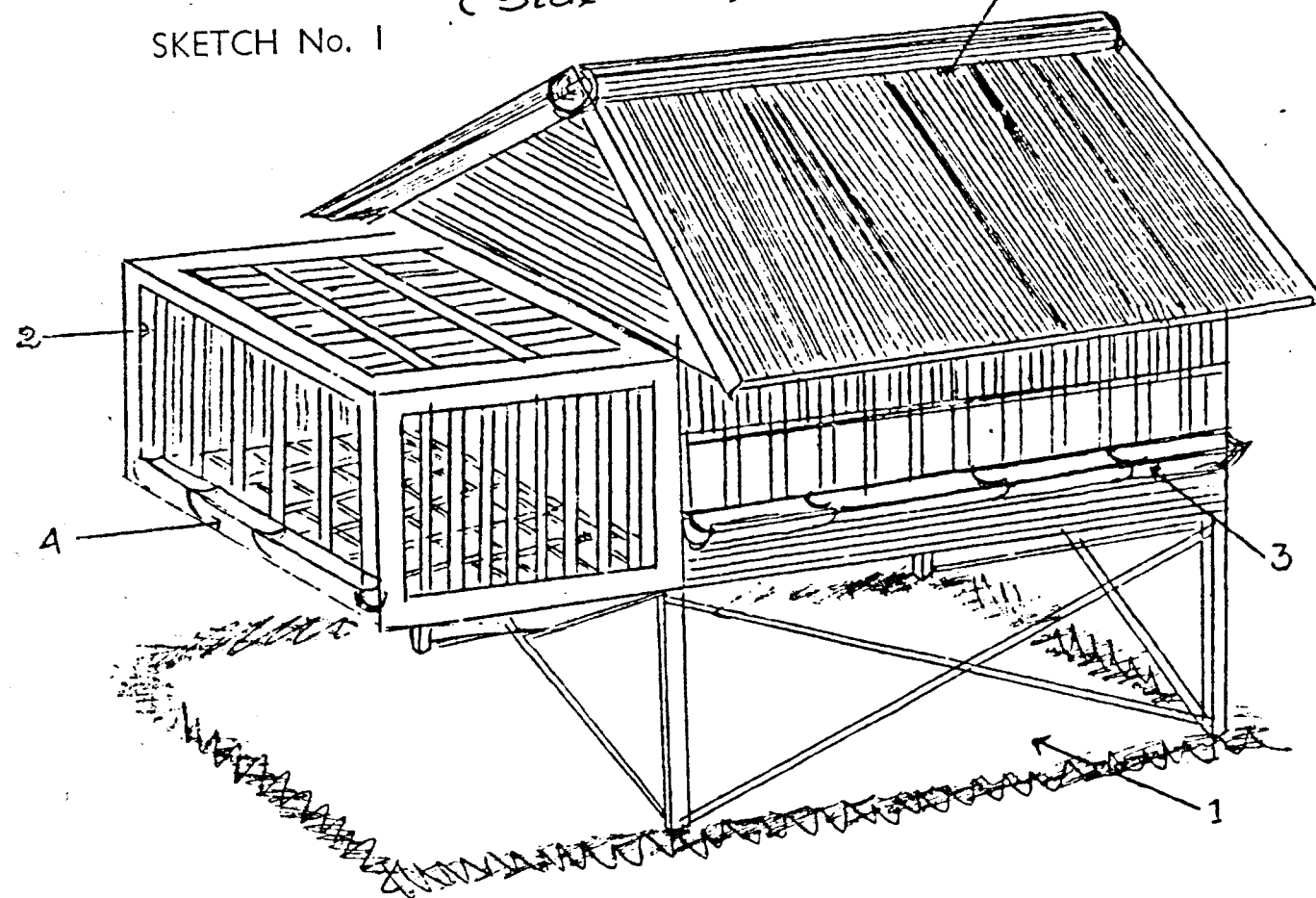
Even children in the family not engaged in other operations can take to poultry farming easily.

Separate egg boxes can be provided in the houses to make the hen adopt its normal practice of laying eggs in a dark, cool place, quite undisturbed. (Sketch No. 2.)

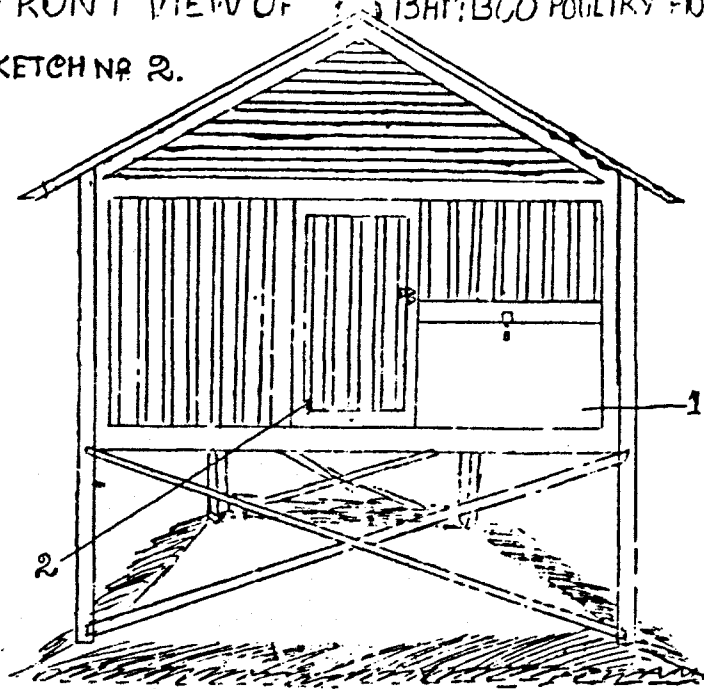
The birds can also get enough sun-shine in the sun porch provided in the house, so that they get their ample natural supplies of Vitamins A and D. (Sketch No. 1.)

The added advantage under this method is that the ryot will be able to conserve all the droppings of the birds as manure, in a pit dug underneath the house. Otherwise much of the manure gets wasted in a scattered and wider area. This pit may be about three feet deep. As soon as the pit is filled, the house can be transferred to another place and the pit may be covered with dry earth and kept for about a month or two so that it will rot well and become good manure. Since poultry manure contains not only the faeces but also the excretion of the kidneys, it is much richer in nitrogen than that of other domestic animals. To prevent the bad odour emanating from such a pit, hydrated lime can be used as deodorizer since it can reduce nitrogen losses and also improve the handling qualities of the products. (Sketch No. 1.)

(PORTABLE POULTRY HOUSE - BAMBOO - MAKE)
(Side view)
SKETCH No. 1



FRONT VIEW OF THE BAMBOO POULTRY HOUSE
SKETCH No. 2.



SKETCH No. 1.

1. Pit for collecting manure.
2. The Sun porch.
- 3 & 4. Receptacles for keeping feed and water.
5. Roof.

SKETCH No. 2.

1. Egg Box.
2. Door for feeding.



POLICE MEDAL RECIPIENTS

(Sitting-L. to R.): Sri G. Pasupathi, S.P. Sri R. K. Sukumaran, S.P. (Retd.), Sri P. Kuppuswami, I. P. S., D.I.G., Sri O.L. Burrell, I.P., D.I.G.; Sri S. Balakrishna Shetty, B.Sc. (Hons.) I.P., Inspector-General of Police, Madras, Sri M. Balakrishna Menon, I.P., D.I.G.; Sri S. Bashir Ahmed, I.P.S., S.P. (Retd.); and Security Officer, Southern Rly., Madras; Sri T.T.P. Abdullah, I.P.S., S.P. Sri S. Nagalingam, I.P.

(Standing-First row): Sri P.J. Thangaswami, Inspector of Police; Sri A.V. Thangavelu, D.S.P.; Sri R. N. Krishnaswami, D.S.P.; Sri Ali Sulata, D.S.P.; Sri G.A. Ray, D.S.P.; Sri W.J. Hammond, D.S.P. Sri S. Veeraswami, Inspector of Police; Sri V.S. Doraiswami, S.I. of Police (Retd.)

(Standing-Second row): H.C. Kumaran Nair; Sri N. Venkataraman, S.I.; H.C. G. Ethirajalu.

The poultry manure obtained from such pits in the unit of this centre, is utilized with advantage in the Agriculture Farm attached to this training institution for Gramasevaks.

This type of house can be easily dismantled when necessary and can be easily re-assembled.

It has been proved that the laying capacity of the hens is not affected by using this house.

Disadvantage.—There appears to be one disadvantage in this, viz., walking practice. This is because of the necessity of keeping birds always within the house. Birds reared in this type of houses, when let out, feel sort of shy while walking on the ground and this can be overcome by allowing them in a separate pen freely for a couple of days.

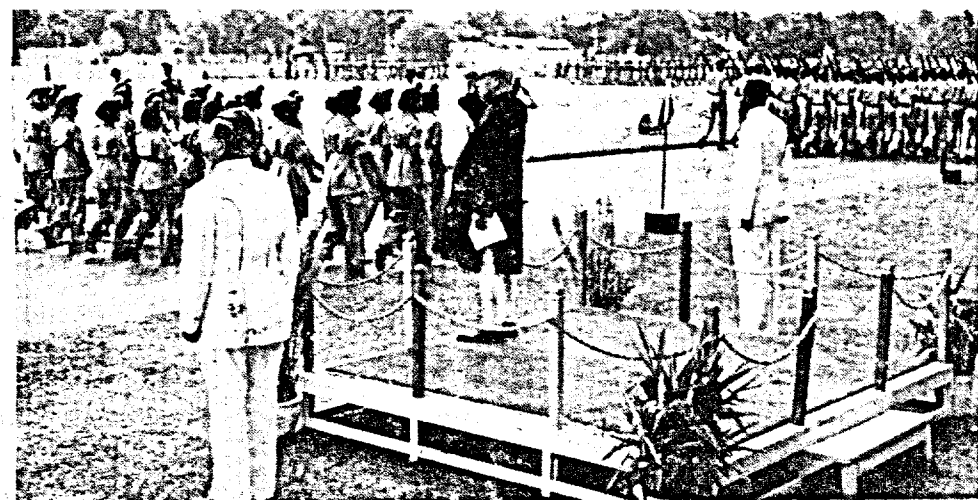
Economics of a house of this type—

	RS.	NP.
Cost of bamboo	..	00
Cost of reapers, if used as supports,	..	00
Cost of nails	1	50
Wages for the carpenter for two days at Rs. 2-50 per day.	5	00
Other sundry charges	2	50
Total	20	00

But considering the many advantages of low cost, saving in space and time for attention, ease in handling, full conservation of all droppings, and facility of shifting this disadvantage is not significant enough, especially when regular breeding is not contemplated, and when rearing for table is the main criterion.

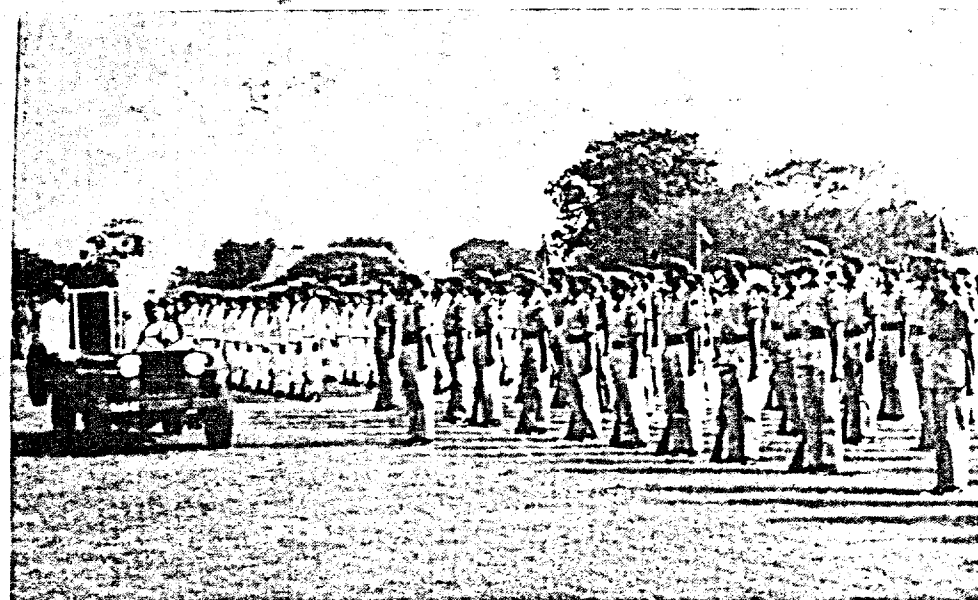
So it is evident that to have houses with dimensions 7 feet by 5½ feet including the sun porch costs only Rs. 20 per house and this can accommodate about 20-25 birds and this can be used with advantage in villages where free space is not available and where there is likely to be trespass into the neighbouring fields. This will be specially suitable for semi-urban and urban areas where even living space is congested.

The cost of one chick house using bamboos and with dimensions 3 feet by 2 feet comes to about Rs. 4 and this can accommodate about 10-15 chicks up to 1½ months of age.)



N.C.C. Day was observed on 6th December 1959. Photo shows the Governor taking the salute at the March Past at the Rajaratnam Stadium.

N.C.C. DAY



The Governor reviewing the guard of honour on N.C.C. Day at the Rajaratnam Stadium.

Sri C. Subramaniam, Minister for Finance and Education, Madras, inspecting airmen at the Passing Out Ceremonial Parade held at No. 2, Ground Training School, Air Force Station, Tambaram.

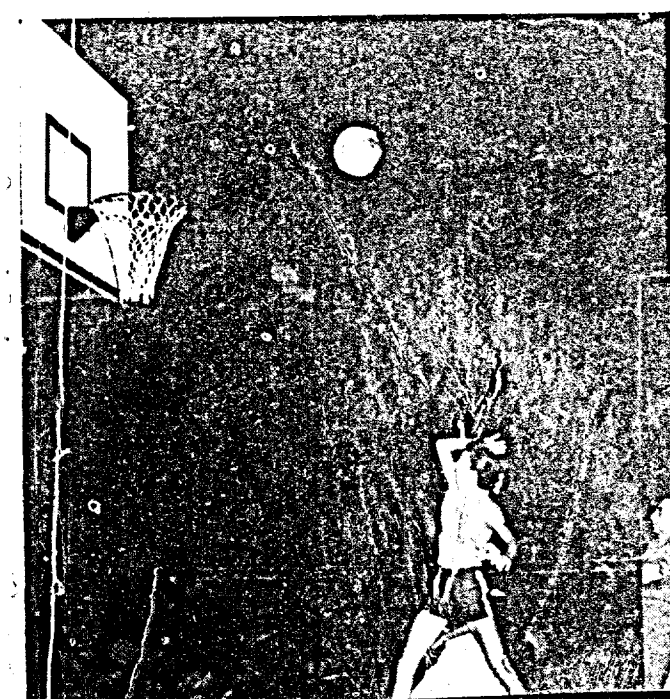


Delegates from Iran visited the C. D. area of Tirukkalkunram on 29th November 1959. Photo shows them at the soap making unit.

BASKET BALL CHAMPIONSHIP



The Governor of Madras being introduced to the players in the women's team during the National Basketball Championship games.



The National Basketball Championship was held in Madras from 1st December 1959 to 6th December 1959. Sri C. Subramaniam, Minister for Finance inaugurated the games. The photo on the left shows a dramatic moment in one of the games.





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DA-59/192

Cooperation - Need of the Hour

P. V. SUBRAMANIAM, Special Deputy Registrar, Credit and Marketing.

The Central and the State Governments are giving considerable time and thought to the development of co-operatives in the country. Our revered Prime Minister and other leaders of the country are stressing the importance of co-operation for the development of rural economy. The National Development Committee at its meeting held in November 1958 had laid down that the village co-operatives should assume responsibility and initiative for social and economic development at the village level. The term 'service co-operative' has come into prominence recently and more especially after the 64th session of the Indian National Congress which met at Nagpur in January 1959 and expressed itself strongly in favour of the organisation of service co-operatives throughout the country as a first step in the evolution of Co-operative Joint Farming. At the outset, we should know what a service co-operative is. The idea of a service co-operative is not new in the field of agricultural co-operation. Indeed, the development of agricultural co-operation in our country during the last five or six decades has been mainly on the lines of service co-operatives. A service co-operative in the field of Agriculture is an organisation at the village level which provides credit and other facilities required by the farmers to carry on agricultural production. The farmer requires various services such as credit, supply of seeds, manures, agricultural implements, sprayers, pesticides, etc., provision of irrigation facilities and technical advice and assistance to enable him to adopt modern methods of production. The several thousands of village co-operative credit societies functioning in our State are, in essence, service co-operatives. Most of them, however, concentrate only on the provision of credit. No doubt the provision of credit is the most essential service required by farmers and it must be said to the credit of these societies that they have provided this facility in a significant measure. In the matter of providing other services, they are functioning with varying degrees of success. Where they have undertaken other services, such services mainly relate to the distribution of manure, seeds, and to some extent, agricultural implements. An ideal service co-operative is expected to provide not only the above service but also services like the improvement and maintenance of common irrigation facilities including

sinking of community wells and installation of pumpsets, undertaking measures for soil conservation, contour-bunding, preparation and distribution of compost manure, etc. In short, a service co-operative is one which functions in such a way that the farmers will always look to it for the satisfaction of all their economic needs and requirements ancillary to agricultural production and marketing and, to the extent possible, of their other needs also.

While the national objective of increasing agricultural production could be achieved to an appreciable extent by the effective provision of credit and other essential services through the service co-operatives, other measures will be needed to increase production still further and place our agricultural economy on a sound footing. It is obvious that these measures should be in the direction of taking us nearer to our cherished goal of establishing a socialist pattern of society. If the joint endeavour of the farmers could secure for them the credit and other services needed for production and marketing more effectively than if they function independently, it stands to reason that, by an extension of this principle, joint farming in farming itself ought to produce better and more concrete results in production. It is in this background that in our State a few co-operative farming societies have been recently organised as an experimental measure. The significant feature about these societies is that the farmers have pooled their lands voluntarily and have undertaken farming operation jointly. To encourage this type of endeavour, Government have sanctioned loans and subsidies liberally for purpose like sinking of wells, installation of pumpsets, purchase of bulls, construction of sheds, etc. They have also given guarantee to the co-operative financing banks for providing credit for agricultural operations. In fact Government have evolved a pattern of financial and other assistance to this type of societies so that such societies may be brought into being.

In the villages which have been gifted away under the gramadhan-movement, farming societies known as "Gramadhan Sarvodaya Co-operatives" have been

(Please turn over)

Bone Meal - A Boon to Agriculturists.

SEENU R. RAMASUBBU, Gandhi Niketan Ashram.

STEAMED BONE MEAL, an organic manure, is an important fertilizer, rich in phosphoric acid. It is obtained by treating bones with steam under pressure in a bone digester. It is useful for all soils. It is found that best results are obtained in acidic and aerated soils which have good drainage arrangements. The bone-meal has particularly notable effects in soils which are well-supplied with organic matter. It contains about 2.38 per cent of nitrogen and 27.4 per cent of phosphoric acid, and the presence of lime in it helps to reduce the acidity of the soil. It is well-suitable for application to all crops such as paddy, wheat and other cereals, and also sugarcane, vegetables and fruits. At the same time, it lessens the agricultural expenditure when compared to other fertilizers, and also enriches the soils to a very great extent year by year on application. Steamed bone-meal is much better than raw bone-meal.

In spite of this very good fertilizer—an organic manure—, other inorganic fertilizers such as ammonium sulphate are encouraged by agencies. The agriculturists must be educated on the use of this bone-meal fertilizer and the Government should encourage the production

(Continued from the previous page)

organised. The objectives of these societies go far beyond those of joint farming societies. The members of these societies have surrendered the ownership of their lands in favour of the society and are carrying on agricultural operations on behalf of the society collectively or in groups or individually. While in a joint farming society, the farmers are entitled to a share in the produce in proportion to the land owned by them, there is no such basis in the Gramdhan Sarvodaya Society. After setting apart 10 per cent of the net produce for the working expenses of the society, the balance is to be shared among the members on the basis to be decided by the general body of the members. There are 10 societies of this type and Government are giving liberal assistance to these societies also.

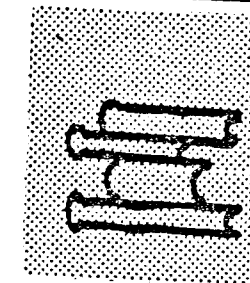
When Government fix the ceiling on the individual ownership of land, the problem of the disposal of the surplus lands and their efficient cultivation with a view to securing maximum production will arise. The lands in excess of the ceiling can be expected to be entrusted to the joint farming co-operative societies for cultivation. If the surplus lands are in scattered areas, they cannot be pooled into joint farming societies until the other lands in the vicinity are also brought together into common blocks by persuading the owners of such lands to pool their lands for common cultivation. It cannot be expected to happen all at once. It is only when the owners of these lands feel convinced about the advantages of common endeavour in the field of farming that they will come forward to pool their lands

and as well as arrange for distribution amongst the agriculturists through the Block Development Officers and the District Agricultural Officers. To encourage the production, export of bones from India should be banned, which will facilitate easy availability of raw bones at normal rates. Now the rate of raw bones is very high and it is increasing day by day on account of export to foreign countries.

The Khadi and Village Industries Commission have arranged for running Carcass Recovery Centres and Bone Crushing Units on their behalf through Block Development Offices and registered institutions like Gandhiniketan Ashram, etc. Steamed bone-meal is produced in those centres and the production is steady and progressive. The Gandhi Niketan Ashram at T. Kallupatti, Madurai district, in the South has under its control six Carcass Recovery Centres at Watrap and Virudhunagar in Ramanathapuram district, Saptur, Chinnamanur and Avaniapuram in Madurai district and Kaduveli near Tiruvayaru in Tanjore district. THE BONE MEAL IS REALLY A BOON TO AGRICULTURISTS.

voluntarily. Such conviction involves a radical change in their mental outlook which can be developed easily, gradually and without unnecessary strain, only if they are associated with the running of the service co-operatives in the first instance and given adequate opportunity to realise the advantages of such united endeavour. A service co-operative will therefore function in such a way as to prepare the ground psychologically and to create a favourable climate for the farmers to pool their lands gladly and voluntarily for joint cultivation. From this point of view, the service co-operative is of vital importance not only as an organisation which renders comprehensive services to the farmers but also as a forerunner of the co-operative joint farming society.

The co-operatives in the State cover 85 per cent of the villages and serve 38 per cent of the rural population. During the year ending 31st March 1959 they provided credit to the extent of Rs. 16.50 crores. During the present year it is proposed to bring all the villages in the co-operative fold, cover 45 per cent of the rural population and supply credit to the extent of Rs. 17.50 crores. Co-operation is no longer regarded merely as an organisation of a few individuals working for their economic improvement. It is an effective instrument for the implementation of national policies calculated to serve the common man and to raise his standard of living with a view to achieving the ultimate objective of establishing a socialist society. The need of the hour is co-operation.



Reviews

Non-violent Way to World Peace

Mahatma Gandhi's ideas about world peace are contained in *Non-Violent Way to World Peace*. Gandhiji claimed to be a practical idealist, not a visionary. He attached the greatest importance to the religion of non-violence and asserted that it was not meant merely for the rishis and saints but for the common people as well. "Non-violence is the law of our species as violence is the law of the brute. . . . The rishis who discovered the law of non-violence in the midst of violence, were greater geniuses than Newton. They were themselves greater warriors than Wellington. Having themselves known the use of arms, they realized their uselessness, and taught a weary world that its salvation lay not through violence but through non-violence. Non-violence, in its dynamic condition, means conscious suffering". And he proclaimed that there was no hope for the aching world except through a narrow and straight path of non-violence. "Millions like me may fail to prove the truth in their own lives, that would be their failure, never of eternal law", wrote Gandhiji as late as June 1947.

MAN'S DESTINY

Gandhiji believed in the possibility of permanent peace, for not to believe in it is "to disbelieve in the Godliness of human nature". He had, he said, reasoned out the doctrine of the sword, he had worked out its possibilities and come to the conclusion that man's destiny was to replace the law of the jungle with the law of conscious love. The force of love is the same as the force of the soul or truth. The universe would disappear without the existence of that force. The law of love is the Supreme Law of our being.

Gandhiji was also, in a way, for world federation, for he often said that isolated independence was not the goal of the world States. It was voluntary interdependence. He expressed his readiness, even as early as 1924, for universal interdependence rather than independence. His firm opinion was that the structure

By M. K. Gandhi, Compiled by R. K. Prabhu, Published by Navajivan Publishing House, Ahmedabad, pp. 51, price 35 nP.

of a world federation could be raised only on a foundation of non-violence, and violence would have to be totally given up in world affairs.

NURSERY OF CULTURES.

Another message of the East was written out by him thus: "I feel in the inmost recesses of my heart . . . that the world is sick unto death of blood-spilling. The world is seeking a way out, and I flatter myself with the belief that perhaps it will be the privilege of the ancient land of India to show that way out to the starving world. . . . If India fails, Asia dies. It has been aptly called the nursery of many blended cultures and civilizations. Let India be and remain the hope of all the exploited races of the earth, whether in Asia, Africa or in any part of the World".

According to Gandhiji, the world of tomorrow will be, must be a society of peace. That is the first law; out of it all other blessings will flow. And in that world there will be no poverty, no wars, no revolutions, no bloodshed. There will be a faith in God, greater and deeper than ever in the past. The very existence of the world, in a broad sense, depends on religion. All attempts to root it out will fail, says Gandhiji.

Non-violent Way to World Peace is a booklet to read, to delve in and to possess. It is, though not exhaustive, fairly comprehensive.

S.T.K.

The Message of the Gita

Gandhiji has said somewhere that work without faith is like an attempt to reach the bottom of a bottomless pit. One should have faith not only in God but in oneself. Gandhiji lived his life according to the tenets of the *Gita*. But he did not, on that account, run down other religions and other religious books. He admired much in Christianity but he was unable to identify himself with orthodox Christianity. Hinduism as he knew it entirely satisfied his soul, and he found solace in the

Gita and the *Upanishads* which he missed even in the Sermon on the Mount. "Not that I do not prize the ideas presented therein, not that some of the precious teachings in the Sermon on the Mount have not left a deep impress upon me, but I must confess to you that when doubts haunt me, when disappointments stare me in the face, and when I see not one ray of light on the horizon, I turn to the *Bhagavadgita* and find a verse to comfort me; and I immediately begin to smile in the midst of overwhelming sorrow. My life has been full of external tragedies and, if they have not left any visible effect on me, I owe it to the teaching of the *Bhagavadgita*". The *Gita* had become for him the best of the scriptures of the world. It unravelled for him the deepest mysteries of the universe.

MESSAGE OF THE GITA

Gandhiji first became acquainted with *Gita* in 1888-89. His view was that it was not a historical work but that under the guise of physical warfare, it described the duel that perpetually went on in the hearts of mankind, and that physical warfare was brought in merely to give a powerful, realistic background to the internal duel.

The object of the *Gita* appeared to Gandhiji to be that of showing the most excellent way to attain self-realisation.

The *Gita* has brought together several truths found in the different scriptures and has explained them in the clearest possible language. It has laid down the sure and easy way to attain self-realisation is through renunciation of the fruits of action. Is it possible to

Desirelessness or renunciation does not come from mere talking about it. It is not attained by an intellectual feat. It is attainable only by a heart-churn. Right knowledge is necessary for attaining renunciation. In order that knowledge may not run riot, the author of the *Gita* has insisted on devotion accompanying it and has given it the first place. Knowledge without devotion will be like a misfire, says Gandhiji. Therefore "Have devotion, and knowledge will follow".

TRUE DEVOTEE

And what are the characteristics of a devotee? He is the devotee who is jealous of none, who is a fount of mercy; who is without egotism, who is selfless, who treats alike cold and heat, happiness and misery, who is ever forgiving, who is always content, whose resolution is firm, who has dedicated mind and soul to God, who causes no dread, who is not afraid of others, who is free from agitation, sorrow and fear, who is pure, who is versed in action and yet remains unaffected by it, who renounces all fruit, good or bad, who treats friend and foe alike, who is untouched by respect or disrespect, who is not puffed up by praise, who does not go under when people speak ill of him, who loves silence and solitude, who has a disciplined reason. Such devotion, says Gandhiji, is inconsistent with the existence at the same time of strong attachments.

Important passages from the writings of Gandhiji on *Gita* are presented in this book in an integrated form

with a view to give the reader a succinct but complete account of the teachings of the *Gita* as understood by the Mahatma.

S.T.K.

By M. K. Gandhi, compiled by R. K. Prabhu, Published by Navajivan Publishing House, Ahmedabad, pp. 40. Price 25 nP.

Co-operative Farming

In these days when some aspects of co-operative farming are coming in for vehement criticism from certain sections of our people, it would be interesting to know the views of the Father of the Nation on this vital question. For that purpose, the booklet under review comes handy.

Gandhiji firmly believed in co-operative farming and wrote in *Harijan* (15th February 1942) that "We shall derive the full benefits 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 portions?"

His notion of co-operation, he said as late as 1947, was that the land would be held in co-operation by the owners and tilled and cultivated also in co-operation. This would cause a saving of labour, capital, tools, etc. The owners would work in co-operation and own capital, tools, animals, seeds, etc., in co-operation. "Co-operative farming of his conception", he said, "would change the face of the land and remove poverty and idleness from their midst. This was only possible if people became friends of one another and as one family. When that happy event took place, there would be no ugly sore in the form of a communal problem".

Edited by Shriman Narayan, this pamphlet will be highly helpful in removing some of the misunderstandings about co-operative farming.

S.T.K.

By M. K. Gandhi, Edited by Shriman Narayan, Navajivan Publishing House, Ahmedabad—14, pp. 16. Price 20 nP.

Sales of Khadi

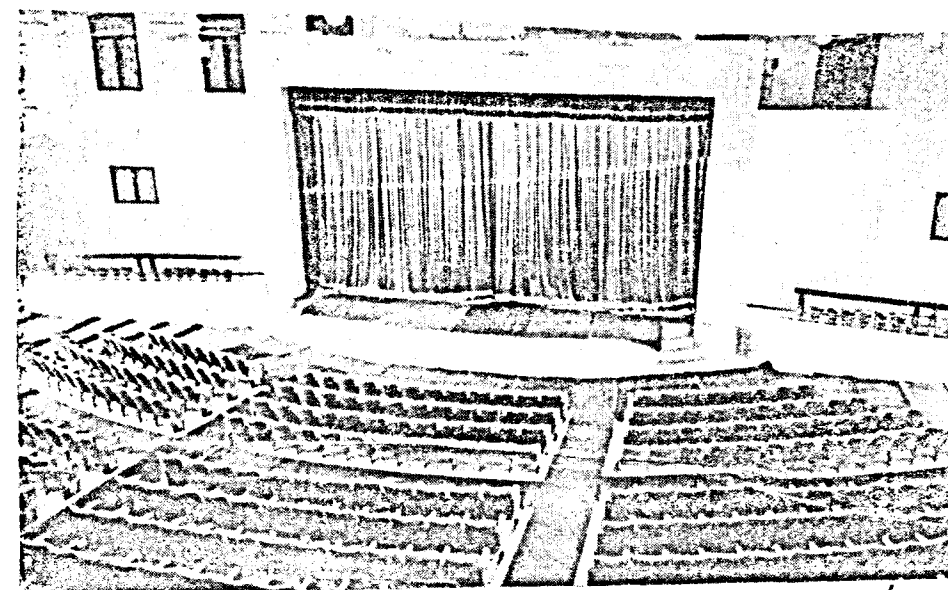
The various Khadi Centres of the Department of Khadi, of the Madras Government, produced 377,028 yards of Khadi valued at Rs. 10,20,595.85 nP. in the month of November 1959.

During the month, wholesale and retail sales through Government Khadi Sales Depots and other agencies are 199,575 yards valued at Rs. 6,54,715.73 nP.

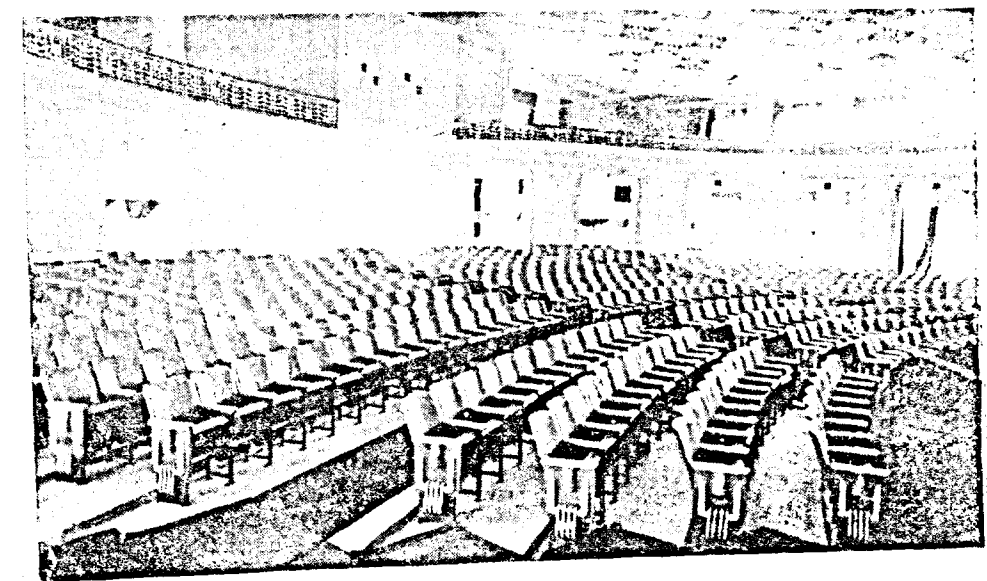
Gandhiji on Co-operative Farming

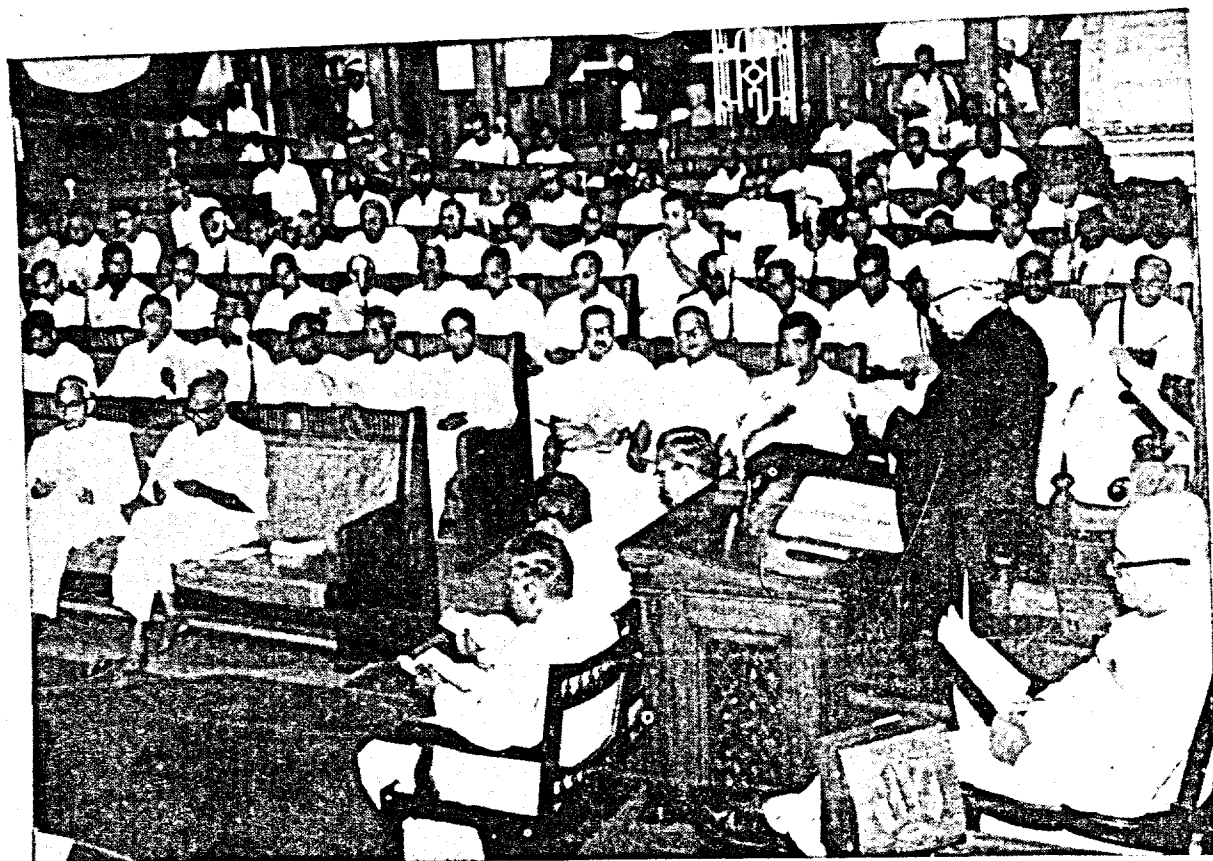
I firmly believe too that we shall not derive the full benefits of agriculture until we take to co-operative farming. Does it not stand to reason that it is far better for a hundred families in a village to cultivate their lands collectively and divide the income therefrom than to divide the land anyhow into a hundred portions?

CHILDREN'S THEATRE



The Children's Theatre has been recently renovated and equipped with modern furniture. The photos on this page show the interior and exterior of the Theatre.





The Governor of Madras addressed the joint session of the State Legislature on 5th December 1959

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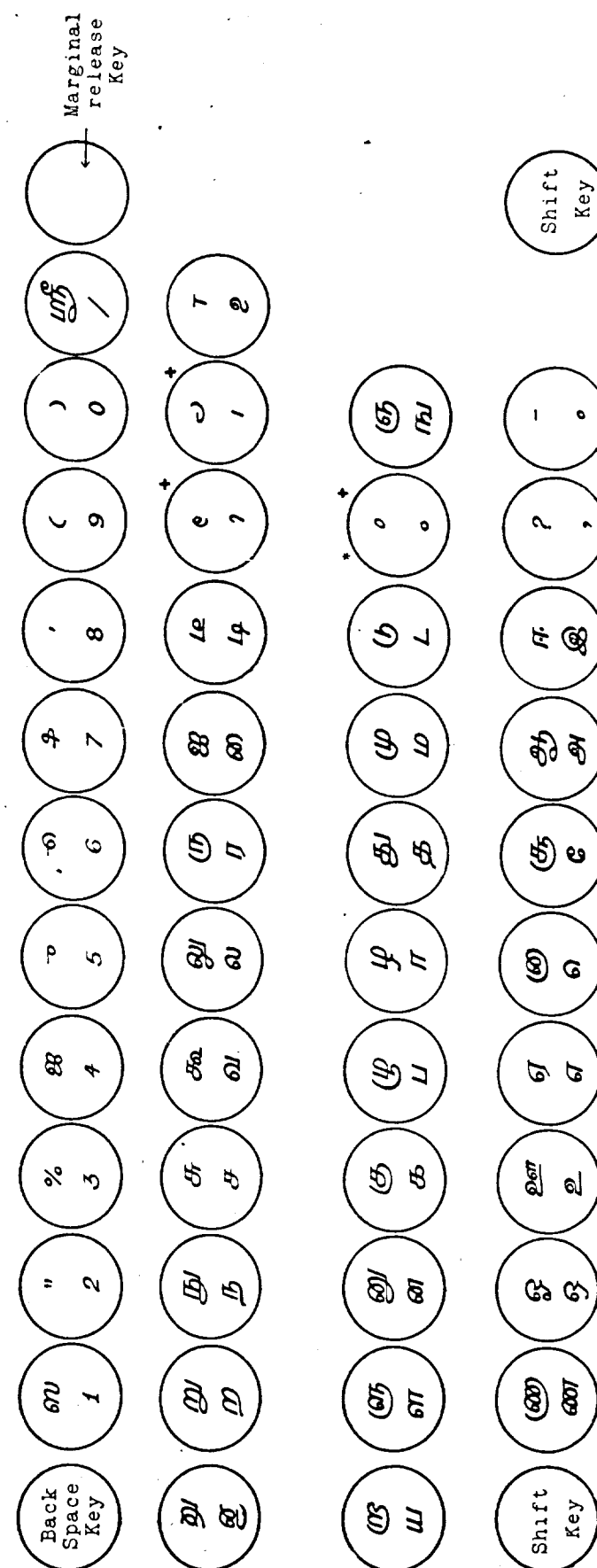
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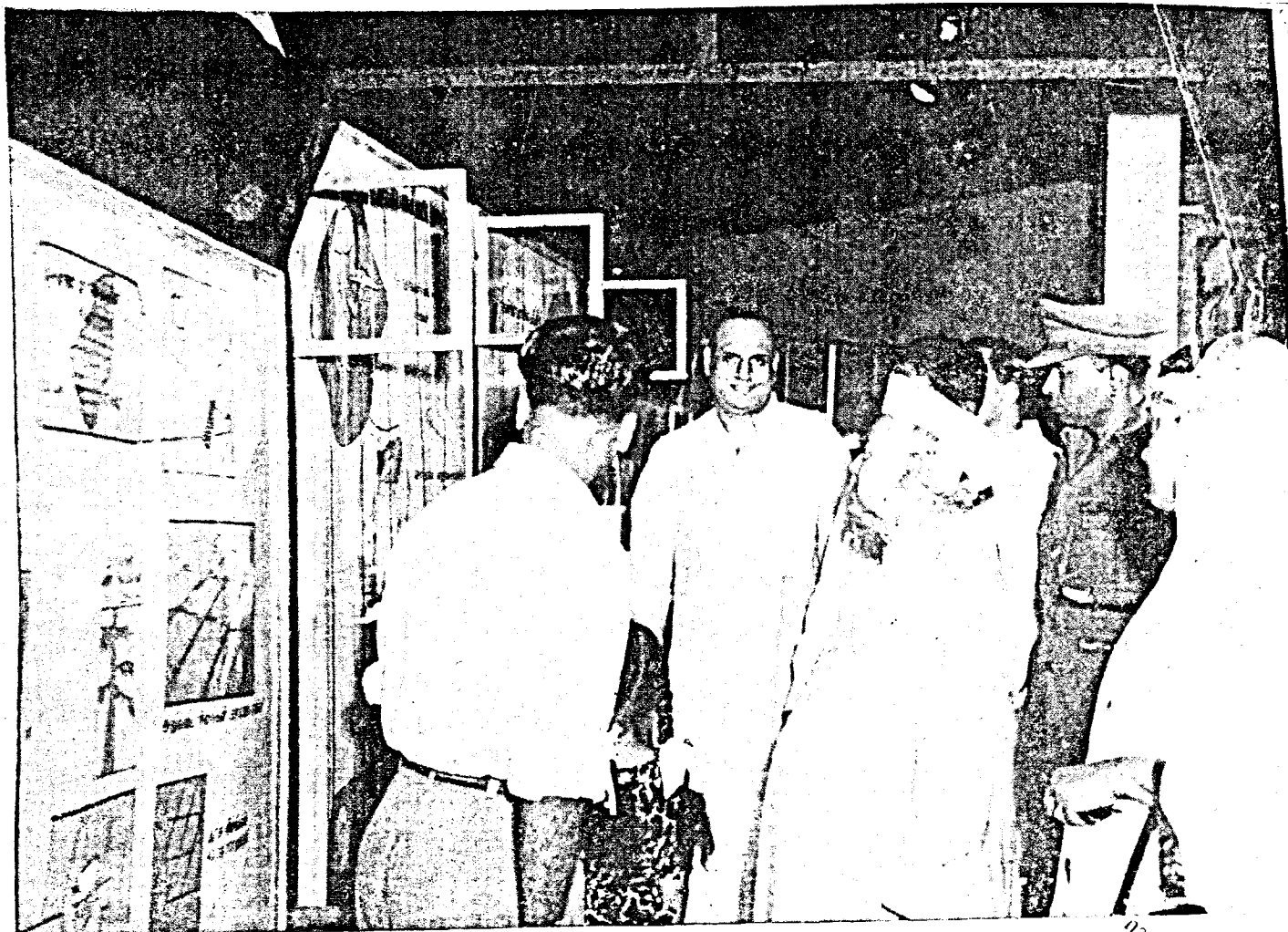
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MARCH '60/
Price 20 nP



The Governor paid a visit to the Congress Exhibition held at Teynampet, Madras, on 28th January 1960. Photo shows the Governor at the stall of the Department of Information and Publicity.

The first meeting of the Madras State National Savings Advisory Board was held on 22nd January 1960. Photo shows Sri R. Venkataraman, Minister for Industries, addressing the Board.



Film Industry and its Problems

Inaugurating the Conference of the representatives of the various interests of the Film Industry in the State held in January last, Sri C. Subramaniam, Finance Minister, surveyed the problems faced by the industry. Below are given some excerpts from the speech.

This Conference has been convened mainly with the idea of bringing together the representatives of the different interests in the Film Industry to discuss the problems of the industry and if possible to find some solutions for them. Till now, the Governments, both Central and State, have been accused of evincing no interest whatsoever in this industry. It may, in a way be true. But no responsible Government can afford to ignore the Film Industry. The Indian Film Industry is one of the major industries in this country. It has an important place in its economy by reason of the enormous amount of money invested in it as a capital and the large number of persons employed in it. More than this, its power to influence people is something very great. And therefore it is nothing surprising if the State Government comes forward to take some interest in this industry.

As far as I am concerned, I find that most of the portfolios I deal with are intimately connected with the film industry. As Finance Minister and as Minister for Planning, I am vitally interested in the economy of the State and this industry plays a very important role in the economy of the State. Secondly, as Minister for Education, I have to pay special attention to the role this audio-visual medium plays in educating our people, not only the children, the youngsters, but also the elders. Lastly, as Information Minister I realise what a powerful propaganda machine the cinema is and could be. Therefore, if I have taken an interest in the welfare of this industry, it is prompted by a little selfishness also because this industry has its own impact on the various affairs of the State, which I have to deal with.

TWO ASPECTS

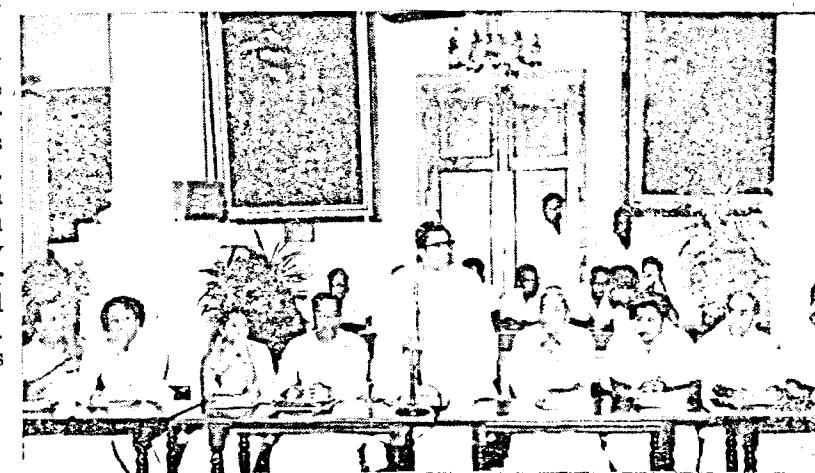
This industry has two aspects. It is a major industry of the State and it has to be viewed as such. Secondly, it is a medium for education, for propaganda and for entertainment. These two are inter-linked. We cannot consider the industrial aspect of cinema without taking note of its other aspect, namely, its role in the cultural, educational and propaganda fields. Therefore, if I say a few words to you, it is not because I have studied the many problems relating to this industry. As a matter of fact, I want to learn from you many things about this industry so that I could, if it would be possible for me, as a Minister of the State Government, and also as a citizen interested in the welfare of this industry, put forward my views before the Central Government. So I am happy that I have been able to bring you all together to ponder over these various problems. If these problems need a solution, it cannot be devised by any one sector alone. It has got to be a co-operative effort by all the interests

involved in this industry. It is by that co-operative effort alone, you would be able to find the ultimate solutions for the various difficult problems. If it would be possible for me to say later on, that I had brought all these people together at a common conference table to enable them to express their points of view, I would have enough reason to feel happy that I had done something.

NOT SATISFACTORY

First of all, we have to consider how this cinema industry is functioning. Are we really satisfied with the way this industry is functioning? Even though we may say that there is nothing wrong with the standard of pictures we produce, I am sure you would all agree with me that there is always room for improvement. So, first of all, we will have to assess the quality of the pictures we are producing in terms of the effect it is producing on the minds of the various sections of the people. To-day, films are seen almost by every one. Only a few persons, some because of their prejudices and some others because they have no time, perhaps would stand out. Therefore from the very child to the very old person, practically every one attends film shows and no two groups react to the pictures in the same way. So we have to take into account the effect our pictures are producing on the minds of the various sections of the people. Taken as a whole, nothing in this world is completely good, and nothing in this world is completely bad either. Life is a mixture of good and bad. So the only attempt we can make is to see that the major portion of a picture is good and that the evil in it is minimized as much as possible. That only is given to humanity, because no human being is perfect and therefore no human effort can be perfect. But still, because we are human beings, we have got to endeavour to see that the good in us predominates

A seminar on Film Industry in Madras State was held at Madras on 8th January 1960, in which all those connected with the Film Industry participated. Sri C. Subramaniam, Minister for Finance, inaugurated the Conference.





The Minister for Information with those who attended the Conference. Sri C. Subramaniam, Finance Minister, snapped with the representatives of the various interests of the Film Industry.

as far as possible. Therefore we have to find out whether our pictures are producing a beneficial effect on the people as a whole or they are having an injurious effect. I am not passing any judgment whatsoever. It is for you to consider as experts and the public also will have to voice their views. I want to emphasise one point and that is this: there is always scope for improvement and therefore it should be the effort of the film industry to see that we go on improving more and more, particularly with reference to the subject matter of the films. This aspect will have to be considered by the producers, the directors and all those who are concerned with the choice of the subject for the film.

TECHNOLOGICAL IMPROVEMENTS

I would like to invite your attention to another aspect. The film technique is improving from day to day. Formerly, improvements were taking place from decade to decade. Then changes started taking place from year to year. Now from month to month techniques are changing and improving.

Recently I visited the World Agricultural Fair at Delhi. I was taken to a chamber and I was asked to stand up at a particular place and then a film was shown. It was projected against a dome and as you stand, you get the impression of yourself participating in the movement of the film. You are making the journey and witnessing the scenery fleeting past you. I was told that formerly this was being achieved by three separate projectors. But now they have evolved one combined projector for that purpose. Thus, the technological improvements that have taken place in the field of film production is something phenomenal. And people associated with this industry should seize hold of every opportunity to acquaint themselves with the latest techniques evolved in the Western countries. I don't know how far we take pains to know about the various techniques which are in vogue today and also how far we have moved in the matter of providing training for our technicians in these various improving and changing methods of production.

I am told, I don't know how far I am well-informed, that many of our directors are self-made directors. I have no doubt in my mind that as born-technicians, as born-directors, some have made a great success in this industry. But they are only a few. For the large number of people, a basic training is absolutely necessary. Unless that basic training is there, you may not be able to produce anything new, and even utilise the technical facilities you have to the best advantage possible. Therefore, just like a musician, who, trained in the basic techniques finds ultimately that it could at best serve only as the foundation on which he has to build, technicians with basic training, may be able to use new techniques and evolve new methods and achieve appreciable progress in the field of film production. Therefore I would draw your attention to the problem of training our technicians in the right direction and also the various other persons concerned in the production of the film, namely, the directors, the costume makers, make-up men and various other persons who are absolutely necessary for making a film a success. My own view is we are taking an amateurish attitude as far as this is concerned even though we want to make a film technically perfect. An amateurish approach by a man of genius might produce a certain amount of success. But for the large majority of people, it would not be possible. Therefore, it is necessary for us to give this basic training. This applies to actors and actresses also. Many great actors here have not, perhaps, gone through the mill of training in any school, but still they would have had their training in some dramatic society or other. Nonetheless, I would suggest to you that it would be proper and necessary to provide special training even in respect of acting. It is absolutely necessary.

QUALITY COUNTS

The majority of foreign films exhibited in this country are only American or British films. I happened to see a few films which have come from China, Czechoslovakia and various other countries. Their film technique is something astounding. Unless our technicians, our directors and our actors see these films, we may not employ those techniques at all. Therefore it should be possible for the industry to provide opportunities to the various persons concerned with the industry, to see and study the many technological developments taking place in the industry. That is one aspect which I would like to place before you. If you want to produce better pictures, I am afraid, you will have to choose between quality and quantity. In a democracy, the masses do count. But still in the field of art, it is quality which counts. Recently I was reading a book, wherein it is stated that insistence on standards is not undemocratic. On the other hand, it is absolutely necessary in democracy to maintain standards. Otherwise democracy would become mobocracy.

WORK OF ART

Film production is necessarily a creative work involving a tremendous amount of artistic and technical work. And this work of art demands the maintenance of standards and if we go about producing a number of pictures, I don't think we would be able to maintain standards and it is

from that aspect I was studying the growth of the industry in the Madras State. From the figures given by the journal of the Film Chamber, I find that from 1952 the total number of pictures produced year-wise is as follows:— 1952—73, 1953—94; 1954—94; 1955 101; 1956—107; 1957—117; 1958—123 and 1959—136. And I was told about 150 pictures are in different stages of production now.

TOO MANY PICTURES

I do not know whether there is scope for taking such a number of good films in any country, leave alone Tamilnad. Therefore I would request you to consider this aspect. Out of this 136, how many films would make a success—success in the sense that they would get back the money that they had invested in them, leaving alone the question of making profit out of them? I was told that perhaps 10 or 12 pictures might make some profits; 10 or 15 might fetch the money invested in them. The rest of 100 pictures would prove losses and perhaps 50 or 60 pictures would prove total losses. Therefore if you put forward this colossal effort and find that you are making success only a small part of 10 per cent or 12 per cent of the films produced, I don't think you are justified in launching upon such a big programme. If all the 136 films are successes, then I am afraid there would not be screening space and even now in spite of the fact only a few films have made a success, we are still complaining we do not have enough theatres. Therefore you should take this into consideration and find out if every film we take should be of some average standard. I am not saying that every film should be of the highest standard that is impossible in art. But we should reach an average standard. There may be failure to the extent of 10 per cent or 20 per cent or even 25 per cent. Others should be at least of an average standard. If that be so, if you are going to produce 136 films or 100 films every year, will it be possible for you even to exhibit them properly throughout the State?

EXHIBITION OF PICTURES

In the whole of India, I am told there are about 4,000 to 4,200 theatres including what are called touring cinemas. More than half the number is in the southern region, more than half number of theatres in the southern region is in the Madras State. Latest figures in this respect show that there are 391 permanent theatres and 950 or so touring cinemas. Even with this number of theatres and with only a few films running for more than five weeks or ten weeks, we find that we are unable to find space for films. Then how would it be possible to maintain standards in respect of all these 136 films or even 75 or 80 per cent of them yet be able to exhibit them? Any way, it should be possible for you to consider this question. Therefore, taking into account the quality, taking into account the returns we are able to get out of the pictures we are making and also taking into account the theatre space which is available now, I am afraid we cannot continue to produce so many films. As a matter of fact, when I was examining this question some friends said that it is not possible to remedy this state of affairs at all. It is so rotten that it is better to allow this to rot more and more so that ultimately it might die away. But I don't think we should view it in that light. We have to improve the quality of our films and if we have to improve quality, we should restrict the number of films.

If 136 films could not be produced how many films could be produced in the Madras studios or in the southern region? Certainly I cannot imagine or mention any figure. If you are interested in the welfare of the industry you should sit down and come to a decision that in the interests of the industry, we should limit the number of films to be produced. And how to restrict it? You should impose a restriction on yourselves. If, however, you are unable to agree amongst yourselves in this matter and want that the Government should come into the picture for this purpose, I am prepared to examine it. But I would suggest to you that instead of any foreign authority coming amongst you, it is better for you to have a self-imposed restriction.

WILL HELP ARTISTES TOO

This restriction would be helpful to the artistes, particularly the top ones. I don't think they are happy about today. When anybody starts to get engaged and when it is a tempting offer, I don't think any human being would refuse. That is why we hear about actors and actresses agreeing to act simultaneously often times in more than a dozen films. Even for them to shine as actors, to come out successful, I don't think this is a proper state of affairs. Acting is not something which is mechanically done. We have to get into the spirit of it and certainly within one day you cannot act as one character in the morning, another character in the noon, a third character in the afternoon and one more character during the night. It is humanly impossible. People think that engaging the artistes would immediately produce results. Our actors, particularly our top actors can be compared to any top ranking artistes in other parts of the world. But, because of the sorry state of affairs of their having to participate in a number of films at the same time, their quality is also going down and we cannot blame them for that. Naturally they will have to put forward their best effort in one or two films to maintain their supremacy. The number of films in which a person can be engaged at one time is a matter in which I don't think the Government could interfere. Just as we have

The President of the South Indian Artistes' Association, Anjali Devi with the members of the Association at the 10th anniversary of the Association.



societies for prevention of cruelty to animals, I think we should have a society to prevent cruelty to actors and actresses. They should also function as human beings. If that be so, restriction of the number of films in which they will have to participate will have to be imposed even though that may mean a little less income. But they have to choose between good acting and good healthy life and bad acting and more money and an unhealthy life. In this, restriction will have to be a self-imposed one.

CHOICE OF STORIES

I have been speaking in many places on the question of the choice of stories for picturisation. To-day, the producer, I don't think gets expert advice in the matter of choosing the subject matter. The producer chooses whatever story that strikes him as good or whatever theme that strikes his friends as good. Unfortunately in our country there are two professions which require no other is that of the politician. It is because of this that standards at both the points are not very satisfactory. But if we want to improve standards, it is necessary to have some qualifications. But perhaps the Constitution will stand in the way of preventing anybody from taking to any profession. But still if we want to improve the quality of films, it is necessary to choose the right subject matter and the right story and in that also, there should be an expert body to advise the producers. This also could be a body constituted by the industry for the purpose of advising the various producers, in respect of the story or theme chosen for a film. These are the various things which are quite obvious to me, but you may think these are all wrong suggestions which I am making. But I am telling you what is striking me. If this is wrong, what is the alternative?

TOTAL INVESTMENT

Everybody has agreed that this state of affairs cannot continue. This is a well-established industry so far as Madras State is concerned. Crores of rupees are invested in this industry. I tried to make a rough calculation to find out the amount of money invested in this industry. I find there are about 391 permanent theatres. I would rather take it as 400 because I am sure between the time the statistics were taken and today a few more theatres would have come into existence. It would put it as 400. The average cost of a theatre would be round about 6 crores of rupees by way of putting up theatres. Then you have got studios. I am told in the southern region you have got 28 studios out of which 23 are in the Madras State. I do not know what would be the investment in a studio. It ranges from perhaps one crore to 10 lakhs of rupees. On an average it will be Rs. 25 lakhs. That is one-fourth of a crore. For 20 studios you will have another 5 crores of investment. Then there are producers making on an average 100 films. If you take 100 genuine productions, that would be the average cost of a film? I take it cannot be less than 2½ lakhs or 3 lakhs. Average of 4 lakhs means another 4 crores of investment. Therefore if you make

20 crores of rupees are invested in this industry and perhaps the number of persons employed would be round about 50,000 to 75,000. I could not get the exact figures. But it would be anywhere between 50,000 to 75,000.

So we have now to make a decision whether this industry with an investment of more than 20 crores of rupees and in which nearly about 50,000 to 75,000 people are engaged and more than that, whose products are enjoyed by crores of people should function as an industry or it should function as a race course. This is the problem facing the cinema industry today. If out of the 136 pictures only a few—10 or 15 pictures—could be counted as success and all the others failures it is nothing more than a race course. If it should function that way, I am afraid you cannot expect the Government to come forward to help this industry.

PUT THE HOUSE IN ORDER

It is sometimes put forward that this is also a very important industry in Madras State and that therefore the State should take interest in financing it even as other industries are being helped. In this state of affairs, nobody in charge of affairs of the State, be he a well known producer or a top-ranking artiste, will come forward to invest any public money into it. We can take liberties with our own private money but public money collected by way of taxes from the people cannot be utilized to sustain an industry which is functioning like this. Therefore if you want the Government to see that financing of this industry is done in the proper way, I think this gambling aspect—this aspect of everybody trying to produce hoping to make money and only a small percentage coming out successful—should be eliminated. Therefore you will have to revise your ideas about this industry and set it right. Certainly that setting right cannot come from the Government. Government can act on your suggestions. But the initiative will have to come from the industry itself. How are you going to do that?

SPENDING ON ENTERTAINMENT

I don't think we can claim to be rich among the various States in the country. Take any individual. Take any family. How much can they afford to spend on entertainment? If you are earning 100 rupees you can spend a few rupees, 5 rupees or even 10 rupees, on entertainment for you and your family. Can you spend 50 rupees for the purpose of entertainment? There is a limit with reference to your earning capacity. In the same way, the State also is only a big family. It has got its own limitations on its capacity to spend in this sector. Can we afford to spend every year five crores of rupees for the purpose of producing new films? I was just mentioning to a few friends that if, instead of this 1,400 theatres, 1,400 and odd industrial units came into existence in the Madras State, it would be a completely different picture you will be seeing of Tamilnad. Not that we should not have any entertainment. I would have been much happier if our theatres were restricted to half this number and the other half were in the form of industrial units in the various sectors. As a matter of fact the industry itself will have to ultimately thrive upon the

prosperity of the people, upon the spending capacity of the people. How long can you exploit the half-starving, poverty-stricken people? What is the amount you are collecting just now? The Government alone by way of entertainment tax has collected during the year 1958-59 Rs. 158 lakhs in the Madras State. Therefore the total collections apart from this would be anywhere near four times this amount. Six crores of rupees are being collected from the people every year and if six crores of rupees are being collected, it would mean, even if you put the average payment as eight annas, that twelve crores of people are attending cinemas in our State. Taking the population as three crores, each person is attending cinema four times a year. Of course, there are persons who cannot attend. But the average is four. Let us take Bombay and Bengal which are much more advanced economically than Madras State. Certainly they do not have so many theatres. Nor are there so many pictures produced in those States. Therefore, I would ask you as a person interested in the welfare and the prosperity of the Madras State whether we can afford to have such a large investment in the film industry and make people pay so much for the purpose of entertainment.

IS IT A NECESSARY DIVERSION?

It might be said that people are poverty-stricken and it is not bad to provide them this much of diversion. Our State should come up in the industrial and agricultural sectors. Industrially we could come up only as long as investment is available for the various industries and the investment pool is the same at any particular time. Therefore out of that investment pool, you have to provide for the various industries, for agriculture, for the purpose of etc. But if you take away a major share for the purpose of entertainment, for the purpose of cinema industry, naturally to that extent, the other industries are starved. As a matter of fact, when I was trying to find out the investment capacity of our Madras State, particularly with reference to the Third Plan, I came across this colossal fact of the film industry absorbing a large amount of money. I tell you as a person interested in the welfare of the people and I am sure, you are equally so interested, we cannot afford this at all. Of course we can go on to the same way just like some people do carry on. But it will only lead to disaster. I don't think you can expect any development as long as we spend away our resources and energies in this sector to a large extent.

PRODUCE BETTER FILMS

So even from this point of view, you have to restrict the number of films to be produced. You have to restrict your effort and see that better films are produced and run for more number of days. That would be better than producing larger number of short run pictures. That is why, it becomes necessary to see that what we invest gets a profitable return. If instead of completing a picture within 6 months or 4 months, you take one year or more, then to that extent the capital invested in the film gets locked up. It does not produce any result at all. Therefore for the purpose of finances yielding better results the velocity or circulation should be greater. When the velocity or circulation becomes dead capital, the economy invested money becomes dead capital, the economy



Photostat of a special postage stamp in the denomination of 15 nP. which was issued by the India and Telegraph Department on February 15th, 1960, in honour of the Tamil Poet and Saint, Thiruvalluvar.

of the State becomes a stagnating one. That is why I thought you could examine whether we can afford to have so many films. If not what should be the restriction and the nature of the restriction? From the point of view of the future prosperity of the persons and the future development of our State also, the persons and are now engaged in the film industry will have to devote some attention and show the way to restrict the investment and see that the investment is profitably utilized and the proper velocity is generated so that we could get quick returns. If we function in such a way, this industry also can thrive as an industry and it will cease to be a gambling ground and at the same time perhaps it would help the other industries also to come up because they would be diverting the investable capital which is coming to this industry now for other productive purposes. Therefore from any aspect I find that we will have to look into this matter of restricting the number of films and producing quality films, getting the best returns possible.

CONTENTED EMPLOYEES

You know industry does not depend upon capital alone, nor on the persons who contribute the capital. We do now realize that any industry will have to depend upon the quality of the labour and the technicians employed there. Unless you have efficient technicians and a contented labour force, no industry can thrive. I have not made a study. I am sorry I did not consult my colleague with reference to this; so I do not know the condition of the labour employed in the Film Industry. No doubt certain agitational attitudes could be taken by labour leaders and they may demand wages or amenities which the industry may not afford. But still we should, in our own conscience, be sure that we have, taking into

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those who have invested lakhs of rupees as capital but also in the interests of the thousands of the people who are depending on the industry today. Therefore when we are thinking of the Five-Year Plans for the development of our country, I would request you to consider all these matters and see that you also have a plan of development, which would fit into the economy of our State.

PUBLICITY STANDARDS

These are some of the points I would invite you to consider. I am interested in this industry developing on healthy lines so that it could, while educating and entertaining people on right lines, contribute its own share in building the industrial economy of the State.

In pursuance of the decision of the Conference of representatives of the various interests of the film industry in Madras State held early in January, a eleven-member Committee comprising the following as members has been constituted.—

The following is a list of references of the Committee :—

To go into the question of distribution of pictures including the different media of publicly employed, the role of distributors in the industry, etc., and suggest ways and means of improving proper and effective distribution of films.

And to examine the question of wages, employment conditions, etc., of all categories of employees from technicians and junior artistes to the manual labour employees in the industry and to indicate the steps that should be taken to improve their lot.

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Panchayats comprised in the particular block, who is chosen to represent the block in the District Development Council.

The problem of rising yarn prices assumed the proportions of a crisis in the Handloom Industry. It was difficult for the Government to pin the blame on any particular sector. There was, however a firm opinion on one point, namely, that the law of supply and demand should not be allowed to operate too freely in such an issue as the prices of handloom yarn, because if yarn was not available even for a fortnight, thousands of weavers were likely to face starvation. Sri R. Venkataraman, Minister for Industries, convened a tripartite conference of handloom weavers, yarn dealers and mill owners at Coimbatore on January 18th to decide on the steps to be taken to ensure supply of yarn to handloom weavers at reasonable rates and in assured quantities. The deliberations at the Conference brought out the fact that the shortage and consequent rise in prices of yarn was not so much due to scarcity as due to the fear of possible cotton shortage in the future. The Minister for Industries assured the mill owners that Government of India would be addressed to ensure equitable distribution of imported cotton. He made it clear at the Conference that the Government had assumed responsibility for the well-being of the handloom weavers and therefore were determined to take steps and stem the rising prices of yarn with or without the co-operation of the interests concerned. In the end it was found that there was an abundant measure of willingness on the part of dealers as well as mill owners to rise above the fear complex and to give a square deal to the weavers.

The Panchayat Union will not only be the substitute for the old district boards but is ultimately expected to bring about rural development through local initiative. Already, the Block Advisory Committees have been divested of all superfluous vestiges of official representation; by an order passed early in January, the Government have now directed that all Block Advisory Committees in stage II blocks should have only a non-official as Vice-Chairman; the concerned Revenue Divisional Officer will be the Chairman of these Committees. Normally this non-official Vice-Chairman will be the nominee of the



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The rebate given on the retail sales of handloom cloth is still a powerful incentive for rapid clearance of stocks of handloom cloth. Already there is a permanent rebate of 6 nP. in the rupee : on occasions like the Handloom Week celebrations and Deepavali, an additional rebate of 4 nP. to make a total rebate of 10 nP. in the rupee is given. Usually, Handloom Week in the Madras State used to coincide with the Pongal festivities. But this year the Handloom Week was postponed to take place from January 30 to February 6th. In response to the demands of trade as well as the industry, the Government secured the additional rebate of 4 nP. per rupee for one week during the Pongal season. The Government also decided to give this additional rebate during the Handloom Week Celebrations and decided to take this expenditure on the State's account as a measure of relief to weavers.

The citizens of Madras had the first taste of milk from Madhavaram Milk Project during the month of January. At present the Project is able to sell only 5,000 pounds of

pasteurised milk per day in the City, through a system of sales depots. Also, pending the installation of the Dairy Unit, the milk is being processed at the Milk Factory, Teynampet. This 5,000 pounds milk is the product of only one of the 8 units proposed under the project. There is said to be keen demand for space in the cattle colony, and the Milk Commissioner is now choosing the cattle for admission to the second unit of 500 milch animals.

MINOR IRRIGATION SCHEMES

Sanction was accorded in the month for constructing a new tank near Pulayai village in Shencottah taluk at a cost of Rs. 5 lakhs under the Special Minor Irrigation Programme. The fact that the Scheme has been sanctioned so early after the integration of the Taluk in Madras State reflects the efficient and quick investigation work. The Srimoolaperi along with two other schemes called Kannampalli Reservoir across Kundar and Mottai Reservoir across Mottai River were taken up for investigation in 1958. The Shencottah Taluk has been a particularly backward area in the development of its irrigation potential and it is expected that the other two schemes would also be sanctioned in quick succession. The Srimoolaperi Scheme ayacut will be subject to betterment levy.

TO IMPROVE FISHERMEN'S LOT

Much of the economic backwardness of fishermen is attributed to the comparative inaccessibility of their habitations to the marketing centres. The fishermen therefore find it easier to dispose of their catches to the enterprising middlemen who call at the landing ground, for whatever price. Thus, a systematic programme of linking fishing villages with the nearest roads, has been recommended as the first step towards the amelioration of the condition of the fishermen community. This programme necessarily receives its impetus mostly from the State Fisheries Advisory Board. The Government have therefore included the Chief Engineer (Highways) as an additional member of this Board, with special injunction that he must attend the meetings of the Board whenever subjects like construction of roads for the benefit of fishermen come up for consideration.

One of the milk kiosks which have been opened in different parts of the City to distribute milk from the Madhavaram Milk Colony.



Under the Scheme of the Ministry of Education, Government of India, to promote understanding between different States in India, students from the States meet at Delhi once a year. Photo shows the students from Madras State with the Prime Minister.

An important decision taken in January related to the provision of free legal assistance to workmen or their dependants claiming compensation under the Workmen's Compensation Act. It has been realised that on many occasions injured workmen or dependants of deceased workmen lose the compensation due to them by sheer default and that the benefits of the Workmen's Compensation Act are set at naught just because the potential beneficiaries are too illiterate and ignorant even to put forth their claims. This decision of the Government would enable such workmen to claim what is due to them under the provisions of the existing Act.

Sixth Competition for Children's Books

The Government of India have announced the sixth Children's Literature Competition with fifteen prizes of Rs. 1,000 each and fifteen of Rs. 500 each, reserving one in each for Tamil books. The competition is open for books in Indian Languages or translations of outstanding foreign publications. An attempt will be made to select books for prizes in two age groups, i.e., 3-6 and 7-14. The Children's Literature Committee, while reviewing the merits of entries received for the last competition felt the entries for age group 3-6 were not up to the mark and have therefore recommended that special efforts should be made to get better entries for this age group. The Committee will judge books purely on the basis of comprehension and enjoyability of the books by children. Only adequately illustrated books published during 1958-60 or manuscripts will be eligible for entry, subject to the condition that at the time of entering the competition the author of the book is alive. The entries in Tamil must reach the Director of Public Instruction, Madras, before March 30, 1960.

Co-operative Farming as Pattern of Indian Agriculture

The working group on co-operative farming is convinced that "joint co-operative farming is an effective method and agency for improving the economic and social conditions, particularly of small and medium cultivators."

In its 147 page Report (First Volume), released last month, the ten-member working group, headed by Shri S. Nijalingappa, maintains that co-operative farming in India can be a success. The group has outlined a programme indicating the preparatory work and other requirements regarding composition, size, management, technical guidance, finance, training, education and research for the formation of co-operative farming societies. The second volume containing case studies will be published separately.

Set up by the Government of India in June 1959, to recommend measures for promoting a programme of joint co-operative farming, the group went round eight States, studied the working of a number of co-operative farming societies, and elicited opinion of various officials and non-officials. It held discussions with Chief Ministers, Ministers, Members of Parliament and State Legislature, top-ranking administrators, agricultural experts, as well as representatives of financing agencies and joint farming societies.

NO COMPULSION

A co-operative farming society, in the view of the group, is "a voluntary association of cultivators for better utilisation of resources, including manpower and lands pooled and in which the majority of members participate in farm operations with a view to increasing agricultural production, employment and income." The group is against any form of compulsion. In its opinion, existing legislation in some States under which a minority of cultivators can be forced to join a co-operative farming society is contrary to the basic principles of voluntariness and undesirable on practical grounds. Such laws even though not enforced so far, should be repealed, the group advises.

In the absence of a co-ordinated policy, the development of co-operative farming in the country so far, the report says, has been somewhat sporadic and haphazard. As a result, the advantages of systematic co-operative farming could not be adequately demonstrated. Difficulties in the expansion of co-operative farming arise from a lack of proper appreciation of the subject in all quarters. The average farmer is afraid of a reduction in his income, majority of official functionaries are not particularly helpful, administrative arrangements, law and procedures governing financial assistance are often unsuited to the needs and financial agencies are hesitant in advancing loans to such societies.

PILOT PROJECTS

The group has suggested that 320 pilot projects, at the rate of one in every district, be carried out during the next

four years in selected National Extension Service (Community Development) blocks where co-operation has made good progress. To start with, forty such projects may be set up during the current year. Ten co-operative farming societies should be organised in each project. By the end of 1963-64, as a result of the success achieved in these 3,200 societies, another 20,000 societies, it is expected, would come into being in other areas.

In order to avoid frustration and subsequent disintegration, no society, the report cautions, should be organised by raising exaggerated hopes. For successful working of a society, the group attaches great importance to the following factors: (i) provision of leadership largely by the members; (ii) a broad-based membership with homogeneity of interest; (iii) viability and mutual knowledge as the prime consideration in determining the optimum size; and (iv) equality of right to participate in the management irrespective of ownership of land.

OWNERSHIP RIGHT

Pooling of land, according to the group, should ordinarily be for a period of five years. Ownership rights of the members contributing land should not only be respected but also duly rewarded. A retiring member who has pooled his land, should get land of equal productivity in return and not necessarily the same piece.

Management and operation, in the opinion of the group, should vest in an elected committee of members. The present practice of some State Governments nominating chairman or members of the committee should be discarded. It also suggests the formation of an independent assistant committee for the society. The appointment of a secretary, preferably from among the members, and capable of maintaining accounts and registers, is essential.

ABSENTEE MEMBERS UNDESIRABLE

Manpower for operation of the farm, the group feels, should be organised in accordance with available skill, number of working members and area covered. In the interest of better supervision and greater incentive, members may be organised into groups either on an *ad hoc* or seasonal basis. The produce of the groups should, however, be harvested and pooled jointly. Absentees should not normally be admitted as members. Instead, their lands should be taken on lease. The system of providing substitute labour should be discouraged.

Village and cottage industries, which afford greater employment opportunities, should form an integral part of the scheme of co-operative farming. For fuller utilisation of manpower, societies should ordinarily undertake labour intensive schemes.

Performance of a society, the Report says, should be judged by the total income earned by members and not by the daily rates of wages. Differences in skill and ability of workers should be evaluated and rewarded. A substantial part of the profits, after deduction for contribution to the reserve, development, share redemption, and common good funds, etc., should go to members as bonus for work done. Payment of bonus on the basis of land pooled is also favoured by the group.

USE OF MACHINERY

In respect of mechanisation, the group draws a distinction between the machinery which causes displacement of labour and which increases efficiency and employment. The use of the latter, such as pumps and engines for lifting water is not ruled out.

The group recommends the formation of advisory boards by Government both at the Centre and the States for planning and promotion of co-operative farming. For the sake of speedy and efficient implementation of the programme recommended by the boards, Central and State Departments of Co-operation should be strengthened by association of public workers having firm conviction in the subjects as well as devotion to constructive work. Addition of a special officer to the block team in each project to provide technical guidance has also been suggested.

EDUCATION AND TRAINING

The group lays great stress on the need for education and training in basic issues and techniques of co-operative farming for existing as well as prospective members and workers. It suggests a two-week training course for promising young farmers in batches at a residential institute having a farm attached to it. Two lakh farmers should thus be educated to ensure at least two trained workers in a group of five villages. A three-month training course is recommended for training of about 26,000 secretaries. One hundred and sixty training centres for providing orientation training courses to gram sevaks, staff of co-operative institutions and others should be established in the next four years. The setting up of a National Institute of Co-operative Farming to organise research and study as well as training and orientation of instructors, special officers, and high category of public workers and officials is another important recommendation.

FINANCIAL ASSISTANCE

The Report mentions that lack of proper appreciation of the programme on the part of financing agencies, inability of the societies to provide landed or tangible security, insistence of banks for Government guarantee, and refusal of admission in some States to land mortgage banks, etc., constitute a serious handicap for the co-operative farming societies. It recommends that Government should provide long and medium term loans not exceeding Rs. 4,000 to each society on the basis of production programmes.

Short-term credit should be made available from Central Co-operative Banks without demanding a Government guarantee.

Government participation in the share capital not exceeding Rs. 2,000 per society has also been suggested as a method of increasing the societies' borrowing capacity. This should, however, be retired over a period of ten years through a share redemption fund or members' contribution. Participation in share capital is intended for strengthening the society and not for exercising control over its management. Nomination of Government representative to such societies is, therefore, considered unnecessary.

Where necessary, financial aid to a maximum of Rs. 5,000 for construction of godown-cum-cattle shed should be given in the form of loan and subsidy. A managerial subsidy of Rs. 1,800 on a tapering scale for a period of three years has also been recommended. The societies should, the group feels, receive preference in the allotment of assistance under different schemes of various boards and the Government.

TOTAL OUTLAY

The total outlay of programme would be about Rs. 35.26 crores comprising Rs. 28.65 crores for assistance to the societies; Rs. 4.24 crores for training and education and Rs. 2.37 crores for technical staff.

The group emphasises that its recommendations need not be followed as a rigid pattern. Necessary changes to suit variations in climatic conditions, cropping pattern, etc., should be made maintaining the essential ingredients.

The development of co-operative farming, the group points out, cannot be regarded as a series of isolated experiments or projects. A radical change in the structure of society and the organisation of economic activity on co-operative lines can be brought about only by generating correspondingly powerful social forces: the preparatory steps for the development of co-operative farming include preparing the people by the process of education for undertaking joint activity through self-governing institutions such as village panchayats and through the widening of co-operative effort in general.

As the village panchayats gain in power and effectiveness and the coverage and scope of service co-operatives are progressively increased, a suitable atmosphere will be created for transition to co-operative joint farming on a large scale.

The group expects that besides other contributing factors as a result of the programme outlined, favourable conditions will be created, the movement will gain momentum and co-operative farming will emerge as a pattern of agriculture in the country, the Report concludes.

A decision on the recommendations will be taken by the Government of India after consulting State Governments and others concerned.

Khadi Sales—January, 1960

The various Khadi Centres of the Department of Khadi, of the Madras Government produced 4,56,990-10 yards khadi valued at Rs. 11,80,693-43nP. in the month of January 1960.

During the month, wholesale and retail sales through the Government Khadi Sales Depots and other agencies are 141,116-02 yards valued at Rs. 4,28,368-71nP.

Indian Music and Dancing

SRIMATHI RUKMANI DEVI

The contribution of South India to the totality of Indian culture is great and has a special significance due to the geographical location of the land and to the fact that it did not suffer from foreign invasions to the extent that other parts of the country did. The unified culture of India which was common to all parts of the country prior to the Muslim invasions was preserved untouched here longer than anywhere else.

By the time the Muslims reached the South they had already been profoundly influenced by the culture of this country and were in one sense no foreigners. The dynasties of Bhamini and Bijapur were great patrons of Hindu art and literature. It was only when the unassimilable Europeans appeared on the scene that we began to be affected by new cultural concepts. Music and dance, as we know in the South, are perhaps the systems most closely related to the Indian Sastras on these subjects. Of course, the fundamental contribution that South India has made in these matters is that of beauty and depth. Of equal importance is the fact that South India, owing to the Motherland an art and culture that come comparatively untouched from the past.

MUSIC MADE VISIBLE

As is well-known, according to the Sastras, sangita or music includes the dance also. Dance in our country is music made visible and the same spirit pervades both the arts to a remarkable extent. However, if we take music as a separate art for the purpose of discussion, our appreciation of it has been guided and channelled by well developed critical knowledge which still survives among our people. Unfortunately this is not the case with the dance where, due to historical reasons this knowledge has lapsed and so, the development of the art at this period is chaotic and uncontrolled.

But these two great arts have played an important part in the life of India and have entered the hearts of all by being the instruments through which religion and philosophy have pervaded this land. Whether in drama, dance, or the concert stage, in the temples, in the fields, in the lives of the peasant, the king or the householder, music gave richness to our civilization and culture. Without this great musical heritage, there would have been an emptiness in the country's life where now there is wealth.

In recent times, unimaginative education has been responsible for the development of a good deal of ignorance and lack of interest in this treasure which we have inherited. Yet, till very recently, the Indian rulers and the noblemen supported the great musicians and composers, who, therefore, were able to occupy themselves with the task of preserving the tradition without interference from the outer world. We can never be sufficiently thankful that this at least did happen. In South India, we are

specially fortunate that this tradition has survived far more than anywhere else. This has been due to the fact that in our homes, our children were taught the music of our great composers and this helped the growth of an enlightened audience which is an indispensable requisite for the growth of good art.

MUSICAL RACE

Indians are a highly musical race and music is the complete expression of the soul of the Indian reflecting his inner life. Perhaps no country can exist without musical expression of some kind or other. Especially is this true of India, where life is lived with so close a contact to this great art. In the earliest and greatest epic of India, which is also the earliest epic of the world, the great sage Valmiki describes the story of Sri Ramachandra in metric and rhythmical beauty, expressive of all the deepest human emotions and also bringing into it the essence of the Vedas. The sons of Sri Rama, who were brought up in hermitage in the forest, learnt to sing the entire Ramayana and with the magnificent beauty of their voices which brought the sense of holiness to those who heard it, they thrilled the sages in the forest as well as people of all types.

Such meaning is given to music in the language of the highest self, which speaks to all creation. Sri Krishna, the divine cowherd, was beautiful enough to charm all by His very personality. Yet, He used the flute to stir in the hearts of all that which music alone can move. Thus did He attract all creation not only human but all nature to Himself. The animals stood spellbound hearing the music of the flute as did the lions before the lute of Orpheus.

There is not a field of activity in India in which music has not given its stimulus. While it stimulates, it also puts to sleep the child and the sick.

SCIENCE OF EMOTIONS

India's greatest contribution is this spiritual outlook allied to creation in its manifold expression. Therefore, the root knowledge of music and dance is the science of the emotions. It is because of this that the raga system is the essence of Indian music. What specialises in harmony, India in melody. Generally, it is thought that melody in itself is monotonous and bound to lack of variety. As art represents the soul of the people, Indian music is based on the soul of India's teaching.

India's teaching is based on the individual. So melody, the expression of the individual, is so highly evolved that it is the very expression of individual aspiration. An individual is in himself an embodiment of myriad emotions with their varied depths and subtleties. Finally, there is nothing more varied or fascinating than human emotions. It is from this point of view that the raga system of music has taken deep root in Indian consciousness.

These basic concepts of music stood and preserved in the South Indian music have been understood and preserved in the South Indian music. From the days of the Nayanmars, whose hymns were sung in their times in ways not much different from the traditional modes in which they are sung in Saiva places of worship today, to the period in which we live when authentic South Indian music of a very high order is being composed, this concept of the art as the very voice of God has been jealously kept and guarded. Nothing has survived that has not been the result of a deep spiritual and religious impulse.

WORKS ON MUSIC

It is also in South India that most of the important works on music, such as the Sangita Ratnakara, were written. In his Chaturdandi Prakasika, Venkata Makhi made a great and highly original contribution to musical theory by his classification of ragas and by his arrangement of the Melakarta Scheme. He has exerted considerable influence on the work of Bhatkhande and his pupils with regard to Hindustani Music.

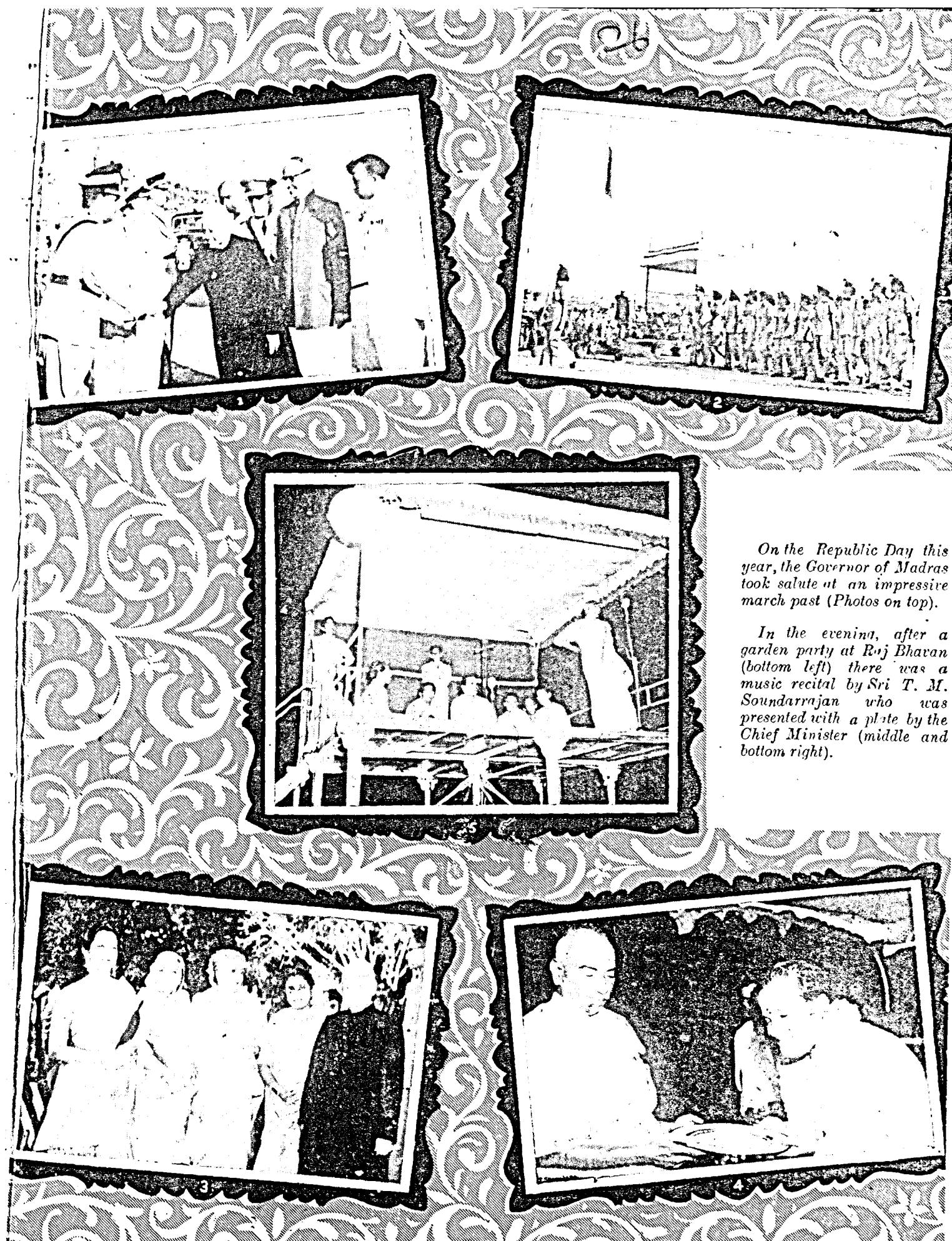
Dance in South India has closely followed the way of the music. The variety in folk dancing is incredibly rich. Apart from the well defined patterns of folk dancing in linguistic areas, such as Tamil, Telugu, Karnataka and Kerala, in each one of these areas there are local variations. Unfortunately many of these folk forms are fast disappearing, mainly owing to the depletion of the villages and the general acceptance of the town as the centre of cultural life.

CLASSICAL DANCING

Classical dancing in common with classical music has a religious basis. In South India, the main body of dance tradition was maintained intact by the Devadasis who were attached to temples. Their performances which had the name, *Sadir*, were produced not only in temples but also in palaces, houses, etc., on all auspicious occasions. This dance fell into disrepute for many reasons and became nearly extinct. Many Devadasis were great dancers who had a perfect technique and, often, great devotion.

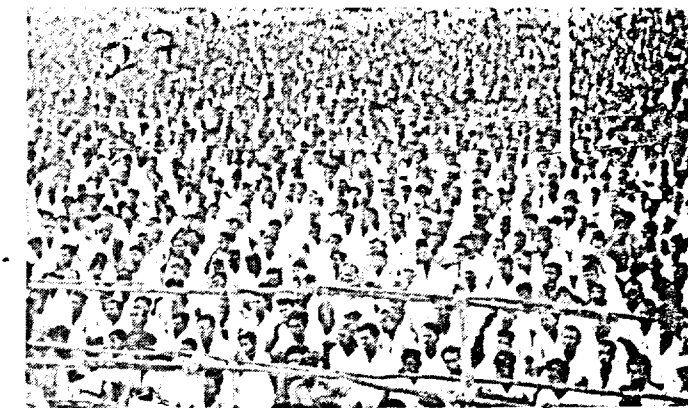
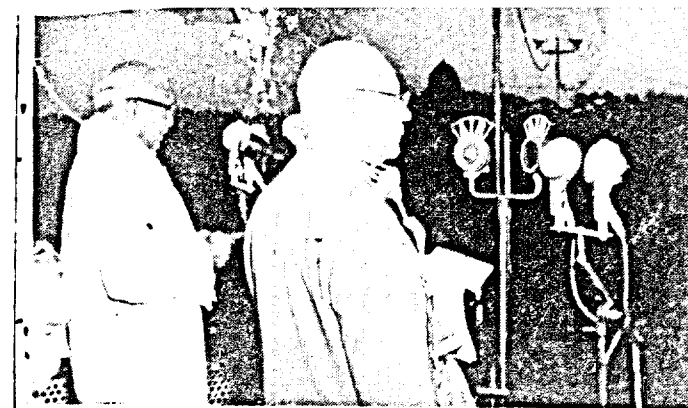
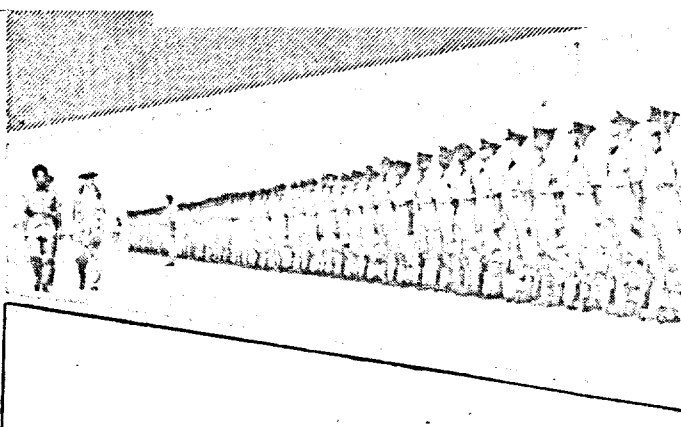


A classic pose in Bharathanatyam.



On the Republic Day this year, the Governor of Madras took salute at an impressive march past (Photos on top).

In the evening, after a garden party at Raj Bhavan (bottom left) there was a music recital by Sri T. M. Soundarrajan who was presented with a plate by the Chief Minister (middle and bottom right).



MARSHAL VOROSHILOV IN THE CITY

Marshal Voroshilov, President of the U.S.S.R., was in the City from January 30th to February 1st.

On arrival he was greeted by the Governor of Madras and the Chief Minister.

The Marshal visited the Integral Coach Works at Perambur and the Industrial Estate at Guindy.

He was accorded a public reception on the Marina where thousands of citizens gathered to greet the visitors.

On the night of January 31st a State Banquet was held in honour of the Marshal and party.

Top left—Arrival

1 At the I.C.F.

2 & 3 At the Industrial Estate.

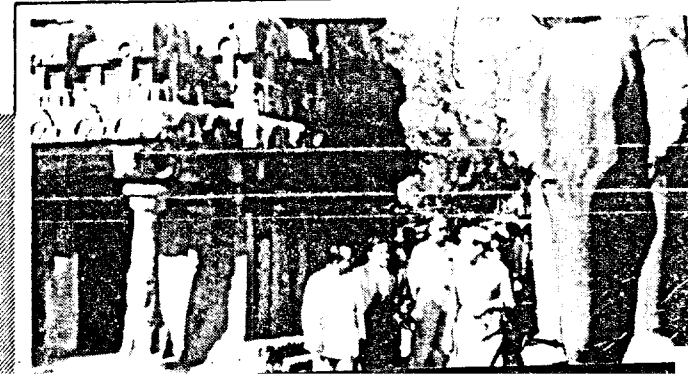
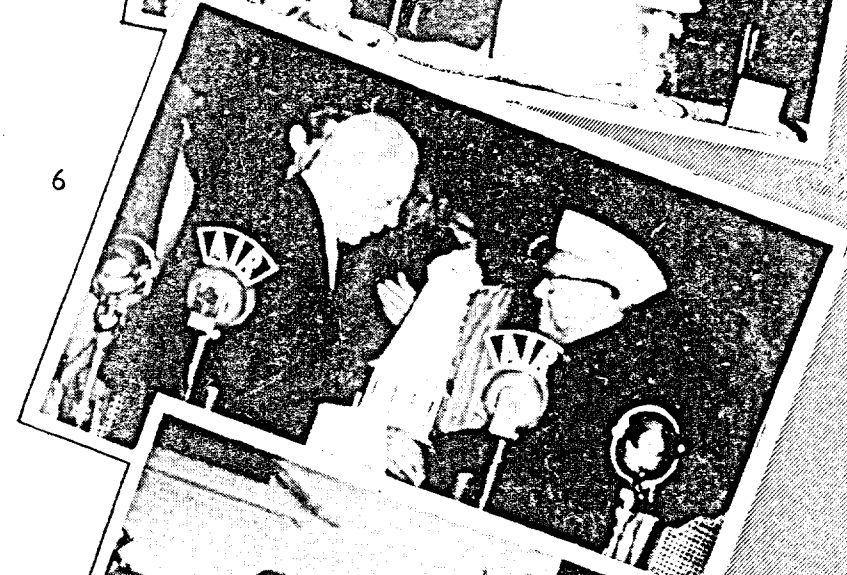
4 Reception by the Mayor of Madras.

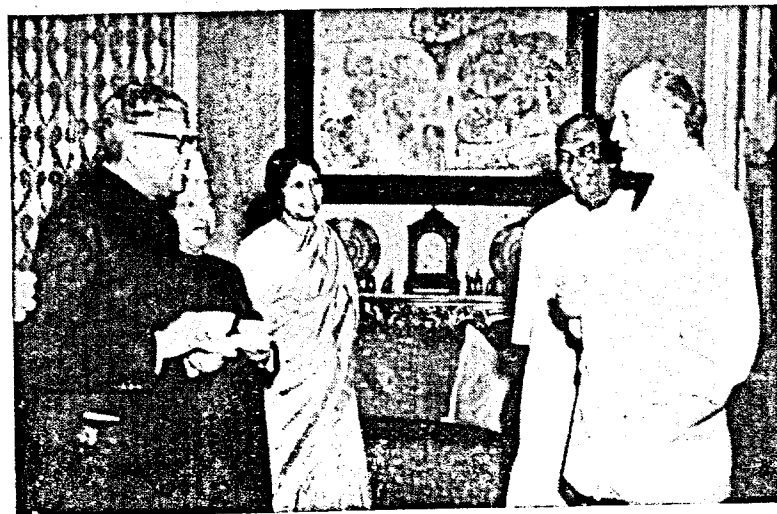
Top right—At the public Reception

5 & 6 At the State Banquet.

7 Mme Furtseva Deputy of the Supreme Soviet at the All-India Women's Conference

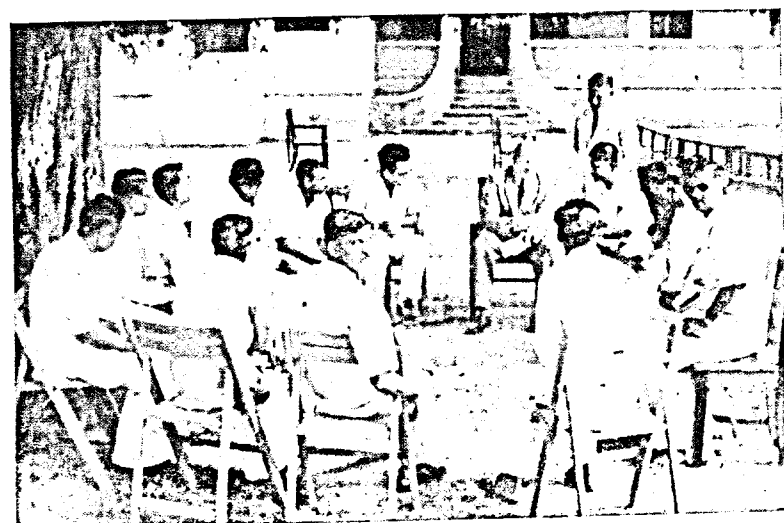
8 Mme Furtseva at Mahabali-puram





BRITISH MINISTER IN THE CITY

The British Minister of State for Commonwealth Relations, Mr. C. J. M. Alport, was on a visit to the City of Madras from January 8th to January 10th. He is seen with the Chief Minister, the Governor and the Minister for Industries at the dinner given in his honour by the Governor



Mr. Alport visited the Training Centre at Pallavaram for the Madras English Language Teaching Campaign conducted by the Education Department. He is seen discussing problems connected with the teaching of English with the Trainees



*Mr. Alport with Sri C. Subramaniam,
Minister for Finance*

To them the privilege of dancing in the temples was an opportunity to offer their art to the Supreme. In this they had no other motive. Society is more responsible than the Devadasi for the corruption that nearly destroyed the art.

Dance dramas also developed out of the Bharathanatya tradition, using the Bharatanatya technique. Some of them, as in Tanjore and Kuchupudi, were performed in temples by men dancers of the priestly class, who were called Bhagavathars. On this account they came to be called Bhagavatha Mela Natakas. The Tanjore group of these plays that have come down to us were written by Venkatarama Sastri of Melattur, who lived in the late 18th and early 19th centuries. The Kuchupudi dramas were composed by Siddhendra Yogi in the 17th or 18th century.

The Kuravanjis were performed in temple by the Devadasis. All Kuravanjis are alike in subject matter and portray the human soul, represented by the heroine, in search of God. The oldest and best of the Kuravanjis now available was written by Rajappa Kavirayar in

Kutralam in the 18th century. The only Kuravanji still performed in a temple is the Sarabhoji Kuravanji in praise of Maharaja Sarabhoji of Tanjore. This is still performed in the Tanjore temple.

THE KATHAKALI

In Kerala, the Kathakali is developed. Though the Kathakali has its affiliation to Bharathanatya, it must have been derived from some local dance form on which Bharata's rules were imposed. Kathakali is rich in the kinds of Abhinaya. It is more a play than a dance.

During recent times, South India has made a great impact upon the whole of the country, particularly in the art of the dance. Even our music which is more difficult of appreciation is slowly being heard and liked in different parts of India. It must also be known that there is a far larger audience for classical South Indian music in the South than for classical North Indian music in the North. The attitude which made North Indians feel that the teaching of music to girls was something to be ashamed of



A scene from a Kathakali performance. As the author says, it is more a play than a dance.

is partly responsible for the deterioration of musical taste in the North. Both in the North and in the South the devotional aspect of music has always been its strongest point and unless the vast majority of women learn and appreciate the art, the home becomes an empty shell devoid of culture.

FOREIGN INFLUENCE

I have always felt that the difference between the North and the South Indian styles in music came into existence solely due to the influence of the different invasions. The Muslim influence has been most potent in the North. Being highly sensitive to art and mystical in temperament, the Muslims enriched themselves and India by their contact. Many of the greatest musicians of the North have been Muslims, but it is obvious that their music was great because Indian music was great and Indian music was Hindu. The music in other Muslim countries has neither the greatness of Indian music nor as much variety and richness. Just as all dance has its origin in Bharata's Natya Sastra, though branching out into different styles known as Kathakali, Manipuri, Kathak, etc., all Indian music had a common origin. The variety has come in the blending of local influences with the original art. South has been more untouched by all these influences and one can therefore assume that it is more ancient and truly Indian. I am quite sure that the music and dance of Orissa in the past was far more truly South Indian than North Indian. The art forms of Orissa and Andhra must have had very much in common. Curiously enough in the ancient days those who went from Orissa and colonised parts of South East Asia have influenced art there to such an extent that not only is the

dance of South East Asia obviously Indian but South Indian in origin as can be seen today by those who go to Cambodia and other countries.

MUSIC AND RELIGION

The important thing is that the art should live. But neither music nor dance will live anywhere unless that which gave them life lives. Indian music and dance are all bound to become conventional, monotonous and out of date if they are merely to be demonstrated through skill and intellectual ability. The one quality which has unified the whole of India has been that of bhakti or devotion. Even the Muslim musicians, whose forefathers were Hindus converted to Islam, while they influenced the music by their rich voices and mysticism, never took the music away from religion. Krishna, therefore, was a universal God adopted equally by the Muslims. One might almost say that Krishna united the religions not only by His divine flute-playing but by His very name.

Indians are a race full of devotion and their love was poured out in music and dance and when dance descended to the level of the courtesans it died. Now we must ask "Will it descend to the level of the money market and cheap exhibitionism?" • Only dedication, self-forgetfulness is the key to creativeness, neither intellect alone nor money. In the musical world I see a ray of light in the South for the religious spirit still lives there more deeply. In the dance world, there is a great danger. In the long run I know if music lives all the Arts will live, for it is the essence and soul of every form of art.

(Courtesy A.I.R.)

Outbreak of Horse Sickness

It has been reported by Government of India, Ministry of Food and Agriculture, New Delhi, that a widespread epidemic in horses suspected to be African Horse Sickness has broken out in West Pakistan. Over 4,500 animals are reported to have died in the affected districts of Peshawar, D.I. Khan and Quetta Division, etc., and that the spread of the disease has not so far been checked effectively.

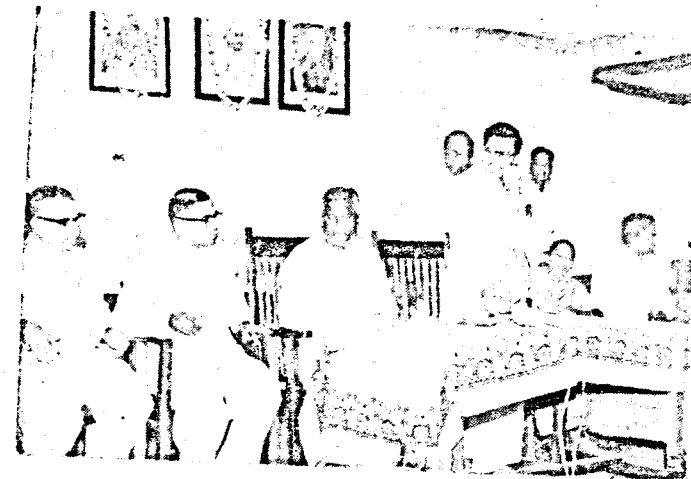
The African Horse Sickness is a highly infectious virus disease affecting horses, ponies, donkeys and mules and is highly fatal. Affected animals exhibit intermittent fever distressed breathing and other pneumonia symptoms and later resulting in death due to oedema of the lungs or cardiac failure.

With a view to check the possible spread of the disease in Madras State, the owners of horses, ponies, donkeys and mules are hereby requested to bring to the notice of the nearest Veterinary Surgeon immediately both in the City as well as in the districts any suspicious case of this disease among the class of animals mentioned above.

The Animal Husbandry Department, Madras, is taking all precautionary measures against any possible incidence of the disease in the State.

The import of horses, asses and mules from Pakistan, Afghanistan and Goa has been banned but as a measure of abundant precaution the above protective measures are suggested.

Rest House at Madurai



The foundation stone for a Rest House for the Low Income group at Madurai was laid by Sri C. Subramaniam, Minister for Finance, on January 27, 1960.

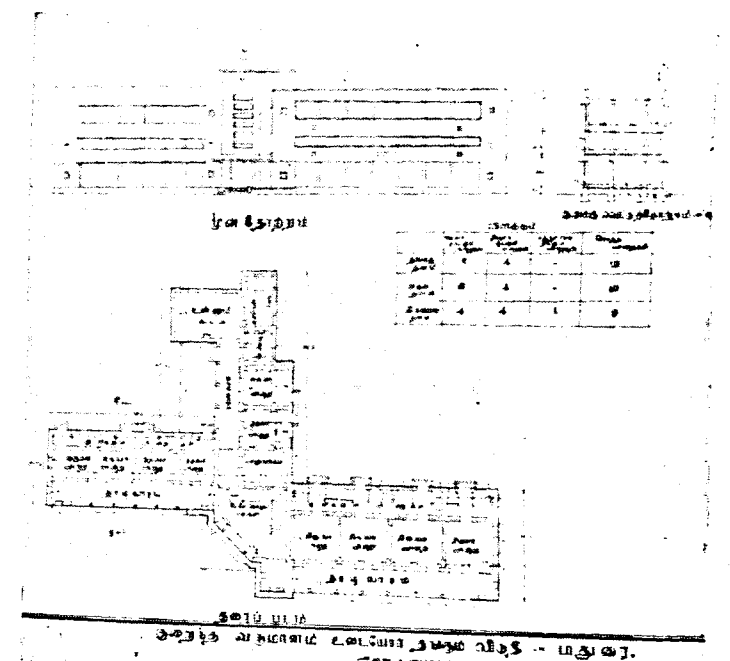
Madurai, the Temple City, attracts tourists and pilgrims throughout the year. Everyday, a few groups of tourists arrive at the city by bus and train. But like any other city, lodging facilities at cheap rates are not readily available here. In order to give such facilities to the low income group and also to promote internal tourism, the Government are building rest houses at Madurai and Tiruchirappalli.

On January 27, 1960, the foundation stone for the rest house at Madurai was laid by the State Finance Minister, Sri C. Subramaniam.

This three-storey building will have twelve double rooms, sixteen single rooms and one dormitory with ten beds besides a common hall, kitchen, dining room, stores and

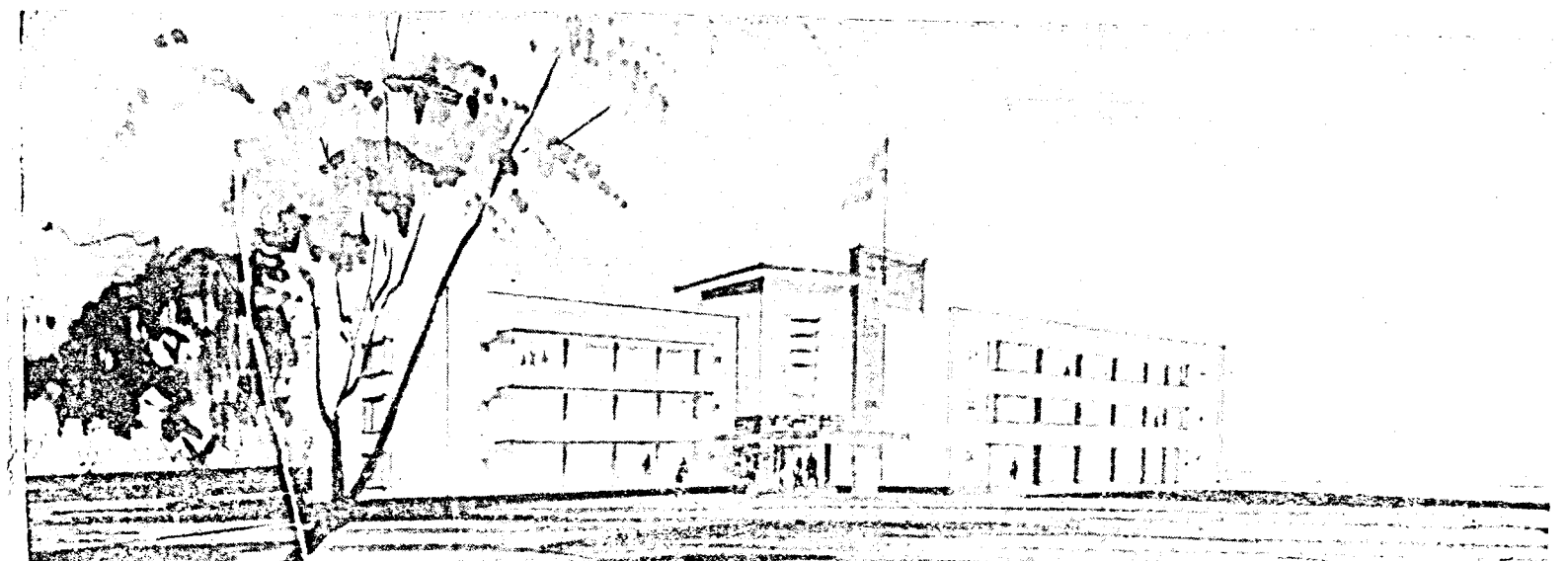
sanitary annexes. It is expected to provide residential accommodation for fifty tourists. The building which is expected to be completed by October 1960 will roughly cost Rs. 2,50,000.

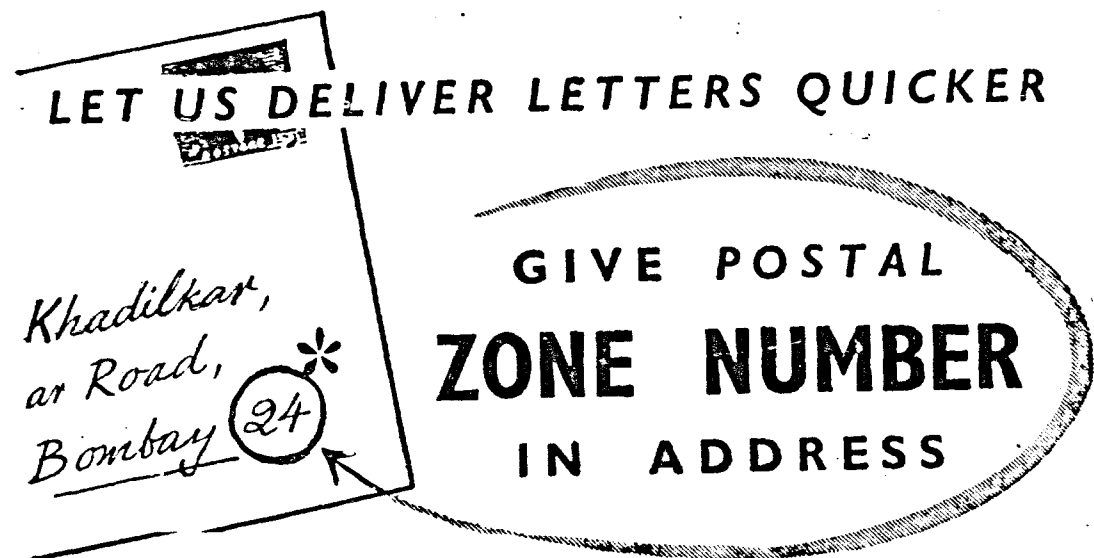
Maximum use has been made of the available space in a central locality in the Madurai City to provide residential accommodation for tourists. The Government of India have agreed to bear 50 per cent of the cost of construction, subject to a maximum of Rs. 1,25,000. The allotment of accommodation in the rest house is proposed to be made on the principle of "first come—first served" subject to the approval of Government.



Ground plan of the rest house

The front elevation





Most large towns have been divided into postal delivery zones.

By decentralising detailed sorting and reducing the distance to be covered by a postman before he starts his beat, the zonal system seeks to speed up the delivery of mail.

Postal articles carrying 'zone number' in the address are sent directly to the delivery post office serving that area.

Absence of this number reduces the speed of sorting and increases the chances of delay. If you live in a town divided into postal zones, tell your correspondents to add the zone number to your address.



HELP US SERVE YOU BETTER

POSTS & TELEGRAPHS DEPARTMENT

DA 59/348

Fallow Estuaries and Backwaters

V. D. SPURGEON, Deputy Director of Fisheries (Marine).

"Water, water, everywhere but not a drop to drink!" This is how the poet once described salt water seas. No doubt the seas are extensive sheets of water covering thousands of square miles or to be more precise two-thirds of the earth's surface. Sea water, people may say, is after all a huge waste. Their plea is that it is unfit for drinking and useless for irrigation of crops. But, nobody can afford to forget that it is the sea water that supplies salt to life—a thing that is vital to us. These water masses some times encroach upon the land mass and form shallow water stretches. They enter the land where there is a river mouth, where there is a cleft in the coast or where the lands are low lying. Such shallow inland extensions of the sea are collectively called as estuaries and backwaters—estuaries where the extensions adjoin the river mouths and backwaters where the extensions are in the form of creeks and lagoons.

Along the 620 miles long coast-line of Madras State starting from Chingleput district down to Kanyakumari there are rivers—big and small—emptying their waters into the Bay of Bengal. Among these some are important like the Cauvery, the Vaigai and the Tamiraparani. Rivers like the Kurataliar, the Palar, the South Pennar, the Gadilam and the Gingy are small and less important.

FISHES ABOUND

The estuaries of the Cauvery, the Vaigai, the Vellar and the Tamiraparani remain permanently connected to the sea while the estuaries of the rest only during certain months of the year. No matter whether they are permanently connected to the sea or temporarily, they abound in fish-life, which are of considerable food value. The important varieties of fish that are common in our estuaries are Pearl spot (Sethakendai—Tamil), Mulllets (Madavai—Tamil), Milk fish (Palkendai—Tamil), Bekti (Koduva—Tamil), Ox-eyed herring (Moran kendai—Tamil).

Besides fish, the other kinds of food that are available in the sea waters are the shell fishes, like oysters, and crustaceans like prawns and crabs. They owe their name to the hard shell like outer covering in which their soft bodies are protected. They are liked very much as delicacies.

IN THE BACKWATERS

In addition to several estuaries, Madras State is fortunate enough to have a good number of backwaters along its coast line. Some of them are small, and some of them are big, but all of them are potential sources of prawn crabs and fish.

As the aim of this article is only to describe to lay men about backwaters and estuaries and their importance in a short and simple manner, no attempt is made here to go into scientific details. The following are the most important salt water expanses in and around Madras City: Pulicat backwater, Ennore backwater, Adyar estuary, Covelong backwater and Cooum estuary.

The Pulicat backwater has an area of 178 square miles and lies in the northernmost end of the Chingleput district. Of all the backwaters of the Madras State this is the biggest. Mullet, Milk-fish, and Bekti are seen in myriads in this lake. Its prawn wealth is well known. Baskets of small white prawns that we see in Madras markets are only from Pulicat. Pulicat is dearly known as "Pazha-verkad" among fisher-folk.

The Ennore backwater is the river mouth of Kurataliar river and is about 12 miles north of Madras. Prawns are obtained in great numbers here.

ADYAR ESTUARY

In the southern region of the Madras City lies the Adyar estuary. It is the river mouth of Adyar, which flows from Kancheepuram taluk to Madras City via Saidapet. Its area is about 40 acres. Mulllets and prawns are predominant here.

The Covelong backwater is situated about eleven miles south of Madras. What is "Kovalam" in Tamil, is written as "Covelong" in English. This is fairly an extensive water-stretch with salt pans around. Prawns are abundant here.

The Cooum is an uncared for river flowing through the heart of the city with no scope for fishing and boating.

Many are the estuaries and backwaters in and around our metropolis but so little is what we do or attempt to do to make the best use of these waters. Except providing baskets of fishes, one may wonder in what other ways these waters can be of use? Barring very small ones, every other backwater or estuary can be made into a veritable source of fun and food for people around.

AS SOURCES OF FOOD

The uses of estuaries and backwaters are manifold. Firstly they supply food. Secondly they provide recreation. Thirdly they offer materials for biologists for study and research. Also they are means of communication. Cargo moves in big crafts through backwaters, estuaries and the Buckingham canal from Nagapattinam upto Pulicat and even beyond. Again estuaries and backwaters help the easy manufacture of salt. Besides, they yield dead "matti" shells for lime production.

At no time in our history was there such an urgent need as at present to increase the contribution of fisheries to our food supplies. In a situation like this, no stone can be left unturned, in our drive for increasing the food production—vegetable and animal. Just as we want to make every bit of land productive and cultivable, we must also make every piece of water productive. Estuaries and backwaters naturally harbour in them various forms of edible aquatic life. Many of these waters are virgin as their resources have hitherto remained untapped. Haphazard way of taking out the edible kinds will only result in gradual depletion and their ultimate extinction. So they should be fished out carefully and wisely. Conservation and development should go hand in hand with exploitation. Many sea fishes ascend estuaries for feeding, breeding and shelter. Both young ones and breeders are found in estuaries and backwaters. Breeders must be left undisturbed for breeding. Every young one should be given a chance to grow. If we fail to do these we will be faced with a depletion. Hence an effective control over the fishery is necessary to ensure a perpetual and sure fish supply for the ever-growing population of our city. Control can be effected by forming and implementing suitable legislation. Indiscriminate fishing can be kept under check by licensing the fishing rights. Such controls are already in vogue in some backwaters and estuaries and they can be extended to the rest.

BREEDING SPOTS

Backwaters and estuaries can be made more productive by controlled and systematic cultural operations. They are rich in biota which form food of fish. Further they serve as breeding spots for many sea fishes and so they get naturally stocked with infant fishes called fingerlings. What is required is only a scientific way of doing things. As far as possible, young ones can be allowed to grow under natural conditions in estuaries and backwaters. But where there are dangers of predatory fishes, water getting dried up during summer, young ones being washed away by the floods, they can be collected and grown in the protected tanks of the fish farm. In the Madras State Fisheries Department, a scheme is being implemented under the Second Five-Year Plan for establishing a model estuarine fish farm at Adyar estuary with an outlay of Rs. 3 lakhs. When this is completed there will be a series of breeding ponds, nurseries, growth tanks and marketing ponds—all covering a total water area of 35 acres. A research laboratory also is to be attached to this farm. This kind of cultural operations can be gradually extended to other estuaries and backwaters.

When every piece of estuary or backwater is conserved and developed when cultural operations are introduced wherever possible, and when exploitation is done judiciously, there need not be any doubt in getting a regular supply of fish and fisheries products from these waters.

Tamil Development

The Committee for Epigraphical and Archaeological Study and Co-ordinated Tamil Development has resolved to co-opt the following persons to the said Committee.—

The Controller of Stationery and Printing, Madras (or his nominee); and
Sri K. K. Pillai, Professor of History, University of Madras, Madras-5.

The Government have accepted the proposal of the Committee for the co-option of the above members.

RECREATIONAL VALUE

Nothing is so refreshing as a holiday on a river bank or a sea shore or a hill. Ever increasing crowds in the city and the consequent congestion, and the hurry of urban life, monotonous official routine—all these make picnic a desideratum for developing healthy mind and sound body. At no time before, were men and women so picnic-conscious as they are at present. The number of holiday makers is on the increase. But unfortunately there is no corresponding increase in the number of healthy spots around the city. Suitable picnic centre and holiday resorts in the immediate vicinity of the city are precious little. Estuaries and backwaters are restful spots for jaded nerves and over-taxed body. But unless certain conveniences are made available in these spots, they cannot become popular.

A good motorable road connecting the spot with the nearest main road, well furnished rest houses, drinking water, electricity, a few boats for rowing, etc.—all these will make estuaries and backwaters attractive week-end resorts.

SOURCE OF KNOWLEDGE

What is "gold mine" to a materialist are the estuaries and backwater to a biologist. Fauna and flora—big and small abound in these waters. Nothing will be more pleasing for a biologist than to live near an estuary or a backwater in a well-lit breezy room equipped with a set of reference books, glass trays and dishes, microscope and other equipments. He can work there slowly and steadily travelling the mysteries of aquatic life. Just as a miner digs gold out of a gold mine, the biologist can dig the estuarine and backwater mines and make available more and more information of the varied aquatic life they contain. With this in view new fisheries biological research stations have been established at Ennore and Adyar. Besides throwing light on the biological mysteries, these stations can also collect and supply rare kinds of aquatic fauna and flora to schools, colleges and public museums for dissemination of scientific knowledge. I recall how on a lovely morn the Ennore backwater near the bar was sparkling with *Ctenophores*, *Porita*, *Vellela* and other rare and wonderful *coelenterates*. The Ennore Biological Supply Station has already made a name as a number one supply station in India.

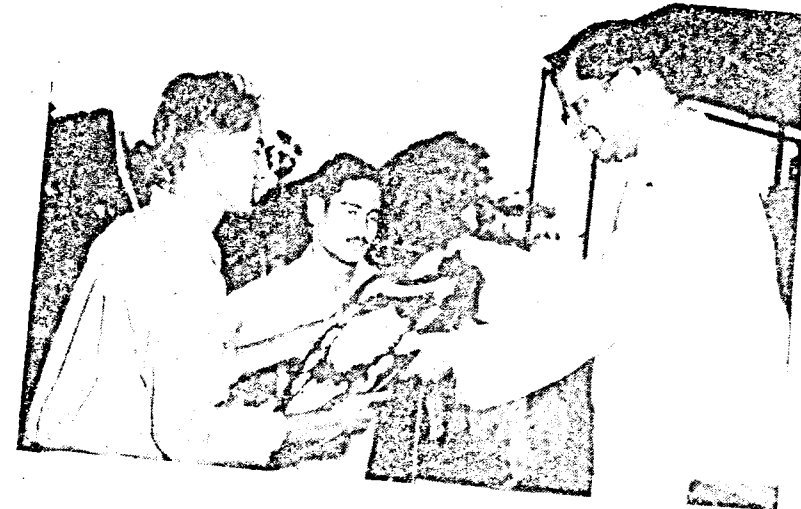
So if it is said that estuaries and backwaters are not merely barren sheets of water but they are the veritable sources of fun, food and knowledge, it is no exaggeration at all.

Madras City which has already earned a name for her Marina, garden houses, well laid roads, good climate, etc., can ere long add to her list of beauty spots the backwaters and estuaries also.

32

REPUBLIC DAY SPORTS

Republic-Day Sports and games were held at the Presidency College grounds on January 22nd and 23rd in which all the schools in the City took part. Sri C. Subramaniam, Minister for Finance and Education is seen distributing prize to a winner.



Shot put throw by one of the girls.



Another winner getting a prize from the Minister.

Certain Aspects of Mental Disease

DR. T. GEORGE, M.B.B.S., D.P.M. (Eng.) F.I.P.S., Superintendent, Govt. Mental Hospital, Madras.

It is a general observation that mental illness everywhere in the world is on the increase. This is because of the increasing tempo of life and unsettled social conditions and the increasing stress and strain of life. No reliable or accurate figures for the incidence of mental disease in India are available, but a very rough estimate is that two per thousand of our population are mentally unsound. In addition to this figure we have about a line cases of epileptics, mental defectives, drug addicts, criminals and other social misfits. Thus the total number of people who require psychiatric help in India goes into several millions. When we realise that mental suffering is the worst form of suffering one has to endure, a suffering to the patient and untold anxiety to the relations, one can understand the magnitude of the problem before us.

Mental disease is manifested in various ways, like unexplained feeling of sadness, or feeling of undue fatigue, over-sensitiveness, lack of mental concentration, unreasonable suspicion, poor memory, sleeplessness, undue happiness, excessive day dreaming, etc.

There are certain misconceptions among the general public regarding the cause of mental disease. A common belief is that it is due to possession by the devil, or due to witch-craft, or the evil eye. What these mean no one seems to know clearly, and it would not have mattered much either but for the fact that the early days of the illness are wasted in the performance of some unscientific meaningless rituals and the disease is made chronic.

WHAT CAUSES THE DISORDER

Psychiatry teaches that mental disorder is a disorder of the mind, and since the brain is the seat of the mind, mental disorder is caused by disease or defect of the brain, or due to certain experiences of the mind. Disease of the brain may be caused by infection, injury, poison, metabolic errors, vascular disease, vitamin deficiency, brain tumor, etc. In all cases of mental disease such obvious causes may not be evident. In them however, there is often a history of some cause such as continued domestic unhappiness, financial loss, death of near and dear ones, or some painful, shameful or frightening experience. The resultant anxiety, worry, depression, sleeplessness, suspicion, guilty feeling or other emotional reaction may overwhelm the individual's capacity for proper thinking and correct judgment, resulting in mental disorder. Mental defect, as apart from mental disease, is a condition of lack of development of the mind and such individuals lack common sense and are incapable of ordinary intelligent actions. There are all grades of this lack of intelligence, ranging from rank idiocy to educational subnormality. We do not know the exact cause of this condition in every case. But it may be due to lack of certain hormones like the thyroid, due to parental syphilitic infection, epilepsy, etc. If

these cases are treated sufficiently early they have every chance of improvement.

If any patient has suffered at the hands of his fellow beings it is the poor mental patient. While the ordinary man is all kindness and sympathy towards a sufferer from physical illness, he is usually cruel and vengeful when he deals with a mental patient. This cruelty is due to the beliefs and fancies of the people in the neighbourhood, who give their advice loudly and freely. The devil had to be exercised, magic met by counter magic, the effects of the evil eye removed and good luck brought by the talisman. The horrid days of chaining the patient to a tree for the sun and rain to take care of him, of beating and branding, of the administration of decoctions of reptiles and serpents, etc., are fortunately over, at least in cities. Gone also are the days of "Duck baths", surprise baths, padded cells, and strait jackets in mental hospitals. Psychiatry has made rapid strides in the last two or three decades in the methods of treatment. Therapeutic measures include the use of Sedatives, tranquilisers, hormones, insulin coma therapy, electro-shock therapy, psychotherapy, occupational therapy, etc. The earlier the treatment is commenced the better the prognosis.

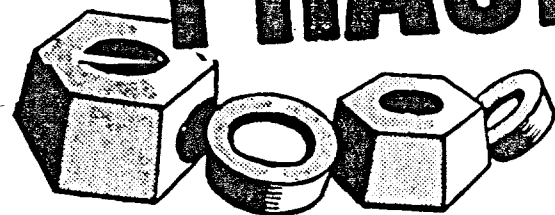
The burden of caring for the mentally afflicted should not be left to the Government alone. It will be a great relief to Government if charitable bodies come forward and establish care homes for the harmless recovered patients who have no place to go to, and who now occupy the much needed beds in Government Institutions.

ERRONEOUS BELIEF

There is a fairly widespread belief among the lay public that marriage cures mental disease. Nothing can be farther from the truth than this most erroneous belief. Marriage does not cure any mental disease. In fact the responsibilities of married life are too great a burden for the mentally unstable to shoulder. The necessity to leave one's parental home and of having to live with new people, lack of adjustability to live amicably with the in-laws, the requirements of a satisfactory sex life, child birth, etc. can be potent precipitating factors for mental breakdown in predisposed women.

The attitude of the Society to the mentally afflicted is even to-day far from what may be called correct. Society shuns them, ridicules them, looks down upon them, is afraid of them. On the other hand a little more show of kindness and sympathy towards such patients and a little more desire to know the true nature of the disease by the public will be helpful to the patient, his family, the society at large, and the nation as a whole.

SECOND PHASE



On October 1, 1958, Metric weights were introduced in selected areas and regulated use in all States and Union Territories with a two-year time-limit for complete change-over.

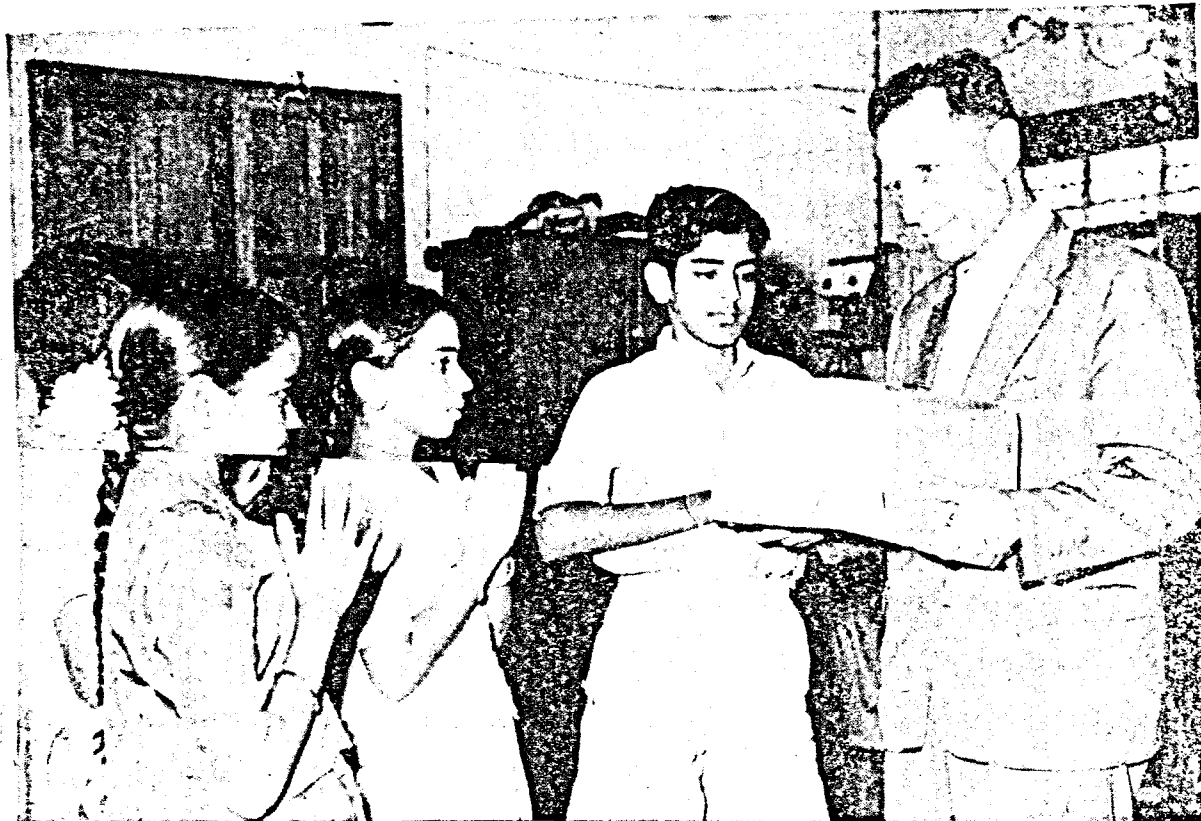
THIS TWO-YEAR PERIOD WILL END ON SEPTEMBER 30, 1960, AFTER WHICH USE OF METRIC WEIGHTS WILL BE COMPULSORY IN THESE AREAS.

Plans are under way to launch the second phase of the reform and extend the use of Metric weights to the remaining areas in the country. Already Metric weights have been introduced in the whole of Kerala. Other States will follow suit soon.

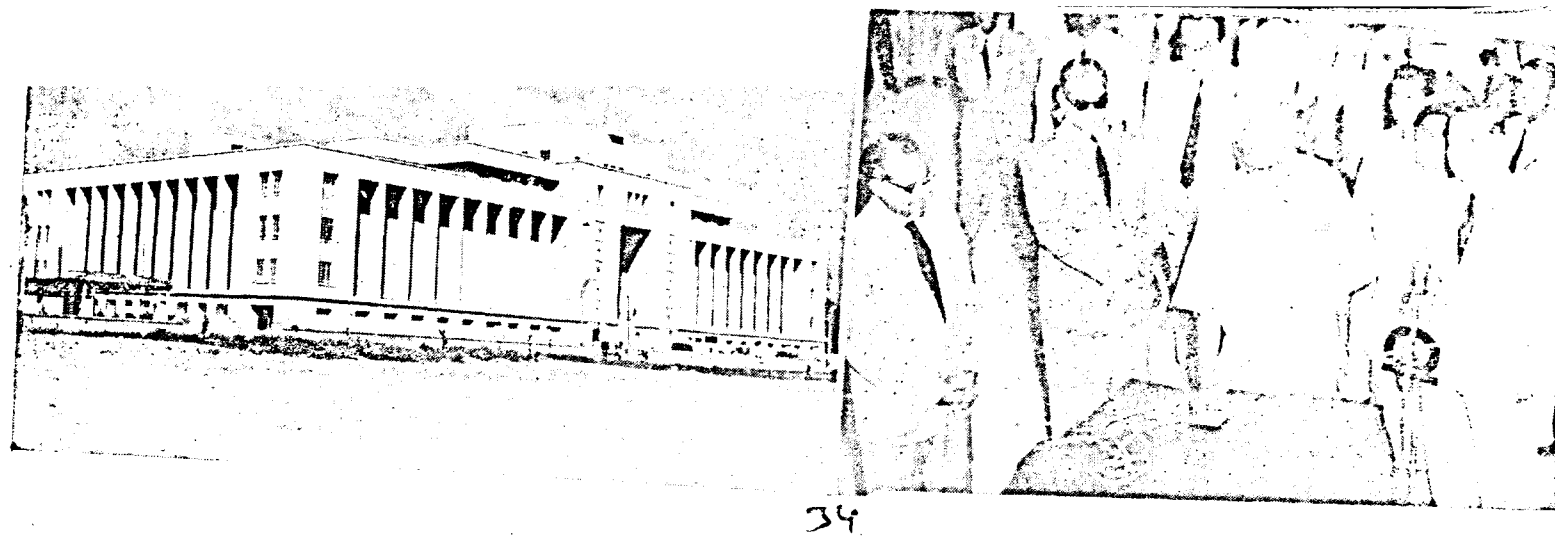
CHANGE TO | **METRIC SYSTEM**

FOR SIMPLICITY & UNIFORMITY
ISSUED BY GOVERNMENT OF INDIA

MA 59/541



Dr. Klammer, a writer from West Germany, presents to the Children's Garden School at Myslapore, a slide projector the gift from a school parliament of Mannheim, West Germany. The photo above shows Dr. Menhert presenting the slide projector to the children of the school and the photo below shows two girl students of the school dressed as fortune tellers, reading the palm of Dr. Menhert.



Reserve Bank's New Building

The new four-storeyed building of the Reserve Bank of India, built at a cost of nearly Rs. 93 lakhs on the South Beach Road near the High Court level-crossing was formally declared open by the Madras Chief Minister, Sri K. Kamaraj on 25th January 1960.

The imposing building with its 300 feet-wide facade facing the sea, has been constructed on a plinth area of 65,000 square feet on a four-acre site. Colonnades on three sides of the building which add grace and dignity to the structure are claimed to have the effect of shading the window panes to let glare-free light into the office.

A 37 foot high artistically engraved copper-faced door atop a flight of steps in the main entrance leads one directly into the first floor—the Banking Hall which has the public counters, the Clearing House, and some other departments.

The total floor area in the building is said to be 2 lakhs square feet and they will house all the departments of the Reserve Bank with its staff numbering 1,100. Till recently, the various departments of the Reserve Bank in Madras were located in different parts of the City. These will all now be located under one roof.

AMENITIES TO STAFF

Special attention has been given for provision of amenities to the staff and in the ground floor an area of nearly 10,000 square feet has been set apart for dispensary, staff canteen, recreation club, spacious tiffin rooms, staff Association and Union rooms. Besides this, a separate servants' quarters has also been built in the rear portion of the compound with accommodation for fourteen servants.

The entire building, which is supported by 708 franki piles, is air-conditioned and has five lifts; three of these are high speed gearless type lifts for passengers and two for lifting bullion.

The air-conditioning plant is located in the ground-floor of the building.

On the first or main floor is the Public Space and counters which are faced in terrazzo; the Clearing House, Public Accounts Department, Deposit Accounts Department, Securities Department and note examination sections, the Treasurer's Department and Day-to-Day strong vaults.

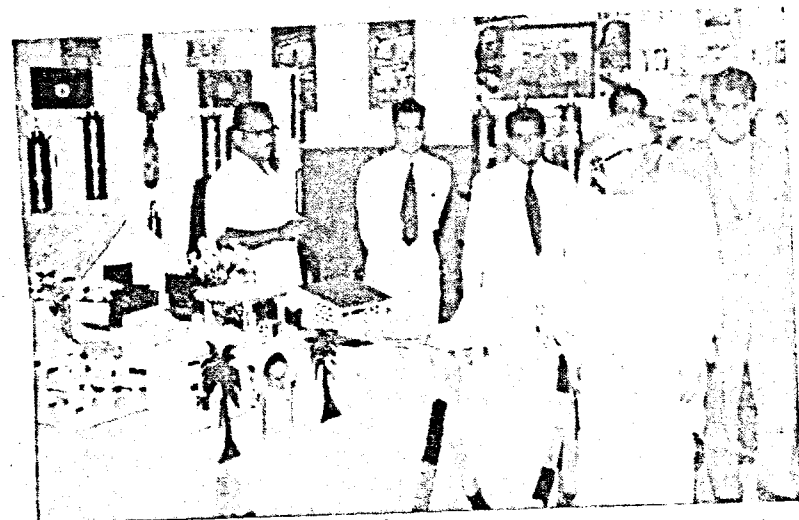
The second floor has the offices of the Manager, Currency Officer, Public Debt Office and Exchange Control Departments. This floor has been so designed that from here one has a beautiful view of the entire banking hall on the first floor. A suite of offices for the Governor, Deputy Governor and Central Office, with a Board Room, is provided on the third floor. The Department of Banking operations and the Agricultural Departments are also accommodated in this floor. In the fourth there is a flat for the Manager and a suite of rooms for visiting officials of the Bank.

On the fourth floor, only the portion over the main entrance is built comprising a flat for the Manager and a suite of rooms for visiting officials of the Bank. Suitable living accommodation is also provided for the caretaker on the rear of the floor.

The ground floor has the strong vaults surrounded by a safety patrol corridor with ample area for lorries to enter under control of double gates and load and unload. It is stated the cash vaults occupy about 16,000 square feet of area.

With the roofs of all the floors insulated with thermolite-crete, with water proofing and a wearing surface by cement tiles, the interior of the building presents an aesthetic atmosphere. The large interior banking hall is lit by clerestory windows.

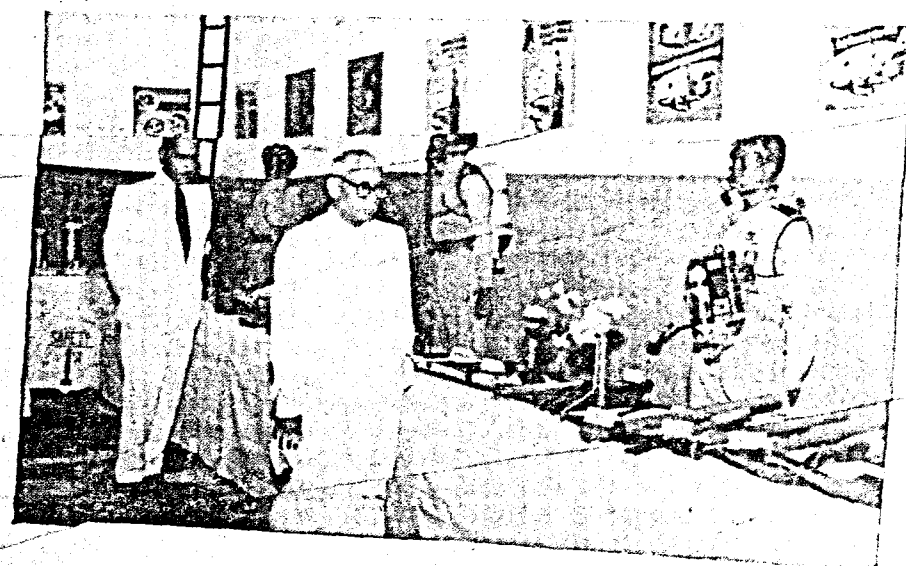
The total height of the building is about 85 feet and one can have a panoramic view of the sea and the Marina from the top floor.



FIRE PREVENTION WEEK

The Fire Prevention Week was observed throughout India from 8th February 1960. In Madras, the celebrations were presided over by Sri. M. Bakthavatsalam, Minister for Home, on 8th February 1960, when an exhibition, showing fire hazards and how to prevent them was also organised.

A large number of people visited the exhibition. Photo shows the gas mask being demonstrated by two members of the Fire Service.



The Minister is seen going round the exhibition.

Domestic Fuel Consumption in India

More than four-fifth of the population in India is rural and the people living in villages depend upon firewood, cattle dung and agricultural and other plant wastes for fuel. These materials are generally obtained free of cost from all possible local sources according to the needs of the user and it is well nigh impossible to arrive at precise estimates of the consumption of different types of fuels without the aid of a properly planned and comprehensive survey. No such overall survey, for all types of fuels, for the whole country has so far been undertaken in the country and no direct data are available for certain types of fuels.

For the purpose of an unofficial survey given below, scattered information dealing with domestic fuels has been collected by a former technical officer of Government of India from various sources. After examining it in the light of the local conditions, estimates of consumption have been formed for the whole country.

The estimates are derived values and are based on the population figures for 1954-55; the energy consumption for illumination purposes has not been taken into consideration and the domestic heating and cooking requirements are the main items covered.

The total domestic consumption of fuels in India is estimated at 82.24 million tons in air-dry firewood equivalent, about 78 per cent of which is consumed in rural areas and 22 per cent in the urban areas.

Of the total quantity of fuel consumed, cattle dung contributes 49.6 per cent, firewood and charcoal 38.7 per cent, plant waste 8.5 per cent, soft coke 2.7 per cent kerosene 0.4 per cent and electricity 0.1 per cent.

The total quantity of cattle dung (green) produced in the country is 1,036 million tons and the quantity available for use is 697 million tons of which 300 million tons are dried and burnt as fuel.

Domestic fuel consumption in the rural and the urban areas in India is different both in quality and kind, and the quantity of fuel used in a rural household is less than that in an urban household.

The choice of the domestic fuels in the villages is governed mainly by two considerations. The first is the traditional disinclination of a villager to buy fuel. Secondly, the transport of fuels in rural areas is difficult due to poorly developed roads and other transport facilities and the little demand at any one place.

Researches at the Regional Research Laboratory, Hyderabad, and the Central Fuel Research Institute, Jealgora, have established the commercial feasibility of producing smokeless fuel from coals at economic prices.

Domestic coke is being produced at Hyderabad in a 25 ton-a-day pilot plant and it has found ready consumer acceptance. The plant in operation at Jealgora yields domestic coke from all types of coal. These are important developments.

If commercial production of soft coke and smokeless fuel is established and sustained efforts are made to popularise their use, the consumption of firewood and cattle dung can be greatly reduced. Serious consideration is being given to production of domestic coke in the country in the Third Five-Year Plan.



Dr. J. C. Kumarappa, the noted Gandhian Economist, passed away on 30th January 1960 at Madras. Dr. Kumarappa, who was 69, was ailing for some time and the end came quite suddenly on the same day Mahatma Gandhi passed away.



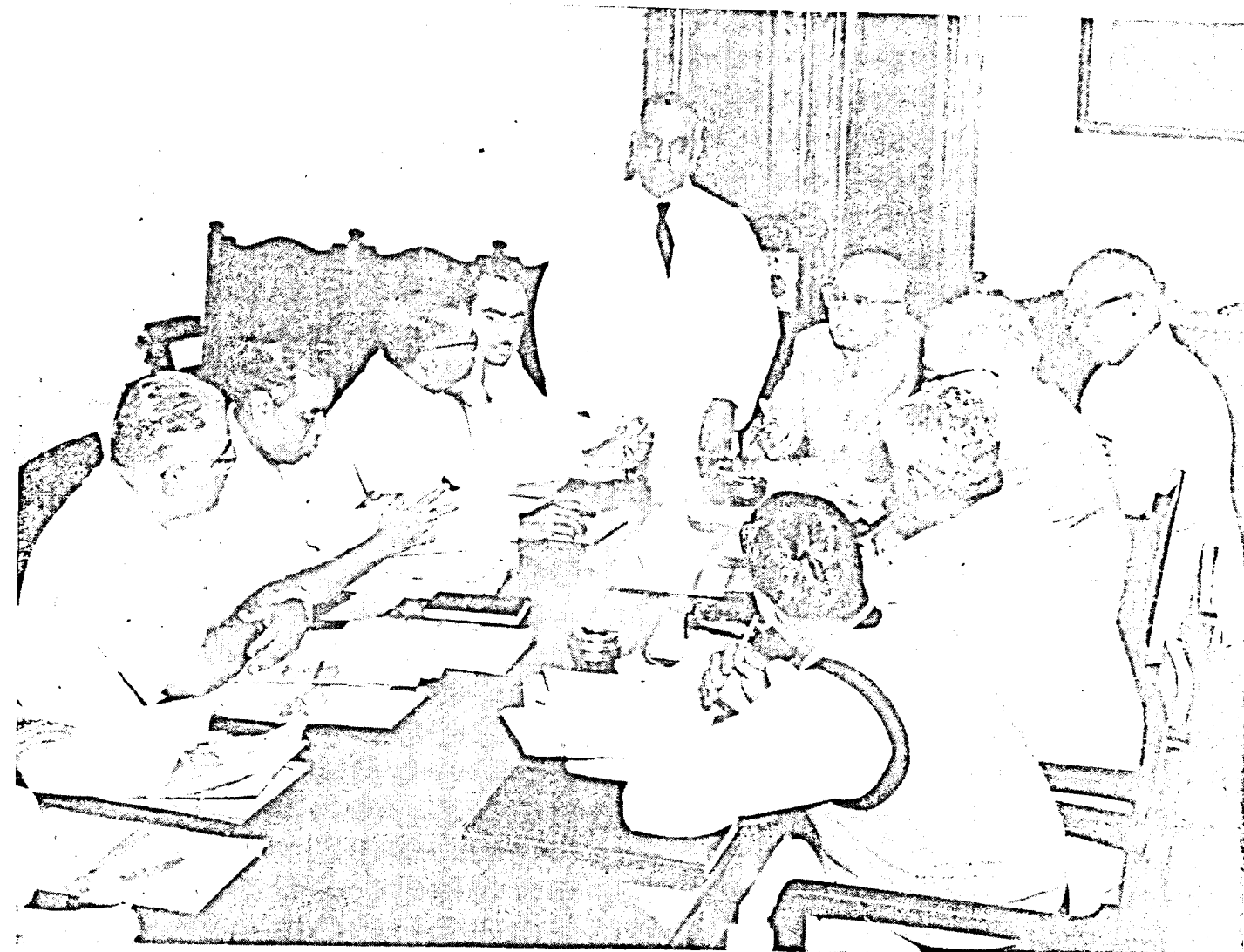
FOREIGN DELEGATIONS IN THE CITY

A delegation of Judges and Lawyers from the U.S.S.R., in the course of their visit to the City, called on the members of the Madras Bar Council on 12th January, 1960. Photo shows the leader of the delegation addressing the Bar Council.

A Parliamentary Delegation from Nepal visited Madras on 2nd and 3rd January 1960, in the course of its tour of India. Photo shows the delegation with Dr. U. Krishna Rao, Speaker, Madras Legislative Assembly and Smt. Lourdhammal Simon, Minister for Local Administration.

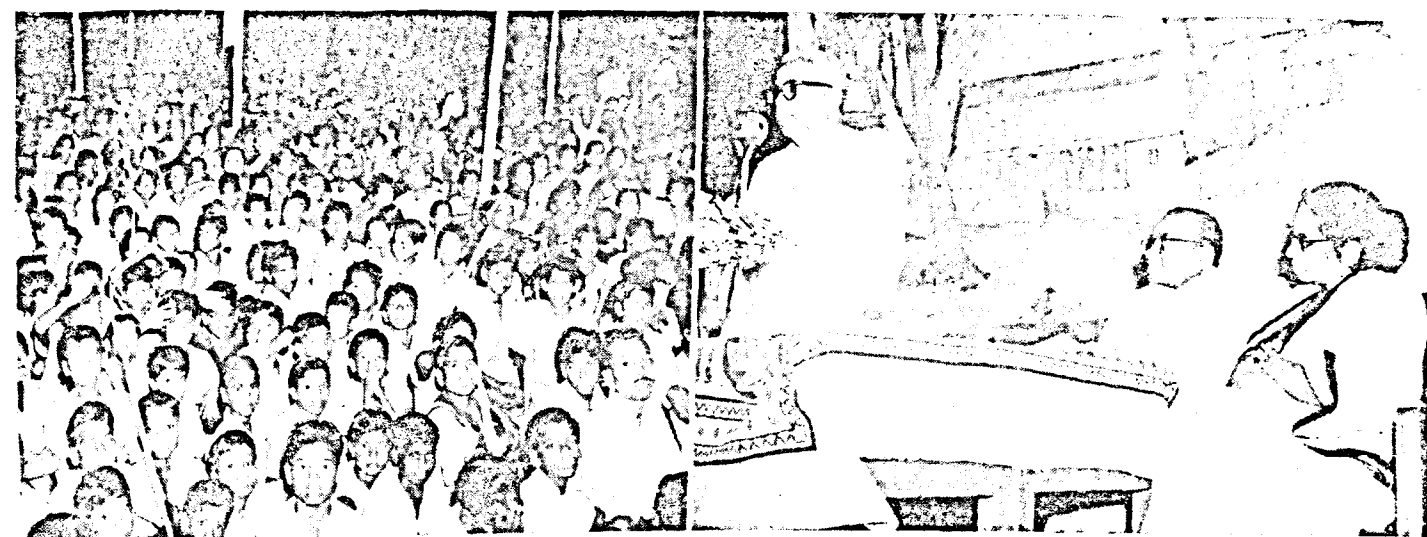


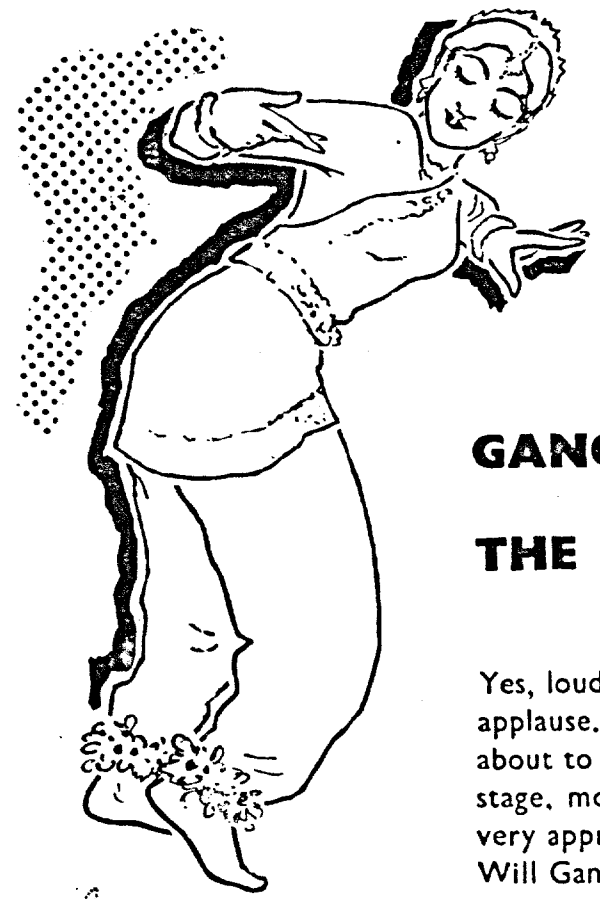
A group of farmers from the U.S.A. visited Madras in the course of their tour of India. Photo shows the American farmers with Sri M. Bakthavatsalam, Minister for Home and Agriculture, when they called on him on 23rd January 1960.



The Fertiliser Distribution Enquiry Committee met at the Committee Room, Fort. St. George, on 4th January 1960.

The Plan Publicity Week was celebrated at Kancheepuram on 25th January 1960. Sri M. Bakthavatsalam, Minister for Home, presided over the function.

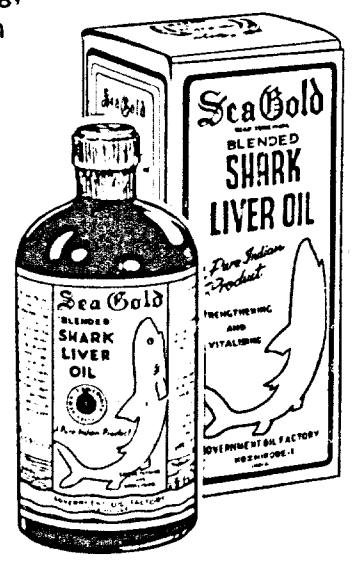




GANGA GETS THE APPLAUSE...

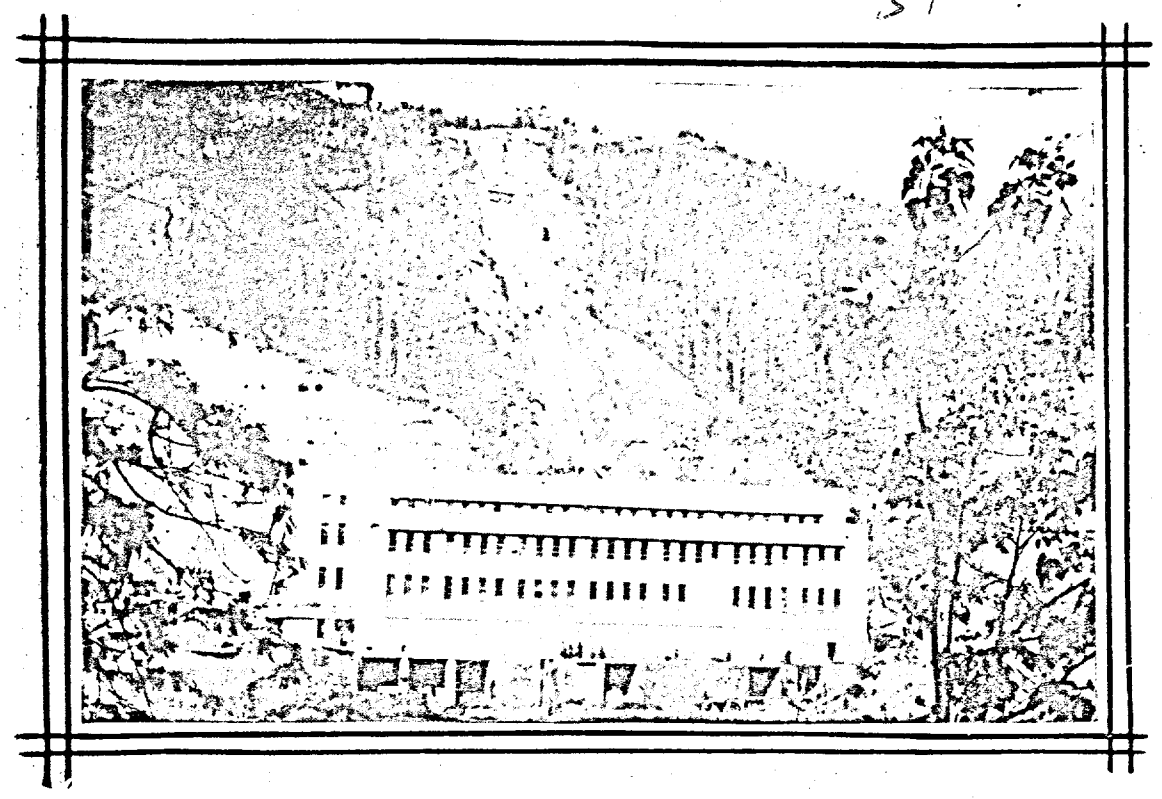
Yes, loud & continuous
applause. When she was
about to enter the
stage, mother was however,
very apprehensive.
Will Ganga also swoon from
weakness as did the
neighbour's daughter the
other day? Father brushed
her fears aside saying,
she is brought up on

SeaGold BLENDED SHARK LIVER OIL

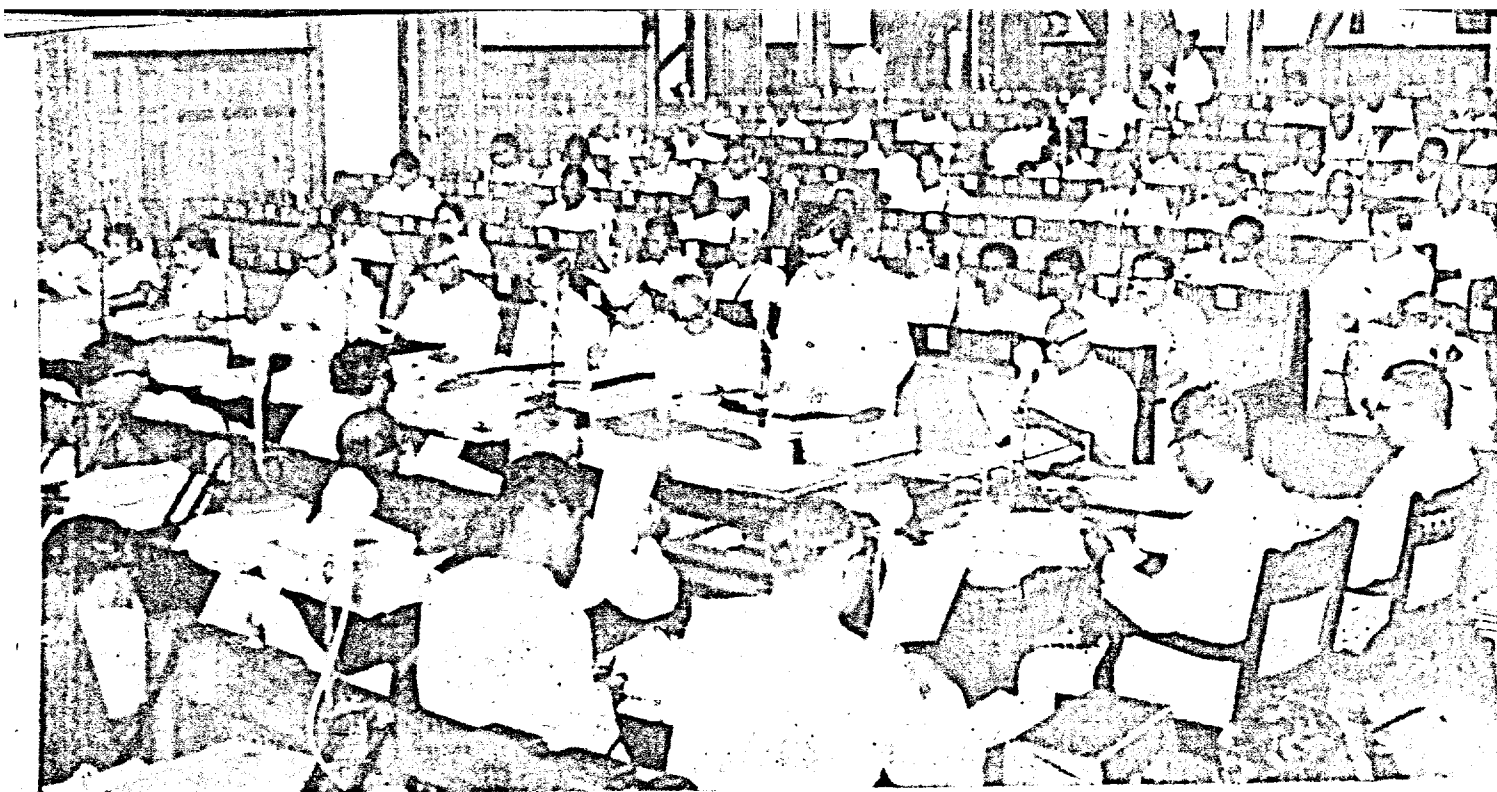


Manufactured by
GOVERNMENT OIL FACTORY, CALICUT
(A Kerala Government Concern)

SISTA'S

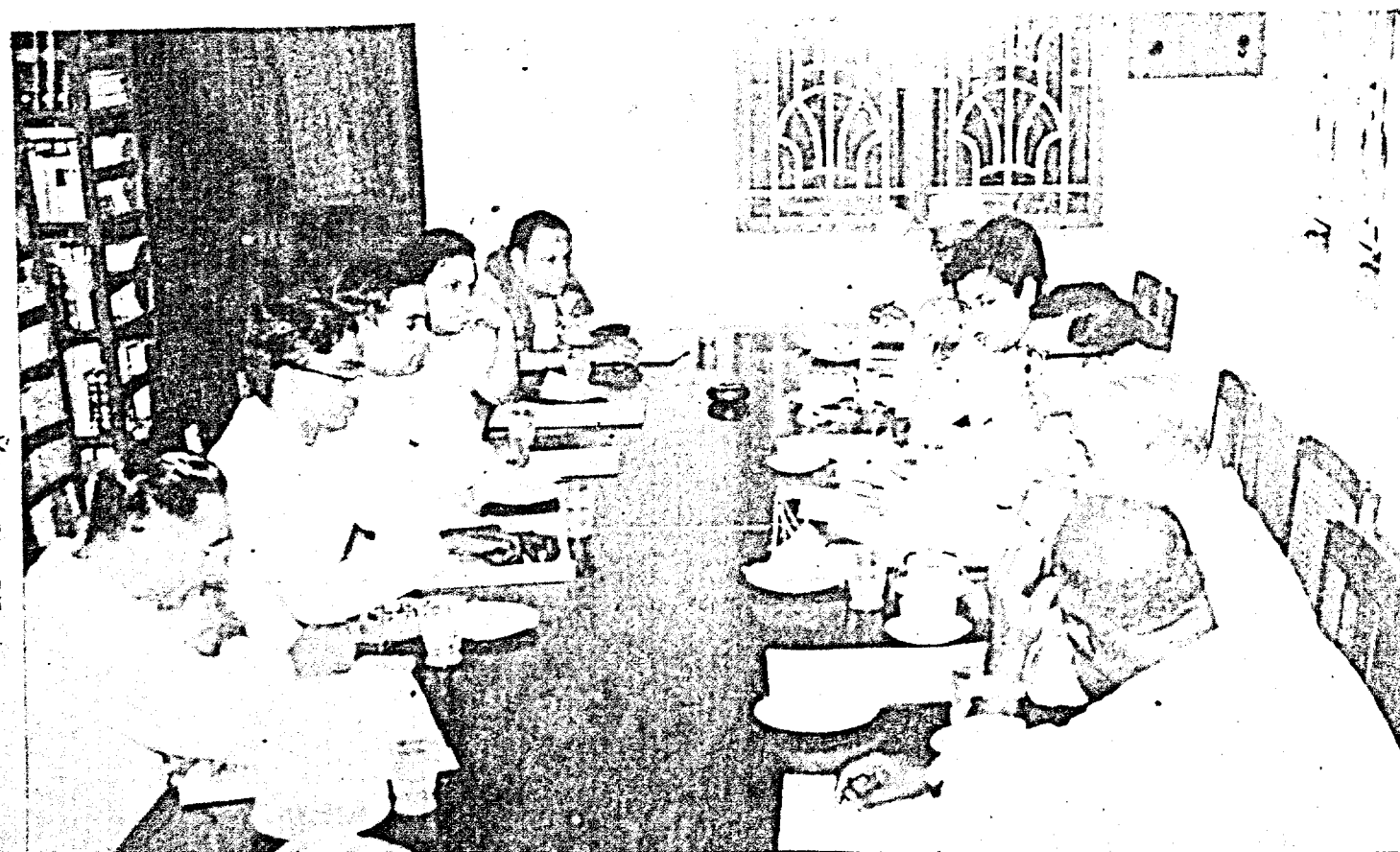


Madras
Information



Sri C. Subramaniam, Minister for Finance presented the Budget for 1960-61 on 10th March in the Madras Legislative Assembly.

The First meeting of the Film Industry Committee was held on 23rd February 1960. Sri C. Subramaniam, Minister for Finance and Information presided over the meeting.



'We Seek to Serve
and Not to Compete''

Volume XIV

No. 4

Published every month by the
Director of Information and
Publicity, Fort St. George,
Madras-9

Price 20 nP.

Annual Subscription ... Rs. 2.25
Half Yearly ... Rs. 1.12

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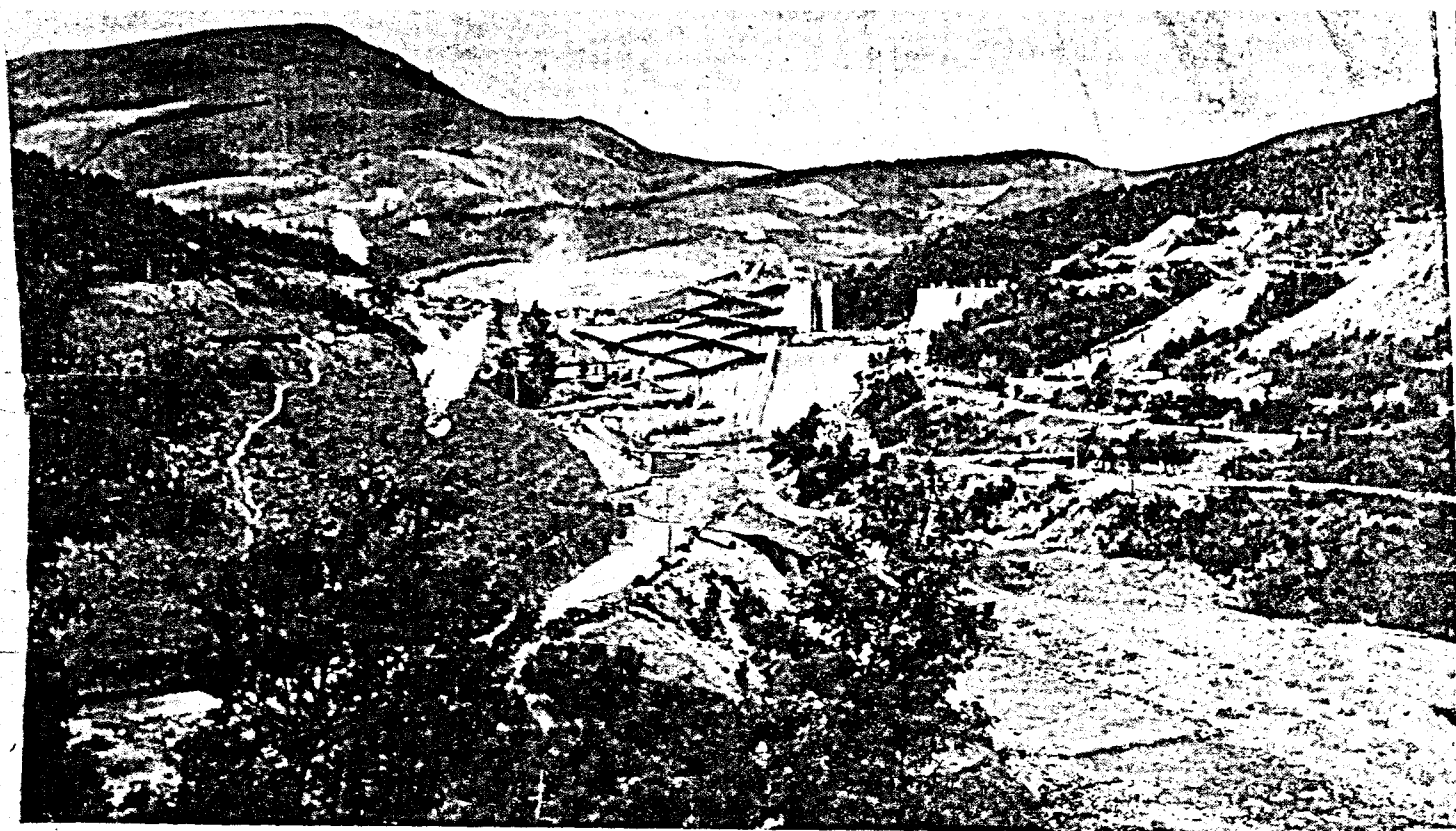
MADRAS INFORMATION

APRIL 1960

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COVER PAGE: The first generator of the Kundah Hydro-Electric Power Station was commissioned in March 1960. For the details of the Project please see the article on page 2 of this issue.



The Avalanche Dam of the Kundah Hydel Scheme is 186 feet in height and is connected to the Emerald Dam by a 2,440-foot long tunnel and the combined storage capacity is 5 million cubic feet.

Kundah Hydro-Electric Scheme

The Kundah Hydro-Electric Project is the sixth hydro-electric project undertaken by the department. It is the most important power project of the Second Plan now under execution and is the biggest scheme so far launched to develop the available power resources of the State.

The Kundah Hydro-Electric Project in the Nilgiris is one of the projects mentioned by J. U. Meares (Chief Engineer for Hydro-Electric Survey of India) in his "Preliminary Report on the Water-Power Resources of India" published in 1919. In that report, the power envisaged was only about 15 M.W. utilizing a head of 3,000 feet. The scope of the scheme has now been enlarged by the addition of flow from neighbouring basins to generate a firm power of 342 M.W. with an installed capacity of 420 M.W. in two phases utilizing a head of over 5,000 feet. The history of the scheme can be traced from 1921 when a concession for developing

power from Kundah falls was given to Messrs. Tatas. No attempts were, however, made by them to develop power and the concession appears to have been subsequently withdrawn.

The Kundah Hydro-Electric Scheme was investigated in detail during the First Plan period itself. A scheme report was submitted to Government and Central Water and Power Commission during January 1952. The scheme was then revised after scrutiny by the Central Water and Power Commission and the revised scheme was sent to Government during February 1954. This was scrutinized by the Central Water and Power Commission as well as the Planning Commission. The scheme was finally sanctioned by the Government during September 1955 at an estimated cost of Rs. 3,544 lakhs including transmission lines. The scheme was inaugurated by Sri C. D. Deshmukh, Union Finance Minister, on 29th June 1956.

Location of the Project

Kundah Basin is situated to the south-east of the Pykara Basin in the Nilgiris. Two streams, the Avalanche and the Emerald, rising amidst the group of high peaks, Devabetta, Karaikada, Koulumbetta and Porthimund, all over 8,000 feet in altitude, combine to form the Kundah river. After the confluence the river takes a south-easterly course and is joined by the Sillaballa near Mandanai at an altitude of 6,000 feet. The Kundah has then a fall of about 200 feet and runs in cascades for about 2,000 feet to reach the bridge near Kundah village where it is joined by the Kanarah and Koulumulihalla streams. Below the bridge the river runs in cascades till it reaches a level of 2,100 feet above M.S.L. where it is joined by the Pegumbahalla stream. Beyond that confluence it runs in rapids for about a mile and a half and later, in an easy gradient down to its junction with the Bhavani at an altitude of 1,340 feet.

The Initial Phase

The development of the Kundah Basin has been taken up in phases with four power stations and an auxiliary power station. The initial phase envisaging the construction of two power houses as given below is under execution during the Second Plan period:—

(i) A combined storage by building two dams across Avalanche and Emerald streams of capacity 5,500 million cubic feet with an interconnection tunnel.

(ii) A reservoir at Upper Bhavani of storage 3,572 million cubic feet capacity and a tunnel 9,740 feet long to connect this to Avalanche Reservoir.

(iii) Pressure tunnel about 15,000 feet long from Avalanche Reservoir to surge tank I from where penstocks lead to power house I.

(iv) Power house I on the right bank of the Kundah river near Kundah Palem village with a gross head of 1,177 feet and an installed capacity of 40 M.W.

(v) Forebay Dam for power house II across the Kundah river near Kundah village to collect the tail race water of power house I and the run off from its free catchment of 44 square miles.

(vi) Pressure tunnel about 12,000 feet long from the forebay to a surge tank and penstocks therefrom to power house II located on the left bank of Pegumbahalla stream.

(viii) Power house II utilizing a gross head of 2,470 feet with an installed capacity of 140 M.W.

Aid from Canada

During the visit of the Canadian Administrator of the Colombo Plan, Mr. H. G. Nick Cavell, in February 1955, the Government of India, among other schemes, suggested the possibility of providing the power house requirements of the Kundah Hydro-Electric Scheme under the Canadian Aid. In a conference held with the Madras Government representatives, the technical aspects of the scheme were explained. As a result of the Canadian Administrator's keen interest, the Canadian Government deputed during November 1955 their

Engineering Consultants Messrs. Montreal Engineering Company, Canada, represented by Messrs. D. Stairs and J. K. Sexton to the project site. They had discussions with the Engineers of the Department. As a result of their recommendations that the scheme was technically sound, a deputation consisting of Ministry of Finance, I.C.S., the then Joint Secretary, Department of Economic Affairs, and Sri V. P. Appadurai, Chief Engineer for Electricity, Madras, went to Canada in May 1956 for further discussions and finalising the agreements. The discussions were successfully concluded and an agreement was signed at New Delhi on 29th December 1956. By this agreement, the Canadian Government is to give aid to the tune of 20 million dollars (about Rs. 10 crores) by way of plant and machinery for the project. As this aid was found to be inadequate to meet the requirements of transmission lines, the Canadian Government were approached again for additional aid. They generously agreed to give an additional aid of 5 million dollars for transmission lines to link up the power houses with the existing grid.

Emerald and Avalanche Dams

The Emerald and Avalanche Dams are being built across the two streams of the Kundah river, Emerald and Avalanche. They are situated at a distance of 18 miles from Ootacamund. Both the dams are of stone masonry-gravity type providing a total useful storage of 5,500 million cubic feet. The reservoirs have a catchment area of about 22.6 square miles. The Emerald Dam is of non-overflow type and the Avalanche Dam is of spillway type with a spillway of 95 feet wide.

The Avalanche Dam is 1,200 feet in length and 186 feet in height while the Emerald Dam is 1,660 feet long and 212 feet high.

A DREAM COME TRUE

The Kundah is one more dream which has come true. Braving the blizzards and the bitter cold of mountain winds, workers have worked with a steady purpose to complete the first tangible stage of this mighty project. Their work will brighten many homes and lighten the load of many men. Our first tribute therefore is for those who completed this project in good time.

The story of Kundah should not stop here; the power from Kundah should be made to turn the wheels of industry in every village and town to create perpetual work and wages for countless more people. I am sure Kundah will be our proudest achievement since Independence.

K. KAMARAJ,
Chief Minister.

The two reservoirs thus formed are interconnected by a tunnel 2,440 feet long of horse-shoe shape with a discharge capacity of 750 cusecs.

Upper Bhavani Dam and Tunnel

The dam is built across the Bhavani river at its upper reaches. The dam will be 266 feet long at its top, 266 feet high and 21 feet wide at the top. The storage of the reservoir will be 3,572 million cubic feet and the reservoir will be connected to the Avalanche Reservoir by a tunnel 9,740 feet long of horse-shoe shape.

The water from the Avalanche and Emerald Reservoirs is taken through a tunnel with a horse-shoe section. The tunnel is 14,790 feet long with a discharge capacity of 750 cusecs.

The tunnel commences with a 10-ft. diameter steel pipe for a distance of 505 feet and then it is excavated in rock.

Tunnel I ends in a surge shaft 275 feet in depth cut 35 feet in earth and balance in rock. The surge shaft is of 28 feet diameter in the lower portion and 25 feet diameter in rock. The walls of the surge shaft have been lined with reinforced concrete lining.

From the surge shaft, the water travels through a tunnel of 900 feet. At the end of the tunnel there is a trifurcating manifold with three butterfly valves.

From this manifold, two high tensile steel penstock pipes each 3,241 feet long carry the water to the turbines. The penstocks are made of a special grade of high tensile steel, the U.S.T.I. steel, a low carbon quenched and tempered steel with 95,000 pounds yield point and 105,000 breaking stress. This steel is readily weldable without preheating or stress relieving. It has three times the yield strength of ordinary steel and four times the atmospheric corrosive resistance of carbon steel. This is the first time that such a type of steel is being used in India for penstock pipes. The total weight of the pipe lines is about 940 tons. These pipes were supplied by Messrs. Davie Ship Building Co., Ltd., Canada. Space provision has been made to add a third penstock at a future date.

Power Plant and Transformer Yard

The power house building is of structural steel frame and stone masonry walls. The building is 202 feet 6 inches long, 80 feet wide and about 50 feet high from the generator floor level. This has been built to accommodate all the three generating units of the ultimate stage of development.

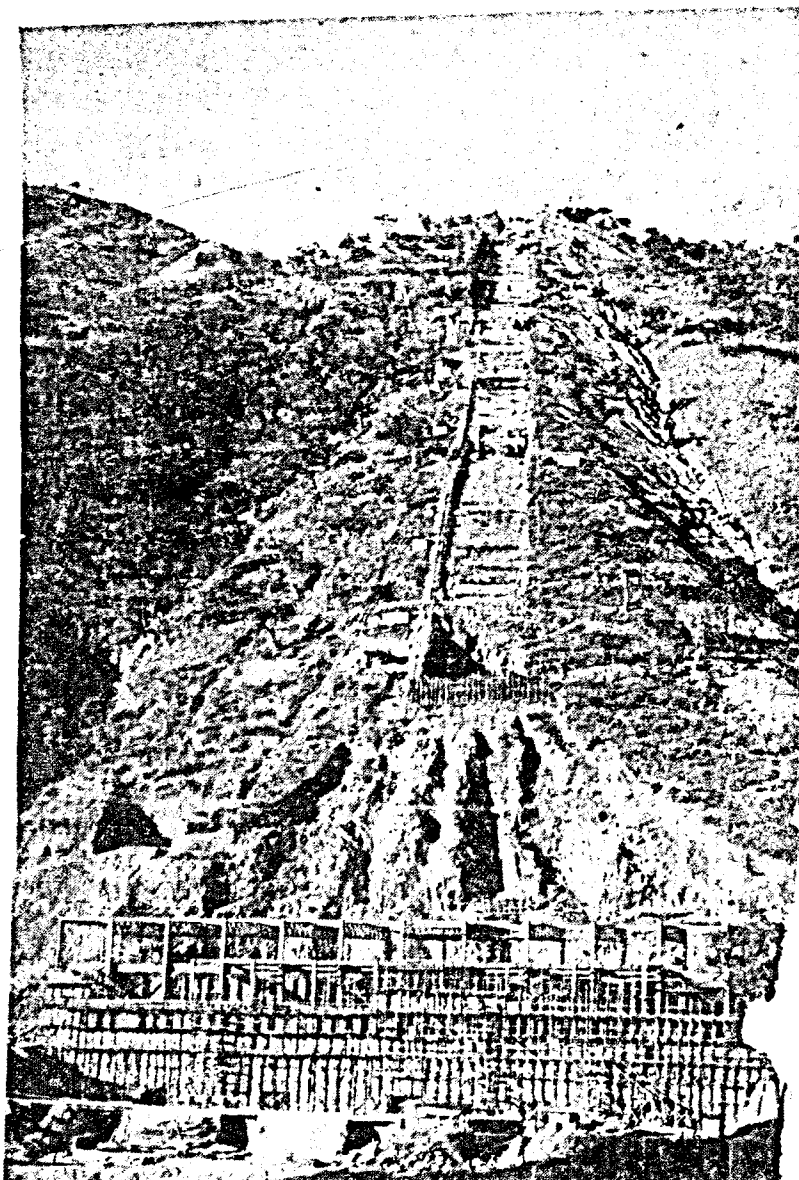
The power plant consists of two multiple jet (five jets) impulse type vertical turbines supplied by Messrs. Dominion Engineering Company of Canada. They are rated to develop 28,750 H.P. at a net head of 1,040 feet and at 428 R.P.M. Each turbine is directly coupled to a generator rated at 24,000 K.V.A. at 0.9 P.F. 11 K.V. 50 cycles. The generators are supplied by Messrs. Canadian Westinghouse International, Limited.

The transformer yard adjacent to the power station contains seven 8,000 K.V.A., 11 K.V./110 K.V. single phase transformers for stepping up the voltage to 110 K.V. The transformers are of Canadian General Electric make. Provision has been made for three more single phase transformers to be installed at a later date for the third generator. A double circuit 110 K.V. line takes off to power house II from here.

Kundah Palam Forebay Dam

The tail race water from power house No. 1 drains into the Kundah river near the Kundah village, where it is joined by the Kanarahalla and Koulmulihalla streams. A small regulating forebay is erected by building a stone masonry gravity type dam near the Kundah Palam village. This dam is 500 feet long, 95 feet high and 15 feet wide at the top. The intake for plant II is from this small forebay of capacity of 55 million cubic feet.

Kundah Hydel Scheme is progressing simultaneously on all fronts. Here the Power House No. 2 is seen taking shape.



The water from the Kundah forebay is taken through another tunnel for a distance of about 12,000 feet. This tunnel has a large cross-section than tunnel I and is of horse-shoe shape 11 feet by 11 feet with a maximum discharge capacity of 1,000 cusecs.

The tunnel commences with a low pressure pipe (a steel lined tunnel) of 11 feet 3 inches in diameter for a length of about 180 feet. The balance is excavated in rock except for a short reach of about 450 feet where there is no sufficient rock cover. In this reach steel pipes of diameter 11 feet 3 inches are introduced. The tunnel is lined with cement concrete of thickness varying from 8 inches to 12 inches; where the rock is not very sound 18 inches thick R.C.C. lining is adopted. The end portion of the tunnel near the surge tank is again a steel pipe line of 11 feet 3 inches diameter for a length of 760 feet.

Tunnel II ends in a surge shaft which is 241 feet deep and partially embedded in rock. This is also R.C.C. lined. It has a diameter of 25 feet at the bottom in the rocky region and 50 feet at top in the earth portion.

The water from the surge tank is taken through R.C.C. lined tunnel of horse-shoe and circular shapes for a total length of 750 feet and a steel pipe line of 10 feet 9 inches diameter for a length of 60 feet.

The pipe line below surge shaft ends in a manifold bifurcating into 8 feet and 6 feet 6 inches diameter pipes. The 8 feet diameter pipe ends in a trifurcating manifold connecting three penstock lines, and the 6 feet 6 inches diameter pipe bifurcates into two penstock lines each feeding an independent machine at the power house II.

Of the five, one will be blank flanged for connecting up the fifth pipe line at a later date. The penstock pipe each about 5,300 feet long has a capacity of 200 cusecs. These pipes are also made of U.S.T.I. steel and supplied by Messrs. Davie Ship building Co., Ltd. The diameter of each pipe line is 57 inches, 51 inches and 45 inches. The thickness of the shell ranges from 5/16 inch to 13/16 inch. The total weight of the four pipe lines is about 3,034 tons.

Power Plant and Transformer Yard

The power house is of structural steel frame with stone masonry. It is built to accommodate five generators ultimately. It is 302 feet 6 inches long, 80 feet wide and 51 feet 9 inches high above the generator floor.

The generating machinery consists of four multiple jet (three jets) impulse type vertical turbines of 50,000 H.P. each, at a net head of 2,340 feet and are of Dominion Engineering make. Each turbine is coupled with 42,000 K.V.A. 0.9 p.f. 3 phase, 11 K.V. 50 cycles generator supplied by Canadian General Electric Company. A fifth unit will be added in the third stage works with associated switch gear.

The transformer yard is adjacent to the power station. On account of the difficult terrain, the yard is in two levels. It has two sections, one for the 110 K.V. and the other for the 230 K.V.

A LASTING CONTRIBUTION

It is a pleasure for me to send you my warmest congratulations and best wishes on this occasion. At this ceremony in which your distinguished Prime Minister is participating, you are recording another stage in the development of the Kundah Hydro-Electric Power Project which India and Canada are building under the Colombo Plan. I am sure that this event will bring deep satisfaction to all those who have had part in the project. May I say that we in Canada share this feeling with you? I am sure that when the project is in full operation, it will yield many practical benefits to the people of South India.

This project will also symbolise the co-operative nature of the Colombo Plan. It is a matter of gratification to all Canadians that engineers, technicians and experts from our two countries have worked closely together in friendship and understanding, and have brought this impressive project to its final stages. I am confident that these bonds of mutual understanding will make a lasting contribution to the deep and close association which is continuing between our two countries.

I join with your Prime Minister in congratulating all those, both in India and Canada, who have participated in the building of the Kundah Hydro-Electric Power Project. I wish you well in the future economic development of your country to which this project will, I am sure, make a very significant contribution.

G. JOHN DIFENBAKER,
Prime Minister of Canada.

In the 110 K.V. section there will be four 42,000 K.V.A. 11 K.V./110 K.V. transformers of C.G.E. make.

A double circuit 110 K.V. line takes off from this sub-station to Tudialur to link up with the existing 110 K.V. grid.

The 230 K.V. section of the yard contains three 50,000 K.V.A. 230/110 K.V. auto-transformers, one single circuit 230 K.V. line takes off from here to Salem and thence to Villupuram.

Transmission Lines

The transmission system comprises 287 miles of 230 K.V. single-circuit line with 795,000 C.M.A.C.S.R. conductors and 30 miles of 110 K.V. double-circuit line with 266,800 C.M.A.C.S.R. conductors. This is the first 230 K.V. line built in Madras Power Grid.

Carrier communication and relaying is being provided on the 230 K.V. line. On the 110 K.V. lines, carrier communication alone is provided.

The power generated will be fed into the grid at Tudialur, Salem and Villivakkam. The 230 K.V. system has sub-stations at Salem and Villivakkam with two 50,000 K.V.A. 230/110 K.V. auto transformers. These autos were supplied by Messrs. C.G.E. Limited.

For system stabilization, a 25 M.V.A.R. synchronous condenser of Canadian Westinghouse make is also being installed in the Villivakkam sub-station.

Since 1960, the works are in full swing at the three Dam sites, two penstocks and two power-house sites. All the works connected with Power House I were completed in a time of three and a half years. The Plant I has been inaugurated for commercial use. The transmission lines both 110 K.V. and 230 K.V. are also ready to transmit this power to the different load centres.

The works connected with Plant II are in progress, and it is expected that the first unit at Plant II will go into operation in July this year. Works are also in progress at the Upper Bhavani Dam site. The initial phase of the scheme is expected to be completed in all its aspects by 1960-61 adding a total installed capacity of 180,000 K.W. to the State Power Grid.

Demand for More Power

The demand for power in the State is ever increasing. Several demand forecasts prepared taking into account all the above, indicates that the power requirements will be of the order of 727,000 K.W. in 1960-61 and 1,448,000 K.W. in 1965-66. To meet this ever increasing demand new power resources are being tapped. Kundah III stage extension is one among the new schemes proposed for execution during the Third Plan period.

The total fall of 5,359 feet is available for power generation of which the present phase under construction utilize a drop about 3,647 feet and the III stage extension is to utilize the balance drop of 1,712 feet and also collecting the water of river, nearby and en route. This fall is proposed to be developed in two power stations, the third power station with an installed capacity of 120,000 K.W. in three units and the fourth power station with an installed capacity of 50,000 K.W. in two units. In addition a third unit at Plant I and a fifth unit at Plant II (now under construction) besides an auxiliary station to utilize the fall between the Upper Bhavani and Avalanche reservoirs with an installed capacity of 15,000 K.W. are also envisaged. The total installed capacity that will be added is 240,000 K.W. The scheme estimated to cost Rs. 22.81 crores has been submitted for sanction. The total installed capacity will therefore be 420,000 K.W. after the third stage is completed.

The estimated cost of the initial phase of the scheme is Rs. 35.44 crores including the transmission lines and sub-stations. This is expected to yield a return of 4.5 per cent from the tenth year of operation.

It is a matter of pride to note that this mammoth scheme with the work sites extended over several miles, was completed in a record time of a little over three and a half years which is an achievement in the history of the department. This was possible mainly due to co-operation of all Engineers and staff connected with the project both at Canada and India including Canadian manufacturers who advanced their schedule of delivery of equipments in a few instances. By judicious planning, economic execution, careful supervision and control of expenditure, at every stage, it has been possible to effect a saving of about 2.5 crores of rupees. This is another achievement worth recording.

Towards Self Sufficiency

India is now producing basic and conventional machine tools such as lathes, drilling machines, tool grinders and milling and planing machines. At one major production unit, the Hindustan Machine Tools Factory, the indigenous content in the manufacture of lathes now stands at 95 per cent. For milling machines and radial drills this percentage has come up to 90 per cent now. Within a year the percentage of indigenous content for both radial drills and milling machines will be progressively stepped up to 95 per cent.

Within two years of work the Hindustan Shipyard has built 24 modern diesel cargo ships and delivered them to ship owners. Three more have been launched and fitted out. Steel hulls have been laid for four, three of them being 9,500 tonners. The range of vessels built at the shipyard includes cargo, cargo-cum-passenger, survey, mooring vessels, barges and tugs.

At the Integral Coach Factory, whereas in the earlier batches raw material and fittings worth Rs. 37,000 per coach had to be imported (including steels of requisite weldable quality costing Rs. 19,000), in the latest batches the imported items have been cut down to Rs. 18,000 only per coach. With steel plates and sheets available within the country in 1960-61, the coach will be 95 per cent indigenous in its raw material content.

Madras in February 1960

Being the pre-budget month, February is usually associated with a great deal of stock-taking on the part of all the Government departments. There is nowadays no anxiety on the part of departments about availability of finances or uncertainty about sanction for any of their schemes since details of expenditure on almost all the important schemes of the Five-Year Plan have been worked out already. On the other hand, the system of annual financial sanction by which the expenditure which has been sanctioned for a particular year is required to be spent only during that year, makes it obligatory on the part of departments to see that all the schemes are put through in the same year. The result is that in February one witnesses hectic activity on the part of departments to complete the schemes taken on hand. To avoid what financial experts might call hurried expenditure in the last month of the financial year, a system of quarterly review of the progress of schemes is being undertaken. This system has solved to a great deal the problem of massive expenditure just before April. But still, thanks to the strict enforcement of the financial rules the Government departments put forth their best to achieve the targets before the end of March.

Bridge across Vaippar

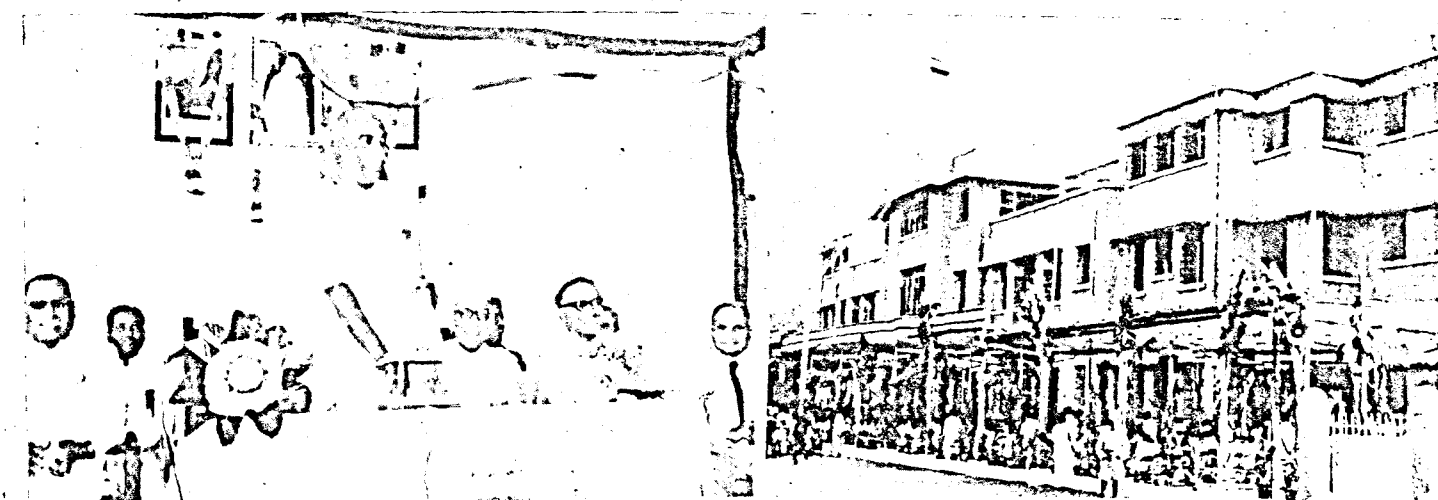
A bridge across Vaippar near Vembakottai in Ramanathapuram district and a submersible bridge across Kortalaiyar near Poondi in Chingleput district were declared open during the month. The bridge across Vaippar near Vembakottai is 800 feet long providing a roadway of 22 feet broad and capable of withstanding loads up to 70 tons. In recent times the width and load capacity of our bridges have come in for critical

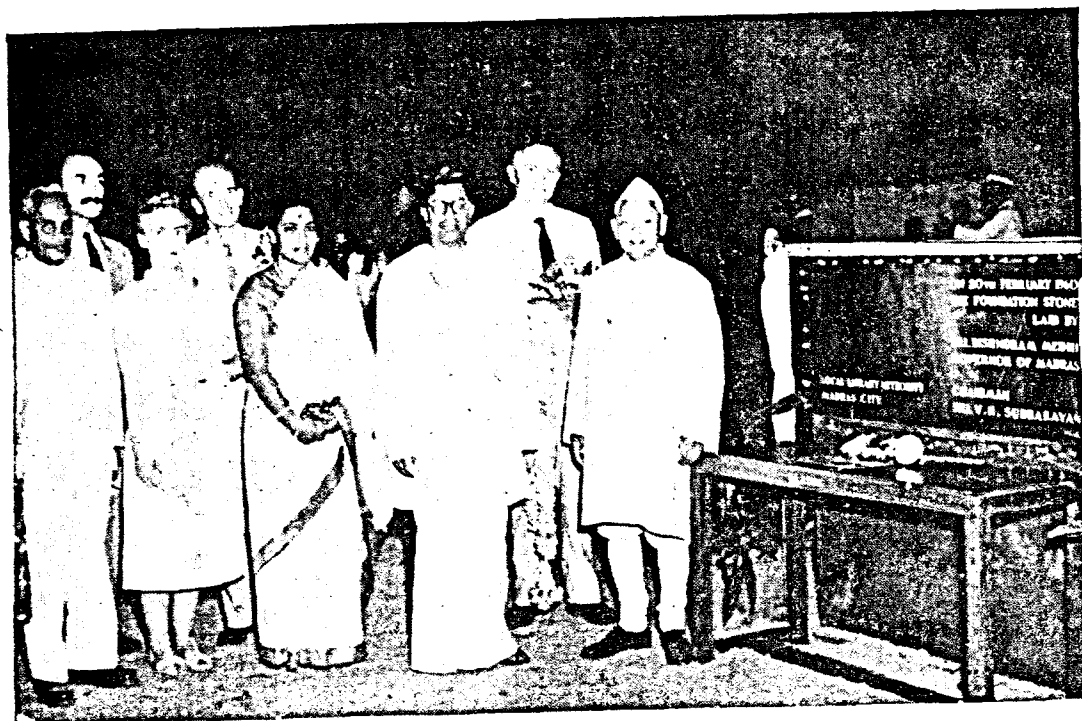
examination. The new bridge across Vaippar is in replacement of a narrow bridge only 3 furlongs away which was condemned for no fault but that it provided only 15 feet 3 inches of roadway on a section of the National Highway running from Banaras to Cape Comorin. Among the old bridges and culverts, too many are found by Highways Engineers to be still serviceable and they think it will be sheer vandalism to condemn all of them. So a decision has been taken to test a few of these century and more old arched bridges about their load carrying capacity. These tests will be conducted up to the point of destruction; the results thrown up by these tests will save a large number of these bridges which have stood the test of time. It is stated that it will be the biggest bonus to the State's economy if the roads connecting important centres of trade and commerce could be declared safe for vehicles carrying up to 12 ton loads. Hence the test and destruction of the few old bridges is awaited eagerly by our road engineers and road transport operators. The Vaippar bridge was built at a cost of Rs. 13 lakhs while the bridge across the Kortalaiyar was built at a cost of a little more than Rs. 4 lakhs.

Roster of Skilled Labour

All this interest in the load and roadway capacity of our bridges shows plainly that the construction of quite a large number of bridges is in the offing. When a bridge is under construction, quite a few of the local labour is being used, it has been noticed that this local unskilled labour acquire a good deal of skill and perfection in construction methods. The Highways Department has, therefore, started a private roster of such labour so that their services could be utilized in the

The Maternity Centre at the Erskine Hospital at Madurai was declared open on 12th February by Sri K. Kamaraj, Chief Minister. The photo on the right shows a view of the maternity centre.





Sri Bisnuram Medhi, Governor of Madras, laid the foundation stone for the building of the Local Library Authority for the use of British Council on 20th February. Sri C. Subramaniam, Minister for Education, presided.

construction of other bridges. This decision was announced at the opening of the Kortalaayar bridge near Poondi on 28th February 1960 by the Chief Engineer for Highways.

Apart from bridges, the other factor inhibiting free load movement on our roads is the lorry licensing system; the licence of one State is not valid in an adjacent State. However, Madras and Mysore got together on this sore point and solved it amicably. With effect from 1st April 1960, short-term licences are to be issued in either State for transport vehicles to operate in the other State. This will be on a reciprocal basis, and the number of licences to be issued in either State will not exceed 100 in a calendar month.

Tank Reclamation

The desilting-cum-reclamation of tanks scheme, which is now in operation in Chingleput, South Arcot, North Arcot, Ramanathapuram and Kanyakumari districts and also in Pudukkottai area in Tiruchirappalli district, has come in for modification in the light of experience and advice. The modification will mean that in addition to desilting, the Government would raise some suitable plantation in the foreshore land reclaimed in the process of desilting. This modified scheme has been approved because the Government have been advised that desilting the deep bed of tanks correlated to formation of a protective zone of tank-bed plantations can very well be construed to be its legitimate function and that such operations may be undertaken irrespective of direct food return or financial gain. This will mean that instead of trying to auction the land reclaimed which invariably benefits some local influentials, the Government themselves would raise crops like green manure and fodder or even fuel trees, all of which are in short supply now. It is also claimed that instead of food crops, if such plantations are raised in the foreshore, the tank would

not silt up so rapidly. This modified scheme will be tried only in Chingleput and Ramanathapuram districts. The extent of shore land being reclaimed will be apparent when it is realized that even under the 29 tanks which have so far been desilted in the original pattern 1,200 acres of land have been reclaimed for cultivation. And there are hundreds of tanks to be taken up under this scheme.

Demand for More

The idea of industrial estates as a means to inducing the growth of industries was not even thought of barely six years ago in India. It was said that Madras took up implementation of the scheme only with some persuasion from the Centre. But how different is the picture to-day. Now two industrial estates and five industrial colonies are functioning comprising 158 units all of which have been leased out; and another batch of 61 units are under construction in the existing estates and colonies. The stage has now come when the State Government could not resist the demand for more such industrial estates nor could fulfil them in full with the allocations made by the Centre under the Plan. Hence an industrial colony for Salem has been sanctioned at a cost of Rs. 5.21 lakhs to be entirely met from the State's resources. What is left of the Plan allocation of Rs. 135.65 lakhs is being devoted to meet the cost of further development in the industrial estates already functioning.

The Employees' State Insurance Scheme was extended to cover about 12,500 workers in 75 factories in Perianaickenpalayam, Peelamedu, Sivakasi and Rajapalayam. It is stated that such insurance cover would be made available to all insurable workers by the end of the Second Plan and at a recent meeting of the Labour Advisory Board, it was even stated that insurance cover for the families of the insured persons would be considered after all the workers have been insured, under the Employees' State Insurance Scheme.

Power Development in Madras State

Today Madras State ranks third in India in generation and the utilization of power, Bombay and Bengal leading. In respect of utilization of power for irrigation purposes we stand first by way of number of consumers, consumption and connected load. In the matter of hydro-electric output, Madras is second only to Bombay. It is hoped that with the commissioning of the Kundah Hydro-Electric Scheme, Madras will lead in hydro-electric output. While the bulk of the power in Bombay and West Bengal is consumed in big industries and urban loads, Madras has built up an electricity grid extending into almost all the districts and rural areas. In fact, Madras leads the rest of India in rural electrification with over 9,100 towns, villages and hamlets taking electricity supply by March 1960.

The Power Grid

The Madras power grid covers all the districts of the State and comprises five hydro-electric power stations and two thermal stations.

The Pykara with a generating capacity of 70,200 K.W., the Moyar with a generating capacity of 36,000 K.W., the Mettur capable of generating 40,000 K.W., the Papanasam capable of generating 28,000 K.W. and the Periyar with a generating capacity of 105,000 K.W. are the five hydel power stations.

The two thermal stations are at Madras (98,500 K.W.) and at Madurai (14,800 K.W.). These seven stations produce a total of 391,700 K.W.

Besides these, there are 13,900 miles of high tension transmission lines of voltages varying from 11,000 to 110,000, 19,000 miles of low tension distribution lines and 67 E.H.T. and 70 H.T. sub-stations and 8,800 distribution stations.

The grid is serving electricity to 6.7 lakhs of consumers, about 80 per cent of them served directly by the Board and the rest served through five municipal licensees and eight private licensees.

The aggregate peaks of the systems during the year was 410,000 K.W. while the coincident peak of the grid was 336,000 K.W. Power generated during the year will be 1,900 million units of which about 76 per cent will be from water power and the balance from coal. The entire output in the State is produced by the Electricity Board.

The total capital investment to the end of March 1959 will be Rs. 119 crores and the annual gross revenue during the year is over Rs. 15 crores.

A Small Beginning

Power generation in the Madras State until about 1908 was confined mainly to a few tiny plants in tea estates run on water-power and to the small hydro installation at Kateri in the Nilgiris.

The first public electric supply in the State was commenced in Madras City in 1909 by the Madras Electric Supply Corporation under licence.

Real progress dates from 1925 when the Government of Madras initiated the policy of active development of the power resources by the State.

In furtherance of this policy, the first hydro-electric scheme, viz., the Pykara scheme was taken up in 1929 and the station came into operation in June 1937 and the Papanasam power-house in April 1944. The first thermal station to be erected by the department was commissioned early in 1951 at Madurai.

The First Five-Year Plan period was confined to construction of a new power-house at Moyar and extensions to the existing stations at Pykara, Papanasam, Madurai and Madras. The installed generating capacity increased by nearly 65 per cent from 156,000 K.W. to 256,700 K.W.

A RARE EMERALD

I would liken the Kundah hydro-electric project as a rare emerald in the golden crown of Madras Administration. Situated in most beautiful country and in a fine climate this joint project of Canada and Madras is the biggest hydro-electric project so far undertaken in Madras State. Indeed, considering the great amount of special engineering skill required to tunnel through thousands of feet of rock and to put in high tensile steel pipes for the balance of the connection I would place the Kundah hydro-electric project as one of the most important projects in India. With the addition of 40,000 K.W. by the commissioning of power house No. 1 and with 4 generating units of 35,000 K.W. each in power house No. 2, we will add an installed capacity of 180,000 K.W. in an early stage which will certainly give an impetus both to industry and agriculture in this progressive State.

Our gratitude must go to Canada for the magnificent sum of 25 million dollars under the Colombo Plan by way of machinery and materials as well as technical assistance. I congratulate the Chief Engineer for Electricity for his zeal, drive and devotion to duty and all officers working under him. My special gratitude goes to the Canadian Engineers and welders who have done their work with such cheerfulness, precision and promptitude.

W. R. S. SATTIANADHAN,
Chairman, State Electricity Board.

The third stage extensions at Madras comprising of a 30,000 K.W. was completed in April 1958 and the Periyar Hydro-Electric Scheme was commissioned in October 1958.

Scheme for the Second Plan

The power schemes of the Madras State included in the Second Plan as originally approved by the Planning Commission was estimated to cost Rs. 60.03. The economy cut and the reconstitution of the State reduced

this to Rs. 53.25 crores. It is now expected that the final outlay will be around Rs. 71.31 crores forming 38 per cent of the total outlay for the State.

The schemes on completion will more than double the installed generating capacity, length of lines and the number of towns and villages electrified. Table I 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.

TABLE I.

Particulars.	All-India target.		Percentage increase.	Madras target.		Percentage increase.
	1955-56	1960-61		1955-56	1960-61	
Generation—						
Installed generating 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	2,500	136
Transmission—						
H.T. lines 11 KV 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	183

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.

The first unit of Periyar Hydro-Electric Scheme was commissioned in October 1958, the second unit in February and the third in May 1959 adding 105,000 K.W. installed generating capacity to the grid.

The plant No. 1 of Kundah Hydro-Electric Scheme was commissioned in March by the Prime Minister and it is programmed to commission the plant No. 2 in July or August this year.

Thus during the first four years 155,000 K.W. has been added and the balance of 160,000 K.W. will be added during the final year of Plan.

Including the transmission lines proposed under the Kundah and Periyar Hydro-Electric Schemes, an additional 8,200 miles of E.H.T. and H.T. lines and 12,000

miles of L.T. lines will be erected during the Plan period. Of these, 6,400 miles of E.H.T. and H.T. lines and 10,900 miles of L.T. lines have already been erected during the first four years of the Plan period. A major stride in respect of transmission during the Second Plan period is the first 230 K.V. line in the State from Kundah to Madras recently completed which will convey power generated at Kundah to Madras a distance of about 300 miles.

Madras continues to maintain its lead in the matter of rural electrification with 9,100 towns, villages and hamlets electrified by February 1960. During the Second Plan period, it was proposed to extend electricity to 5,000 additional villages. This target has been exceeded during the current year and it is expected that about 6,200 villages and hamlets will derive the benefits of electricity during the Second Plan period. About 32,440 pump sets were working on electricity at the end of the First Plan period. Today nearly 98,000 pumpsets are working on electricity.

TABLE II.
Five-Year Plans.

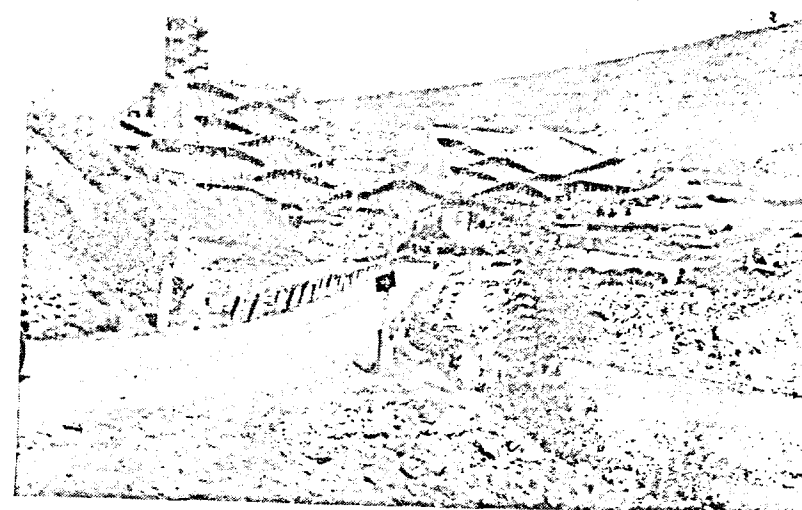
	At the beginning of First Plan—31st March 1951.	At the end of First Plan—31st March 1956.	At the end of Second Plan—31st March 1961.
(1)	(2)	(3)	(4)
Generation—			
Installed generating capacity in M.W.	156	256	571
Aggregate demand on M.V.	130	208	560
Units generated in millions	630	1,053	2,500
Transmission—			
Length of HT lines in miles	4,353	7,343	15,500
Length of LT lines in miles	3,580	8,121	20,000
Distribution—			
Number of consumers in lakhs	2.5	4.26	8
Substations including distribution transformers	1,647	3,862	10,150
Rural electrification—			
Number of villages electrified	1,613	3,320	10,150
Number of agricultural pumpsets connected	14,373	32,440	100,000
Finance—			
Capital outlay in crores	30.96	54.01	125.34
Gross revenue in crores	3.37	7.03	18.42

Table II gives the power development of the Madras Grid under the Five-Year Plans. It may be seen from the table that there has been a phenomenal development during the Second Plan period.

The 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.

To meet the ever increasing demand an ambitious programme has been drawn up for implementation in the Third Plan period. The schemes estimated to cost Rs. 133 crores will more than double the present installed capacity. Eight thousand additional villages in the interior will get the benefits apart from 75,000 agricultural pumpsets.

With these schemes, we hope to march ahead in the field of social-economic development of our State by the spread of electricity, especially to the rural areas and raise the standard of living of the common man and bring brightness and happiness to every home.



A view of the Emerald Dam, a storage dam which is connected to the Avalanche Dam by tunnel. From the Avalanche, a pressure tunnel takes water to the Power House No. 1.

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TECHNICAL MISSION FROM EAST GERMANY

A Technical Mission from East Germany visited the City in February. The mission went round the various industrial establishments in the City to acquaint itself with the industrial progress made by the State.

The photo on top right shows the leader of the Mission with Sri R. Venkataraman, Minister for Industries, on arrival.

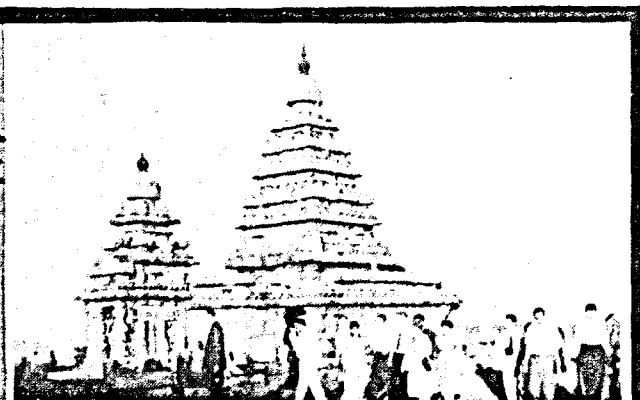
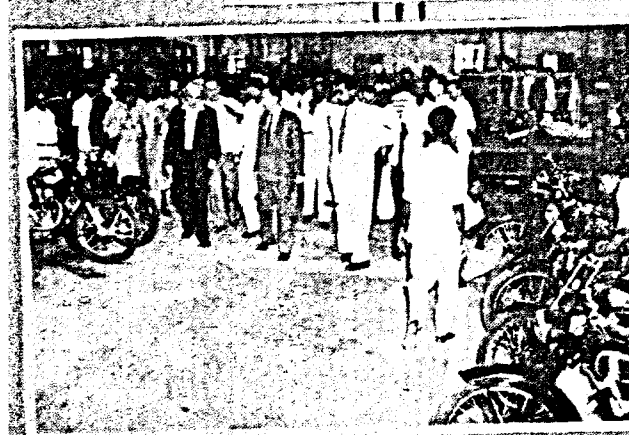
Top left: The leader of the delegation meets Sri C. Subramaniam, Minister for Finance.

Above left: At the Industrial Estate, Guindy.

Left: At the Central Leather Research Institute.

Below left: At the Enfield Motor Cycle Factory.

Below right: At Mahabalipuram.



Power Projects in the Third Plan

Industrial development is growing fast in the country both in the Public and Private Sectors and this is far out-reaching power development. This has been the case in almost all the States in the recent years.

In Madras State during the Third Plan period large scale industrial development requiring large blocks of power has been programmed. More important of these are the Aluminium Industry to be established at Mettur, the raw film factory to be erected at Ootacamund and the Iron Industry to be set up at Salem district utilizing the Neyveli Lignite and the Iron Ore available in the Salem district. A load forecast was prepared by the working group appointed by the Government taking into consideration the licences for industries already issued and the schemes recommended in the recent report of the Techno-Economic Survey of the Madras State conducted by the National Council of Applied Economic Research. Load due to normal expansion of the existing system and the load due to the additional villages that will be benefited during the Third Plan were added to these to arrive at the requirements. According to this forecast the demand will rise to 891,000 K.W. at the end of the Second Plan period and to 1,448,000 K.W. at the end of the Third Plan period.

The schemes drawn up for implementation during the Third Plan to meet this ever increasing demand for power are estimated to cost Rs. 133.21 crores as compared to the outlay of Rs. 71.45 crores estimated for the Second Plan schemes. The outlay for the First Plan schemes was Rs. 30.68 crores.

Power Projects

The capital outlay of Rs. 133.32 crores proposed for power projects in the Third Plan is modest as compared with the national outlay of Rs. 1,230 crores envisaged during the Third Plan for doubling the installed capacity from 6.4 million K.W. to 12.8 million K.W. The approximate foreign exchange component is about Rs. 43.6 crores while that for the power projects all over the country is estimated at Rs. 300 crores.

The Mettur Tunnel scheme is to utilize the irrigation discharge of 20,000 cusecs at Mettur Dam to develop seasonal power for about seven months from July to January in year. During this period the storages in the Kundah and Pykara Basin will be conserved to the extent necessary for utilization in the summer months for firming up the Mettur power. Based on discussions with the Central Water and Power Commission the scheme will be developed in two stages. The first stage which involves the construction of a power house with an installed capacity of 100 M.W. in two units and utilizing 10,000 cusecs will be completed during the Third Plan period. The civil engineering

works will be completed for both the stages so that later on two more units can be added. The first stage on completion will add to the Grid an energy potential of 385 million units.

The scheme has been approved by the Planning Commission and as a special case they have agreed to the commencement of the preliminary works during 1960-61, viz., the last year of the Second Plan period.

Parambikulam Hydel Scheme

This project envisages the construction of two power stations, one in the Parambikulam valley utilizing the waters diverted from Nizar and the surplus waters available from Sholiar over and above the requirements of Kerala State at their Sholiar Power House and another at Sarkarpatty utilizing the tail race waters of the first power station and regulated flows from the Parambikulam, Tunakadai and Tekkadi rivers. The first power station (called Sholiar) will have an installed capacity of 70,000 K.W. in two units and Sarkarpatty power station will have a single generating unit of 25,000 K.W. Detailed investigation of the scheme is currently under progress.

Periyar Pumping Scheme

The scheme is for utilizing, by pumping the dead storage available in the Periyar lake, for increased power production during non-irrigation period. This will level up the seasonal nature of power production at Periyar and will also increase the quantity of water available for irrigation from 26,190 million cubic feet to 29,450 million cubic feet. An additional 43.5 million units can be generated during summer months in the power station.

Periyar second stage extension provides for the installation of one more 35,000 K.W. unit at the recently commissioned Periyar Power Station to increase the installed capacity from 105,000 K.W. to 140,000 K.W.

The pumping scheme and the second stage extensions are awaiting the clearance by the Projects Advisory Committee of Government of India.

Neyveli Thermal Project

At present we have only two thermal stations, one at Madras and the other at Samsayamallur. Coal for these stations come from Bangal and Bihar and there is considerable difficulty in transport of coal apart from the continually rising cost of coal. It was believed that there was no coal deposit in Madras State and therefore the power development in the earlier years was mainly confined to the development of hydro resources. With the present day cost of coal, the cost of thermal power is nearly twice as that of hydro power. Now

that lignite has been located in Neyveli, it is proposed to utilize it for power generation. The Neyveli Lignite Corporation which is installing a power station have promised to give power to an extent of 159,000 K.W. beyond the Second Plan period. This quantum of thermal power will not be adequate to firm up the hydro

MASTERFUL USE OF TRADITIONAL METHODS

When I visited Kundah first in November 1956, only four months after the inaugural formalities in June, I was greatly impressed with the organisation developed during that brief period and the remarkable progress in construction of roads and buildings and the extent of the excavation and auxiliary work completed. This impression of remarkable organisation and achievement has only been enhanced by the subsequent visits in 1958 and 1959. Each time I see Kundah, the progress since the last visit has been amazing.

To me the most unusual features of the project are the efficient organisation, the concerted drive of the whole working force and the masterful and logical use of traditional methods of construction which appear to me to compare very favourably with some other similar projects which have been highly mechanized.

The advantages of maintaining high employment in the area and avoiding unnecessary expenditure of foreign exchange are obvious but perhaps a greater significance might be attributed to the satisfaction of accomplishment with so much of your local resources.

The Canadians who have lent some assistance to this project are proud of their association with their Indian counterparts and of their successful joint endeavour. This power development is a true representation of what India can do with co-operation of Commonwealth partners in a joint effort to build the basic foundation of the economy.

Mr. R. C. Johnson and Mr. John Stirling join me in extending congratulations on the occasion of your successful completion of this project.

SHELDON ROSS,

*Project Engineer, Foreign Projects Division,
Economic and Technical Assistance Branch,
Department of Trade and Commerce,
Ottawa-4, Canada.*

generation and it was therefore proposed to set up a new thermal station of 200,000 K.W. to meet the needs of the State. In view of the difficulty in transport of coal to the South it was decided that the obvious location is Neyveli (at the pit head). As the Neyveli Lignite Corporation will be having a power station it was further decided to request them to install additional generating units to the extent of 200,000 K.W. and release this power in full to the Madras State; in the alternative the Corporation is to supply enough raw lignite for a separate thermal station to be started as a part of the Madras Grid.

The installed capacity of the hydro stations by the end of 1965-66 will be 929,000 K.W. with an annual energy potential of 4,285 million kwhr; the total energy of the Grid will be 7,280 million kwhr. per annum inclusive of the energy available from the thermal stations and the power to be purchased from the Neyveli Lignite Corporation. The total capacity of the Grid will be 1,400,000 K.W. inclusive of the 359,000 K.W. to be obtained from Neyveli Lignite Corporation.

Perhaps the most important feature of the transmission scheme for the Third Plan is the formation of 220 K.V. Super Grid under contemplation. This will facilitate effective utilization of power within the State and also efficient interchange of power between Madras and its neighbouring States. The Super Grid will necessitate the construction of 220 K.V.D.C. line from Neyveli to Singarapet, Neyveli to Madurai and a 220 K.V.S.C. line from Tudiyalur to Kundah. It is also proposed to interconnect Madras and Mysore and Madras and Kerala by 220 K.V. transmission lines. The interconnection between Madras and Andhra is to be taken up later. Initially it is proposed to consider the possibility interchange of 50,000 K.W. between Madras and Mysore and an equal amount between Madras and Kerala. Singarapet and Madurai will form the linking points with Bangalore (Mysore State) and Permedu (Kerala State), respectively.

Power from the Atom

Even after the Third Plan schemes are completed, Madras will still be in deficit of power. The existing hydro-thermal grid will have to be suitably extended to meet further needs. The economical schemes within the State and the inter-State schemes should be taken up and completed. Mysore and Kerala States which are liberally endowed by nature with hydro-electric sites when fully developed may be able to spare a small quantum of power initially. This will not be adequate to meet our needs. Further with the growth of industrial development in their own States, they may need additional power and consequently be forced to reduce their quantum of export to Madras if not cut it off altogether. Under these circumstances setting up an atomic plant of 250,000 K.W. capacity in Madras State is imperative, especially as the assured power supply resulting therefrom will give a fillip to the establishment of new industries and expansion of the existing units with the concomitant increase in productivity and standard of living.

The Police in Independent India

KUMARI S. VIJAYALAKSHMI, M.A., M.LITT.

"The Police of my conception will, however, be of a wholly different pattern from the present-day force. Its members will be servants, not masters of the people. . . . In fact policemen will be reformers."

—MAHATMA GANDHI.

We often forget the part played, through the whole recorded experience of the human race, by the police. Laws fail, if they cannot be enforced. Their enforcement requires not only a judicial and penal system but a police. Without a police system of some kind, no judicial authority could possibly survive. To-day the police is firmly established in all civilized communities, as the guardian of public peace and private security. The Police are essential to our freedom, and to our Community Organization and to the preservation of all that we value or forget to value in our culture and civilization.

This essential branch of administration comes in for much criticism. "The police has utterly failed to secure the confidence and cordial co-operation of the public" wrote Lord Curzon's Police Commission in 1902. It may be said that this statement holds good even to-day. A major and a serious problem which the Police of our country has to face is the distrust of the average individual in India for the policeman. People hardly realize that in this man's hands lies the protection of the person and the property of all. The police in the highest rank are feared and those in the lowest rank are not liked. The activities of the police are misunderstood. A policeman is looked upon with suspicion.

The one public servant who deserves our sympathy, goodwill and co-operation is feared and disliked. The police department in our country is subjected to frequent criticism by the people. While this is so, in U.K. and other countries of the West, the police enjoys the confidence of the public they serve. "Look at the British police", we are being told, "the policeman there is such a friendly being! His function is not merely to assist in preserving the peace, enforcing the laws, protecting life and property, preventing and detecting crime or apprehending criminals, promoting safety and controlling traffic. The policeman in Britain aids the parents in locating their lost children, assists the aged and the infirm in crossing the busy streets, trains, school children in individual traffic adjustment and organizes boys' clubs as a measure of crime prevention. He gives direction to strangers, informs people where a doctor could be found when one is needed in an emergency, and educates the public in matter of public safety and in innumerable ways he contributes to the comfort and security of citizens."

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But in India too, our police are doing much more arduous and risk-involving tasks than these. Nevertheless, we have no friendly or sympathetic feeling for our policemen! This is due to more than one reason.

Evil Legacies

The police administration in early British days had many evils. One such was the legacy of torture. In the early days the police and the revenue functions were combined into one and the same set of officials. The evils resulting from this combination were far too many. The tahsildars and other revenue officials resorted to torture on a large scale for the extraction of confession and even collection of revenues. Inadequate supply of food, the infliction of personal violence, sometimes amounting to injuries and even death were resorted to by these revenue officials. This was a natural consequence of the police duties being entrusted to a class of officers (Revenue) who from time immemorial had been accustomed to a practice of employing the most cruel methods of torture for extorting the revenue dues. They naturally used similar appliances to elicit confessions and clues. Torture was, therefore, a legacy bequeathed to the police by their predecessors who had the dual functions of collecting revenue and maintaining law and order. So when a new police department came into being, the subordinates of the police department found it easier to adopt identical methods of getting clues and information than to find new ways and means.

In Early British Days

This led to the appointment of a Torture Commission in 1855 to investigate this question. Describing the mufassal police of the early British days a certain officer wrote: "I have no hesitation in stating that the so-called police of the mufassal is little better than delusion. It is a terror to the well-disposed, but none whatever to the thieves and rogues. If it is abolished wholly, the saving of expense to Government would be great, and property would not be a whit less secure than it is now." That was the type of police that was prevalent in these years. The police during this period embarrassed, humiliated, annoyed and inconvenienced the public. To-day the work of the police in India is hampered by this traditional fear of torture and cruelty.

Another great handicap under which our police suffers is that it forms no part of our national heritage. It is looked upon as an institution of foreign growth. Much of our trouble is due to the lack of tradition in favour of helping forces of law and order. The absence of public spirit to look upon the police as a

friend is due to the necessity of the Indian Police in the past to suppress nationalist activities. Thus, the most peculiar problem of the Indian Police arose from the fact that India was not a free country.

Soulless Machinery

Again in the past, the European personnel in the superior ranks of the Indian Police were not well trained and were very ill-equipped. They were ignorant of the country, its language and people. These officers had no contact with the vast multitudes. They considered themselves as an exclusive and privileged class. They were generally wanting in consideration for the feelings, habits and traditions of the people. They were devoid of sympathy for the aspirations of the Indians in respect of their national development. There was a wide gulf between the people and those who were in charge of the administration. The supervision and check they exercised were very defective. So faults and grave abuses in the lower level went unchecked. The 'Indian Police' of the pre-independence years was in short "a soulless machinery", so far as the larger interests of the country were concerned.

The Human Side

Throughout, there has been a general disposition to condemn the police as bad and corrupt. Men belonging to police department, have been for years past, the objects of obloquy, of insidious attempts at corruption and social ostracism. A dark picture of the state of affairs alone is presented and the lowest rank is often the target of attack. Our people who criticise the police do not realize for a moment what the policeman does and how he lives in his moment of leisure. All that they see is a policeman in uniform on duty. His family life and standard of living do not touch their imagination. In U.K. the policeman is a civilian who lives amidst the civil population he serves. He holds a key-position in society like a teacher or a doctor. Citizens cannot be expected to turn a blind eye to this aspect of the policeman's life. The failure of the Indian Police in the past was mostly due to their poor pay in relation to the importance of the functions they were called upon to perform. This inadequate remuneration failed however, to attract the best elements to police fold. It is unfortunate that the police service in the subordinate ranks is normally unattractive to the best and ambitious men. The result is that thoroughly unimaginative and dull persons join the police force!

Grossly Underpaid

The dread of the police was so great in the past, that sometimes citizens who lost their property or whose belongings has been stolen would willingly disavow the stolen articles and disclaim all knowledge of the property. A police constable is criticised for exploiting the general ignorance and the helplessness of the common people he is supposed to protect. He is charged with having used or using his authority in many ways to eke out a supplementary income!

The several Police Commissions that sat to inquire into the Working of the Police Department in the past have pointed out the grave abuses and defects in the

ranks of the police which have estranged and alienated public sympathy. These Commissions acknowledged, without reserve the obvious faults of the Police. One is surprised at the far too many evils in the police department which had been vividly pointed out by the Commissions. Commission after Commission that sat to suggest improvements in the police administration did not lose sight of the fact that the policemen at the lower rank are grossly under-paid and that they deserve our sympathy and goodwill.

Wide Range of Duties

In India conditions of police work vary considerably from one State or part of the country to another. Our police are called upon to perform much more arduous and risk-involving work. They work as armed troops in certain parts. The police of our country have to deal with clever criminals. Occasions were not infrequent when the Indian Police was called upon to help fight plague, famine, draught, flood, fire and other calamities incidental to life in India. Our policemen patrol mountain borders, lonely areas, and giant rivers. They supervise and try to reform criminal tribes whose members for decades have made crime their principal means of livelihood.

The range of duties of the Indian Police is far wider than that of the British Police. Our Police are concerned with practically every detail of life. The state of crops, the irrigation of the fields, the condition of roads and paths, strikes by the trade unions, private feuds and quarrels, feasts, temple festivals and fairs, marriages and rejoicings and hundred other important, trifling, pathetic and funny details that go to make up the social life of the Indian people are often of professional interest to the Police. It is this much-hated Policeman that touches the life of the people at every point.

Increase in Crimes

In the recent years, the Indian Police are called upon to undertake an increasing number of difficult and unusual duties necessitated by the changes in the country since its independence. With the increase in the State activities and the population, there has been an increase in the work of the Police Force too. The work load of the Police Department increases with the increase in the volume of work in the branches of Traffic, Crime and Railway. With more roads and increased traffic, accidents have increased. The increase in population had resulted in the increase in the crimes committed. The criminals move faster than in olden days. The improved communications have changed the character of crime and the methods of criminals. They migrate from place to place and carry on their operations in a systematic manner over large areas. Very systematic attention has become essential to deal with such professional offenders on main roads, railways and rivers. In olden days, the police was doing purely police work. To-day he has to perform a variety of duties. With increase in agitations, the maintenance of law and order has become a whole-time job. The Policeman of our day builds roads,

schools and hospitals, prevents drinking and begging, rescues fallen women, protects children, puts down fire, attends to V.I.Ps.

Enforcement of Laws

The character and nature of the duties of the Policeman and their increase in volume are dependent on the enactments and new measures and reform laws. Every fresh legislation involves new responsibilities on the Police Department. The Police Department have to tackle the new problems brought to the fore by the new social reform laws. The Child Marriage Restraint Act of 1929, the Habitual Offenders Restriction Act of 1948, the Act for the prevention of begging, 1945, the Act for the Prevention of Dedication of Devadasis of 1947 and 1957, the Divorce Act of 1951, the Act for the Abolition of Whipping of 1955, the Act for the Recovery and Restoration of Abducted Persons in 1955, the Prohibition of Immoral Traffic in Women and Girls of 1956, Untouchability Offences Act of 1955, the Women and Children's Institutions Act of 1956 and the Prohibition Act of the recent time have increased the responsibilities and duties of the Police Department in a great way.

Most Efficient Force

The history of the Indian Police made many people doubt their capacity to adapt themselves to the needs of New India. One remarkable aspect of the Madras Police is the fact that they had risen equal to the special tasks and responsibilities that devolved on them. A study of the functioning of the Police Forces in India reveals to us the fact that the Madras Police is by far the best and most efficient. The figures of the cognizable crimes detected in the Indian States in 1957 show that Madras stood first, the crimes detected in terms of percentage being 45.4 per cent. In the matter of detection of burglaries again Madras stands first, the percentage of detection of burglaries being 47.9 per cent. The workload of the Police is increasing each year without corresponding increase in the strength of the Police force. For instance, the total strength of the staff of the Police employed in the traffic in the City of Madras had increased only slightly. With the limited personnel available and a wide area to cover, the Madras Police is unable to be quite effective.

Leave Them Alone

The Police department must be kept aloof from thoughtless, ignorant, or malicious criticism from political parties, politicians and pressure groups. The errors in judgment of individual police officials often resulted in malicious criticism of the entire department. While the wrong-doing of individuals could by all means be brought to light in the interest of purity of administration, wholesale attack and denunciation of the department itself by critics belonging either to the ruling party or to the opposition or general public or pressure groups should be totally avoided. The Police department should be kept aloof like judiciary from day-to-day politics in the best interests of the society. When the activities of the police are misunderstood or

misconstrued, their morale is damaged. The maintenance of *esprit de corps* is made difficult and they develop a negative mental attitude which does not permit them to undertake any constructive work.

Change in Outlook

The one thing that is not possible for the police in our country is to remain as they were in the past. Gouldsbury, in his book, "Life in the Indian Police", describing the old village police in India, observes: "Many village officers use their leisure hours in mischief-making, party strife and intrigue". The greatest need of the police to-day is a change in their outlook. In the past few decades political agitation and the consequent conflicts with the police have made the relationship between the respectable citizens and police strained. To-day the police of Madras or India are no longer the "soulless machinery" called upon to administer an alien land. But if the police would show consideration and courtesy to the public, they can easily win them over.

To-day the Police department is being manned by Indians of high character and education and training. It is a matter for gratification that superior officers have become conscious not only of the new responsibilities and duties, but the criticism and social ostracism to which the Police department had been subjected all these years. It is being increasingly realized that they are constantly before the public eye. The officers of the Police department are aware that the subordinate staff of their department often become unpopular for assuming an arrogant attitude towards the public. They also realize that incivility is a most inexcusable fault on the policeman's part! The superior officers do understand to-day that a vast majority of the public are dissatisfied with the police not so much for the non-detection of crime or the non-performance of other duties so much as with the ill-manners of the constables and Inspectors! An aggrieved person, for instance, hoping to get justice, rushes to the nearest police station. It is natural for the person to feel angry if the police official in charge of the station is indifferent and unhelpful. Such conduct destroys public confidence in the police.

The Correct Police Attitude

The police must always understand that the essence of a correct police attitude is their willingness to serve, but at the same time, they should distinguish between service and servility, between courtesy and softness. They must be firm but courteous, avoiding even a semblance of rudeness. They should develop an attitude that is friendly and unbiased, pleasant and personal, in all normal situations and firm and impersonal on occasions calling for regulation and control. The superior officers in the department should consider it their duty to impart a new kind of training that will enable their subordinates to know better not only the minds of the criminals but also the psychology of the normal, law abiding citizens they are to serve!

The police in the lower level should understand the psychology of the masses. People must begin to look upon the police as the strong pillars on whom rest the prosperity and security of the society. In England, the

police force is a "corps d'elite" in itself where the best men are sought for every rank. "They are obtained without difficulty and when obtained receive much higher wages than they could command in the other fields of labour—with good prospects of promotion and ample opportunity for showing the stuff they are made of, and a comfortable pension assured to them for their old age." "In India, the rule is just the other way", wrote T. C. Arthur in his "Reminiscences of an Indian Police Officer". So the police service in India is normally unattractive to intelligent and dynamic persons. The men recruited for subordinate service are persons who could not lay any large claim for intelligence or good education.

It is certain that if we want good policemen to tackle the new and varied problems in our country, they must be carefully recruited, imparted better training and scientifically equipped for detection work. The village police must be made popular and highly useful. The police constable must be looked upon as a friend and a protector. Whenever the police are overburdened with new duties, additional staff must be sanctioned. Our endeavour to reform the police should consist in raising the standard of recruits, imparting better training and in securing the whole-hearted co-operation of the public.

The Police in U.K.

The police in Britain enjoys the singular advantage over the police of almost every other country in the world. "In the method of securing law observance and in the principles on which they act and function, they are unique in the world," observes Charles Reith in his book on the gripping record of the police in Britain. The police in that country is proudly acclaimed as the living germ of true democracy!

The British police is helped and not hindered by the public they serve! The reason for this is that the British public respect and trust their policeman. The British police have the advantage of public co-operation.

No good police system can be established except on the grand and sure basis of the co-operation of the general body of the people, born out of the conviction essential to the successful accomplishment of the police that their own safety is involved in the prompt administration of justice. Public co-operation and support are essential to the successful accomplishment of the police purpose. So mutual understanding between the police and the public is essential.

Need for Public Support

Public support helps in many ways, and it is necessary in the enforcement of major laws like prohibition. With the co-operation of the public, arrests are made and convictions obtained in the countries of the West. Even

specialized training and scientific aids for detecting crimes cannot succeed in the absence of public co-operation. This is the major problem that the police in our State has got to tackle. We want more and more of crime prevention than detection after the commission of an offence. Co-operation between social workers and police must be encouraged to fight commercialised vice.

Unfortunate are the police who lack the support and co-operation of a friendly public. A hostile public makes tasks more onerous and working conditions more disagreeable to the police. Friendliness, confidence, respect, trust and affection that they receive from the people are the fountain-head of the power and efficiency of the police in Britain and the United States.

New Functions

New legislations and new governmental functions are demanding more and more police help. The sort of police that New India will have is of paramount importance. "Social Welfare rather than the maintenance of law and order by the mechanical pounding of the beat" should become the objective. The police department was started in this country as a machinery for detecting crime and maintaining law and order. But to-day, new circumstances require a new type of policeman. The greatest need of the hour is the change in the outlook of the policeman. The social and welfare work is the job of the well-trained police force in Britain. "The wave of social reform laws of the mid-nineteenth century England was not the consequence of the awakening of the national consciousness", says Charles Reith. It was caused primarily by the existence of the police and the fact that they were demonstrably able to enforce such laws. "The existence and power of police" ended in Parliament, it is proudly asserted, "the age-long unanswerable argument of reactionaries that social reform laws could not be enforced"!

Tradition of Service

A new tradition based on character, service, public spirit and public co-operation will have to be built in the police administration. "The police of my conception will, however, be of a wholly different pattern from the present day force . . . Its members will be servants, not masters of the people . . . In fact the policemen will be reformers" said Gandhiji. The police functions in India will have to undergo a radical change with their kindly words and helpful advice for anyone in trouble who comes to them. The police of Madras have to fulfil an immensely beneficial social function, in finding relief for destitutes, in smoothening out misunderstandings and frictions and traditional hatred and estrangement of any kind besides carrying out progressive and social welfare programmes. This will result in a greater public appreciation of the police work.

Highways in Chingleput District

SRI S. C. NAYAK, M.I.E. (Ind.), Chief Engineer (Highways)

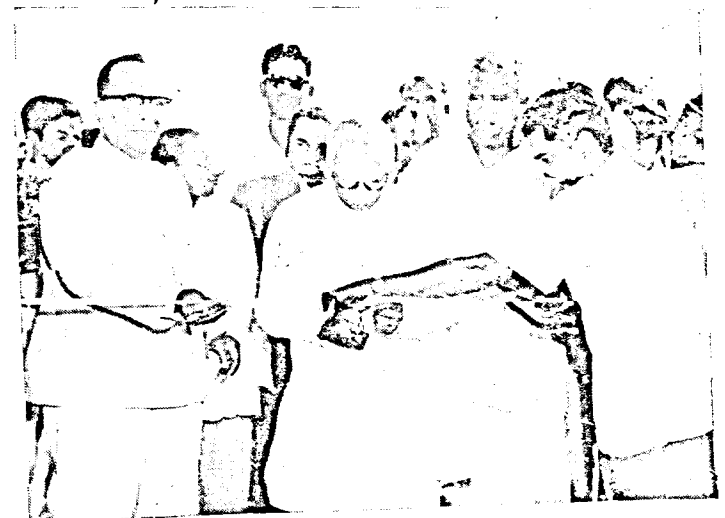
The importance of roads has been recognised from the remotest antiquity, especially in this part of the country. The 'Rajabattai' that radiated from the ancient city of Kancheepuram towards several interior as well as coastal cities like Woraiyur, Mamallapuram, and Vengi were undoubtedly of a class that can be considered on a par with our National Highways of to-day. As in the past, so also to-day we have got such a well knit system of roads in this district, that people in other districts have begun to envy. No doubt, Chingleput district, forming the heaviest highway division charge by way of expenditure, has been getting preferential treatment in the matter of development of communications in the hands of successive governments and rightly too. Surrounding, as it does, the Presidency town, the various roads of the district not only serve as gateways to the District Headquarters and provide for the expansion of several industries in the hinterland away from the congestion of the city, but also connect the various places of historical, archaeological, religious and tourist importance studded throughout the district like Kancheepuram, Mahabalipuram, Thirukkalkundram and Vedanthangal. As can be expected, the traffic intensity obtaining on some of these roads is the heaviest possible, the figures running up to ten thousand tons per day, and, unless improvements are always watchfully provided for the entire system will fail being unable to cope with the increasing transport needs.

Plan Achievements

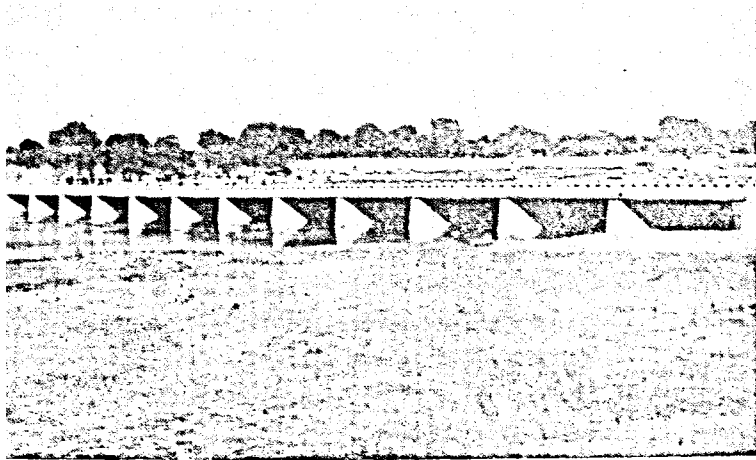
A few of the achievements during the Second Five-Year Plan period may be worth mentioning here. Under the Central Road Fund Scheme, the schemes of construction of culverts and bridges on Ponneri-Pulicat Road at a cost of Rs. 3.27 lakhs and the work of improvements to Thiruvanniyur-Muthukadu Road costing Rs. 3.20 lakhs are nearing completion and the work of constructing a high level causeway at 7½ of Padalam-Cheyyur Road at a cost of Rs. 3.85 lakhs is in progress. Under the Economic and Inter-State importance scheme, the work of forming a road from Arkonam to Tiruvallur is in progress. Among the State Plan Works, the important works are, constructing a bridge at Mile 12¼ of Arkonam-Kancheepuram Road at a cost of Rs. 1 lakh; constructing a bridge at Mile 18½ of Thirumushi-Sathyavedu Road costing Rs. 1 lakh and improvements to the causeway on Kancheepuram-Wandiwash Road to the causeway on Madurantakam-Chunampet Road estimated to cost Rs. 1 lakh. The work of improvements to dips in Madurantakam-Chunampet Road costing about Rs. 1 lakh will be taken up for the year 1960-61.

Now that we are in the last phase of the Second Plan, it will be worthwhile mentioning the provisions under contemplation for being carried out during the Third Five-Year Plan period. The most important of these is the road from Madras to Kancheepuram, a distance of 50 miles, of which 12 miles of this road lies within the limits of Chingleput district with 24 miles of missing links to be formed and approximately costing in all Rs. 118 lakhs. In the State Plan works costing Rs. 56.50 lakhs have been proposed for execution in this district. The proposals contemplate upgrading of five Major District Roads totalling up to a length of 127 miles to State Highways standards.

Construction of a culvert bridge at Mile 12¼ of Thirumushi-Sathyavedu Road across Araniar at a cost of Rs. 6.90 lakhs, and a bridge across Araniar at Mile 8½ of Kortalaray Bridge-Puthur Road at a cost of Rs. 5.90 lakhs; cement concreting Mount-Poonamallee Road (M. 0.0 to 6½) at a cost of Rs. 10.00 lakhs; cement concreting Thirumushi-Sathyavedu Road (M. 15½—22½) costing Rs. 10.00 lakhs, and constructing a causeway across Palar near Thirumukkudal at a cost of Rs. 4.000 lakhs are proposed to be taken up and completed during the Third Plan period.



A causeway on the Sathyavedu-Thirumazhisi Road was declared open on 28th February by Sri M. Bhaktavatsalam, Minister for Home.



The causeway on the Thirumazhisi-Sathyavedu Road.

As stated by the Prime Minister, "The real yardstick to measure the progress of the country is how our villages have gone forward". This aspect has been well kept in mind while formulating the plans. For other Districts Roads and Village Roads, a sum of Rs. 27.50 lakhs has been set apart for this district. This includes a provision of Rs. 5.4 lakhs for new formation works alone, out of which Rs. 1.00 lakh is earmarked for improving the roads leading to fishing villages. With the implementation of Pataskar Award and the transfer of villages between Andhra and Madras States, a considerable length of rural roads will come under the additional charge of this district and they have all to be improved to Madras standards. The people of Chingleput district have always been generous minded and self-supporting and instances of the self-help schemes completed by them such as laying of short roads to connect Musarvakkam and Meenjuri villages to the Trunk road, and also a road of 14 miles in length from Thirukalikundram to Thiruppurur, date back to eight or nine decades ago.

The Bridge across the Kortalar

The bridge that was thrown open to traffic on 28th January 1960, is on a road leading to several import-

ant religious places like Thirumazhisi and Thiruvallur and agricultural centres like Uthukottai and Sathyavedu. The river Kortalar crosses the road at Mile 37.24. The existing bed level causeway is 2 miles downstream of Poondi reservoir and is impassable at times of even the slightest increase in discharge. As such, this high level causeway that could serve the modern traffic except during times of very high floods, has been constructed 50 feet upstream of the old crossing and it has got a vented portion of 16 spans of 25 feet in the middle of its total paved length of over 2 furlongs. The substructure is of coarsed rubble masonry founded on rectangular wells. The clear width of carriageway is 24 feet and necessary aprons have been provided for the safety of the structure. The estimated cost of the work is Rs. 6.65 lakhs and actually a saving of Rs. 30,000 has been effected in the execution. About 120 tons of steel and 950 tons of cement have been used in the construction.

Employment of Skilled Workers

This bridge is situated across Kortalar river which seems to be a corrupt form for "Kortavaiyaru" or the river of the Goddess of Victory. The road is the one leading to Thirumazhisi, the birth place of Thirumahisai Alwar the Saint whose command of love even Lord Varadaraja of Kanchi obeyed.

It usually happens in a scheme involving skill in labour like this, a great many local people get trained during the course of the work but are left over to fall back again on land after completion of the work for want of facilities to get employment elsewhere utilising the skill they have acquired. Provision of a suitable agency to have their names registered and to give them information from time to time as to where they can find employment may with advantage be considered.

[From the speech delivered on the occasion of the opening of the High Level Causeway on the Thirumazhisi-Sathyavedu Road]

Facilities for Bell-metal Industry In Nagercoil

The Government have sanctioned the establishment of a common Facility Centre for bell-metal industry at Nagercoil as an adjunct of the existing co-operative run by the bell-metal workers. The scheme will cost Rs. 60,320 on non-recurring items and Rs. 19,310 per annum towards recurring expenditure on raw materials and staff. The facilities to be provided at the Centre include a motorised blower and pit furnace, a variety of lathes and drilling machine. The scheme has been prepared with a view to improve the economic condition of the large number of artisan families at Nagercoil district, who are engaged in bell-metal industry and in order to develop the industry on more efficient lines by introducing improved techniques and new designs. The scheme will be implemented by the Nagercoil Metal-casting Workers Co-operative Society and to this end the society is being given a grant of Rs. 45,710 towards machinery and one year's recurring expenditure and an interest-free loan of Rs. 33,920 towards land and building for the unit.

A Helping Hand to the Handicapped

A man, supporting his paralytic limbs with crutches, proudly marches on every morning to the gates of an engineering establishment. Another man—a victim of blindness—takes position behind the packing counter in a cigarette manufacturing firm. These are just two of the forty-seven disabled—twenty-eight orthopaedically handicapped, twelve deaf and dumb and seven blind—rehabilitated in gainful employment by the Employment Office for the Physically Handicapped. Seven of these are women.

By their skill and output, they have demonstrated that they are no longer disabled when employed in the right job. Given an opportunity, they can work as effectively as their able-bodied brethren. They have also proved their adaptability to circumstances, regularity, reliability and capacity.

The Employment Office for the Physically Handicapped at Bombay is the first of its kind to function as a part of the National Employment Service operated by the Union Ministry of Labour and Employment and the State Government. The National Advisory Council for the Education of the Handicapped has recently recommended the establishment of one such office at least in every major State by the end of the Third Plan period.

The Special Employment Office, which lends a helping hand to the handicapped in securing jobs suited to their functional abilities has, during the first eleven months of its existence, registered 238 disabled persons—212 males and 26 females—including 57 blind, 28 deaf and dumb and 143 orthopaedically handicapped. Of necessity, this Office, for the present, renders employment assistance to the blind, deaf, dumb and orthopaedically handicapped, sponsored by the recognised educational or training institutes for the physically handicapped in Bombay State or the Government Training Centre for the Adult Blind, Dehra Dun. Its services are also available to such disabled persons residing in Greater Bombay who may have previous industrial, commercial or other experience or who may have attained the S.S.C. standard. The scheme thus seeks to offer to employers only those handicapped persons who have some education, training or job experience. In sponsoring candidates, a careful assessment is also being made of the capacity of the candidate for a particular job. To advise the office on the residual functional capacity of the candidates, a panel of eminent medical men has been set up. There is also an advisory council with representatives of employers' and employees' organisations and social workers to advise the office on the problems affecting the employment of the handicapped.

The work relating to the placement of a disabled person in gainful employment is of a complex nature. Apart from registration and classification of the disabled in relation to their residual functional capacities, constant efforts have to be made for avenues where they

can be rehabilitated. Contacts have to be established with employers and their sympathies aroused to give to the handicapped at least a fair trial to prove their potentialities. Such contacts so far made indicate that the response, on the whole, has been fairly satisfactory. Many of them have promised to consider physically handicapped persons for employment as and when suitable vacancies arise. Of those who have been found employment so far, four have been employed by the Union Government, 11 by the Government, three by quasi-Government bodies and 29 by private employers in light engineering, radio, printing, electrical, rubber, cigarette and pharmaceutical manufacturing units.

The problem of rehabilitating the disabled in their rightful place in the society is one of great magnitude. Fortunately, there has been a growing recognition by society of its responsibilities towards the handicapped. While in Europe the idea that Government might directly take action to ensure employment for the handicapped citizens gained ground during the first World War and the years immediately following it, in the Asian countries, particularly in India, it remained confined to affording them alms and charity. Several measures have since been taken, both by administration as well as social organisations, to ameliorate their condition. But the problems for ameliorating their number of people. A sample survey, quite a large number of years ago showed that in the 19,000 households visited by the Survey Team, 1,100 persons with *prima facie* disabilities, included 83 blind or visually handicapped, 126 orthopaedically or neurologically handicapped, 72 deaf or mute and 55 mentally deficient. In Delhi, the number of physically or mentally handicapped persons was 221 out of 5,981 houses visited by the Survey Team.

"We crave no charity, no alms. What we need is an opportunity to work. A job—where we can use our latent abilities and work as useful citizens, contributing our mite to the national economy", said a polio victim at the time of the inauguration of the Special Employment Office. These words echoed the feelings not only of a solitary individual but of hundreds like him. It has now been accepted that jobs, not alms, is the answer to the problem. The Employment Office for the Physically Handicapped at Bombay is a beginning in this direction and with care of its type coming into being, it can be hoped that a job, for those who are willing to work, will not be just a dream but a reality.

This will, however, call for a sympathetic, perhaps a little lenient, approach and adjustment in social and economic prejudices. But its cumulative cost will be much less than charity! Society owes them an opportunity—an opportunity to prove their worth in the fields suited to their functional capacities.

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Announcement

47

Indian Council of Agricultural Research

The Rafi Ahmed Kidwai Memorial Prizes for Agricultural Research

The Indian Council of Agricultural Research has, with a view to creating an incentive for research workers and to recognizing outstanding research work done by them in the fields of Agriculture, Animal Husbandry and allied subjects, instituted Rafi Ahmed Memorial Prizes for Agricultural Research and one prize will be awarded biennially, i.e., once in two years for outstanding research work done in India in each of the following subjects.

(1) Agronomy; (2) Agricultural Engineering; (3) Agricultural Chemistry; (4) Agricultural Botany; (5) Agricultural Zoology (including Fisheries); (6) Horticulture; (7) Animal Breeding; (8) Animal Nutrition (including Physiology and Biochemistry); (9) Animal Diseases; (10) Dairying; and (11) Agricultural and Animal Husbandry Economics and Statistics.

These prizes will be in the form of gold medals or cash or both and one prize in each subject will be awarded on the basis of outstanding results of researches achieved by research workers in the country either individually or jointly, during the Calendar years 1958 and 1959, i.e., 1st January 1958 to 31st December 1959. Results achieved prior to the Calendar year 1958 or after the Calendar year 1959 will not be recognized for the purpose of the present award.

The award of each of the prizes shall be based on significant advances in human knowledge in a particular subject as revealed by books, pamphlets or papers published in the name of the candidate or any other unpublished accounts or papers published work done or discoveries and inventions made by him. The selection of a candidate for the award of a prize will be made on the recommendations of a Judging Committee consisting of eminent scientists appointed for the purpose by the Indian Council of Agricultural Research. The award of a prize may be made to more than one research worker and the prize money divided amongst them in such proportion and manner as may be decided by the Council.

All research workers, engaged in research work in India, in the fields of Agriculture, Animal Husbandry and allied sciences are eligible for competing for these prizes. Applications should be submitted in quadruplicate in the prescribed form, which can be had, free of cost, from the Secretary, Indian Council of Agricultural Research, Dr. Rajendra Prasad Road, New Delhi. Candidates working in Research Institutes, etc., should submit their applications through the Head of the Institute/Department, etc. Others may submit their applications direct.

All applications should be sent addressed to the Secretary, Indian Council of Agricultural Research, Dr. Rajendra Prasad Road, New Delhi, so as to reach him not later than the 30th June 1960. The cover of applications should be superscribed as under:—

"Application for the award of 'The Rafi Ahmed Kidwai Memorial Prize for Research' in"

Applications received after the 30th June 1960, will not be considered.

Profile of World's Intellectual Life

A profile of the World's intellectual life is offered in the latest edition of UNESCO'S "Basic Facts and Figures" showing data collected in 1958.

As in its previous editions, this collection of statistics, compiled from official reports relating to education, culture and mass communication offers some startling contrasts. Again, it shows that education is having a difficult job keeping up with the rapid increase of the world's population.

Worldwide, the basic level of information received by UNESCO is 80 per cent. Africa has the highest proportion of illiterates—80 to 85 per cent, followed by 60 to 65 per cent for Asia, 40 to 50 per cent for the Americas and 10 to 20 per cent for Europe. The rate for the lowest illiteracy rate must go to Sweden. There the figure is—0.

All aspects of education, from primary schools to universities and teacher-training institutions, are dealt with in "Basic Facts and Figures", which offers valuable information to educators by differentiating in many countries between school attendance in urban and rural areas. The enrolment in institutions of higher education is highest in the United States—2,918,212, followed by USSR—2,013,565. In Europe, Italy ranks highest with 212,424 students.

What people do with their leisure is also reflected in "Basic Facts and Figures". World reading habits are revealed in statistics devoted to book production, to libraries and their attendance. According to figures published in each country, the British are still the world's most avid readers of newspapers—estimated circulation in the United Kingdom amounts to 573 copies per 1,000 inhabitants. Proportionately speaking, their circulation is lower in the United States (337 copies per 1,000 inhabitants), but Americans get more to read when they buy newspapers: newsprint consumption PER CAPITA in the United States is 38 kilograms—the world's highest figure, followed by a shade over 28 kilograms in both Australia and New Zealand.

The British also go to the cinema more often than anywhere else. The average annual attendance per inhabitant in the United Kingdom was 21.5 times, compared with 15.8 in America, 15.6 in Canada and 15.4 in Israel. Statistics on film production are furnished as well.

In the United States, it seems that nearly everyone has a radio and the figures bear it out—892 sets per 1,000 inhabitants. Denmark leads Europe with 318 per 1,000 followed by Andorra with 300 per 1,000.

Fundamentals of Dam Building

SRI K. S. KUNJITHAPATHAM, Assistant Engineer, Emerald Camp.

For the past ten years we have been often hearing about dams being constructed across several rivers for the purpose of either irrigation or production of power. Most of us have seen one such thing, but know nothing about it except that it is a massive structure and some of us have not even had an opportunity to visit a dam. Hence it is considered worthwhile to explain the fundamental aspects of a dam (without going into the design aspects or technical features of it) which may be understood by all.

The two major projects now under construction are the Parambikulam-Aliyar Project in Coimbatore district and the Kundah Project in the Nilgiris district. Both have a series of dams. The main object of the former which is built by the Madras Public Works Department is to enhance the irrigation facilities in Coimbatore district and the object of the latter, the construction of which is taken up by the Madras State Electricity Board, is production of electricity. Some of the dams constructed recently are the Sathanoor, Vaigai, Amaravathi, etc., for irrigation and the Pykara for power production.

Storage of Surplus Water

Uniform quantity of water is required all round the year for running the machines for power production and throughout the season for irrigating the fields. But we do not get uniform quantity of water throughout the year in rivers. During rainy season we get more than our requirements and in other seasons we do not get water even to meet the minimum requirements. Hence the surplus waters in rainy seasons are to be stored for use in other seasons. For this purpose a huge massive wall is built across the river to the required height. This wall is known as the dam and the water storage as reservoir. This also answers the question of some visitors to the projects during summer, as to why a dam of more than 100 feet height is built when there is only 6 inches to 1 foot of water in the river. Moreover, while irrigation and power development are the direct advantages of building a dam, flood-control is an indirect advantage because sudden floods which will damage the river banks and field crops, are being blocked in the reservoir.

Location of a Dam

Usually dams are built in hilly regions so that water flowing in the valley between two hills can be stored by the dam connecting the two hills. The selection of site for the dam is a very tedious but interesting job. In hills and forests (where facilities for conveyance, food and shelter are not available), engineers have to wander about with their instruments to inspect and survey the courses of the rivers and streams and find out the best location for a dam. During this period they have to live in tents and live on stored food for days together. Necessity has made some of them good cooks.

As there won't be roads, etc., the investigation party has to walk miles together. In spite of these difficulties the work will be interesting because for one thing you are examining all the possibilities to select the most favourable site, using your knowledge of engineering experience, etc. For another, you get all the joys and thrills of an excursion. You are amidst scenic splendours that take one's breath away. You cook your food and share it with your friends. The site selection should be made after taking into account several factors. A narrow valley must be chosen as far as possible to lessen the length of the dam. The foundation should be tested to have sound rock at a reasonable depth below ground. There should be good storage space for the reservoir. When water is stored fully water must not escape due to low lying ridges. In addition to these, the availability of good building materials like stones, earth, etc., also is a point to be taken into consideration.

Having chosen the site, a design of a section of the dam is prepared based on the height proposed which depends upon the quantity of water to be stored and area of the reservoir. Then the question of finding out whether the floods coming in the river for one or two weeks in a year will fill up the reservoir to its full height is taken up. There are records of rainfalls either with the revenue or the Forest department officials which will give the average rainfall each year in inches, in that area or near about. This will be taken for a number of years, say, for 30 or 40 years. The catchment of the river up to the location of dam can be roughly computed from the All-India Survey Map. The water that is expected to flow down the river can be computed based on the rainfall and the catchment area. This is the available water for us during the normal monsoon years and to hold this water a dam will be built.

Prerequisites of a Dam

It is now clear that the object of a dam is to store up water to hundreds of feet of height. When constructing a dam the three important points to be considered are, its (1) stability, (2) strength and (3) water tightness. On one side of the dam water will be stored to its full height and on the other side there can be no water. Hence the structure will have the push of the water pressure from one side. By this pressure a structure can fall down or break. The structure is so designed with wide base that the centre of gravity when the water is full will fall well within the base and so the structure will be stable. Then the materials to be used for the construction, stones, mortar, etc., will be tested and only the good quality materials and proper proportion of mortar will be used. Regarding the third point, an elaborate explanation is necessary, because this is a very delicate point and perfection in this res-

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peet has not been achieved so far. It is fitting to compare dam structure to a human body and when you build a dam it is like building up our physical structure. It is possible to build our body to a strong and stable one by taking rich diet, good exercise, etc., and it is possible to build a strong masonry structure by using good stones, rich mortar, etc. But just as even strong men get diseases, even a carefully built dam structure allows atleast some amount of water to pass through the pores of the structure. Hence this percolation of water is more or less a disease to the dam.

Precautions Against Percolation

The precautions taken to prevent the percolation of water are : providing good bond between foundation rock and masonry structure; the precautions taken during day to day construction; raking and pointing the mortar joints in the water face of dam; building an impervious portion of masonry structure; providing proper drains into the masonry structure; formation of drainage gallery.

The foundation being natural rock which will be smooth and the structure being of masonry, there is always a chance of water finding its way out easily at the junction of the two, if no proper bond between them is ensured. For this the foundation rock is completely roughened by chipping with chisels, given a coat of neat cement mixed with water and masonry laid with rich cement mortar.

In daily routines normally one course of masonry is laid per day. The packing of mortar joints is watched very closely and inspected. No water gaps or air gaps should be allowed into the joints. The previous day's masonry is thoroughly cleaned and washed before laying fresh masonry. Bond stones are provided as many as possible to give good bond between the two layers. Every layer is cured well by pouring water.

After the dam is built, the exposed mortar joints at the water side will be raked out of old mortar and repacked well with rich cement mortar and finished smooth so that the joints will be water-tight. This is necessary because when the masonry was being built these joints could not be packed well as they are at the end. If all the joints are effectively sealed in this way, no water would enter into the structure through these joints even when the dam is full.

From the water face masonry of a few feet wide will be built of rich mortar mix (which is found to be water-tight by test). This width is fixed based on the height of the dam and this is called the impervious masonry. This portion should not allow any water to pass through it and hence beyond it even if any water escapes through the pointing.

If any water escapes through the impervious masonry also, then nothing can stop it from reaching the other side of the dam, which should be voided. Hence just after the impervious portion, a series of vertical shafts (holes) of 9 inches diameter to the full height of dam are provided. These will be at intervals of 15 to 20 feet and will catch the percolating water which will flow through these holes. These are called the drainage shafts. There is also a longitudinal drain provided at

the foundation level to the entire length of dam to collect the water escaping at the foundation junction and pass it to the drain pipes.

All the vertical drain pipes are connected to a drainage gallery which will be built to the length of the dam as near to the foundation as possible. This is a long recess or opening into the dam to allow men to walk through. Mostly this is 5 feet wide and 7 feet high. Because this is formed into the body of the dam it facilitates the inspection of the interior of the structure by the engineers and if there are any flaws, it can easily be detected, and remedied immediately. The water from all the drain pipes are collected here, measured and sent out. If it is within the permissible limit there is no worry. If the water is found to be too much, the engineers have to be very careful. Those who have visited a gallery like this may remember some sort of white stuff sticking to the sides. This is the lime content of the cement used for the dam. One of the main ingredients for manufacture of cement is lime. If that is separated from cement its strength will deteriorate. One of the functions of this percolating water is to separate the lime from the mortar used and carry it out of the structure. The white stuff is due to this only and this weakens the structure and spoils the surface.

Remedies for Percolation

There are several methods of treating a dam for its perviousness. One is to drill holes into masonry where the weak spot is expected and inject a mixture of cement and water by pressure so that cracks or the pores in the structure will be filled by cement and get closed. It should be traced and effective treatment given till the structure is completely free from the undue percolation. To a certain extent percolation of water is not at all objectionable as much harm will not be done except at bit inconvenience. Though several precautions are taken during construction it is unfortunate that some defect occurs somewhere in the structure without the knowledge of all the skilled workers and engineers working there, and it results in this leakage. It is a very dangerous sign if this leakage shows up at the back of the dam. It is as dangerous as a carbuncle in the back of a man. That is why provisions have been made to tap the percolating water, if there is any, from the middle of the structure itself. If we put it figuratively, storing up the natural flowing water by man is a fight between nature and man. The stagnated water tries to push down the obstruction or pass through it and run down but the dam tries to stand erect and hold the water. The water plays the offence while the dam does the defence. If any water escapes and advances it is caught by the traps called drain pipes, taken down to the cell called the 'Gallery' and sent out. Selection of good foundation and ensuring proper bond can be taken as selection of proper men for the forces and daily precautions taken can be said to be the regular military training given to the forces.

The above gives you some idea of how a dam is built. It is an equally difficult and complicated process to treat the foundation rock before the building work commences to make the foundation firm and leak-proof about which you can learn on some other occasion.

Roads in Salem District

Wedged between the Deccan Plateau and the Southern plains, Salem District occupied a strategic place, spread over by highways of the conquering and vanquished armies in the past. The enterprising warrior kings of Mysore, Hyder Ali and Tippu Sultan who had projected and in great part finished an extensive chain of roads especially in this district, have earned immortal positions in History not only as Pillars of Nationalism but also as pioneers of Road Engineering. The work left over by them was continued by the British and during the period of Mr. Orr, Collector of the district about a century and a quarter ago "376 miles of high road at an average cost of Rs. 134 for mile besides 375 miles of cross roads were constructed, 20 bridges were built and 196 stone dams were made at an aggregated cost of Rs. 14,206." No wonder that his work was held in such high esteem by the people of the district that they readily agreed to tax themselves for the maintenance of these roads by contributing one rupee per cent every year which was continued for a period of 24 years. Not only that. The finest stretches of avenues, composed mostly of tamarind trees, relieved now and again by banyan or pungan of this district, was mainly the creation of this far sighted. Collector in whose tenure the avenue register recorded an increase of nearly a lakh of trees in addition to which 1.8 million palmyra trees were also planted, the usufructs of all the avenues having been allowed free enjoyment by the ryots on the understanding that they should keep the roads lined by them in good repair.

Fusion of Three cultures

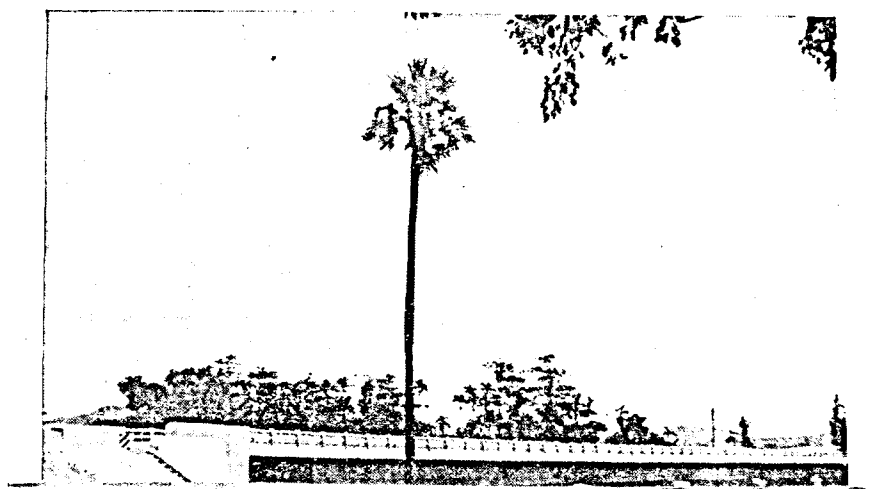
The Chief Engineers of all States in India who assembled at Nagpur in 1943 to prepare a 20-year road plan for the country classified all maintained roads into five categories, viz., National Highways, State Highways, Major District Roads, Other District Roads and Village Roads. National Highways are those roads of importance to the country as a whole for strategic and economic reasons as against roads of local importance. The entire cost of maintenance and improvements of such roads is the responsibility of the Union Government. To-day, we have got a national highway system of 1,090 miles spread out in our State out of which 202 miles lie in Salem District representing nearly one-fifth of the total. The three National Highways from Madras, Bangalore and Kanyakumari meeting at Krishnagiri reply sent the fusion of three cultures at this place and also heralds to it a position of greatest importance in the near future, especially, with the development of the Aluminium and Magnesite industries and the setting up of a steel plant in the Southern part of this district. In order to cater to the needs of fast developing transport industry, it has been proposed to increase the National Highway mileage of the State by another 918

miles in about a period of 20 years. Among the roads, suggested for improvement to National Highway standards, the roads from Salem to Neiveli via Attur will be taken up for upgrading during the Third Plan period. The First Five-Year Plan of National Highways saw the entire mileage blacktopped in Madras State. During the Second Plan period, emphasis has been laid on the provision of bridges at river-crossings to ensure free flow of traffic for all the year round and increase the width of the carriageway.

Programme For Development

Among the important works taken up in this district, mention may be made of the bridge across Pulakalli river at Mile 177|7 of Benares-Cape Comorin Road, and bridge at Mile 187|4 across Ponnaiar on Madras-Bangalore road, both of which have been completed, and the bridge at mile 174|1 of Benares-Cape Comorin Road which is in progress. The Third Five-Year Plan for National Highways which is under the consideration of the Government envisages an outlay of Rs. 7.5 crores out of which works to the tune of Rs. 1.25 crores are proposed to be sent on the roads falling in this district. The chief items of works included in the proposed third plan are, widening and strengthening narrow culverts and weak bridge structures; provision of bypass at Salem, Krishnagiri, Omalur and Kaveripattinam limits; constructing a railway overbridge at Karuppur near Salem; widening the Black Top surface for 22 feet width from Krishnagiri to Salem and widening of the Cauvery and Bhavani Bridges on the Benares-Cape Comorin Road. When it is realized that all these schemes require lot of finance, perhaps the recent excise duty affecting the road transport industry announced by the Union Finance Minister may not be felt as unwelcome one.

This bridge across the Markhandanadhi in the North Arcot district was declared open to traffic last month



Crossing of the river Markhandanadhi was by an old arched bridge, comprising of 3 spans of 48 feet each with a roadway of 18 feet and two relief arches of 9 feet diameter over the piers, probably, built more than 120 years ago, at the instance of Mr. ORR as already referred to by me. During the unprecedented floods of October 1956 which had also caused considerable damage to the then recently constructed anicut across this river two and a half miles upstream at Marasamudram, the end span on the Bangalore side of the bridge was badly damaged and cracks had also developed in the relief arch. It is reported that an afflux of nearly 5 feet was created at the bridge site and that the bridge failed due to inadequate waterway. The damaged span was completely plugged and temporarily strengthened over which light traffic has been allowed till now with a bed level diversion maintained for heavy traffic. The new bridge has been constructed at 175 feet upstream of the old bridge site as the alignment is fairly straight allowing radius of curvature suitable for National Highway Standards for joining with the road at either end. The

bridge consists of 6 spans of 60 feet with open foundations resting on benched up rock. Piers and abutments are constructed with C.C. 13:3:6. Simply supported R.C.C. T-beam-slab with 3 ribs and 6 cross beams is the design adopted for superstructure. The clear width of roadway is 24 feet and the bridge has been designed for Indian Roads Congress Class AA loading. About 594 tons of cement and 133 tons of steel were required for the construction. The estimated cost of the bridge work is Rs. 4.56 lakhs.

The river over which this bridge has been constructed is associated with Markandaya, the sage who was permanently relieved from the clutches of the 'God of Death' by Lord Shiva.

[From the speech delivered by the Chief Engineer for Highways on the occasion of the opening of the bridge across the Markhandanadhi on the Madras-Bangalore Road.]

Pearl Fishery at Tuticorin

The Pearl Fishery operations off Tuticorin coast this year was inaugurated on the 16th March 1960 by Sri V. Ramaiah, Minister for Electricity. It has been estimated that about 220 lakhs oysters are ready to be picked. The Government have also sanctioned the construction of a new tow-boat at a cost of Rs. 2½ lakhs, to tow the canoes used in the Pearl Fishery Operations. The Fisheries Department officials who have been inspecting periodically the Pearl Banks, have reported that this year's catches will be one of the biggest seen in the present series of Pearl Fishery operations which commenced in the year 1955.

This will be continued till the middle of May 1960 as the number of oysters to be fished this year is estimated to be particularly large. The catches of oysters are apportioned between the divers and the Government in the usual ratio of 1:2 and the division of the oysters is carried out under the supervision of departmental staff at the close of the day in the sea, on board the launches when weather conditions permit or on shore, when necessary.

The Government share is sold in auction every day before 8 a.m. according to the arrival of the boats, in lots of 1,000 oysters.

The Pearl Fishery camp is located in the office compound of the Assistant Director of Fisheries, Tuticorin, and temporary sheds have been erected for accommodating the offices of the Police, the Medical and Health Departments and auction hall. The entire camp is electrified for the duration of the fishery.

A public health unit consisting of one Health Inspector, two maistries, one Entomologist, twelve sweepers and six scavengers and six mazdoors, has been detailed to keep the camp free of flies by using sprayers and disinfections. On board every fishing vessel used in the operation there is one Medical Unit consisting of one Senior Nursing Orderly with all the First Aid Equipments to render aid in the sea to divers in case of emergency.

Announcement

53

Indian Council of Agricultural Research

Utilization of the services of retired scientists in the field of Agriculture, Animal Husbandry and allied sciences

The existing rules regarding superannuation sometimes put an abrupt end to the research work of any active scientist or, at any rate, make the continuation of such work, extremely difficult, as a result of which the talent of a good number of scientists who are physically fit and mentally alert is wasted after retirement for lack of opportunities to pursue work in their fields of specialization. In order that the experience and talent of such scientists as have finished with their active professional career is not wasted, the Indian Council of Agricultural Research has decided to initiate, with effect from the 1st April 1960, a scheme for the utilization of the services of retired scientists in the field of Agriculture, Animal Husbandry and allied sciences.

Under the scheme, retired or retiring scientists of established reputation who are still active in research will be enabled to continue their researches with suitable financial assistance from the Indian Council of Agricultural Research. The retired or retiring scientists should try to secure sponsoring Institution (which may be one from which he has retired or a different one) which would provide him necessary facilities for continuing his work, e.g., access to the laboratory and library, accommodation for work, etc. Failing this, the scientist may apply to the Indian Council of Agricultural Research and the Council will try to place him in a suitable Institution. The choice of the Institution at which the retired scientist would continue his researches will be left to the scientist himself but such Institution should be one acceptable to the Council, an outline retiring scientist (within a year of his retirement) will submit to the Council, an outline scheme of research which he intends to undertake after retirement. In doing so, he will clearly give an account of the research work done by him during the five years preceding the date of his retirement or application whichever is later.

An annual allowance not exceeding Rs. 6,000 will be provided to the retired scientist himself, if asked for by him, and a grant ordinarily not exceeding Rs. 4,000 to cover the cost of one research assistant and other expenses may be decided by the Council. The amount of the grant may be increased in exceptional cases where the investigations involve field work necessitating undertaking of tours or where costly equipment or apparatus have to be purchased.

The allowances and grants to the scientists under the scheme will be provided, in the first instance, for a period of three years only. As usual, annual progress reports shall be submitted to the Council by the scientist. Where the retired scientist would like the grant to be renewed, he will have to submit a year in advance of the termination of the first sanction, an application to that effect indicating the progress made under the scheme and the programme proposed to be followed during subsequent years. The allowances and grants to the retired scientists will be payable on a quarterly basis through the Institution to which the retired scientist is attached.

All applications for grant under the scheme should be submitted to the Council in the prescribed *pro forma* which can be obtained, free of cost, from the Secretary, Indian Council of Agricultural Research, Krishi Bhavan, Dr. Rajendra Prasad Road, New Delhi.

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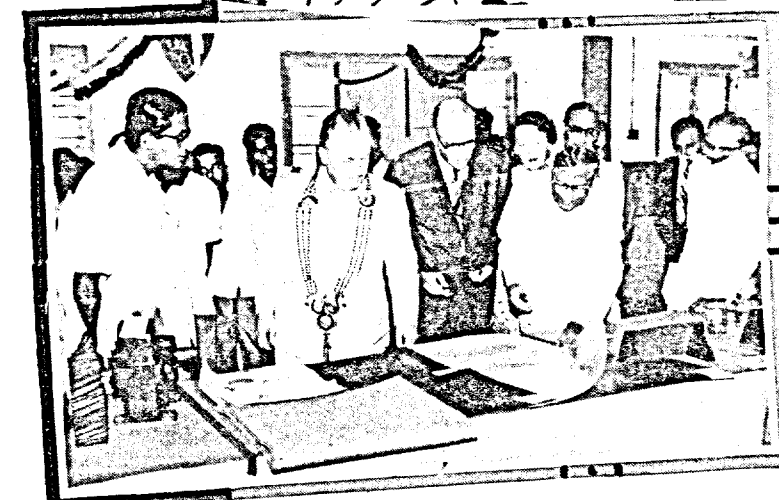
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PREMIER
OF FINLAND
IN THE CITY

His Excellency V. J. Sukselainen, Prime Minister of Finland, visited the City in February in the course of his tour of India. He was received at the airport by Sri K. Kamaraj, Chief Minister. Photo on top shows the Premier with the Chief Minister and Sri T. N.S. Raghavan, I.C.S., Chief Secretary to Government, at the airport.

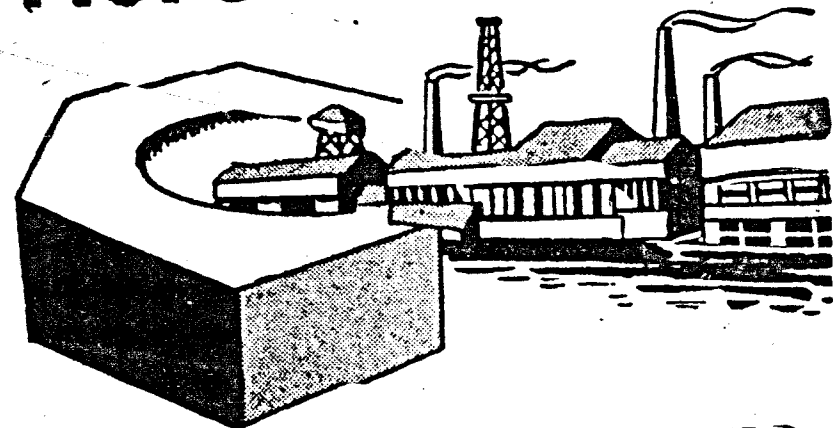
Top right: At the reception
Right: At the Industrial Estate, Guindy.

Bottom right: With Sri C. Subramaniam, Minister for Finance (third from left) and Film Stars at the Vauhini Studios.

Bottom left: The Governor of Madras presenting a Tanjore Plate to the Premier at the State Banquet



More Industries



Go METRIC

Began, in 1958, when the change-over to the Metric System in important industries—jute, iron and steel, textiles, cement, paper, engineering, coffee, non-ferrous metals, raw rubber etc.—started adopting Metric weights and measures.

Since then the transition has begun in more industries. Use of the Metric System was permitted in the COIR industry from October 1959. In the SUGAR industry the change-over started from November 1, 1959.

The pace will further quicken from April 1960 when the VANASPATI and PAINT industries 'go metric'.

The entire distribution of PETROLEUM and PETROLEUM PRODUCTS will be in litres and metric units from April 1, 1960.



Another Major step will be taken when the Customs and the Central Excise adopt the Metric System from August, 1960.

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55
The Chingleput District Sports were held on 7th February 1960. Sri C. Subramaniam, Minister for Finance, presided over the events. Sri K. Diraviam, I.A.S., Collector of Chingleput, is seen welcoming the Minister and Sri C. Subramaniam.



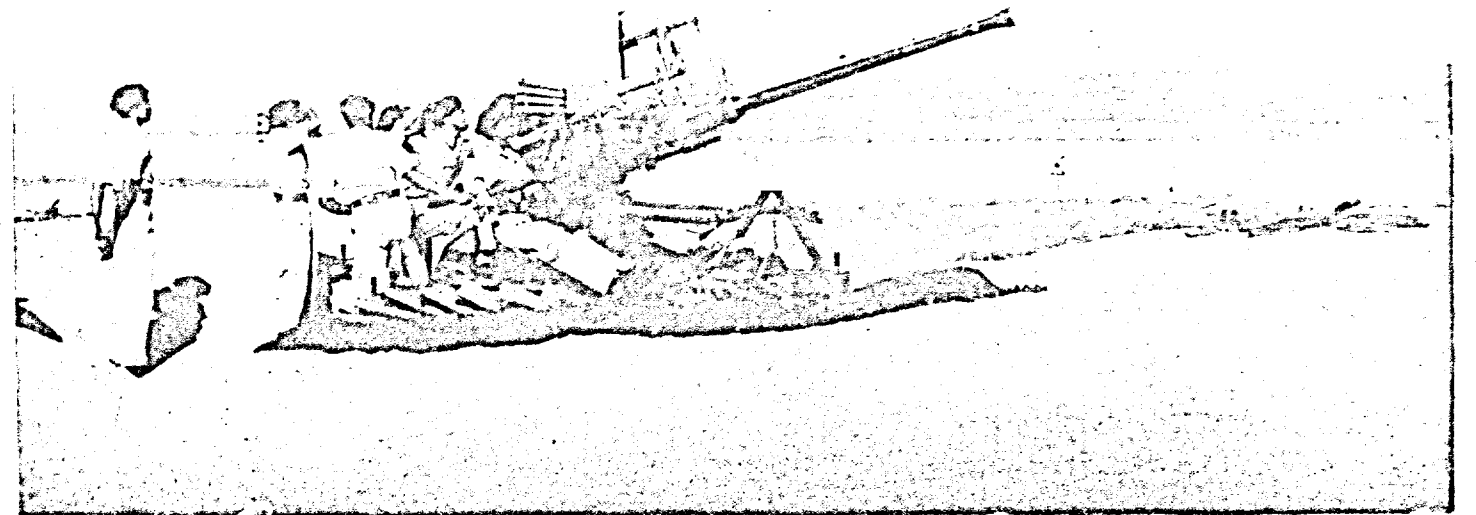
Smt. Subramaniam distributed prizes to the winners. Photo shows Sri D. K. Oza, Sub-Collector, Chingleput, receiving the prize from Smt. Subramaniam.



Sri Subramaniam is seen speaking to the gathering on the occasion.



Sri Bisnuram Medhi, Governor of Madras, declared open the 37th Annual Flower Show at My Lady's Garden on 6th March.



The 128 Light Anti Aircraft Regiment conducted its annual firing practice in the foreshore on 13th February.

The Annual Day of the My Lady's Club was celebrated on 6th March. Sri Bisnuram Medhi, Governor of Madras, presided. Photo shows the Governor and Mrs. Medhi with Smt. Verghese at one of the Stalls at the exhibition got up in connection with the Annual Day.



The Annual Day of the Secretariat Association was celebrated on 28th February at Rajaji Hall. Sri C. Subramaniam, Minister for Finance, who presided, is seen addressing the gathering.

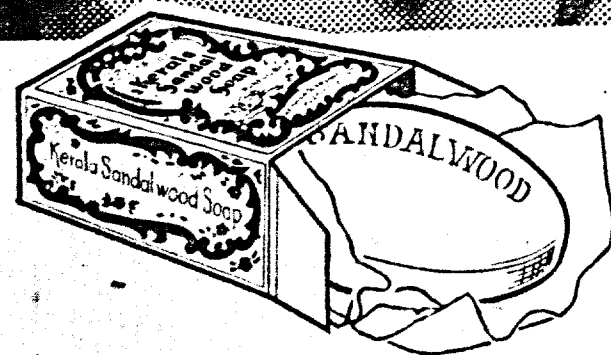


The Chingleput District Development Council was inaugurated by Sri M. Bakkavatsa'am, Minister for Home on 23rd February.



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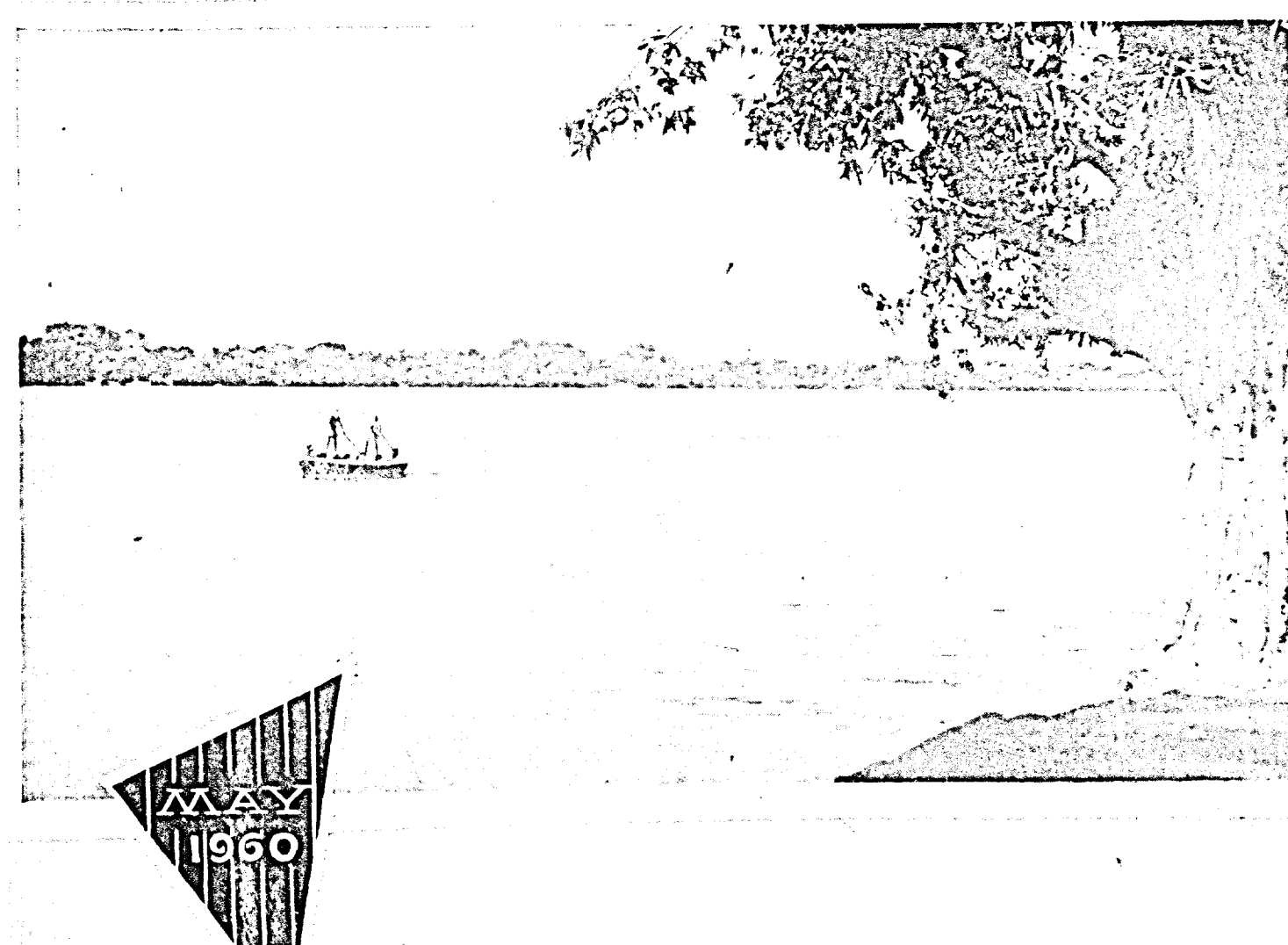
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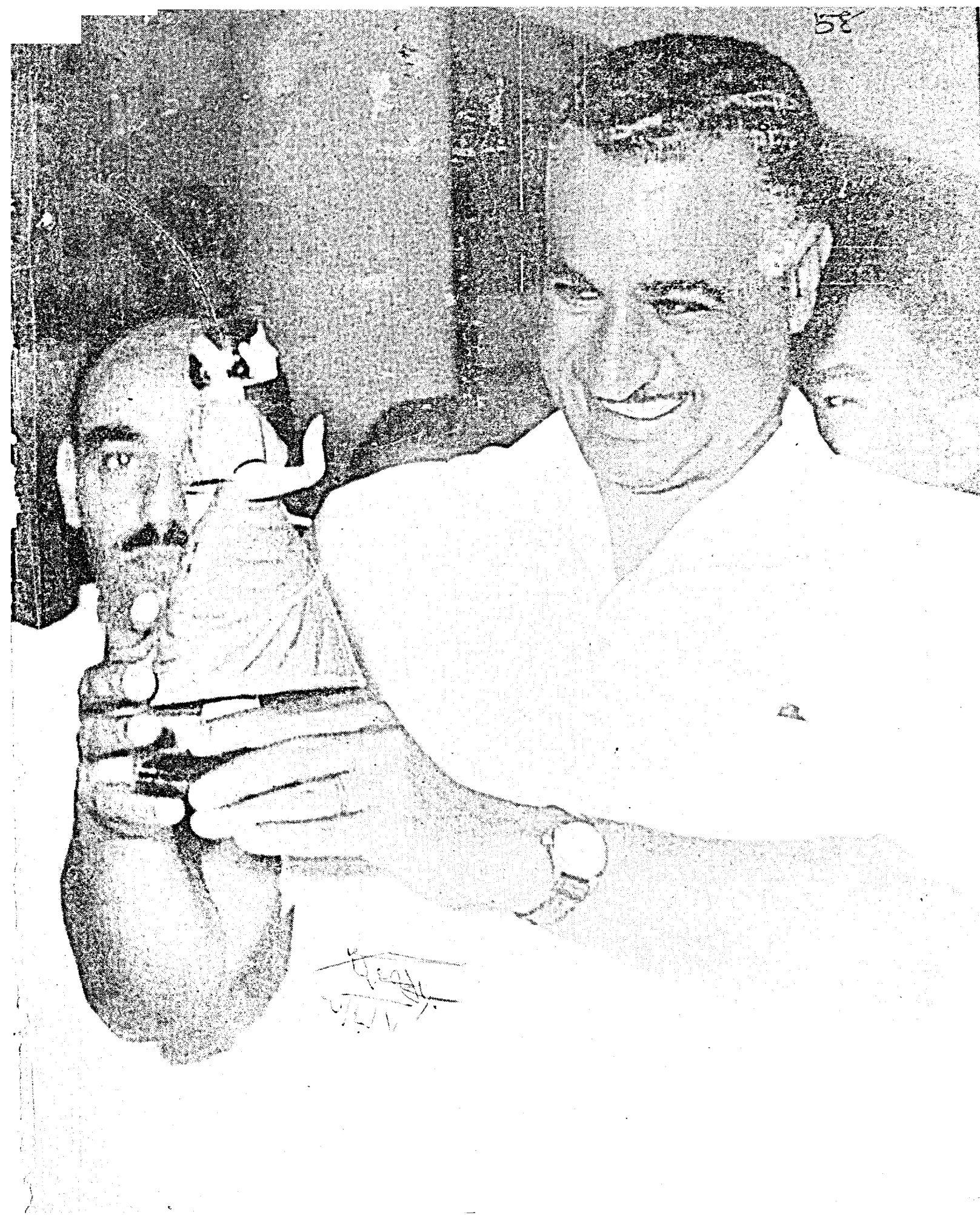
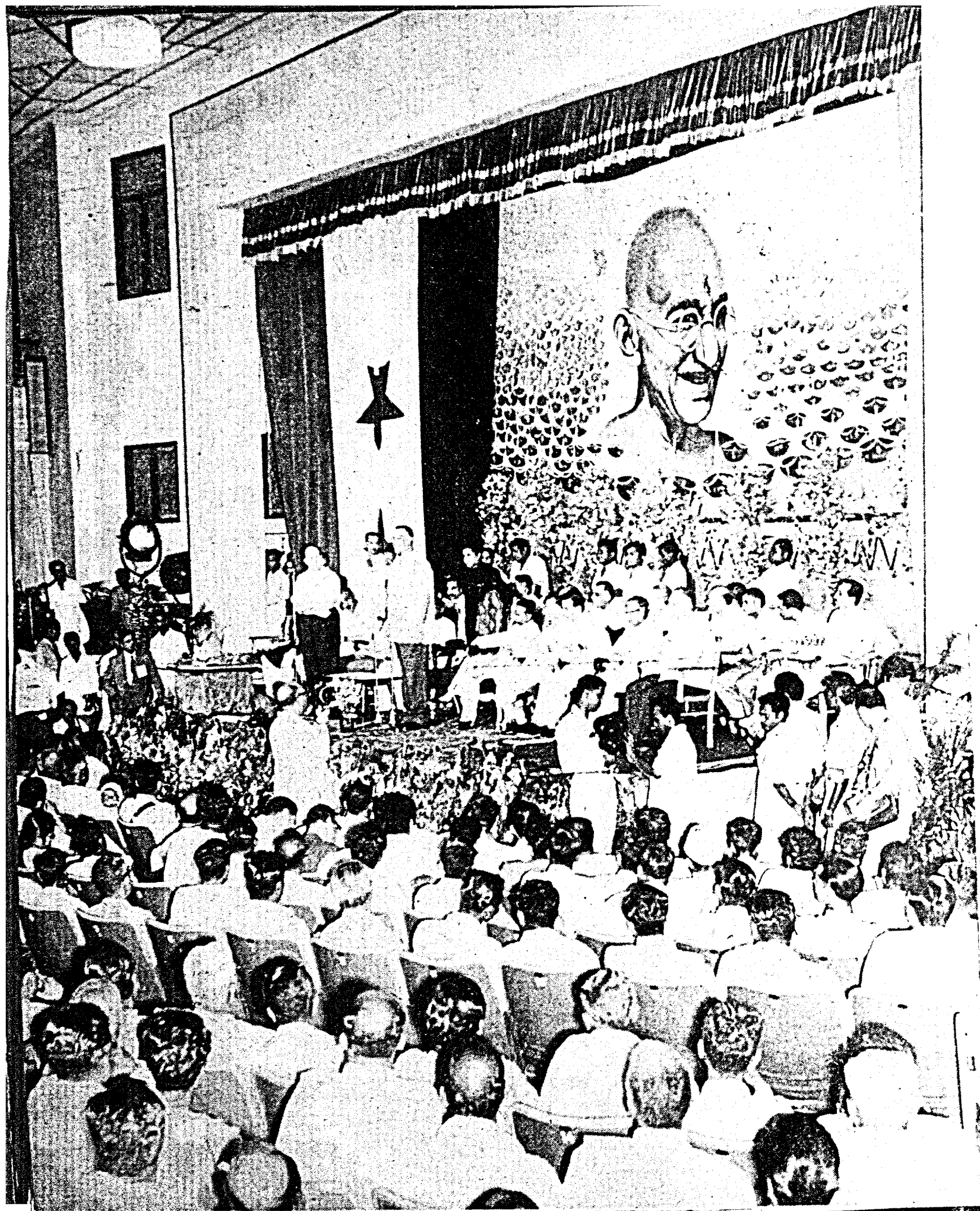
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BY THE DIRECTOR OF INFORMATION AND PUBLICITY, GOVERNMENT OF MADRAS.

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THANJAVUR

MADRAS





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MADRAS INFORMATION

MAY 1960

Volume XIV

No. 5

Published every month by the
Director of Information and
Publicity, Fort St. George,
Madras-9

Price 20 nP.

Annual Subscription ... Rs. 2'25

Half Yearly ... Rs. 1'12

Advertisement Rates on request

Phone 83111 Extns. 52 and 96

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This month's cover :

Thanjavur which is known as the granary of the South was in the news last month. This was one of the seven districts in India selected for implementing the Package Programme for intensive food production. The Cover Page gives a typical scene in Thanjavur—the river Cauvery with its banks studded with palm and plantain groves. An article giving particulars about the Package Programme is on page 3.

On the second wrapper page is the Photo of the reception given to President Nasser by the Cine artistes of Madras. Facing that page appears an autographed picture of President Nasser.

Package Programme For Thanjavur

SRI M. BAKTHAVATSALAM, Minister for Home and Agriculture

It is common knowledge that our country in spite of being predominantly agricultural, with 70 per cent of the population engaged in agriculture, is still not producing its full requirements of food. We cannot afford to depend on imports indefinitely and it is in realisation of this fact that we have accorded agricultural production a foremost place in our national Plans. As a result of the various measures adopted from time to time both by the Centre and the States in the past, there has been a gradual increase in food production. The total production of foodgrains in India rose from 54 million tons before the First Five-Year Plan to 65.9 million tons at the end of the Plan. In 1958-59, the total production went up to 73.3 million tons. Thus, over a period of eight years the average increase in production was 4.5 per cent per annum. It is expected that at the end of the Second Plan, the country's output may exceed 75 million tons. Thus the trend of production in recent years has been definitely upward. But we would have to aim at still higher rates of production in order to provide for our growing population and improve our standard of living and thus make our economy self-sustaining.

In our own State, we have been keenly aware of the problem and we have been taking concerted steps even from over a decade back through the Grow More Food campaign and later under the Community Development Programme. We have now reached a level of production which gives us self-sufficiency if seasonal conditions are satisfactory. Our production before the First Five-Year Plan was 38 lakh tons and we were able to add another 6 lakh tons to it at the end of that Plan. At the end of the Second Five-Year Plan, it is expected that there will be a further increase in production to the extent of 9 lakh tons and so we may hope to reach 53 lakh tons in the final year of the Second Plan. Our actual production figure for 1958-59 was about 50 lakh tons. Thus the rate of increase of production has been about 4.5 per cent per annum.

Attainment of Self-Sufficiency

Speaking in relation to consumption, I may say that at the beginning of the First Plan we were deficit in foodgrains but towards its end there was a small margin of surplus of about 1 lakh tons, as shown by the increase in inter-State movements of foodgrains. At the end of the Second Plan, we expect to have a surplus of about 3 lakh tons in a favourable year, but if the seasonal conditions are adverse we may decline to a deficit of about 5 lakh tons. We have not only to make up for this fall in production due to the possible failure of monsoon but also to allow for an increase of population

by about 2 per cent per annum and for an annual increase in per capita consumption by about 2 per cent. So our aim in the Third Plan is attainment of self-sufficiency by the end of the Plan period even in an adverse year and this will also mean a surplus in a good year.

The above facts will clearly show that while we may have reason to feel satisfied with the progressive improvement in production and are now comparatively in a better position in the matter of food supplies, what we have done so far is not enough, and we have still to exert ourselves to move up to higher production levels in order to reach our goal of self-sufficiency in an adverse year. Fortunately, signs are not wanting to show that this is quite possible.

Low Averages to Higher Level

In the Madras State, most of the cultivable lands have already been pressed into cultivation and so the future line of development is mainly in the direction of increasing the yield per acre in the existing areas. The present average yields under cultivation are very low, although Madras is relatively better off in this respect than other States in India. The average yield of rice in our State is 1,325 lb. per acre as against the All-India average of about 1,000 lb. We may justly feel proud of this, but it is just as well to remind ourselves that even this performance is very much below that of countries like Japan and Australia which have

The Chief Minister shows keen interest in the working of the Soil Research Laboratory at Aduthurai



been able to record average yields of as much as 2,684 lb. and 5,291 lb. per acre respectively. In this context, the yields recorded at the Crop Competitions in our State are an indication of our high potentialities. For example, in the Competitions held during 1957-58, the highest yield recorded in this State was 8,860 lb. of paddy per acre or 5,907 lb. in terms of rice and the average yield of all the competing plots was 4,100 lb. of paddy per acre or 2,733 lb. of rice. And in Thanjavur district, the highest yield was 8,730 lb. of paddy per acre or 5,820 lb. of rice. These facts prove that the present yield can be more than doubled, with full utilisation of resources and application of improved techniques. It would be pertinent here to quote an observation made by the Ford Foundation Team. This is what they said, "The best in the Indian agriculture is comparable to the best in other countries but the average level is unduly low. The task before the country is to develop the ways of raising the low average to the higher levels that many Indian cultivators have achieved." No apter description can be given of our present situation.

Reach the Individual Farmer

Intensive cultivation in our State dates back to over a decade when the Grow More Food campaign was started and later there was a revitalisation of food production



Map showing the areas where the Package Programme is being implemented.

activities through the impact of the Community Development scheme. In the early stages, attention was concentrated generally on areas with improved irrigation facilities considered potentially suited for increasing the output and subsequently greater emphasis was laid on development of village Plans and we are now thinking of reaching each individual farmer with a definite farm plan to be worked with improved technique and timely use of the resources. In fact, this has been in our mind all along and it is a part of our Community Development scheme. The moment is therefore ripe for taking up the "Package Programme" or the "Intensive Agricultural District Programme" as it is to be called now.

Factor Pace of Production

Now, many of you who might have read in the papers already about this Package Programme may be anxious to know what exactly it means and what is there in it which makes it figure so much in the news. This is a pilot scheme sponsored by the Ford Foundation. In response to the request from the Government of India, the Ford Foundation brought to India in January 1959 a Team of high-level agricultural experts from the U.S.A. to advise the Government on methods and approaches for increasing food production. This was followed by a second team in October 1959 which, in co-operation with the Central Government and selected State Agricultural and Developmental Officers formulated the Programme for applying in selected districts all the major recommendations made by the first team. The objectives of the programmes will be to demonstrate, in pilot districts, the most effective ways of expanding national food production by co-operative effort between the Centre, the State, the District, the Block, the Village and the individual cultivators; to increase the income of the cultivator and his family; to increase the economic resources and potential of the villages and to provide an adequate agricultural base for more rapid economic development and social betterment. The basic aim of the Programme is thus to achieve a faster pace of production than has been found possible hitherto, but I may straightaway tell you that there is nothing novel in the scheme or any secret formula in it for increasing production. Indeed, there can be no such short cut in this field. What is envisaged is a much greater intensification of the various measures we have all along been adopting with the aim of providing all the needs of the farmer with particular reference to his farm in a more organised and systematic manner.

Salient Features

The scheme will be implemented for five years in a district which has maximum irrigation facilities and minimum natural hazards for concentration of production efforts. In the selected district, all the elements required for increasing production will be simultaneously provided, such as full credit requirements of the farmers based on production plans of individual farmers to be prepared by trained staff and subsequent supervision of the credit with reference to its use. Also, the requirements of fertilisers, pesticides, agricultural implements and improved seeds will be met in full. The co-operative societies will be developed and credit and supplies channelled through them. The marketing will be done through the societies at market rates, so that the credit

advanced could be easily recovered. The number of godowns in the district will be suitably increased in order to provide supply facilities within bullock-cart distance. All cultivators will be entitled to participate and for the average farmer a minimum programme of improvements will be suggested on an extensive scale and for a few selected farmers intensive development will be suggested. The cost of implementation of the programme is to be borne by the Ford Foundation to some extent and the balance shared by the Centre and the State.

Choice of Thanjavur

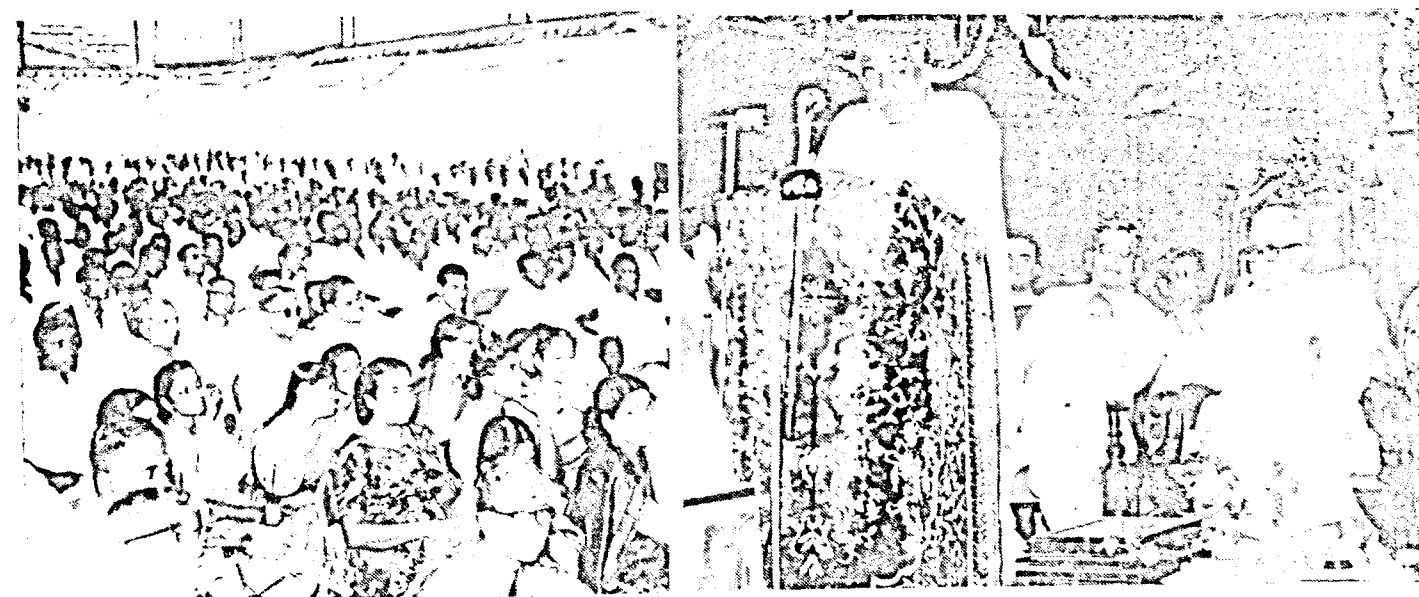
We have selected Thanjavur district as the most suitable district for implementing the scheme. There can be little doubt that this is an obvious choice. Rice which is our staple foodgrain is grown in this district to an extent of 14 lakh acres representing about 29 per cent of the total area under rice cultivation in the whole State and the district is also under assured supply of irrigation water from the Cauvery-Mettur Irrigation System. Already 4 taluks, viz., Sirkali, Mayuram, Kumbakonam and Papanasam have been taken under the National Extension Scheme Programme, with a view to have concentrated efforts for stepping up agricultural production. The original target of additional yield of 2 bags of paddy per acre which was fixed in the National Extension Scheme in the district is reported to have been achieved. There has been a notable increase in the production in the district since 1953, and the production in 1958-59 was 7.77 lakh tons representing one-fourth of the production in the State. In this area, there are no initial long-range problems like irrigation, land development, etc., and the conditions are favourable for the maximisation of production in a short time. To start with, the scheme will be implemented in the existing 22 blocks but it may eventually be extended to the entire district which will then have 34 blocks.

The Collector of the district will have overall responsibility for the programme. He will be assisted by a Joint Director of Agriculture who will be in exclusive charge of the technical side and there will also be requisite additional staff in the Agriculture and Co-operative Departments. At the Block level, the existing staff will be strengthened by additional staff. The number of additional Extension Officers, Village Level Workers and Co-operative Inspectors will vary to some extent from place to place, and all this will be settled in the official discussion in a couple of weeks. It is expected that increasing the officers at different levels will reduce the individual work-load of the officers to a size which will ensure that all cultivators are assisted in drawing up farm plans and provided technical guidance in carrying out day-to-day improved agricultural production practices under overall supervision of the Extension Officers. The co-operative staff will help in extending the size and coverage of credit provided so as to reach every farmer. The staff will be suitably increased in subsequent years as the scheme progresses.

Further Progress

Farmers will be selected who will be helped by trained staff in the preparation of production plans reflecting the repaying capacity which will be the basis for the advancement of additional credit. For this purpose, the staff are to be given training in farm management and preparation of production plans.

A resources survey and evaluation in the district in respect of improved agricultural practices, use of pesticides, fertilisers, etc., will be undertaken. The requisite data in regard to the land utilisation, area under cultivation, etc., will also be collected.



Sri K. Kamaraj, Chief Minister, inaugurated the "Package Programme" at Aduthurai on 13th April, Tamil New-Year's Day.

Assessment of requirements of supplies as estimated in the production plans and the credit required will be made. Under the category of "supplies", all nitrogenous fertilisers, phosphatic fertilisers, seeds, pesticides, equipment to farmers and demonstration equipment will be included. (The latter two include agricultural implements as well as plant protection implements.)

Arrangements in respect of transport, storage, agricultural workshops including facilities for seed treatment and soil testing, scientific demonstration and local works programme, e.g., soil conservation, village approach roads, etc., will be settled. Services of foreign specialists will also be availed of.

As regards supplies, our provisional estimates show that the additional requirements would be about double the present level of consumption in the case of Ammonium Sulphate and about one and a half times the existing level in regard to superphosphate, seeds and pesticides. With a view to keep adequate stocks of fertilisers in advance of manuring season, we have already requested the Government of India to despatch immediately 2,000 tons of ammonium sulphate and 3,000 tons of superphosphate, pending formulation of firm demands. Steps are also being taken to supply to the district a quantity of 1,800 tons of Mono-Ammonium phosphate which the Government of India have recently advised to the State. This is a complex fertiliser particularly suited for this district.

Expected Extra Production

A question which is probably uppermost in the minds of many of you is what is the benefit in terms of extra food production that we expect to get from an effort of this magnitude? It is too early to estimate the possible additional yields but based on rough estimates we have been able to make I shall attempt an answer. By this Package Plan, we anticipate that the additional production may be 40,000 tons in the first year which will increase gradually each year and reach 1,60,000 tons in the final year. The increase in terms of percentage will be from 5 per cent in the first year to 20 per cent in the last year. More simply stated, the additional output may be about 3 bags of paddy per acre.

The cost of the scheme for five years is likely to be of the order of Rs. 2 to 3 crores, in addition to the amount to be given as credit and the expenditure needed for ensuring the requirements of chemical fertilisers, pesticides and seeds.

Most Propitious Time

We have set ourselves a heavy task with every confidence that it can be successfully fulfilled. We are strengthened in this hope by the conviction that there is now increased awareness among our farmers of the need to intensify efforts in all directions and that there is enough leadership which will assist the people in the villages to produce more through their own efforts. Our farmers are known to be willing to shift from old practices to new techniques provided they get what they want at the appropriate time. This project could not have come at a more propitious time. We are on the threshold of far reaching changes in village economy, consequent on the implementation of the Madras Panchayat Act, 1958, in which the villagers are brought into more intimate contact with the administration and execution of plans. Planning from the bottom is a corollary to this reorganisation. Co-ordination at Block level between the various departments engaged in agricultural development will be brought about by the Panchayat Union Production Committees that will be constituted under the Act. This Committee will also be in charge of the execution of the Community Development Scheme. We have very recently decided to entrust the distribution of chemical fertilisers in the State to the co-operatives on a monopoly basis and arrangements in this regard are under way.

I would like to make an earnest appeal to the ryots in the district to avail themselves fully of the facilities offered under this programme and fulfill their plan targets so that the success of this pilot scheme may hasten the achievement of our objective of national self-sufficiency in food.

[From the speech delivered by the Minister for Home and Agriculture on the occasion of the inauguration of the "Package Programme" at Aduthurai, in Thanjavur district, on 13th April 1960.]

Khadi Production and Sales

The various Khadi Centres of the Department of Khadi of the Madras Government produced 4,22,171.14 yards of khadi valued at Rs. 10,90,645.18 nP. in the month of February 1960.

During the month, whole sale and retail sales through the Government Khadi Sales Depots and other agencies are 2,96,498.06 yards valued at Rs. 8,31,197.50 nP.

Madras in March 1960

The Kundah Project dominated the scene in March. The first generator capable of generating 20,000 K.W. power was switched on by one of the oldest workers in the presence of the Prime Minister on 25th March 1960 at Kundah Camp. The generator sprang to life at 5-30 p.m. on that day lighting the Manjur hill slope down which the penstock pipe for the power-house was laid; that night the hill almost looked like any other hill in Tamilnad with a temple on top of it and lights leading up to it along well-laid steps. Curiously enough in spite of their natural magnificence the Nilgiris Hills were not chosen by the rulers of those days to build a temple on top of any of them.

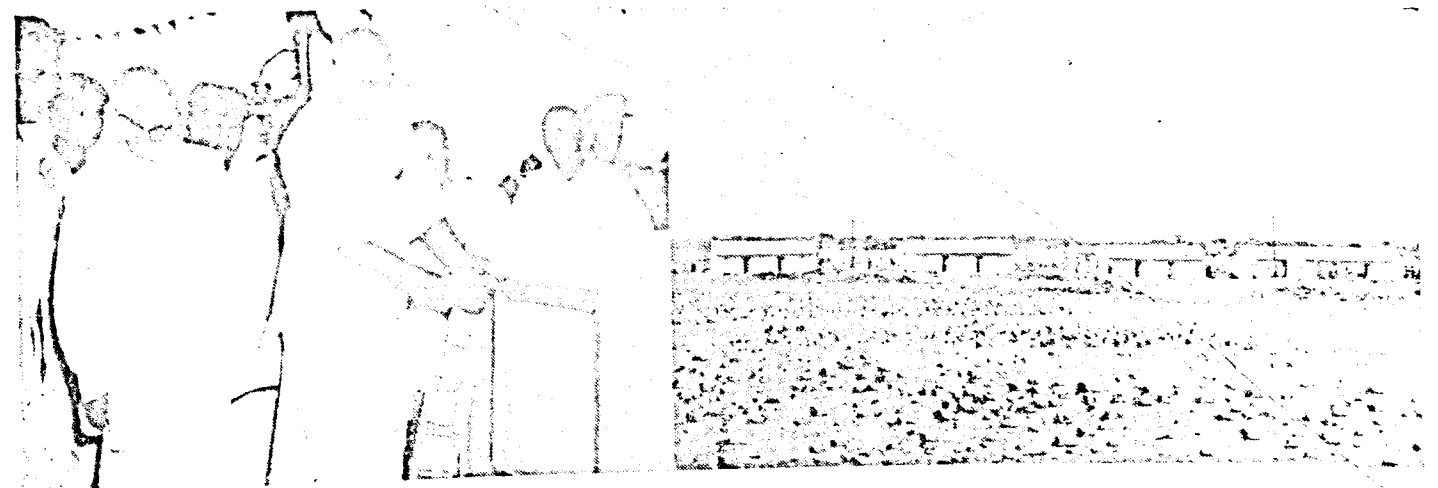
The fact is these hills have been completely inaccessible to the rulers in the plains, confining them and three tribes found comfortable isolation there. When the hills were opened, it was largely for commercial exploitation of the high altitudes for raising plantation crops. That is why the first mechanical generation of electricity seen in this part of the country was installed in a tea plantation on the Nilgiri Hills. But the tribes were left severely alone except for anthropological studies. True, in recent times, there have been many attempts to bring them within the fold of the community around them by Government and non-Government agencies. The Women's Welfare Department happily enough found a great deal of work suited to the objectives of the department in these hills among the tribes. Still, there has been good scope for individual social workers to do some work in these parts; an outstanding example was Dr. Narasimhan who has been rendering medical aid to these people. In order to help him do

his work with much less strain, the Prime Minister gave Dr. Narasimhan a jeep when he visited Kundah for the inauguration.

Recognition in this manner of voluntary social work is much more essential than organizing social work. At the same time care has also to be taken to see that social work whether voluntary or sponsored by Government does not overlap. More important than this, a well-organized study of the living conditions and means of livelihood of the community must precede organization of social work. The Government have therefore sanctioned the undertaking of a detailed socio-economic survey of the tribal folk in Nilgiris district. This survey has been entrusted to the P.S.G. School of Social Work, Coimbatore. As a measure, the Government have sanctioned an expenditure of Rs. 13,850 and the survey will be spread over a period of ten months.

Pearl Fishery

Another pearl fishery was sanctioned to be commenced on 16th March 1960. This is the sixth in the series and never before has such large exploitation of pearl fishery for so many successive years been possible, though for centuries the pearls of the Coromandel coast have been famous in the pearl markets of the world. Successful pearl fishery has been possible year after year of the past six years because of the co-operation of the pearl banks by the Fisheries department, who decide after taking all things into account the banks which are to be exploited. This year it has been estimated that 220 lakhs oysters can be picked. It is



A colony of twenty houses constructed under the Harijan Welfare Scheme at Velakapuram in the Chingleput district was declared open by the Chief Minister on 15th March. The Minister for Home presided over the function.

a trite saying that it is the diseased oyster that contains the pearl. And the process adopted to get at the pearl is certainly dirty. Therefore Tuticorin, which is the nearest harbour for the pearl fishing vessels and which is also the pearl market, needs the protection and the concerted vigilance of the Medical and Health departments first of all and finally the protection of the Police as well. Elaborate arrangements are therefore called for before a pearl fishery is decided upon.

About 2,000 divers participate in diving operations and 200 boats are employed by these divers. The boats are in their turn towed to the pearl banks by steam launches operated by Government; otherwise the divers would deplete much of their energy and time in even reaching the pearl banks. The Government steam launches help the divers to be ready for diving well before sun rise. By tradition, two-thirds of each diver's catch belongs to the Government and this division of the catch takes place on board the vessel in mid-ocean. On return to shore, the diver is free to do as he likes with whatever lot he pleases. It is through the messy business of finding pearls for himself that divers rarely try to find pearls, but that rather they prefer to auction off their share of oysters in small lots. The Government's share of oysters are auctioned in lots of a thousand or so. Shelling of the oysters is done immediately by the bidders in hothouses constructed by the Government and it is here that all the messy business is gone through before the pearl reaches the pearl bazaar which also gets itself organized in the usual trade channels in Tuticorin, with merchants from all over the world. Thus the Medical and Health fromments take special steps to safeguard Tuticorin diving itself is a hazardous operation and divers are attached to a nursing unit in the charge of a nursing orderly to render aid to divers if necessary. The

mechanical equipment for breathing under water-surface though demonstrated last year, has not caught the fancy of divers. Divers still manage by means of holding their breath while under water.

Handloom Crisis

The fact that the handloom cloth industry, though employing lakhs of people, is a haphazard growth, was brought to the fore in March this year, when due to a glut in the supplies of the 'Bleeding Madras' a crisis was precipitated. In order to help the weavers, the Handloom Export Organization explored the market in United States and booked a large order for this cloth; thereupon private merchants entered the market and booked heavy orders resulting in unorganized production of this variety of cloth. The glut became apparent in March when the weavers came to be hit by the accumulation of stocks. The Government therefore stepped into the picture and suggested that garments could be manufactured out of the accumulated stocks of 'Bleeding Madras' variety of cloth as this transformation would find a ready market within India itself. The success of this suggestion has to be seen. This crisis should serve as a warning that some rational regulation is necessary within the industry. The industry should so discipline itself that it can dictate the market and not subject itself to the fluctuations of the market.

The only practicable course open to the weavers is to come into the co-operative fold. But up to June 1959, out of a total number of 466,366 handlooms registered in the State, only 286,351 were organized in co-operatives, and as many as 180,015 were outside the co-operative fold. In order to induce production of new types of cloth in new designs, a State-wide competition was held in March with Rs. 20,000 allotted for prizes.

Pirate Powerlooms

A census of powerlooms in the State undertaken last year showed that as many as 284 units with 1,176 looms had come into existence without requisite permits. These 'pirate' units often upset Government calculations for any measure and therefore the Cotton Textile Orders under which the taking of licences for installation of powerlooms is made obligatory, has been amended to make sellers of such looms obtain prior permission of the Textile Commissioner. This is the only way to check 'pirate' looms and the effect of the amendment is that no power-operated spinning frames, powerlooms or side frames of powerlooms can be sold without prior permission of the Textile Commissioner.

In order to advise the Government on problems relating to the setting up of an iron and steel plant based on Salem ores and Neyveli Lignite, the Government have appointed Sri R. N. Dutt, m.sc., as a part-time industrial consultant to the Government of Madras for a period of one year. Sri Dutt will also function as a Technical Adviser to the Madras Government's representative on the Technical Committee set up by the Government of India to advise on the suitability of Salem iron ores and Neyveli Lignite to manufacture iron and steel.

Government of India, laid the foundation stone for the Madras District Central Library on 17th March 1960. Sri Vincent Isaacs, Consulting Architect to the Government of Madras, explaining the blue-prints to the Vice-President and others.



The Minister for Finance inaugurated the Prize Bond Scheme at the General Post Office on April 1st.

The Government, on the recommendations of the Chairman, Official Language Committees, have directed that the Central Training Institute at Madras for training Government typists in Tamil typewriting may be closed with effect from the 5th August 1960, the date by which the present batch of trainees would complete their five months' training.

In its stead, it has been decided that typists qualified in English typewriting and employed as permanent typists or as approved probationers in the Government offices may have their training in Tamil typewriting on machines with the standardised key board in private

institutes free of tuition fees. Such of the private institutes who undertake the training of Government typists will be paid by Government a lump sum of Rs. 50 only per typist, as fees for the whole course, and in addition be paid Rs. 25 for each candidate who passes the Higher Grade Examination in Tamil typewriting on the standardised key board in the first attempt. The institutes which avail of the above concessions will not collect any fees from the deputationists either as tuition fees or as hire charges for lending the machines for the practical test. The scheme will be in force for a period of one year only.

STATE TRANSPORT MADRAS CITY

The fleet strength of the State Transport Department was 470 during February 1960.

	February 1960		January 1960		February 1959	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Average Number of buses operated	..	..	..	..	..	..
(a) Working days	..	306 298	..	305 299	..	399 337
(b) Holidays	..	258 271	..	258 276	..	283 292
Total collection	..	Rs. 15,93,780	..	Rs. 16,75,370	..	Rs. 14,14,706
Total mileage	..	Rs. 10,66,731	..	Rs. 11,10,747	..	Rs. 10,50,699
Total number of passengers carried	..	Rs. 1,18,58,947	..	Rs. 1,25,04,248	..	Rs. 1,03,20,227

KANYAKUMARI BRANCH

The fleet strength was 89 and 63 buses were on the road daily. The buses cover 303,151.3 miles and carried 10,80,743 passengers bringing in a collection of Rs. 3,01,987.58.

Specials brought in Rs. 3,020.42.

Greater Responsibilities to Municipalities

SRIMATHI LOURDHAMMAL SIMON, *Minister for Local Administration*

Local administration was once considered to be a necessary preliminary training ground for self-Government, and local administrative units were devised and guided with the avowed intention of giving a chance to local leaders to train themselves in the art of Government. Though this conception of local bodies holds good even today, yet with the attainment of Independence there has been a shift in the emphasis. These bodies cannot merely serve as training grounds but they are expected to be parts of a vast democratic apparatus working for the welfare of the people.

Beneficial Influence of Chairman

Efficient local administration is of vital importance to the country. The local bodies are the representative democratic institutions which supply the local interest, supervision and care necessary to ensure that expenditure of money on local objects conforms with the needs and wishes of the local area. The importance of local administrative bodies in the evolution of an efficient democracy cannot be over-emphasized, and touching as they do the life of every single citizen most intimately and throughout his life, they need to be carefully fostered and wisely guided so as to render the greatest service to the people. It is in this manner that you have the privilege and honour to play an important role. The Chairman as the pivot of the Municipal Council has a responsibility to guide its activities on beneficent lines, conduct its deliberations in a smooth and dignified manner and help it to arrive at correct decisions and secure the efficient co-operation of the executive. Progress in civic life can be ensured only by the creation of a healthy public opinion and the inculcation of a sense of duty and responsibility and in this respect the Chairman could exert a beneficial influence. In order that the Chairman may command a position of importance in the eyes of the public, he has been clothed with certain powers and functions under the Municipal Act which he should exercise wisely and impartially.

Need to Set Good Examples

We are in the midst of a process of reorganization of Local Administration. The White Paper on Local Administration placed before the Legislature in October 1957 contemplates the devolution of certain powers to the Chairman. It is proposed to amend the Madras District Municipalities Act, 1929, in order to implement the main proposals in the White Paper so far as they relate to Municipalities and also for the purpose of removing difficulties noticed in the administration of the Act. Opportunity will be taken in that connection to define specifically the responsibilities of

the Chairman in formulating the general policy of the Council. The proposed amendments will of course be placed before the Joint Committee of the Legislature already constituted for the purpose for its consideration and views. There cannot however be too much concentration of power in a non-official dignitary because the vesting of more powers entails the assumption of greater responsibility, and occupying as you do, various positions in different walks of life it may not be possible for you to bestow your full time and attention to the problems cropping up in the day-to-day municipal administration. Hence with a view to improving the standard of administration in local bodies, the purely executive functions will continue to be separate from the deliberative or policy-making functions. The latter category of functions should appropriately be the sphere of the elected body of the local bodies.

Once policies and decisions have been adopted, their implementation and execution should be left to the principal executive officer who must be made primarily and directly responsible for this part. These healthy principles have been recognized and put in practice in this State even as early as from 1933. I am glad to say that the present pattern of organization is working well enough and rendering satisfactory service to the people. It may be mentioned in this connection that it is proposed to constitute Panchayat Unions on the municipal model for groups of contiguous panchayats to look after the rural population and they will function more or less as rural Municipalities. Hence the older Municipalities have a great responsibility to set good examples.

Shaping the Policy

The main function of a Municipal Council is to lay down the policy, control the raising and spending of funds and determine the rates of taxation. The Council led by its Chairman has to play a prominent part in shaping the policy of administration, taking responsibility for the consequences of its decisions and sharing the credit for the benevolent results flowing therefrom. The tax-paying public are dependent on the local authority for good sanitation, water-supply, elementary education, hospitals, dispensaries, roads and various community services and the success of any local body will be judged largely by its ability to provide and maintain these services at a decent standard. If persons imbued with a sense of public service, ability, ample common sense and integrity are at the helm of affairs the administration will doubtless be a complete success.

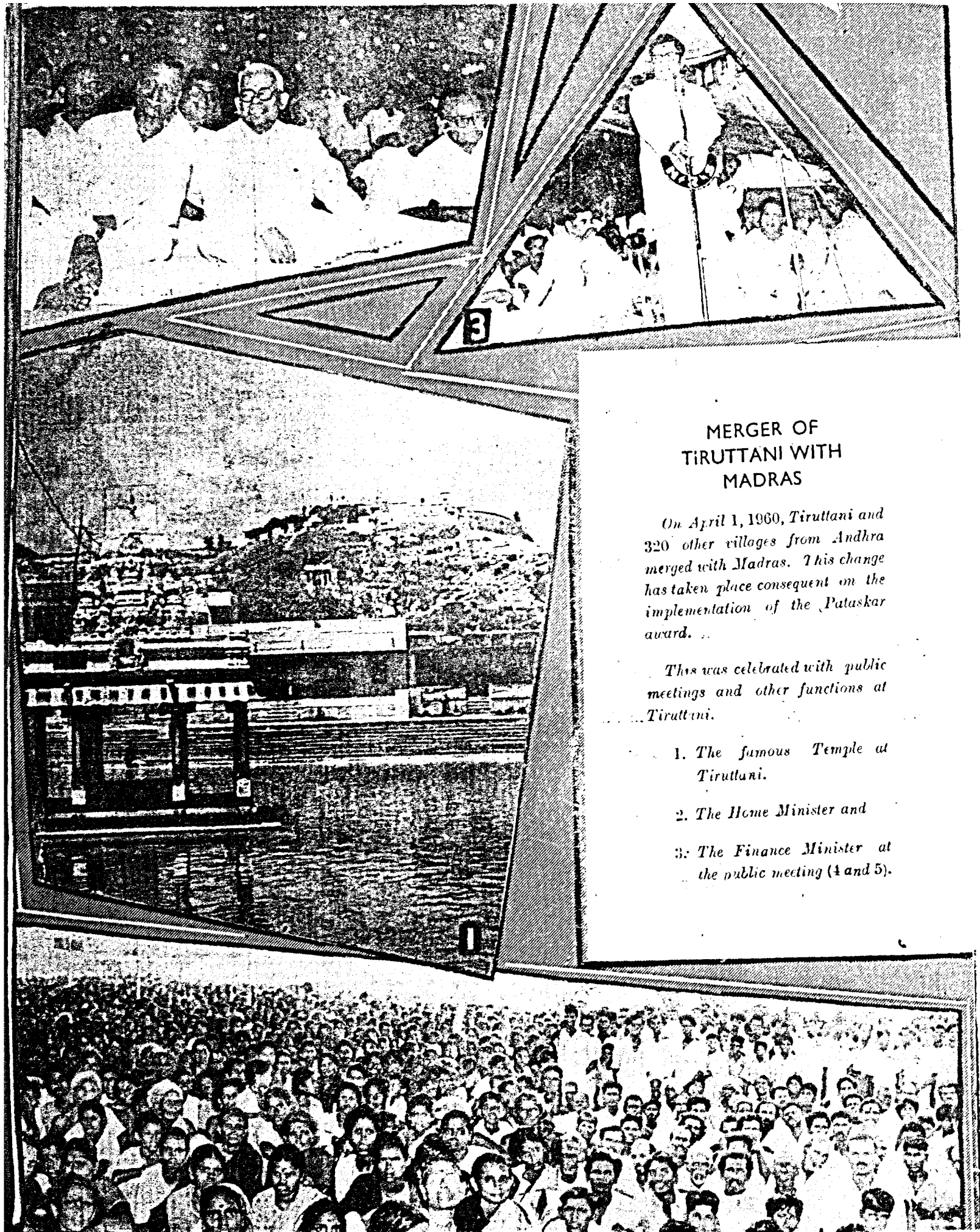
Last year the Madras District Municipalities Act was amended for the purpose of declaring any municipality, or any specified area therein, to be a Township, if it

MERGER OF TIRUTTANI WITH MADRAS

On April 1, 1960, Tiruttani and 320 other villages from Andhra merged with Madras. This change has taken place consequent on the implementation of the Pataskar award.

This was celebrated with public meetings and other functions at Tiruttani.

1. The famous Temple at Tiruttani.
2. The Home Minister and
3. The Finance Minister at the public meeting (4 and 5).



is an industrial, labour, or institutional colony or a health resort. This has been considered necessary as development of special areas as health resorts and tourist centres required the constitution of an organization on a pattern different from the ordinary pattern of Municipal organization, i.e., by a committee consisting of a small number of officials and non-officials appointed by the Government rather than a Municipal Council consisting of only elected members resident in the area. The Government have proposed to constitute a Township Committee for Kodaikanal Municipality under this new provision and the matter is now before the Legislature.

Need for Enhancing Taxes

Though the sources of municipal revenue are rather inelastic, yet in some municipalities the rate of taxation is comparatively low and these municipalities will be well advised to consider the question of raising the rate of tax to meet the growing expenditure. A recent move in some of the municipalities is to abolish or reduce drastically minor items of taxation like the cycle tax. It might be liked as a popularity measure but hardly justified in the case of deficit municipalities as such tax revenues could be utilized for other schemes to the citizens. In particular adequate water-supply, satisfactory drainage and good and dustless roads are essential requirements for the health and comfort of the tax-payers. The Government are assisting the Municipal Councils to the utmost extent by grant of loans in the Five-Year Plans for provision of protected water-supply and drainage facilities, for town-planning schemes and for remunerative enterprises such as construction and improvement of markets, bus-stands, etc. The amounts disbursed by way of loans to municipal councils during the four years ending with 1959-60 are about Rs. 50 lakhs for Town-Planning Schemes and about Rs. 56 lakhs for remunerative enterprises. A sum of about Rs. 10 lakhs is given as grant every year to Municipal Councils for dustless surfacing of roads. This scheme will be continued in the Third Plan.

One of the usual demands repeatedly made by Municipal Councils is for an increase in the amount of compensation payable to them for loss of income from toll and licence fees under the Madras Motor Vehicle Taxation Act, 1931. The Government propose to examine this as a general question afresh. But the Motor Vehicle Tax has now become part and parcel of State revenues and Government themselves are hard put to finance the Plan Schemes with the limited resources.

Town-Planning Schemes

I must take this opportunity to draw attention to one aspect of municipal administration which hardly receives due attention. I refer to town-planning. With the rapid increase in urban populations, there is a danger of our municipal towns becoming ill-developed and slovenly and unhealthy. Town-Planning Schemes should be framed quickly and executed without further delay. The provision made by Government for assistance of municipalities is not fully utilized and extensions of time had to be given to almost every municipality of formulate the schemes and for the retention of loans sanctioned to them for the town-planning schemes. It is also necessary that encroach-

ments should be systematically and impartially dealt with as in many municipalities this has become a colossal problem. Town-Planning Scheme which will provide for separate marketing areas, bus-stands, etc., is the rational solution to this problem. Above all I would appeal for a sense of aesthetics and cleanliness in the maintenance of our cities. Good parks, shade-giving avenue trees, flowers and fountains are not costly at all but they make life even for the humblest more pleasant.

A few instances have come to the notice of Government where party factions have come into undue play and hampered the smooth working of municipal administration. This is rather unfortunate. It is of course not possible to divorce party politics completely but as far as possible public interests should be placed first and party next only, and the discharge of statutory responsibilities laid on the Council by the Act should on no account suffer by lapses or irresponsibility. The Government are no doubt armed with adequate power to ensure that the civic activities of a municipality are carried on without any interruption even if deadlocks are created but no Government would feel happy to exercise such powers if it could be avoided. It is to be expected that the Chairmen by their impartiality and mature wisdom would be able to carry the co-operation of the entire council and that the councillors would give due regard to his leadership and advice.

The Council and the Executive.

In particular, it is necessary there should not be needless interference with the executive authorities and subordinates of the municipalities and it should be everyone's endeavour to get the best out of them and maintain discipline and efficiency at the highest level and root out corruption and favouritism and violation of rules and procedures. It is equally the duty of the executive to see that they do not take sides in municipal politics and give no room for complaints but give their best services for the good of the citizens whom they serve. The Government would not hesitate to deal adequately with any executive officer who fail in his duty and who withholds co-operation or respect but it would not be in the best interests to transfer such officers frequently on unsubstantial grounds. The Government have recently appointed a Joint Inspector of Municipal Councils and Local Boards *inter alia* to devote more attention to municipalities in view of the increase in work relating to panchayat reorganization. It is hoped more systematic inspection of municipalities will afford clearing ground and ensure smooth working of municipalities.

I need hardly say that, above all, it is your duty to arouse and cultivate a sound civic sense in the citizen and instil in them an abiding respect for municipal law and a true sense of corporate life. This will depend on the extent to which the Council itself displays a sense of responsibility.

[From the presidential speech of Srimathi Lourdhamm Simon, Minister for Local Administration, at the Eighth Annual Conference of the Chamber of Municipal Chairmen, Madras State at Madras, on 25th April 1960.]

Minor Ports in Madras State

SRI C. SANKUNNI, *State Port Officer.*

The 620-mile coast-line of Madras State which forms part of the East Coast, is conspicuously poor in natural harbours, but the few harbours that we have, are able to function throughout the year, unlike the harbours in the monsoon-affected areas of the West Coast where shipping is interrupted during the rainy season. The State is served by one major port, the Madras harbour and eight important minor ports, viz., Cuddalore, Nagapattinam, Kilakarai, Dhanushkodi, Pamban, Tuticorin, Kulasekarapattinam and Colachel, which together handle in an average year, trade valued at Rs. 200 crores. Under the Second Plan all the minor ports have come in for development, to serve the State's trade generally and specifically to serve the needs of industrial development. The Madras harbour is administered by the Government of India as it is classified as a major port, while the rest are administered by the State Government through its State Port Officer. Tuticorin ranks as the first of the 18 minor ports in the country which are considered more important among 150 minor ports deserving special attention for development.

The Port of Tuticorin

Among the ports in the State, Tuticorin commands an importance which is next only to Madras, in point of trade, and ranks third among the ports in South India, coming next to Madras and Cochin. This port is administered by a Port Trust, while the others are under Port Officers appointed by the Madras Port Department. Tuticorin is free from cyclones as it is outside the cyclone belt and lying as it does the inner harbour is sheltered in the almost land-locked Gulf of Mannar. This port provides regular shipping service to all parts of the world and is also an important port in the coastal trade of Peninsular India. The wharves and piers of this port afford berthing facilities to the shallow draft vessels plying between Tuticorin and Colombo.

Increasing Importance

The Tuticorin Port is equipped with an observatory, lighthouse, flag-staff, beacons and signal station and a sub-fire service station of the Madras Fire Service. It provides a safe anchorage for ships in the open roadstead. To serve the needs and to promote the interests of trade and shipping at the port, a wireless station is operated by the Telegraph Department. The Trust also owns a dredger which is constantly employed in maintaining a suitable depth in the boat channel for cargo boats and also the pier and wharf-fronts. Ninety-eight cargo boats have been licensed at the port, they adequately serve the needs of the port. Cargo work at the port is possible at all the twenty-four hours and fair weather prevails during the whole year.

With its unique geographical position, the port is the natural outlet for goods from the southern districts of the State. About 500 steamers and a thousand sailing vessels enter the harbour to discharge about 7½ lakh tons of cargo, and a similar number of ships and sailing vessels leave the harbour with nearly as much cargo in a year. Imports of coal and cotton through this harbour are on the increase, while the imports of machinery, foodgrains and chemical manure are on the decrease. The chief commodities of export are, cement, cotton yarn and piecegoods, tiles, dried fish and sheep. Export of cement from this harbour is increasing considerably.

Cuddalore

Cuddalore is the principal port and the headquarters of the South Arcot district, situated on the Uppanar backwater formed by the confluent estuaries of the rivers Gadilam and Parvanar 115 miles south of Madras. This is the second largest minor port in Madras State after Tuticorin. Steamers calling at this port anchor at about a mile off shore in the open roadstead in a depth of six fathoms and communication between ship and shore is carried on through lighters available in plenty. Of late the traffic in this port has gone up to 4 lakh tons per year.

The entrance to the port lies over a bar at the mouth of the Paravanan river. This entrance is open throughout the year and has depths of about four feet in summer and six to eight feet in winter. Continuous dredging operations are carried out by the departmental suction dredger in the approach channels to the bar, in order to maintain suitable depths. In the existing conditions, the port can handle 1,500 tons of cargo per day during normal weather which compares very favourably with the handling rate at any of the other minor ports in India.

The main difficulty that is now experienced at this port is that during the south-west monsoon the entrance channel moves northward and during the north-east monsoon to the southward. The movement southward being of a lesser extent, the resultant movement of the channel is northward.

Stabilising the Bar

In order to stabilise the bar and to have a constant depth of about nine feet at all stages of the tide throughout the year, it is proposed to train the river and construct groynes at a cost of Rs. 15 lakhs for which an amount of Rs. 7 lakhs has been provided under the Second Five-Year Plan. Model experiments are already being conducted at the Central Water and Power Research Station, Poona, in this regard.

Originally there were three wharves to a total length of 2,539 feet of ferro-concrete quay wall for handling cargo from and to lighters. A concrete wharf wall

150 feet long and 9 jetties were constructed recently at an estimated cost of Rs. 1,29,000. This added to the existing wharf area by another 4,800 square feet. These jetties can facilitate direct loading or unloading into or from railway wagons, as the railway siding runs close-by. The present landing space and storage godowns coupled with sufficient lighterage can handle 1,500 tons of cargo per day. The wharf is provided with three fixed hand-cranes of one-ton capacity each located roughly 1,500 feet apart.

There is a port lighthouse, a flag-staff and a Morse Signalling Station. A slipway, a dry dock and a fully-equipped marine workshop have been provided in this port in recent years. A section of the wharf wall has been strengthened to take heavier loads.

The hinterland of Cuddalore Port consists of the district of South Arcot and parts of the districts of Salem and Tiruchirappalli. The area is rich in minerals: Neyveli is about 20 miles from the port and iron ore deposits are found in the Salem district. There are several oil-crushing mills in the vicinity of the port, a sugar factory at Nellikuppam, one salt works and a cement factory near Tiruchirappalli. The main agricultural products of the area are groundnuts, sugarcane, rice, pulses, etc. The Southern Railway meter-gauge main line from Madras to Dhanushkodi runs close to the port and there is a railway siding connecting Cuddalore O.T. Junction and the port and running along the wharf.

Nagapattinam

The port of Nagapattinam is located at the mouth of the river Kaduvayar in the Bay of Bengal roughly 165 miles and 70 miles south of Madras and Cuddalore respectively. It is an open lighterage port, the shore facilities being located on the bank of the river.

Nagapattinam is an important port of the Tanjore district and is classified as an intermediate port. Prior to the War, the port was of considerable importance. Steamers on the Bombay-Rangoon and Karachi-Calcutta routes called regularly at this port. At present the Madras-Straits passenger steamers maintain a regular weekly service. The trade which was dwindling till last year, is showing signs of improvement.

The port facilities available at the port are (a) 1,500 feet of wharf wall, 1,000 feet of which is of reinforced concrete sheet piles and the remainder of mass masonry (minimum depth alongside about 6 feet); (b) three transit sheds having a floor area of 12,400 square feet; (c) two large ramps for floating timber logs; (d) passenger facilities including waiting shed, disinfecting shed, baggage shed, Customs shed, etc.; (e) a Port and Customs Office and (f) stacking areas for cargo.

Main Export

The hinterland of Nagapattinam Port consists mainly of Thanjavur district; cargo from as far as Salem, Palghat, Erode, Trichur, Karur, Hosur, Vellore, Bangalore, Mysore, Dindigul, Madurai, Tirunelveli, Coleroon, etc., trickle to the port either due to the closure of ports on the West Coast due to South-West Monsoon or due to the lack of direct service to the Straits from those ports. Main industries include steel rolling and the

manufacture of brassware, beedies, Indian medicines, piecegoods, etc. The main agricultural produce are rice, greengram, tobacco, chillies, yams, onions, etc.

Nagapattinam is a lighterage port. Cargo is handled from ship to shore and *vice versa* in privately-owned lighters and worked alongside the wharves. The average daily rate of loading and unloading is 400 tons at the roadstead and 500 tons at the wharves. The port is open throughout the year. One stretch of the wharf is equipped with two three-ton hand cranes for the shipment and loading of vehicles and cattle.

The maximum wharfage capacity of this Port is roughly of the order of 1.5 lakh tons per year.

Facilities at Nagapattinam

The anchorage is in depths from 4-1/2 to 6 fathoms in fine weather but in rough weather and during the North-East Monsoon, ships do not anchor in less than 5 fathoms. The sea-bed at the anchorage is sand and mud and is a good holding ground. Navigational aids are a lighthouse, a spherical buoy and a signal station at port for ship to shore communication by Morse code. The construction of a seaface wall has been recently completed at a cost of Rs. 5 lakhs.

A scheme costing Rs. 10 lakhs for providing groynes for the entrance channel has been included under the Second Plan. This proposal envisages the provision of a suitable pier in proper alignment, with a sand pump of requisite capacity to maintain a bar channel of depth 5 to 6 feet. Once this is accomplished, cargo boats can ply between ship and shore at all stages of tides. Provision of a tug costing Rs. 1 lakh is also contemplated. It is also proposed to extend the wharf wall on the south wharf and provide a cargo and upper class passenger shed at this port. Water-supply to ships is also proposed to be taken up at this port by bore-well and pumping arrangements.

Other Ports

The chief exports from Kulasekarapatnam are palmyra fibre and *akil* baskets and garnet sand. The chief imports are tiles, wooden logs, planks, reapers, bamboo and coir rope. There is no passenger traffic at this port. At Colachel Port on the other hand, there is not much of imports, but exports of ilmenite sand and palmyra fibre are made. Under the Second Five-Year Plan construction of quarters for the port staff have been taken up as the preliminary step to further development in both the above ports as also at Pamban and Kilakarai.

The ports in Madras State had been handling a large volume of trade with Ceylon, Burma, the Straits Settlements and East Africa prior to the War. The interruption of this trade during the war was inevitable but it was looked upon as temporary. This trade has not been re-established after the war due to various factors. However, the traffic in these ports built up in recent years is of a different character entirely. It is hoped that as a result of the trade delegations which are touring countries near India and also as a result of the initiative and enterprise of the merchant community led by the respective Chambers of Commerce, the former trade of these ports will be restored. The Madras Port Department is anxious to render all assistance in this matter.

Studded with delicious spots for picnics and sights

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is just the place for you,

an enthusiastic globe-trotter,

an over-worked official,

an active business executive,

to get the needed rest combined with pleasure.

A LAND OF TEMPLES

to satisfy the pious, it also abounds in varied attractions:

*** Exhilarating hill-stations*

*** Excellent sanctuaries*

*** Eximious places of Art*

*** Exemplary Architecture*

*** Exquisite centres of Beauty.*

**A visit to the State is worth
all your trouble**

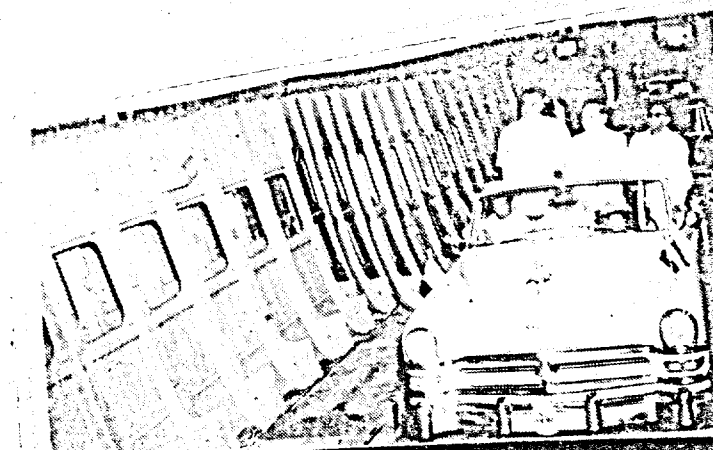
**NOT TO SEE IT IS TO
MISS A TREAT IN YOUR LIFE**



PRESIDENT NASSER IN MADRAS

His Excellency Gamal Abdul Nasser, President of Egypt, visited Madras in the course of his tour of India in April 1960. He was received on arrival at the airport by Sri Bisnuram Medhi, Governor of Madras and Sri K. Kamaraj, Chief Minister.

1. Getting down from the plane on arrival.
2. At the Central Leather Research Institute.
3. Laying the foundation Stone for the Girls' Hostel of the S. I. E. T. College.
- 4 and 5. Witnessing performance of dance by the students of Kalakshetra.
6. At the Integral Coach Factory.
7. Meeting the family of a worker at the Integral Coach Factory.
8. At the Industrial Estate at Guindy.
9. Reception by Film artistes.
10. Receiving gifts from Sri Sivaji Ganesan, Film artiste.
11. Replying to the address presented by the Mayor, Sri Abdul Khader, at the civic reception.
12. At the State Banquet with the Governor and the Chief Minister of Madras and Dr. Humayun Kabir, Union Minister for Education.



A THEATRE FOR CHILDREN

Films that educate and entertain children are being exhibited during every week-end at the well-furnished Children's Theatre in the Government Estate, Mount Road. Hundreds of children troop into this Theatre every week to enjoy these films.

HAVE YOU TAKEN YOUR CHILDREN TO THESE SHOWS?

Patrons of the Children's Theatre, be they little ones or their proud parents, are all praise for this amenity. Srimathi Indira Gandhi said :

"Madras has stolen a march over Delhi which is still struggling with plans for a Children's Theatre".

MADRAS LEADS IN THIS AS IN OTHER SPHERES.

Warehousing of Agricultural Produce

SRI W. A. GNANASAMBANDAM, *Managing Director, State Warehousing Corporation, Madras.*

(Of all the problems that the country has to face, the problem of feeding the growing population defies solution despite all efforts to step up production. The year 1958-59 has been a peak year, India producing 73.5 million tons of foodgrains. This was hardly sufficient to ensure a pro-rata supply of 12 oz. of rice or atta, thus necessitating the Government to make large imports. The difficulty lies not only in not being able to increase the output per acre, but also in the non-availability of sufficient agricultural lands for growing foodgrains more extensively. Against the world average of 3.5 acres of agricultural lands per head, India has to be satisfied with less than 1 acre of cultivable land and only the river valley projects and irrigation schemes should help to increase this, but not without restriction. So it becomes all the more necessary for this country to increase production by resorting to intensive cultivation by following the Japanese method and the Package Programme.

The problem has to be solved not merely by increasing the production through intensive cultivation, but also by proper preservation of foodgrains produced and satisfactory marketing to ensure reasonable prices for the growers. It is estimated that for want of proper storage facilities, nearly 5 per cent of the agricultural produce is lost by ravages of insects, rodents and rot. If this is saved by proper storage, it may supply much of the food needs in deficit areas.

Storage of Foodgrains

The storage facilities now available are mostly for commercial crops, such storage being largely in the hands of traders and processing concerns. The arrangements by Government, both Central and States, lately accounting for larger contributions may not be sufficient to cope with the handling of the increased marketable surplus anticipated under the Third Plan which aims at a production target of 110 million tons. Co-operatives with schemes for construction of godowns at village and taluk levels and also at district centres have accounted for a capacity of about 54,000 tons in this State. The Civil Supplies department owns godowns mostly in the City, but only to a total capacity of about 20,000 tons.

On the side of marketing, the Government have encouraged co-operative to open a net work of marketing societies at taluk level, with a controlling unit at each district and also one at the State level, for providing facilities to market agricultural produce handled under the integrated credit and marketing schemes to assure better price for the growers' produce. Consequently the

co-operatives are required to be so organized that the medium cultivators and the small cultivators could effectively represent the organization. The regulated markets by themselves in this State have not made much headway, excepting in six districts, in respect of commercial crops like groundnut, cotton, tobacco and ginger in notified areas. The recent Agricultural Produce and Markets Act passed by the State Legislature provides for the extension of spot marketing facilities to the growers throughout the State by formation of marketing committees which could also be worked by co-operatives. While spot marketing could thus be regulated and licensed, the future market sought to be achieved through co-operative societies is found not feasible without provision of adequate scientific storage facilities to assist the co-operatives at distribution centres in the districts and divisions. The lack of storage thus becomes a part of wider deficiency, viz., the lack of orderly marketing.

The Warehouses Act

The Warehousing idea is as old as the Banking Enquiry Committee which has made specific recommendation for the setting up of warehouses to fill up the void created by war. As a result, laws were enacted by almost all the State Governments by passing the Warehouses Act to license private individuals to set up warehouses under approved scheme. The Government of Madras have likewise brought on statute the Warehouses Act of 1951, permitting individuals to put up warehouses under a licence issued by the Collectors, with powers for the warehousemen to issue warehouse receipts as a negotiable document, prescribing security and adequate safeguard by compulsory insurance and surprise inspections by officers of certain category, on lines almost similar to the warehousing system in India.

The cost of construction of warehouses being considerable and the return from collection of warehouse charges under the schedule prescribed by the Government being negligible, hardly covering the interest on capital outlay, no warehouse has been set up in the State by private enterprise. It is also the case in other States except for a few warehouses in Bombay and Madhya Pradesh. As no specific body has displayed any interest in warehousing in spite of legislation, the Government of India, on the recommendation of the Reserve Bank of India in its report on the Rural Credit Survey, have decided to set up Corporations at Central and State levels on the lines of Improvement Trusts and Port Trusts for running warehouses. The outcome is the passing of the Agricultural Produce (Development and Warehousing) Corporations Act of 1956 to set up warehouses in the public sector.

The Act has provided for a Central Warehousing Corporation with headquarters at Delhi and a State Warehousing Corporation at each State, through the National Co-operative Development and Warehousing Board which is given a non-recurring grant of Rs. 5 crores and a recurring grant of Rs. 5 crores for five years to give loans, to grant subsidies for State participation in the share capital of co-operatives and town capital contribution to the Central and State Warehousing Corporations. Under this Act, the Central Warehousing Corporation has been set up with an authorized share capital of Rs. 20 crores contributed by the National Co-operative Development and Warehousing Board, the State Bank of India, Insurance Corporation, Scheduled Banks, Co-operative Societies and other companies and administered by a board consisting of 15 members for purposes of building godowns, running warehouses, investing in the shares of the State Warehousing Corporations, functioning as agents of Government for purchase, sale, storage and distribution of Government stock, etc. Immediately the Central Warehousing Corporation has issued shares to the value of Rs. 10 crores.

Corporations at State Level

The State Warehousing Corporations in each State have likewise been set up with an authorized share capital of Rs. 2 crores managed by eleven directors, five nominated by the Central Warehousing Corporation and five nominated by the State Government with a Managing Director appointed by the State Government with the consent of the Central Warehousing Corporation. In furtherance of this, the Central Warehousing Corporation has to open 50 warehouses at centres of All-India importance with particular attention to specialised storage and the State Warehousing Corporations, 250 warehouses at District and Divisional levels, before the Second Plan period. Accordingly the Madras State Warehousing Corporation, was inaugurated by the Chief Minister of Madras and has begun to function from May 1958. Of the first issue of Rs. 20 lakhs as share capital, Rs. 10 lakhs have been contributed by the State Government and a like sum by the Central Warehousing Corporation, typical of an institution sponsored under the public sector.

Programme of State Corporation

The Madras State Warehousing Corporation deriving its constitution from the Agricultural Produce (Development and Warehousing) Corporations Act, 1956, has adopted the Madras Warehousing Act, 1951, and the rules framed thereunder in 1953 to work the several warehouses to be set up in the State. The Corporation has programme to open 15 temporary warehouses before the Second Plan period at Salem, Vellore, Madurai, Riddhachalam, Kancheepuram, Pollachi, Karur, Dindigul, Nagapattinam, Erode, Tuticorin, Tirunelveli, Tiruchirappalli, Rajapalayam and Ootacamund. As preliminary to the construction of permanent warehouses towards which the Corporation is taking steps to acquire lands to put up construction at least in six centres before the end of the Second Plan period, it has already set up temporary warehouses at 11 centres with the prospects of

setting up the remaining warehouses also in the course of the next few months. It has so far made applications for acquisition of sites at suitable places in the district for acquisition of sites at suitable places in the district and divisional levels at nine centres and is making private negotiations also for purchase of sites at other centres to construct permanent warehouses of a minimum capacity of 2,200 tons, at an estimated cost of Rs. 3 lakhs per warehouse in the market area or adjacent to the regulated markets, to ensure custom from growers.

Benefits of Warehousing

While the village co-operatives and agricultural banks could provide facilities for their members by taking produce in the societies' godowns in villages, where such accommodation is not adequate, the warehouses set up in the district and divisional levels would assist to take the spill-over produce from the co-operatives in the larger interest of the grower, to improve his staying capacity and help to secure better prices for his produce by off-season sales. This spill-over is bound to be enormous, if the co-operatives could confine their warehousing to the co-operative owned accommodation, shifting the rest to the Corporation warehouse wherever it is set up. A co-ordination at this point would help the marketing of produce which the farmer has to move from his native village.

The benefits of the Warehousing scheme are mainly intended for the grower and agriculturists big and small and to the members of co-operative societies wherever necessary by providing facilities to take charge of the produce under deposit in the warehouse. But, the set-up now admits also the merchants and traders including processors who require such general assistance to keep their business produce under proper custody by scientific preservation. Recognized business credit is also provided through approved methods as marketing itself is a system envisaging disposal of one's produce with confidence and without apprehension of being deceived or unfairly treated. This State does not grow all the produce that is required by the consuming public. Paddy, cereals, groundnut, chillies, condiments, potatoes, onion and garlic are only a few of the commodities in the long range of consumable goods required by the people.

Wheat has to come from Punjab, dhall from Madhya Pradesh and grams, tamarind, etc., from other States to cover the deficit. This part of the function is effectively discharged by the merchants who procure such commodities in places of origin in other States, transport them to consuming centres within the State, find finance through bank credit and store them in make-shift structures and dwelling houses available. The bank credit may by any means be satisfactory, but the storage in every respect is wanting. What is wasted or destroyed in the custody of trade is also a loss to the community and to this extent the consumer is deprived of his requirements. Any assistance to trade in the matter of providing storage facilities and approved banking credit for commodities kept in the warehouses, cannot be out of place in the agricultural economy of this country.

To check the soaring price and speculative trade, the Reserve Bank of India has imposed restrictions early in 1957 requiring the Commercial banks to restrict their advances to trade, subsequently restricting it to the limit of business done for the corresponding period in the previous years, with specific ban for advances on paddy or groundnut. But the Reserve Bank has permitted advances for deposits made in warehouses on the warehouse receipts held by such merchants without reference to the prevailing restrictions imposed by it. This is the beginning of a recognized commercial credit to bona fide business to eschew malpractices of unscrupulous traders. This concession by itself cannot be assumed as negation of the fundamental idea of the Government setting up warehouses for storage of agricultural produce to assist the growers. The Government has a responsibility in the matter of not only affording price support by keeping the produce in the warehouse to help the producer to get better price for his produce, but also to control prices in the market by releasing their own stock to bring down prices, when there is heavy speculation due to speculative activities by any section of the people, and towards the latter end, the Government can keep their stocks in the warehouses by some arrangements with the Corporation for movement from the supply centres to the distribution centres. Price support can effectively be ensured to growers by fixing floor prices for agricultural produce, Government stepping in to purchase the produce during seasons when there is reluctance on the part of trade to offer the minimum price using the warehouses as their agency in running "buying shops".

Method of Warehousing

The organized system of warehousing and storage together with the trained personnel is an economic asset, since not only the produce is preserved from deterioration to make it available for the off-season without scarcity, but it also helps to minimise the frequent handling in transport of such produce whenever any sale or transfer is affected by the depositor, who could dispose of the produce by show of samples to the prospective buyers. This also inculcates the habit of banking among the community of growers and dealers under the approved method of transferring the warehouse receipts by endorsement. The produce is first accepted on behalf of the depositor under his own name and weighed before being taken into the warehouse by licensed weighman, disinfested before it is stacked to prevent damage by insects and stacked scientifically to admit proper ventilation to preserve the produce from deterioration or caking, thus assuring the return of the commodity deposited without deterioration in storage. Each lot is kept separate to avoid any mix up. The produce accepted is insured against fire, burglary, riot and civil commotion, flood and rain; not only to protect the interests of the depositor against any loss, but also to save the Corporation from the incidence of such loss.

The depositor is then given a receipt drawn, after examining the quality of the produce classifying it according to quality as 'good', 'fair' or 'average' and noting the exact weight or volume specifying the market value on the date of deposit to enable the holder to negotiate for purpose of credit with any bank. Though the

document is transferable, its negotiability is restricted for the present to endorsement by the depositor pending suitable amendment of Negotiable Instruments Act. It is easy for merchants who have hitherto kept custom with the State Bank of India or other commercial banks to seek accommodation through the warehouse receipts, as the banks are fast recognizing the receipt as an authorized document for the deposit of the stocks in the custody of the warehouseman who is signing it.

Credit on Deposit

The agriculturists who have no previous custom or experience in banking transactions can be introduced to the banker by the warehouseman himself, to enable him to raise credit and the State Bank of India is arranging up to Rs. 10,000 as loan on the security of warehouse receipt to agriculturists without any formality of enquiry to establish his creditworthiness. So business hitherto done by the commercial banks and the State Bank of India through key banks, as credit under warehouse receipts to warehouse and produce in a good godown is a produce which can adopt commercial credit. Under section 17 (4) (d) of the Reserve Bank of India Act, provision is made to make loans and advances repayable on demand or on the expiry of fixed periods not exceeding ninety days against the security of promissory notes of any scheduled bank or State Co-operative Bank supported by documents of title to goods. The Reserve Bank could accept as collateral, not the goods pledged with and in the custody of the scheduled bank but only the title to goods, i.e., receipts issued by independent warehouses.

In the virtual absence of warehouses, this sub-section has remained inoperative and it is under this section advances could be made by the scheduled banks, which in due course may be the only commercial credit that could be made available, when adequate number of warehouses are set up to provide facilities for large number of agriculturists or businessmen, raise loan on security of the warehouse receipt. The State Bank of India is also giving loans on warehouse receipts at a reduced rate of 5 per cent interest. Commercial banks have to likewise reduce their rate in due course in their own interest. The Registrar of Co-operative Societies has also permitted the urban banks, the agricultural banks and the marketing societies to lend on the security of warehouse receipts to their members, though he could not concede to the request of the District Co-operative Central Banks to make such advances to agriculturists as financing individuals is beyond the object of the Central Banks.

Preservation of Produce

The produce accepted at the warehouse should be preserved scientifically and protected against rodents and insects, a problem of no little magnitude. Rats destroy grain, contaminate it with their filth and carry diseases. They feed at any time of the day or night, a pair of them consuming about 27 lb. of food. Stored grains are subject to attack by a group of insects which adopt themselves to a diet of dried vegetable material. The very construction of permanent warehouse is to ensure preservation of produce in rate-proof and damp-proof godowns with required facilities to store every type of agricultural produce in bulk or in bags and protect it

from infestation by periodical dusting and fumigation with insecticides to deliver it in a fit state of consumption to the depositor without any deterioration in storage. All facility is given to the depositor under the Act and Rules framed by the State Government with all responsibility on the side of the Corporation to ensure the proper upkeep of stock in custody at the warehouses and to assure security to make bank credit facile. The banker's lien on the produce is endorsed in the books of accounts maintained at the warehouse and the depositor permitted to take part releases of the produce at his convenience.

For all the services by the Corporation, the depositor is required to pay only warehouse charges as per schedule in Appendix III of the Warehouses Act of 1951 working

to about 6 nP. per bag per month in addition to insurance charges amounting to 4 nP. per Rs. 100 value of goods to cover the risks referred to. Periodical dusting and fumigation are done at the cost of the Corporation in the larger interest of preservation of foodgrains. The system is so popular that even in the few temporary warehouses set up with small accommodation, the bankers' advances on the security of warehouses' receipts have amounted to more than Rs. 18 lakhs in the current year. With permanent warehouses at 15 centres and more to be set up under the Third Plan period, the warehousing capacity under this Corporation is estimated to be well over 1-1½ lakhs of tons within its present capital provision.

State Awards For Teachers

The Government have instituted 48 State Awards for being granted to Elementary School Teachers in recognition of meritorious service rendered by them in the field of education. This scheme is to be implemented with effect from the school year 1959-60 and two awards each comprising Rs. 200 in cash and a certificate of Merit, have been set apart to each of the 24 educational districts in the State. These State Awards are to be given to those teachers of Elementary Schools who, in the opinion of the State Government, have done signal and meritorious service in the cause of Elementary Education.

For the purpose of selection of candidates for the State Award, Committees will be constituted at the District and State levels. At the District level a Committee will be constituted by the Director of Public Instruction for each educational district with the District Educational Officer of the District as Chairman, a headmaster of a primary training school and a Deputy Inspector of Schools as members. At the State level the Committee will consist of the Director of Public Instruction as Chairman, the Principal of a Training College and a prominent Educationist to be nominated by the State Government as members.

The District Committees will consider the claims of such of the teachers and headmasters as have put in at least 15 years of service and submit six from among them, with specific recommendations to the State Committee giving full details regarding service, qualifications and meritorious work done by the teachers and such other information as may be found necessary. The State Committee will select two persons more from each Educational district out of the six persons recommended by the District Committee and submit the list of names to Government for approval.

The teachers selected for 1959-60 will assemble at Madras on a suitable date to be fixed for the purpose and the prizes will be distributed to them in a public function by the Governor. From 1960-61 onwards the function will be arranged on the Republic Day or any other day of public importance.

India's Atomic Power Programme

The Atomic Energy Commission is now planning to develop atomic reactors which will utilise the country's vast thorium reserves. In order to be able to produce cheap and abundant power, India, it is stated, has to base its nuclear power programme ultimately on thorium which is available in abundance in the country.

The Annual Report for 1959-60 of the Department of Atomic Energy outlines the plans of the Atomic Energy Commission for the development of an atomic power programme suited to India's requirements.

The Report presents a detailed account of India's achievements in research and development in the peaceful uses of atomic energy. It describes the important and rapid progress that has already been made in India in the production of all basic materials required for the utilisation of atomic energy and how this new "force" is already being put to use for the benefit of the country in the fields of agriculture, medicine, biology and industry.

The First Power Station

Preliminary work on the first atomic power station, which will be located between Bombay and Ahmedabad and which will serve both the regions, has made "considerable progress" and it is expected that the contract for the supply of the plant will be finalised early next year.

The station is expected to go into operation in 1965 and will produce 300,000 KW of power. The original decision was to establish the station with one reactor of 250,000 KW, but as there seemed to be considerable operational advantages in providing this capacity with two reactors, it is now proposed to set up two reactors of 150,000 KW each at this station.

Steps have been taken to open up a uranium mine in Bihar, which will supply sufficient raw material to feed this station. A uranium processing mill for producing uranium concentrate from this ore is being designed at Trombay and will be erected near the mine.

Most Notable Achievement

In reviewing the progress of the Atomic Energy Commission's activities, the Report states that the "most notable achievement of the year" was the successful production of fuel elements from uranium ore mine in India. Uranium metal of nuclear grade has been produced from Indian ore and fabricated into fuel element at Trombay. The first prototype fuel element was produced at the Atomic Energy Establishment at Trombay in June 1959. By producing nuclear uranium and fabricating fuel elements, a substantial amount of foreign exchange will be saved.

There has been a rapid increase in the production of nuclear electronic instruments at the Trombay Establishment. Some eight hundred nuclear instruments of various types were fabricated in 1959, thus saving approximately Rs. 10 lakhs of foreign exchange (as compared

to the saving of Rs. 5 lakhs during the previous year) and it is expected that by the end of the current year the number will increase to about 2,000 instruments.

Atomic Research Reactors

India will have three atomic research reactors working within the next six months. Apsara, India's first reactor which will soon complete four years of operation, was utilised for over 1,000,000 KWh last year, compared to the previous year's 291,000 KWh. The Canada-India Reactor, India's second reactor, is fast nearing completion and is likely to go into operation late next month. Zerlina, India's third atomic reactor, is expected to be in operation by September 1960.

It is stated that increasing quantities of radio-active isotopes have been produced in Apsara and supplied to an increasing number of laboratories and hospitals in the country. The Commission is now able to supply the entire national requirements for some of the more important isotopes. The Report states that isotopes for medical use were prepared at Trombay for the first time during the past year.

Uses of Isotopes

With the full operation of the Canada-India Reactor during the current year, the Commission will possess one of the largest isotope producers in the world and will be in a position not only to meet the country's entire needs in radio-isotopes, but to export them, if necessary. It is proposed to encourage a greater use of radio-isotopes in agriculture, biology, industry and medicine all over the country and in order that this may be done without danger to the health of the workers or the public it is proposed to introduce an amendment to the Atomic Energy Act, which will bring it in line with developments in the field of atomic energy which have taken place during the last ten years.

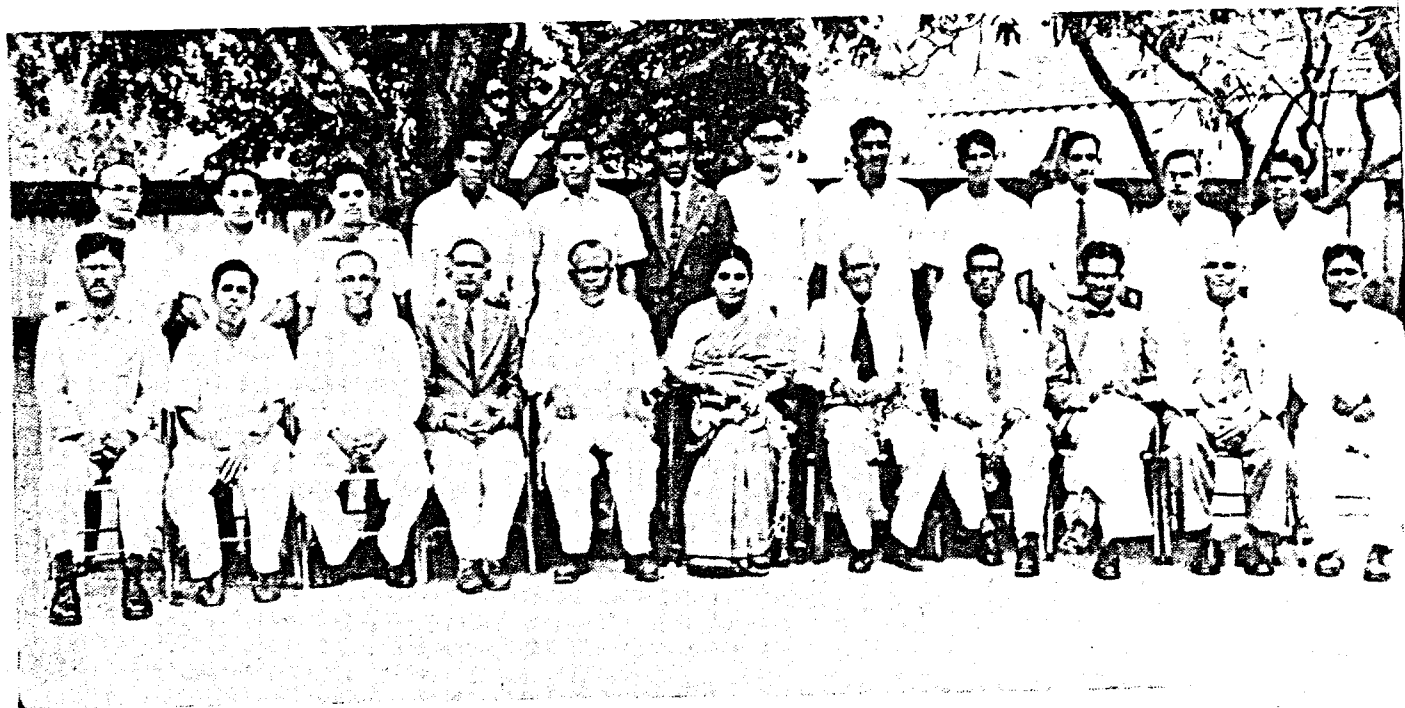
In reviewing the activities of the Trombay Establishment, the national centre of the Government of India for research and development in the field of atomic energy, the Report states that the additional facilities to be soon set up there will include a 5.5 MeV Van de Graaff particle accelerator, a Plutonium Plant, a Radio-metalurgical Laboratory, Stable Isotopes Plants, a Decontamination Centre, a Central Workshop and a Heavy Water Reconciliation Plant.

As in previous years, the Commission gave financial assistance to several universities and scientific institutions for research projects in nuclear science. A sum of over Rs. 18 lakhs was sanctioned for 14 such centres. In addition, the Commission is now also granting 120 undergraduate and post-graduate scholarships annually for technical studies at several universities and institutions in India.

Delegations from the U.S.S.R. and U.S.A. recently visited India and held talks with the Atomic Energy Commission with a view to establishing "greater and more positive co-operation in developing the peaceful uses of atomic energy in India."

Madras Labour Gazette

The 'Madras Labour Gazette' is being published monthly by the Commissioner of Labour, Madras, since March 1959 under orders of Government and is intended to give a brief review of the progress made by the State in the field of industrial relations. Statistical and other information on work stoppages, industrial disputes, trade unions, consumer price index number for working class (cost of living index number), agreements, summaries of awards of Industrial Tribunals and the Labour Courts, etc., are being published. Labour enactments, Central and State, and rules thereunder are also being published, one in each issue, embodying the latest amendments for facility of reference. Also special articles bearing on Industrial Relations, Industrial Safety, Labour Welfare, Productivity, etc., are also being published. The material published in the Madras 'Labour Gazette' will be up to date and of considerable value to employers and workers' organisations alike in tackling problems that may arise from day to day. The subscription for the 'Madras Labour Gazette' has been purposely kept as low as Re. 1 per copy or Rs. 10 per year, so that it may be within the easy reach of all persons interested in labour matters inclusive of trade unions and employers' organisations. Subscriptions may be sent to the Commissioner of Labour by crossed cheque or by money order.



A conference of the Officers of the Fisheries Department was held recently at Thanjavur. Srimathi Lourdhammal Simon presided over the meeting. Photo shows the Officers with Minister.

Co-operative Dairying in Madras

SRI MD. ABDUL HAFEEZ, Joint Registrar of Co-operative Societies

(Dairying is an ancient cottage industry of India, closely knit with agriculture. From the small farmer to the bigger landlord, each has a nucleus of livestock, whence milk is drawn in varying quantities and supplied to the people. India has a vast cattle population nearly a fourth of the world cattle population. Roughly half of this would be the female cattle stock. The numerical strength of the milch stock is doubtless big, but its potentialities are at a low ebb.

There has, thus, been always a dual problem with dairying, one to make it more remunerative to the producer in relation to the large but uneconomic cattle stock he maintains and the other to ensure larger production and output of milk so that the common man can make it an indispensable part of his normal daily diet. The most appropriate solution to this problem is the co-operative way of organizing the dairying industry whereby the producers, on the one hand are brought together on a footing of equality into a common organization for their own mutual benefit and maximum economic advantage, and on the other, the milk output is handled in the proper manner and the production stepped up gradually year by year so that more milk would be available to the consuming public at comparatively cheaper rates.

Milk Co-operatives

The number of milk co-operatives and unions which stood at 440 in 1950 in the residuary Madras State has gone up to 761 in 1960, of which 20 were Milk Supply Unions. The organization of the co-operatives has been done steadily and in a planned manner so as to cover all the municipal areas, major panchayats and also a good number of villages. The membership in these societies which stood at 53,965 in 1950 rose to 86,971 in 1960, while their share capital rose from Rs. 9.24 lakhs to Rs. 17.33 lakhs. The output of milk in the State has correspondingly been on the increase year after year. The daily average production of milk through the co-operatives which stood at 29,250 M.Ms. per day in 1950 rose to 56,940 Madras measures per day in 1960.

Credit Facilities

The Second Five-Year Plan gave a fillip to the progress in the formation of milk co-operatives and their development in various ways. Under the Plan, a scheme to step up the daily average production of milk through the milk supply co-operatives by 10 per cent over the initial production was undertaken. The ordinary producer is unable to provide himself with the required milch stock to undertake dairying as an industry. The requisite credit facilities are necessary to enable the producers to join the milk co-operatives and build up

their milch stock. In order to provide this, an increased provision for State loans has been made in the annual budget of the Co-operative Department. While the provision for 1956-57 was Rs. 7 lakhs, it has been raising steadily year after year to Rs. 11 lakhs in 1959-60. This will be further increased to Rs. 12 lakhs in 1960-61. Besides these State loans, the District Co-operative Central Banks have been persuaded to provide the required financial assistance by way of loans for purchase of milch animals out of the cheaper credit made available by the Reserve Bank of India.

The Madras District Co-operative Central Bank availed of this facility and provided credit to the extent of Rs. 4 lakhs to the Madras Co-operative Milk Supply Union during 1958-59 so as to enable the members of the Union's feeder milk societies to purchase and own milch animals. Along with the provision of more credit, the organization of new milk co-operatives has also kept pace. Since 1956-57, 155 new societies and one union have been started and these have contributed materially to the increased production of milk. The daily average production of milk which stands at 56,940 Madras measures per day in 1959-60 will be further increased to 58,800 Madras measures at the close of the Second Plan. In the ensuing Third Five-Year Plan, it is proposed to start 150 more milk societies and raise the output to 90,000 Madras measures per day.

Maintenance of Animals

The Plan has also enabled greater attention being bestowed on the proper feeding, breeding and maintenance of milch animals. Proper and scientific feeding of milch animals contributes about 50 per cent of the milk yield and if this aspect is given the attention it deserves, the target of milk production aimed at could be achieved much quicker. With a view to provide for this, a scheme for the manufacture of cattle feed at a cost of Rs. 1.18 lakhs has been introduced in selected areas. Under this scheme, cattle feed mixtures will be manufactured in the right proportion and supplied to the members of societies for cash or credit. Apart from these feeds, the green grass feed is of special importance to the milch cattle in the matter of augmenting milk production and also improving the quality of milk. Under the plan, a scheme for the establishment of a Green Fodder Farm at Manamadurai in the Ramana-thapuram district at a cost of Rs. 15,650 has been sanctioned and it is under implementation. The Third Five-Year Plan provides for 12 more schemes for supply of cattle feed mixtures and formation of 10 Fodder Farms. The above measures would enable the producers to feed their cattle better, improve their health and milk yield.

Scientific breeding should also go hand in hand with feeding as the improvement of the breed would in itself help augment the lactation period and make the animal more economic. By the formation of Co-operative Cattle Breeding Societies and provision of pedigree breeding bulls, efforts have been taken to improve the strain of cattle. Under the Second Plan, 12 Cattle Breeding Societies were scheduled to be started of which 10 have already been established and are proving to be useful in improving the local breed. Besides these, there are already 12 other cattle breeding societies engaged in this activity. About 10 Milk Supply Societies and Unions also own stud bulls which help in improving the local stock. Sindhis, Kangayams and the Murrah are the main breeds encouraged through these societies.

Salvage of Dry Cows

Another major problem facing the cattle owners is the proper and scientific maintenance and care of the milch stock during their dry periods. The Dry Stock Farm at Vattambedu run by the Madras Co-operative Milk Supply Union has been in existence since 1950 and has been helpful in salvaging the dry cattle in the City. Under the Second Plan, provision was made for the establishment of four salvage farms in different parts of the State and accordingly these have been started in Tiruchirappalli, Coimbatore, Tirunelveli and Ramanathapuram districts. The Farms have proved to be very popular with the local cattle owners and they are making use of them to the full. On an average, these Farms handle about 900 dry animals at a time. Lands to the extent of 1,583.84 acres have been acquired for the use of these Farms for the cultivation of fodder crops and green grass and providing pasture for the cattle. Sheds for the cattle have also been put up at all these Farms. Under the Third Five-Year Plan, provision has been made for 15 such Salvage Farms in the remaining districts of the State.

Handling and Processing of Milk

The mere increase of milk production will not stabilise the Dairy Industry. The milk so produced should be handled in the hygienic way, the process of milking done under close supervision to check adulteration and also the milk pooled and processed so as to increase its keeping capacity. The Milk Co-operatives in Madras have in almost all places adopted the system of common milking done under the immediate supervision of the local directors of the societies or the responsible employees of the societies. Under this arrangement, the scope for any adulteration is eliminated. Also the surprise checks exercised by the Departmental Staff of Dairy Assistants who take random samples for analytical tests, have put down adulteration generally.

In order to provide for regular chemical tests, a Central Milk Testing Laboratory has been established at Madras with financial aid under the Second Plan. The laboratory is under the control of the Dairy Officer (Madras State) for conducting independent tests with an expert staff and the requisite equipments. The laboratory is also provided with a Lambretta to go round the production centres and the distribution areas in the Madras City and collect samples for testing. On an average, the laboratory conducts 1,000 tests every month.

Pasteurisation Plants

Besides ensuring the quality of milk, it is necessary to provide facilities for prolonging the keeping quality of milk so that it may continue to be in a sound condition, till it reaches the market and the consumer. In other words, processing of milk is an important facet of the Dairy Plan. The Madras Co-operative Milk Supply Union was the first to undertake milk processing in the State. It established its Dairy in 1937 with a 220 gallons per hour pasteurisation plant which was later expanded into a 440 gallons plant in 1951. This has helped the Union to handle larger quantities, on the average, 20,000 lb. per day, process it and keep it overnight and supply to the City consumers before day-break and again long before the evening hours. Under the Second Plan, the Milk Union at Kodaikanal was the first to be provided with a batch pasteuriser of 50 gallons per hour capacity. The installation of the plant has ensured steady supply of milk by the feeder co-operatives, thereby stabilising the position of the village milkmen.

A bigger plant of 440 gallons per hour capacity for the Coimbatore Co-operative Milk Supply Union was the next to be sanctioned at a cost of Rs. 8.33 lakhs. It is in the process of installation and will be commissioned very soon. The Coimbatore Milk Union is another important Co-operative Organization engaged in Dairying and it is supplying about a fifth of the milk requirements of the town. With the provision of the Dairy Plant and other ancillary equipments and a chilling centre in the rural area to pool the milk produced in the neighbouring milk pockets, the Union will begin to handle about 20,000 lb. of milk per day and cater to a much larger section of the urban population.

Owing to paucity of funds under the Second Plan, more schemes for the installation of dairy plants could not be undertaken. However, it is proposed to install another plant of 1,000 gallons capacity for Madurai City with aid from the UNICEF at a cost of Rs. 48 lakhs and the matter is engaging the attention of the Government of India. Under the Third Plan, it is proposed to install 12 pasteurisation plants in all the major towns of the State with a population of 50,000 and above. In the matter of transport of milk from the rural areas, financial assistance has also been given to the three milk unions to the extent of Rs. 1,72,696 under the Second Plan for the purchase of vans. Two of the Unions have already purchased them and brought into use. More such assistance has been provided for under the Third Plan.

Distribution of Milk

The Milk Co-operatives in Madras State have, generally adopted the system of supplying milk at the doorstep of the consumer, through milk vendors who carry the milk on bicycles. Under this arrangement, timely distribution cannot be ensured always, particularly in the big cities. In order to facilitate the speedy distribution of milk to the consumers, the Madras Co-operative Milk Union has been provided with 12 "Three Wheelers" with a haulage capacity of 500 lb. each. Retail sale through milk depots and milk bars is also in vogue in the major towns and cities. With a view to

enable the Milk Co-operatives to stock large quantities of milk at the depots or bars, steps have been taken to equip them with coolers where milk could be kept for long hours and sold to the public at hours convenient to them.

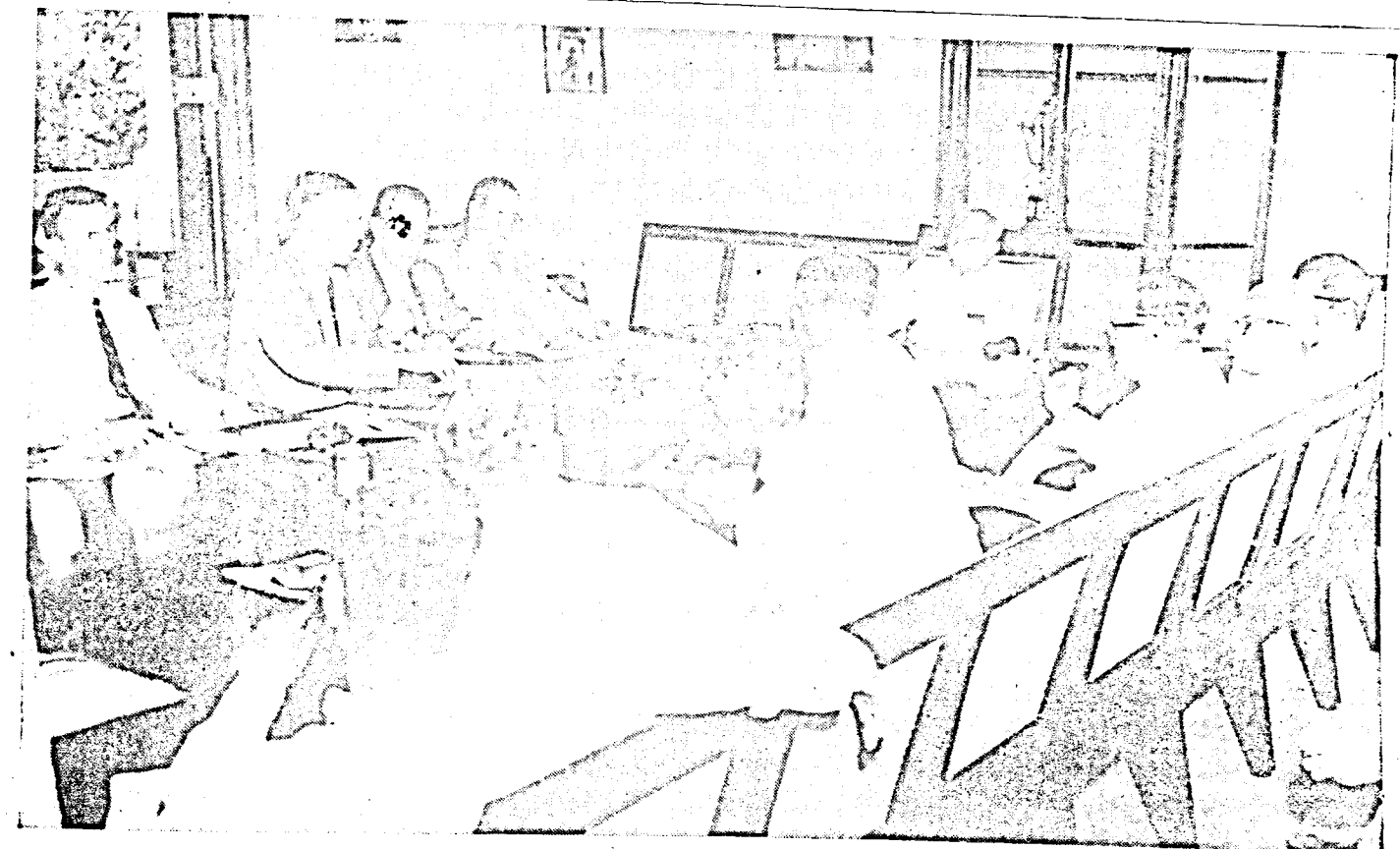
Ten such coolers are being installed in the Madras City at important centres. The Tuticorin Milk Union will also install a similar cooler very soon. The Srivilliputhur Milk Supply Union has already installed one and is attracting large customers. Another important improvement in milk distribution introduced of late, is the sale of milk in sealed bottles. The Madras Milk Union has taken the lead in this direction and it is distributing the milk in this form in three divisions of the Madras Corporation. With the provision of an automatic bottle filling and capping machine, the Union will extend the system of distribution in bottles all over the Madras City. Under the Second Plan, the Union has been sanctioned the purchase and installation of this machine which is expected to be received very soon. Other Milk Co-operatives in the districts have also introduced the system of supply in bottles on railway platforms to a limited extent.

By-products of milk

Surplus of milk is a seasonal phenomenon. This is overcome usually by the conversion of the surplus into by-products which are easily marketable. However, the

conversion into by-products like butter, khoya and ghee results in certain amount to loss to the co-operatives. Conversion into ice-cream is profitable; but the market for ice-cream is limited. In order to tackle this problem effectively, a scheme to establish Butter-cum-Milk Powder Factories at two key centres in the State is included in the Third Plan. The cream from the milk would be separated and converted into butter and ghee and packed under Agmark standards, while the skim-milk would be dried into powder and made available for manufacture of toned milk wherever needed. The co-operatives are also adopting intensive methods of increased sale of milk to consumers in its fluid form by stocking the milk in coolers for a time and by other methods of sales promotion like the preparation of milk shakes, rose milk, etc.

The progress in Co-operative Dairying during the past ten years as indicated above promises a bright future for the industry built on the co-operative pattern. There can be no doubt that Dairying will become a well-established and lucrative cottage industry for the vast majority of the agriculturists in the State. And, with increased production and increased distribution of milk, the common man will be educated and enabled to make daily use of milk and milk products. The per capita consumption of milk which is as low as 3-6 oz. in the Madras State will be stepped up also in due course, paving the way for sound health and good cheer among the people.)

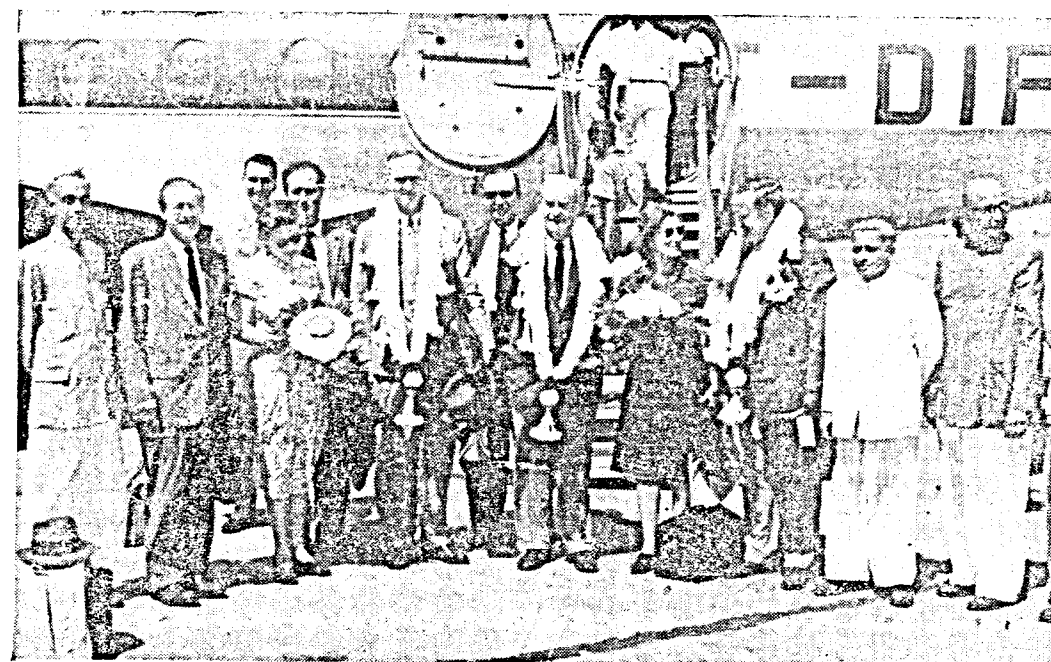


The World Bank Mission headed by Mr. Peter Hoffman held a conference with the Chief Minister and other Ministers and officials at the Secretariat on 11th April.



Mr. Tyler Wood, Minister for Economic Affairs, at the American Embassy in New Delhi and Director of the United States Technical Co-operation Mission to India called on Sri K. Kamaraj, Chief Minister, at the Secretariat on April 11.

An International Mission from the World Bank led by Sir Oliver Shewell Franks, visited Madras on March 9. They were received at the Airport by Sri T. N. S. Raghavan, I.C.S., Chief Secretary, Sri T. A. Verghese, I.C.S., Finance Secretary and Sri S. R. Kaiwar, I.C.S., Industries Secretary. The other Members of the Mission were Herr Herman Abs and Mr. Allan Sproul.



The Members of the Cultural Delegation from Yugoslavia called on the Minister for Finance on April 1.

Book Review

Gopala Krishna Gokhale

This is an eminently readable and full-dress biography of Gokhale from the pen of one who has already earned a name for himself as an able biographer. The author has made this book also as authoritative and interesting as his *Bal Gangadhar Tilak* which was adjudged by the Lokamanya Tilak Birth Centenary Celebration Committee as "best" with two others among the thirty-two biographies submitted to it. The life of Gokhale is as inspiring as it is heroic. It is a series of graduated activities, one eclipsing the other in its proportion and magnitude. Mr. T. V. Parvate vividly portrays it in this work under notice.

Born in a poor family on May 9, 1866, G. K. Gokhale lost his father at the age of 13, and came under the tutelage of his elder brother who spent half of his monthly salary of Rs. 15 on the boy's studies. Often Gokhale had to go without a meal. He tried cooking his own food; to save kerosene oil, he studied at night under the street lamps. Taking his B.A. degree with Mathematics as the special subject, he joined the staff of the New English High School at Poona. He was called a "professor-to-order" there, because, besides Mathematics, he taught English, Political Economy and History. It can be truly said of him that whatever he touched he adorned.

He had infinite capacity to take pains and possessed prodigious perseverance. Gokhale was also a hero-worshipper of Ranade, Dadabhai Naoroji, Pherozeshah Mehta and G. G. Agarkar. He would not sit in front of Ranade, whose "authority", to quote Gandhiji, "was final in every matter for him". He had such reverence for Naoroji that, to be of service to the great man, he rode on the coach-box of the carriage in which Mr. Naoroji was driving to a meeting. For him hero-worship proved an inspiring and purifying experience as the author correctly says, but this was so because he chose the right heroes.

Scorned Cheap Popularity

Gokhale scorned cheap popularity. Once he tendered apology to the Government when he felt that the occasion demanded it. Gokhale was absent in England when an epidemic to plague raged in Poona and its environs. The Government of Bombay took steps to put down the epidemic and entrusted this work to the British troops. Some people in Poona and other places wrote to Gokhale making allegations against the troops. Two European officers were killed and the British Press demanded drastic action against the culprits. Gokhale, to counteract the reaction in England, issued statements condemning the official atrocities. On arrival in India he found to his dismay that he had been misinformed. And he took the only course which an honourable man could do.

He offered a full and unconditional apology for issuing the condemnatory statements. In this he was supported by people like Ranade. The extremists complained that Gokhale had betrayed the national cause. He went into an eclipse. But then as always Gokhale put honour above expediency: truth above expediency.

He gave himself unsparingly to the cause of his country. Though he was destined to be a moderate and a non-violent leader, he never opposed the measures of Government for the sake of opposition. While criticising the policy of Government, he had always something better to offer in its place. His exactness of mind, his mathematical training and his power of producing matter of fascinating interest from dry masses of statistics made his speeches on the budget documents of great value and importance. Sir Guy Fleetwood Wilson, the then Finance Member, said that a budget session in the absence of Gokhale was like the play of *Hamlet* with *Hamlet* left out! He was listened to with the deepest respect and his speeches not unoften influenced the Government's policy.

Chivalrous to a fault

A great master of the possible, he never missed any possibilities. In fact, he created possibilities. A constitutionalist, he was, of course, for change, but he asserted that there should be wisdom in change, and he believed in the inevitability of gradualness, and of good triumphing over evil. His contribution to the building up of political life in India was enormous. He spiritualised politics. He was also a profound political thinker as honest and comprehensive as Burke. An idealist who was also a realist, a reconciler of the West and East who learnt the best in each and interpreted it to the other, one who knew the real India, the India of the villages, a statesman who was disdainful of popularity and pursued, unflinching but unrelenting, the highest interests of the people, Gokhale has, as the learned author points out, carved for himself a niche in the temple of fame as one of the great founders of modern India.

Mr. T. V. Parvate has done his best to bring out the varied qualities, and portray the life of Gokhale with sympathy and understanding, and his devotion to the subject coupled with the mastery he has gained over it has made this book a faithful and fascinating record of the life of Gokhale who was, according to Gandhiji, pure as crystal, gentle as a lamb, brave as a lion and chivalrous to a fault.

S.T.K.

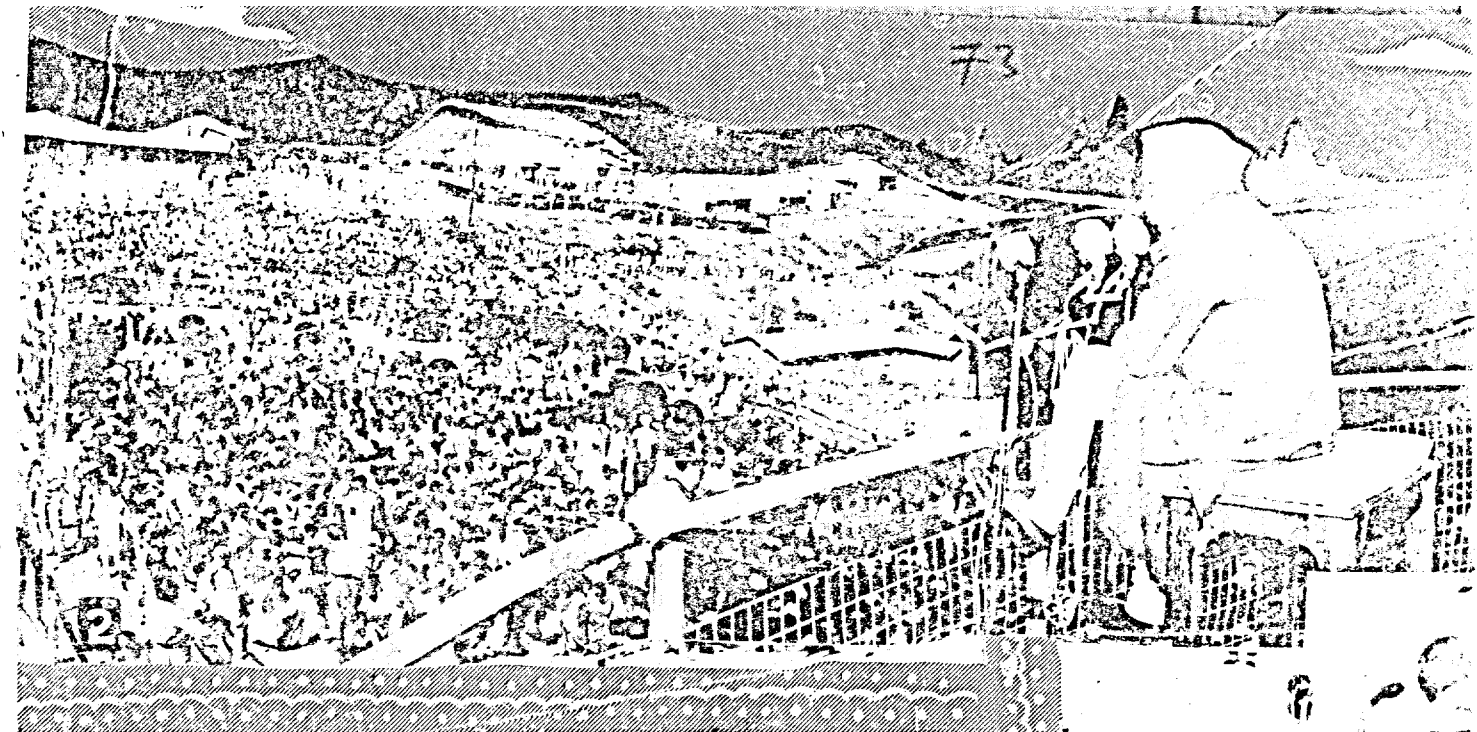
GOPALA KRISHNA GOKHALE: By T. V. Parvate, published by Navajivan Publishing House, no. 487, Price Rs. 8.

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55, BASIN BRIDGE ROAD

MADRAS-21

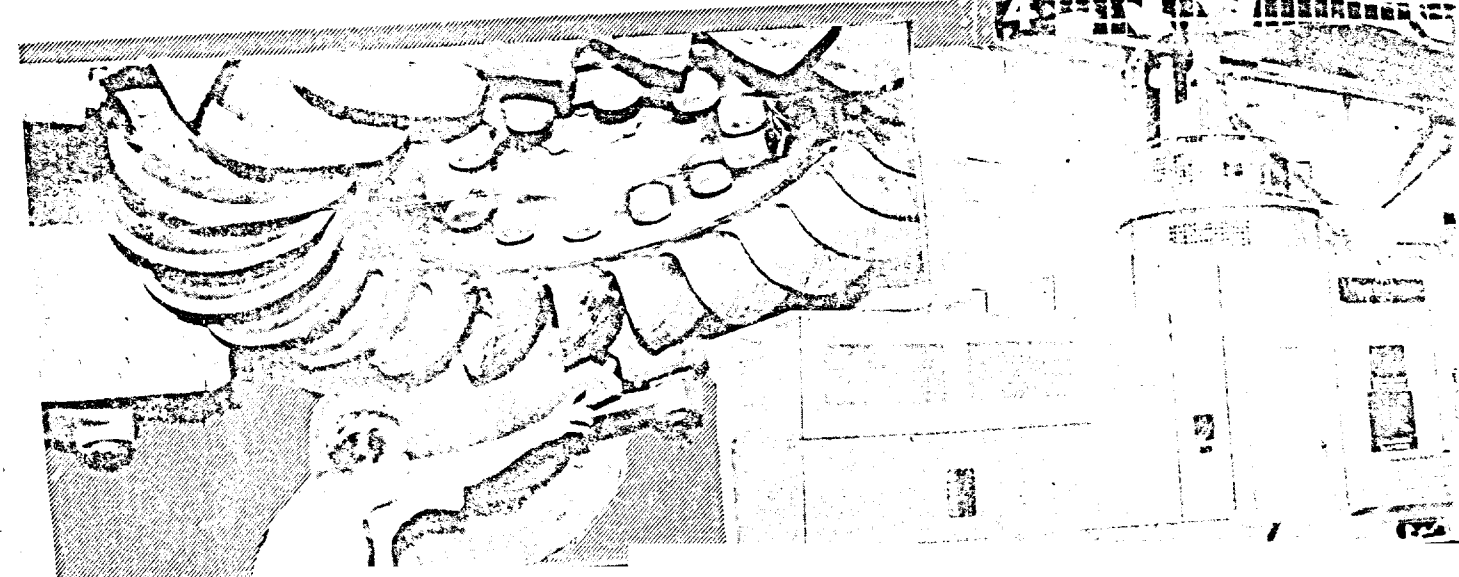
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INAUGURATION OF KUNDAH

On March 25, the first Generating Unit of the Kundah Hydro-Electric Project was commissioned. Sri Jawaharlal Nehru, Prime Minister of India, presided over the function.

- 1 and 2. Sri Nehru addressing the gathering.
3. Sri K. Kamaraj, Chief Minister, speaking on the occasion.
4. The Press Communique for Canada in India addressing the gathering.
5. The Generator.
6. The flywheel of the turbine.



Industrial Co-operatives

SRI D. MARIASUSAI, Deputy Director of Industries and Commerce [Industrial Co-operatives].

In a country like India, which is wedded to a policy of socialistic development, the minds of the National leaders as also of the people are seized with the problem as to how to raise the standards of living of the masses and to remove the wide disparity now existing between the rich and the poor. Of late, it has been recognized that the best way of channelising the benefits accruing from all development activities should be through co-operatives. As a result of this, people have begun to think of a co-operative society for all kinds of economic activities such as agricultural and industrial production and distribution. Till recently, industrial production was the monopoly of the private sector. Industrial production was in the hands of joint stock companies and firms, partnership or proprietary concerns.

Consequent on the implementation of the Government policy of developing the industry on co-operative basis by establishing more and more Industrial Co-operatives, all classes of people engaged in the industrial undertakings have begun to think of forming themselves into Industrial Co-operative Society and thereby avail of the special concessions extended by Government to Industrial Co-operatives. It is therefore desirable to indicate the general principles governing the Industrial Co-operatives.

Co-operative Basis

One way of indicating the difference between Industrial Co-operative will be just stock or partnership or proprietary basis and the industry run on co-operative basis. In the case of a company or joint stock firm or sole proprietary concern engaged in industrial production, the capital required for purchase of land and machinery, working capital, etc., are collected and the labourers employed for production are engaged on monthly or piece-rate wages and the goods or services produced by the concerns are sold at favourable markets. The profit realized at the end of a year is distributed according to the amount of share capital invested by the persons who may be shareholders or partners or sole proprietors.

But an industrial co-operative society is organized on a different approach. The labour force required for

carrying on an industry, viz., skilled, unskilled workers join together and form themselves into an Industrial Co-operative Society. They are too poor to find the capital for carrying on the industry from their own resources. They contribute a very small fraction of the capital or in other words a few rupees each towards their share capital from their own resources. The Government which aims at improving the standards of living of the poor and which has a responsibility to solve the problem of unemployment and under-employment comes to the assistance of these workers to form an Industrial Co-operative Society. With a view to create incentive and stake in the business and fix individual liability, a certain portion of the capital required is provided by Government by advancing individual loans (share capital loans) to them to enable them to take shares in the society and the balance of the capital is also provided by Government as working capital to the Society on the collective liability of all the members. At the end of the year, the profit realized by the Industrial Co-operative Society will, after providing a certain percentage of the profit for Reserve Fund to meet any unforeseen losses and paying dividend on share capital of members at a rate not exceeding 6 1/4 per cent per annum will be distributed as bonus according to wages paid to each member during the year.

Importance to Labour

It may be summed up as follows: In the case of an industry run on joint stock or proprietary basis, the capital is mobilised from outside, capital is hired and the profit realised in the industry is distributed according to the capital contributed. Here the emphasis is given to capital and it is recognized that the profit was due to investment of money. While in the case of an industrial co-operative society, labour is mobilised, capital is hired and the profit realised in the industry is distributed according to the labour contributed. Unlike the former, importance is given to labour and it is recognized that the profit was realized on account of the labour put forth in the industry rather than the money invested in it. So, in an industrial co-operative society, there is no place for capitalists or profit-seeking persons or middlemen who exploit the labourers.

Supply of Electricity to Villages

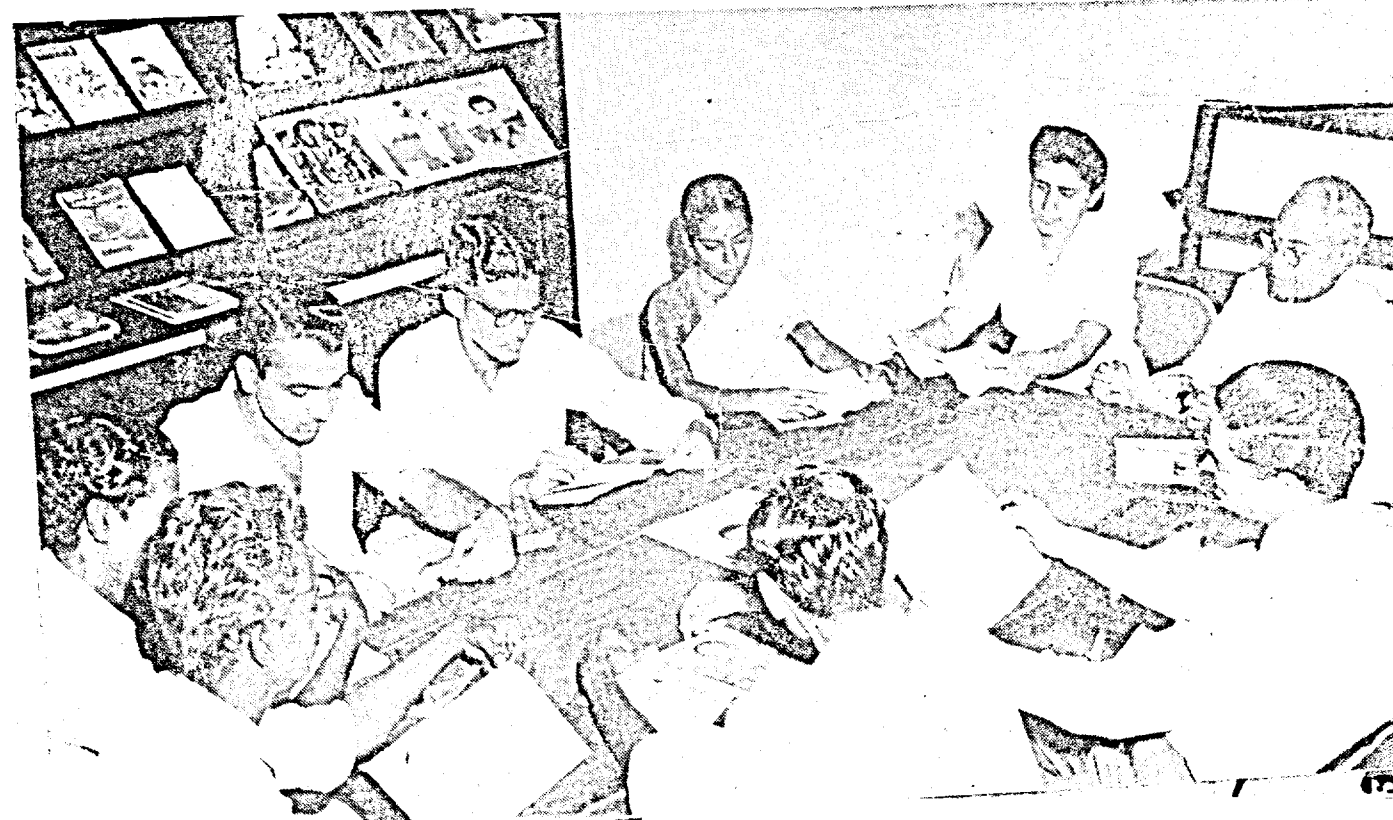
During the month of February 1960, 100 villages in this State were electrified and 2,012 agricultural pumpsets were given electric power. With these, as on 1st March 1960, 3,143 villages have the benefits of electricity and 96,954 pumpsets are working on electricity.

During this month, 128,818 miles of H.T. lines and 296,611 miles of L.T. lines were energised.



A Baby show was held at Ashok Vihar under the auspices of the Madras Branch of the Indian Council of Child Welfare. Smt. Medhi is seen distributing the prize to the mother of a prize-winning baby.

A Hospital Library Scheme by which inpatients in the General Hospital are provided with books and magazines was inaugurated on 14th March by the Minister for Revenue and Health. Photo Shows more of the inpatients and staff of the hospital at the library.



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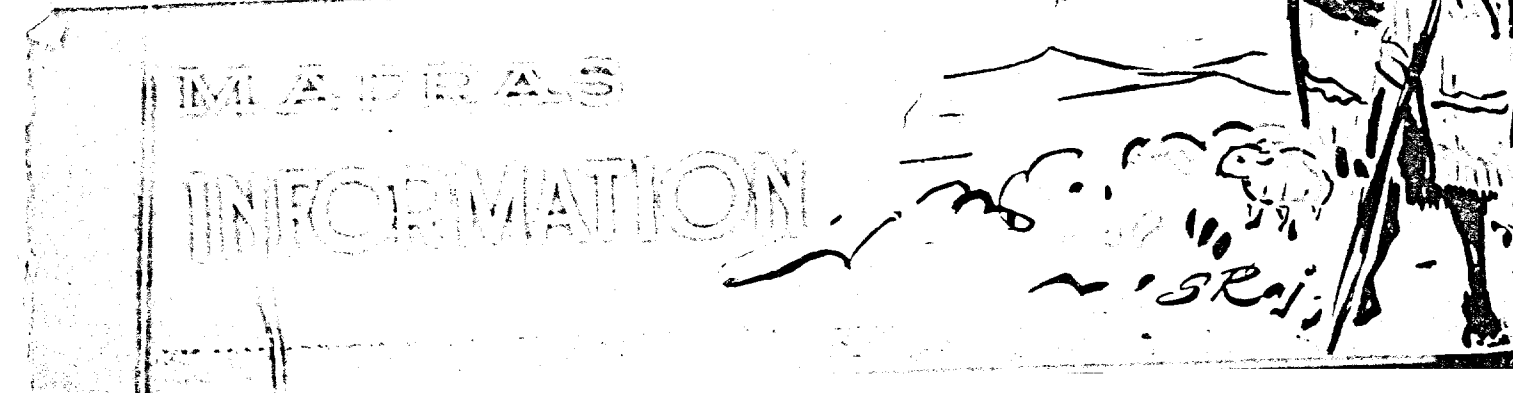
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JUNE 1949



A WORD TO THE BREAD-WINNER

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Published every month by the
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Madras-9

Price 20 nP.

Annual Subscription .. Rs. 2.25

Half Yearly Rs. 1.12

Advertisement Rates on request

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MADRAS INFORMATION

JUNE 1960

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This month's cover.

Ootacamund, popularly known as Ooty, ranks among the gayest and certainly most exquisite scenic spots in India. It is not just a hill station; until recently Ooty was the summer capital of the Madras State. To describe Ooty as the Queen of Hill Stations cannot be a fitting tribute at a time when half a dozen hill stations claim the same title. If there are queens and queens, Ooty can be rightly called the unchallenged Queen of Hill Stations. Good motorable roads, pathways for hikers and bridle paths take the holiday maker to a number of beauty spots, hunting grounds, waterfalls and exquisite downs.

The Nilgiris is not merely a Tourists' Paradise. The Pykara and Kundah hydro-electric projects are situated in this district and the establishment of these projects has made it possible to start many industries in this State. The Mudumalai Wild Life sanctuary is another place of attraction on the Nilgiris.

On the cover of this issue is a scene of typical Ooty.

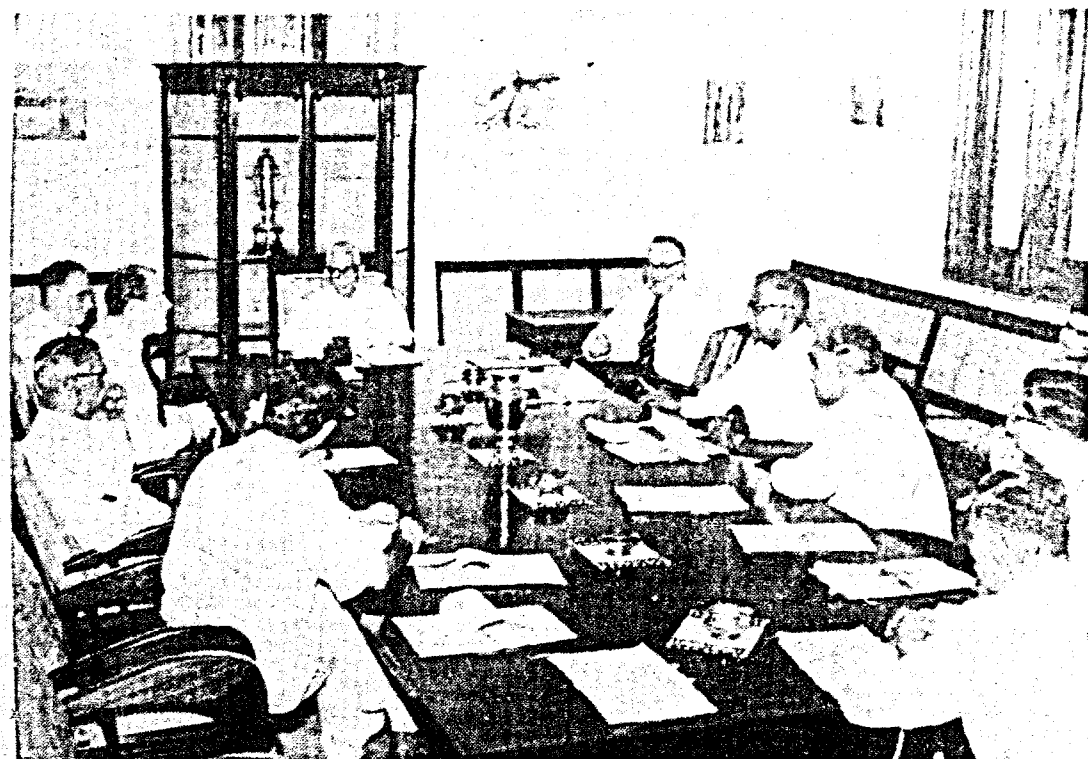
Madras in April 1960

The month April of 1960 will for ever be remembered for and associated with the Land Ceiling Bill. This bill constitutes the final phase of a series of land reform measures put through by popular ministries which held office in Madras State from 1937. The earliest measure was the Agriculturists Debt Relief Act, and every successive measure took the people a little nearer to their ambition. The first decisive measure however was for the abolition of zamindaris enacted in the year 1948, and it is but proper that the final phase of land reform, viz., fixation of ceiling on agricultural land holdings, should have been introduced just when the conversion into ryotwari system of the zamindari estates taken over by the Government has been nearly completed. The mere abolition of the zamindari system would have merely meant expropriation and it is the survey of all the lands taken over and re-settlement of land revenue due on these lands comprising an area of 10,936 sq. miles on the basis of ryotwari settlement which constituted the constructive portion of the Zamindari Abolition Act. This part of the work is very nearly over.

Bill on Land Ceiling

Thus the time was ripe for the introduction of the Madras Land Reforms (Fixation of Ceiling on Land) Bill, 1960. But between the Zamindari Abolition Act and the present

Land Ceiling Bill there have been many measures which have gone to develop the farmer's personality, assuring him of security of tenancy for cultivation purposes and fixation of fair rent for such land. So much so, at the time of the introduction of the Land Ceiling Bill, it could be claimed that there was only one uniform system of assessment for land revenue with a single authority to claim it. This was the ambition of administrators like Sir Thomas Munro as far back as 1820. The system of reviewing and revising the land revenue due to the Government - Resettlement operations as they were called—which used to be undertaken once in thirty years has been given up since 1937. This represented a tangible relief to the farmer as every resettlement would result only in an upward revision in an economy dominated by rising prices. The Government have made a permanent settlement of the land revenue due from land owners. Cultivators who rent such land for cultivation have a statutory formula for division of the produce which represents the rent due to the owners of land. The Land Ceiling Bill now seeks to limit the extent of agricultural land that a person may hold in relation to the size of his family, and according to the class of land. But if a person, subsequent to the enforcement of the land ceiling, improves the land to a higher category, the limitation will not be brought into force during his life-time. It is with this



A team of Rubber Experts from Malaya called on the Minister for Home and Agriculture on 30th April.

background that the Land Ceiling Bill has been placed before the public and it is because of these antecedents that it is claimed a "white revolution" in the land system.

The Package Plan

The State has an impressive record of bringing about a vast improvement in the average yield from agricultural lands. This has been achieved partly by the willingness of ryots to take to the improved methods of cultivation and partly by the improved varieties and strains of seeds evolved and distributed. The problem of Indian agriculture is to raise the average yields obtained by the small agriculturists. This is the aim of the Package Plan put into effect in Thanjavur district on 13th April 1960 with assistance from Ford Foundation. It was aptly described by Mr. Simons, the Consul-General for United States at Madras, as the marriage of "American ideas with Indian ideals". The Package Plan aims at a faster pace of increasing agricultural production than has been found possible hitherto by concentrating flow of credit, manure and marketing facilities to the ryots in a compact area for a limited period, viz., five years in this instance. The average farmer has to face many difficulties at various stages of a crop that his failure to cope with a single obstacle affects production. The Package Plan has been conceived to provide all the facilities at the appropriate time to all the farmers. Thus the Package Plan will enable the average farmer to command all the advantages of the best farmers in the land, and remove the present disparity between yields in the average farm and the best farm.

Sri K. Kamaraj, Chief Minister, declared open the Fishermen Co-operative Society Thiruvotriyur Godown at Kuppam on 29th April.

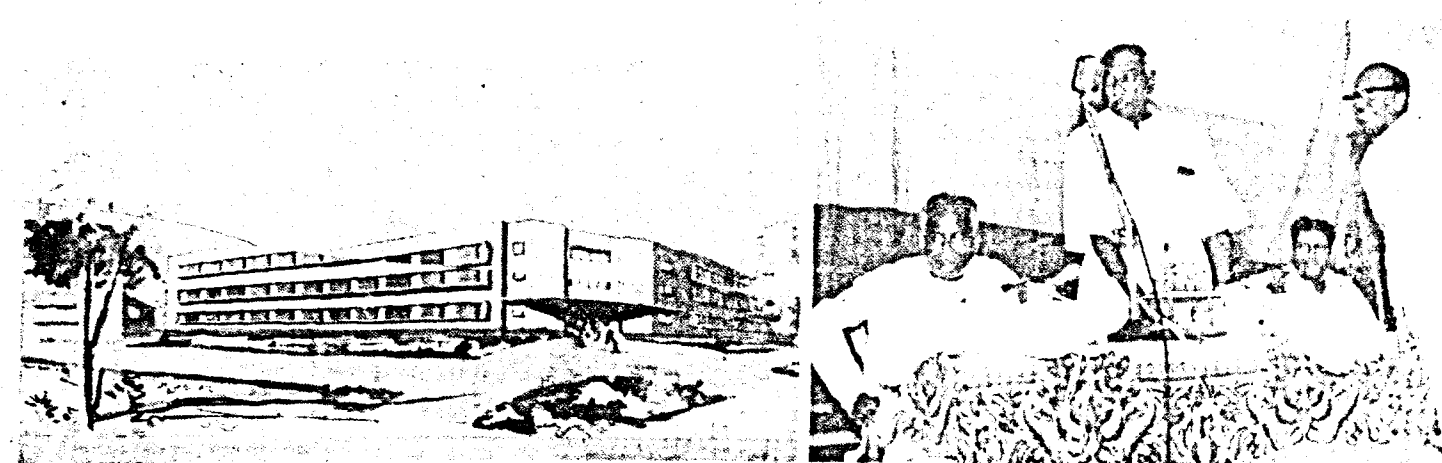


In order to strengthen co-operatives in the State, a system of giving them monopoly over the distribution of certain essential commodities is increasingly being thought of. The retail distribution of chemical fertilizers was enjoyed by the co-operatives only in the Block Development areas. The Government have vested with co-operatives the monopoly for the retail distribution of chemical fertilizers in the entire State in all the areas. It is the intention of the Government to see that there should be one depot for each of chemical fertilizers in every village.

Previously private trade was obliged to open only five depots in a deltaic taluk and 3 depots in a non-deltaic taluk and the proviso that they may open as many depots as possible was conveniently ignored.

Sago Industry

The Sago industry of Salem, from humble beginnings, has attained an importance in recent years because of its potentialities for earning foreign exchange. The Sago Export Committee which went into the business as well as the means of production of sago in Salem district, has recommended the immediate establishment of a Research Laboratory for the industry. As a practical measure, however, the advice and assistance of the Central Food Technological Institute, Mysore, will be availed of, in order to bring about necessary improvements in the methods of production, until such time as the Sago Laboratory is established at Salem. To implement these proposals the post of an Assistant Director of Industries and Commerce has been created to pay exclusive attention to the needs of the Salem Sago Industry, and to develop on sound and healthy lines.



Sri K. Kamaraj, Chief Minister, laid the foundation stone for the Government M. C. Rajah Hostel for Harijan students at Saidapet on 22nd April. The photo on the left shows the front elevation of the proposed building.

Kanyakumari district has been suggested as the best seed-bed for rubber plantations throughout India. This suggestion was made by a team of Malaysian rubber experts whose visit to the country was sponsored by the Governments of India and Malaya in conjunction with the Rubber Board of India. The visiting team met Sri M. Bakthavatsalam, Minister for Home in charge of the Interior, on 30th April 1960. India is one of the few rubber manufacturing countries where rubber is also produced.

Until only a decade ago India was exporting rubber and in the earlier years the manufacturing concerns were compelled by law to purchase a portion of the Indian produce at a price fixed with reference to cost of local production, which was much higher than the world prices. Thus the rubber plantations in India were subsidised by the manufacturers. Then came a violent swing to the other extreme when rubber prices in India were much cheaper than world prices and Indian rubber found a ready market abroad; but plantations were not increased as synthetic rubber was by about this time evolved and used in large quantities. Now it is averred that despite synthetic rubber natural rubber would continue to be in good demand always. Hence the interest

in improving the rubber plantations in India. The rubber experts from Malaya after visiting all the plantations in India are satisfied that Kanyakumari district offers the best scope for supplying seeds for all the rubber plantations in India. The problem before the Government of Madras is whether they can enter the field and raise a rubber plantation under the aegis of the Forest department. The Chief Conservator of Forests was also invited for the talks with the visiting team of rubber experts.

The Government's experience with Cinchona Plantations has not been very happy, as quinine's potency to cure Malaria has been surpassed by other drugs with the result that the products of the Cinchona Plantation are not in great demand. But the fact that even after 15 years of its invention synthetic rubber is merely thought of as a useful material to fill the gap should make any investment in a rubber plantation a commercial feasibility. That is why a scheme costing Rs. 32 lakhs to be spread over eight years has been sanctioned, to raise rubber plantation over an area of 3,000 acres in Kanyakumari district. Nursery stock has already been raised and in 1960-61, 148 acres will be planted. Thus Madras Government enters a new field as rubber planter.

METTUR ALUMINIUM PLANT LICENCE GRANTED.

The Government of India have issued a licence under the Industries (Development and Regulation) Act for the establishment of an aluminium plant at Mettur in Salem district. The licence has been granted to a company formed in the name of Madras Aluminium, Ltd., for the manufacture of aluminium ingots (both slabs and alloys). The new industrial undertaking will have an installed capacity of 10,000 metric tons of aluminium ingots per annum of which at least one-third should be electrolytic type suitable for making conductors. The estimated cost of the project is Rs. 10.36 crores.

Highways in Madras State

The roads which run through this State are classified into five different categories. They are: National Highways, State Highways, District Highways, other district roads and village roads. Maintenance of these highways is divided among the Centre, State, Municipalities and District Boards. As the traffic on these roads is also on the increase day by day, a considerable amount is set apart each year for the upkeep of these roads.

For the first four years of the Second Plan, Rs. 370.05 lakhs were allotted. Till December 1959, Rs. 337.07 lakhs have been spent. During the Second Plan, 892 miles of roads were laid, 1,190 miles were repaired. Of these, 8 miles were surfaced with cement concrete and 18 miles with asphalt concrete. 584 miles were black-topped and 780 miles were metalled. During the same period, 21 big bridges and 158 small bridges were also constructed.

National Highways

There are 1,090 miles of national highways in Madras State. Maintenance of these highways which run outside the boundaries of Municipalities is taken up by the Government of India. But parts of national highways which lie within the boundaries of a municipality are maintained jointly by that municipality and the State Government. In the first three years of the Second Five-Year Plan, a sum of Rs. 116.46 lakhs was spent for approved capital works. For the year 1959-60, a sum of Rs. 23 lakhs was allotted and of this, Rs. 19.00 lakhs were spent till December 1959.

State Highways

There are, in this State, 9,859 miles of State Highways besides the National Highways. During the Second Plan period, sanction has been given till now for the execution of 364 works at a cost of Rs. 368.83 lakhs. It has been decided to take up 85 works at a cost of Rs. 79.89 lakhs during 1960-61.

Since the beginning of the Second Plan in 1956, cement concrete and asphalt-concrete roads were laid to a length of 26 miles. Three hundred and twenty-three miles of roads were black-topped. Twenty-eight miles of roads were upgraded and 251 miles were metalled. Twenty big bridges and 90 smaller bridges were constructed. A sum of Rs. 204.14 lakhs was spent for this.

During 1960-61, eleven items of work costing Rs. 41.98 lakhs are to be taken up. Important among these are: the cement-concreting of 9 miles of the Madurai-Melur

road at a cost of Rs. 9.90 lakhs, cement-concreting 5 miles 4 furlongs of the Thanjavur-Sivakasi road at a cost of Rs. 7.70 lakhs, construction of a submersible bridge on the Suddukalathur-Sayalgudi road at a cost of Rs. 4 lakhs and a bridge across the River Arasalar of the Kuda-vasal-Koradacheri road at a cost of Rs. 4.20 lakhs.

District Board Roads

The District Boards in the State altogether maintain a total length of 13,781 miles. From 1956-57 to 1959-60 a total amount of Rs. 151.47 lakhs was given to the District Boards as grant for the maintenance of these roads. For the year 1960-61, Rs. 15.00 lakhs are allocated for this purpose.

During the Second Plan period, till the end of December 1959, 61 miles of District Board Roads were black-topped and 530 miles were metalled. 300 roads were laid to a length of 892 miles. 68 small bridges and 10 big bridges were constructed. A total amount of Rs. 132.88 lakhs was spent for this. During 1960-61 works relating to the repair of the bridges across the Vaippar, Nambiar and Hanuma Nadhi costing Rs. 5.23 lakhs will be taken up.

Central Road Fund Schemes

Certain items of work are taken up with the funds available from the Central Road Fund. These schemes are outside the purview of the Second Five-Year Plan. A sum of Rs. 194.11 lakhs was spent on these works from 1956 to December 1959. During 1959 six items of work at a cost of Rs. 18.10 lakhs were completed. Among these, 6 items were road works.

Apart from these schemes, grants are given by the Government of India for the maintenance of roads which are of importance to more than one district and roads of economic importance. From the year 1954, the Government of India have given grants amounting to Rs. 77.61 lakhs for the execution of 14 road works and for the construction of two bridges. Of these, four works have been completed and work is progressing on the other 12. So far, Rs. 46.63 lakhs have been spent on these and the major work in the construction of a bridge across the Ponnai on the Cuddalore-Chittoor road at a cost of Rs. 16.21 lakhs. A road is also being laid up the Cardamom range at a cost of Rs. 15 lakhs.

from a village. In the other areas, the villager will have to go 12 miles in order to reach a metalled road and 5 miles to any type of road. This objective will be achieved in stages during four Five-Year Plans. It is provisionally estimated that during the Third Plan period Rs. 18 crores will be spent on Highways, including machinery.

Maintenance of Roads

A sum of Rs. 665.87 lakhs was spent by this Government for the maintenance of its roads during 1956-59. For the year 1959-60, allotment was made for Rs. 246.43 lakhs. Rs. 265.55 lakhs have been allotted for the year 1960-61. The Chief Engineer for Highways has been authorised to use this amount for dustless-surfacing the roads on which traffic exceeds 1,000 tons per day.

At present there are 25,653 miles of roads in this State. By 1980-81 it is programmed to extend this to 41,925 miles. Under this plan, every village in well-developed agricultural areas will be within four miles from the metalled road and 1.5 miles from any type of road. In areas which are partly developed, the metalled road will be about 8 miles away and any type of road will be 3 miles away

Employment Situation in March 1960

The employment situation in the Madras State during the month of March 1960 remained more or less static, though there was a slight increase in placings and registrations as compared to the previous month.

Two thousand five hundred and twelve candidates were placed in employment during the month as against 2,91 candidates in the previous month. An analysis of placement by the various Employment Officers in State shows that except the District Employment Offices, Coimbatore, Cuddalore, Kanyakumari, Madurai, Ootacamund and Salem which recorded a fall, the other Employment Offices showed an increase.

Two thousand six hundred and four vacancies were notified to the Employment Offices as against 2,779 in the previous month. Though considerable increases in vacancy notifications were reported by District Employment offices, Kanyakumari, Madras, Thanjavur and Tiruchirappalli, the total for the State is short of the figures for the previous month.

The total number of registrations for the State during March 1960 was 15,886 as against 14,245 in the previous month, showing an increase of 1,641. All the Employment Offices in the State except Kanyakumari, Ootacamund, Saidapet and North Arcot recorded increased registrations. The increase was marked in the case of District Employment Offices, Madras, Ramanathapuram, Salem, Tiruchirappalli and Vellore.

At the end of March 1960, there were 126,792 applicants on the Live Register of the Employment Offices in the State awaiting employment assistance as against 123,718 in the previous month.

While surplus of applicants continued to exist in the clerical and the unskilled categories shortages were noticed in the following occupations: Blacksmith, Policeman, Coppersmith, Wireman with 3 years experience, Engineering Instructor, Diploma holder (L.M.E./L.C.E./L.E.E.), Driver with heavy endorsement, Electroplater, Maternity Assistant, Pharmacist, Librarian, Nurse, Health Visitor, Assistant Medical Officer (Men and Women), Radio Mechanic, Civil Engineering Supervisor, High School Assistant (B.T./L.T./B.Ed. with Mathematics, Science and Social Studies), Draftsmen (Civil and Mechanical), Marine Engineer, Laboratory Technician, Public Works Supervisor/Overseer, Instructor (Blacksmithy and Carpentry), Road Roller Driver, Stenographer.

Labour Contract Societies

It is a well-known fact that labourers engaged in the execution of private or public works do not get a fair deal. The contractor or the middleman gets the lion's share while the labourer is paid only fixed daily wages.

If the labourers are to get a better deal, they should organise themselves into Labour Contract Co-operative Societies, secure contracts for the execution of public or private works and carry them out through its members and hired labour, whenever necessary. It is reported that labour contract co-operatives play a significant role in securing employment and fair wages for workers in some countries in Europe.

Co-operation among villagers

In our own country the Planning Commission, recognising the utility of this type of co-operatives, has advocated the formation of such societies. In October 1951, the Planning Commission addressed a letter to State Governments suggesting that work on irrigation canals and other similar projects should be done on the basis that in each village or group of villages the villagers will be organised into co-operatives for taking up the work in their own area. The following advantages under this system were emphasised — The village will benefit by the large sums spent on the canal system which will come into the co-operative kitty and will be available for agricultural improvements. It would be possible for the State to organise in such areas administrative arrangements for inculcating thrift and the habit of investment.

Co-operation among villagers over large areas in executing works of such magnitude will lead to co-operation in other spheres and assist in raising their level of life. These areas will serve as an example to other parts of the State.

The organisation set up during the execution of the canal system will be useful in its maintenance, in the distribution of water and in measures for effecting economy in the use of water.

Concession by Government

This suggestion of the Planning Commission was accepted by the Government of Madras and steps were taken to help workers, through a number of concessions for the labour contract co-operatives. The following are the concessions given by the Government to Labour Contract Societies.

When a Labour Contract Society is prepared to take up work costing less than Rs. 2,500 it should immediately be entrusted with the work at the estimated value by the Public Works Department. The Deputy Registrar should send to the Executive Engineer, Public Works Department, a list of Labour Contract Societies which are competent to take up such works. The Executive Engineer should examine the list and give due regard to the views of the Deputy Registrar.

Works costing less than Rs. 2,500 should as far as possible be entrusted by the district boards to the Labour Contract Societies (wherever they exist) in preference to private contractors. The Deputy Registrar should send a list of such societies to the Divisional Engineer, Highways, who will consider the list and give due regard to the views of the Deputy Registrar and make recommendations to the President, District Board. The President, District Board, will act on the advice of the Divisional Engineer and select the society to which the work is to be entrusted.

Labour Contract Societies need not pay security limited but in such cases payments for work done should be limited to 90 per cent of the value of the security deposit. 10 per cent should be retained as security.

Work done should be checked-measured with the least delay and payment should as far as possible be made within seven days in the case of minor works and fifteen days in the case of large works. No registration fees need be paid by these societies for equipment as contractors.

Recommendations of Committee

The Committee on Co-operation headed by Sri T. M. Narayanaswami Pillai, appointed in 1955, recommended that in view of their potentialities for raising the standard of living of the workers, such societies should be organised in increasing numbers and given State encouragement and assistance. It also recommended that the officers of the Public Works, Highways and Revenue Departments should adopt a helpful and sympathetic attitude towards the working of these societies.

The Committee also recommends that the limit of Rs. 2,500 fixed for the value of works that may be raised to these societies without tenders may be raised to Rs. 5,000 and that the Government may give a subsidy of 50 per cent towards the cost of equipment required by these societies and that the balance may be given as a long term loan.

repayable in five years. It was also recommended that the technical staff required by the societies may be made available to them free of cost till the societies establish themselves.

The Government have recently enhanced the limit fixed for the value of works that may be entrusted to these societies to Rs. 5,000, to individual cases of societies which are capable of doing more costly works, if such works do not require technical skill.

Societies in Madras State

On the 30th June 1959 there were 29 labour contract societies in our State with a membership of 1,715 and share capital of Rs. 0.97 lakh. They secured during the year contracts worth Rs. 2.96 lakhs and executed works worth Rs. 2.85 lakhs. They distributed wages worth Rs. 1.05 lakhs and earned a gross income of Rs. 0.93 lakh. The societies usually undertake works such as erection of buildings, digging of canals, repairs to tanks, supply of road materials, maintenance of roads, etc. Most of these societies obtain minor works from Revenue, Block Development, Public Works and Highways Department of the Government, District Board, Panchayats and other local bodies while some others are engaged in quarrying. They undertake works connected with the digging of channels and wells, laying out roads, repairing of irrigation tanks, etc. They are given a concession for expediting the work where ever necessary while wages alone are paid to non-members. Members have a share in the profit by way of dividend on share capital contributed by them and bonus on the amount of wages earned and also a voice in the management. There are 29 Labour Contract Societies in this State at present.

Further Concessions

They are given the following concessions:—

Waiver of society deposit subject to the condition that payment should be limited to 90 per cent of the value of work done retaining the balance of 10 per cent as security for the due fulfilment of the contract.

Check-measurement by the department officers should be made with the least possible delay and payments should, as far as possible, be made within seven days in the case of minor works and within 15 days in the case of larger works.

Exemption of the registered Labour Contract Societies from payment of registration fees in the Highways and Public Works Department.

10

When there are labour contract societies working in respect of areas and are prepared to take works costing less than Rs. 2,500 they should invariably be entrusted with works in both Public Works and Highways Departments in respect of contracts of such works at estimated value.

Of the 29 societies, 14 societies are engaged in undertaking minor construction works such as repairs to tanks, laying out roads, sinking of wells and other minor irrigation works. Seven societies are engaged in production of granite jellies from the quarries taken on lease from the Government. Three are engaged in major construction works such as construction of houses, etc., by obtaining contracts from the Co-operative Housing Societies, etc. Two are working forest and bamboo coupes and collecting minor forest produce and one society is engaged in excavation of magnesite ores from mines while the remaining two are engaged in the handling and transshipment of cargoes in Railways in Dock-yards.

Particulars about their work

Statistical particulars on the working of these societies in this State for the half-year ended 31st December 1959 are furnished below:—

Number of societies—28 (one society was formed after 31st December 1959); Number of members—3,980; Paid up share capital—Rs. 94,835; Value of contract received during the half-year—Rs. 3,41,235; Value of contract works executed—Rs. 2,40,591; Value of contract pending execution—Rs. 1,84,574; Wages distributed—Rs. 1,59,078.

Besides the concessions extended to the Labour Contract Co-operative Societies mentioned above, Government have sanctioned an interest-free loan of Rs. 72,000 towards the working capital of the Labour Contract Co-operative Societies in this State for 1959-60. The repayment of these loans will commence from the 6th year after drawal and will be repaid over a period of ten years. This is indeed a general concession. Necessary assistance to individual Labour Contract Co-operative Societies by way of free services of departmental staff and provision of funds are also given in deserving cases.

Ryots' Associations

The Manur Ryots' Association for example was entrusted with the work of special repairs to the Manur Tank in Tirunelveli district. Work of improvements to the Pallikottai Supply Channel in Tirunelveli district has also been entrusted to the Manur Ryots' Association. The Village Co-operative Societies take up works wherever possible. Works which do not require any technical skill are entrusted to the Village Co-operative Societies wherever they come forward, without delay in administrative sanctions.

11

The following are some of the difficulties experienced by Labour Contract Societies in their working:

Labour co-operatives consisting as they do of poor people require sufficient working capital to execute contract work and their share capital position is weak. They are not able to compete with the established contractors and greater skill in workmanship is required by them which can be obtained by imparting the required amount of training in different kinds of work to the members of these societies. They are not able to provide

whole time work to their members for want of adequate contract work throughout the year.

With a view to giving a fillip to the Labour Contract Co-operative Societies, it has been proposed under the Third Five-Year Plan to organise 13 Labour Contract Co-operative Societies with 100 members in each at the rate of one society per district and provide them with the necessary financial and other assistance to enable them to work on sound lines. The proposals are under the consideration of Government.

SUPPLY OF ELECTRICITY

During the month of March 1960, 136 villages in Madras State were electrified and 1,153 pump-sets were given electric power. With these, as on 1st April 1960, 9,279 villages and towns have the benefits of electricity and 98,107 pumpsets are working on electricity.

During this month 182.690 million units of electricity were generated and 1,153 agricultural 94 industrial and 3,840 domestic services and 327 street lights were given electric connection and 114.413 miles of H.T. lines and 229.858 L.T. lines were energised.

STATE TRANSPORT

MADRAS CITY

The fleet strength at the end of March 1960 was 470.

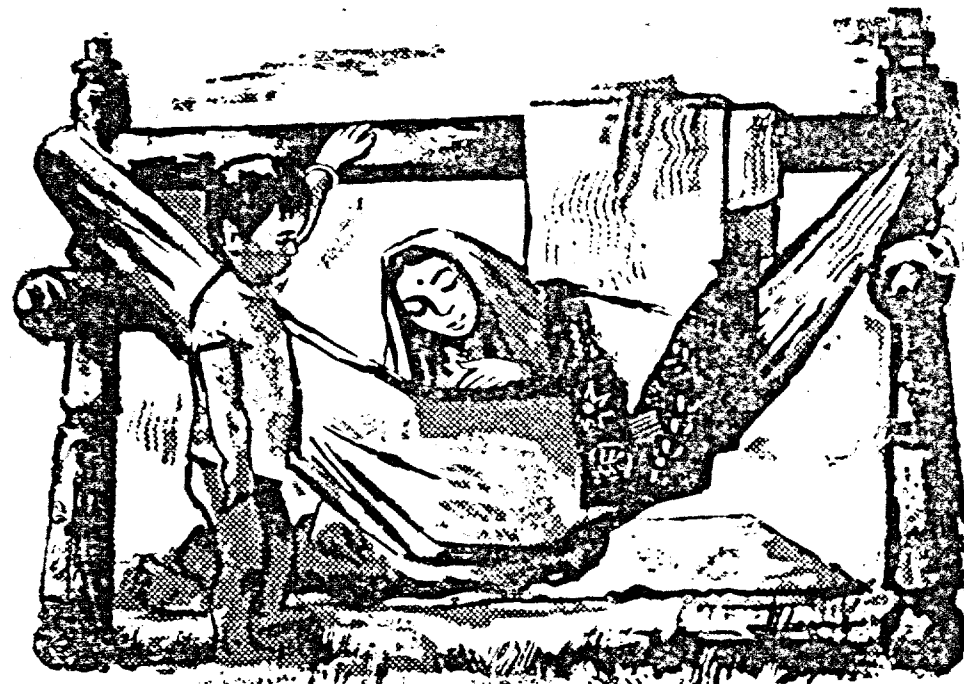
	March 1960		February 1960		March 1959	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Average number of buses operated:—						
(a) Working days	314	368	306	298	340	336
(b) Holidays	269	283	258	271	281	297
Total collection	Rs. 16,74,698		Rs. 15,93,760		Rs. 15,36,315	
Total mileage	1,191,646		1,066,731		1,175,019	
Total number of passengers carried	12,558,961		11,858,947		11,952,984	

KANYAKUMARI BRANCH

The fleet strength at the end of March 1960 was 89 and about 62 buses were on the roads daily. The total collection for the month was Rs. 3,51,980-05 and the buses covered 338,894-9 miles.

Specials brought in a collection of Rs. 27,317-97.

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...

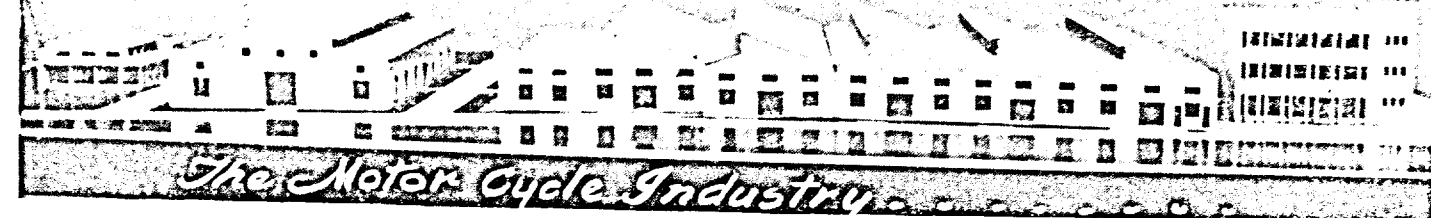
TOMORROW, when the evergrowing urge for better living will
demand still greater efforts. And we shall be ready with wider
service, new ideas, new products...

Today and Tomorrow... Hindustan Lever serves the home

PR 2-59

INDUSTRIES

in the Private Sector - I



At Tiruvottiyur, a northern suburb of Madras, there has come up a motor-cycle industry which bids fair to become one of the biggest of its kind in the East. It is the Enfield India, Limited, standing near the sea-shore, by the side of the train route that goes to Calcutta and Delhi from Madras, with a covered area of one lakh square feet. It was established in November 1955, thereby adding a new page to the history of industrial development in the whole of our land.

Many may not know that around this period, there were hardly 30,000 motor-cycles in use in our country, a negligible enough number, if you take into account India's size and population. Even in England there are more than 700,000 motor-cycles on the roads. But what our country lacked in numbers, it made up in variety. We had all kinds of motor-cycles. And probably because of this heterogeneous factor, neither the sales and service side of the trade were properly organised, nor the possibilities of development of the business fully explored or exploited. We were importing anything between 4,000 to 5,000 motor-cycles per year. It had its adverse effect on our foreign exchange problem.

Growing Needs

In the Second Five-Year Plan itself, a sum of Rs. 1,100 crores has been allotted for the provision of better transport facilities. This apart, as a result of the implementation of various schemes under the Plan, every city has grown out of proportion to its normal size resulting in extensions, colonies and suburbs. Because of these, the problem of personal transport is becoming increasingly acute day by day.

It was in such circumstances that the Madras Motors, Private, Limited, obtained a licence for the manufacture of Royal Enfield motor-cycles and three-wheelers. This firm had the necessary "background": the Madras Motors it

was that was selling more motor-cycles a year than all the firms in India put together. It was also the only organisation in the country devoted solely to the selling and servicing of motor-cycles, and specialising in these twin jobs.

With their experience of the cycle, motor-cycle and engineering trades extending over several years, all that the sponsors needed to acquire was technical "know-how". And so they entered into an agreement with that well-known and long-standing company called the Enfield Cycle Company, Limited, in the United Kingdom, for technical collaboration, thereby laying a sure foundation for the successful manufacture of Royal Enfield motor cycles in India.

New Unit

As a new manufacturing unit, particularly of a pioneering kind, entailed a lot of strenuous and concentrated work, a new company for the manufacture of motor-cycles and three-wheelers was formed under the name and style of the Enfield India, Limited. The manufacturing licences and the agreement with the Enfield Cycle Company, Limited, were transferred to the new company, and the old licensees were appointed sole selling agents.

Meanwhile, operations had been going on at a rented place in Mount Road, the heart of Madras. Efforts were being made to locate a suitable site, and in November 1955, the company moved over to its present premises on its own land at Thiruvottiyur, fast becoming the scene of many new industrial developments.

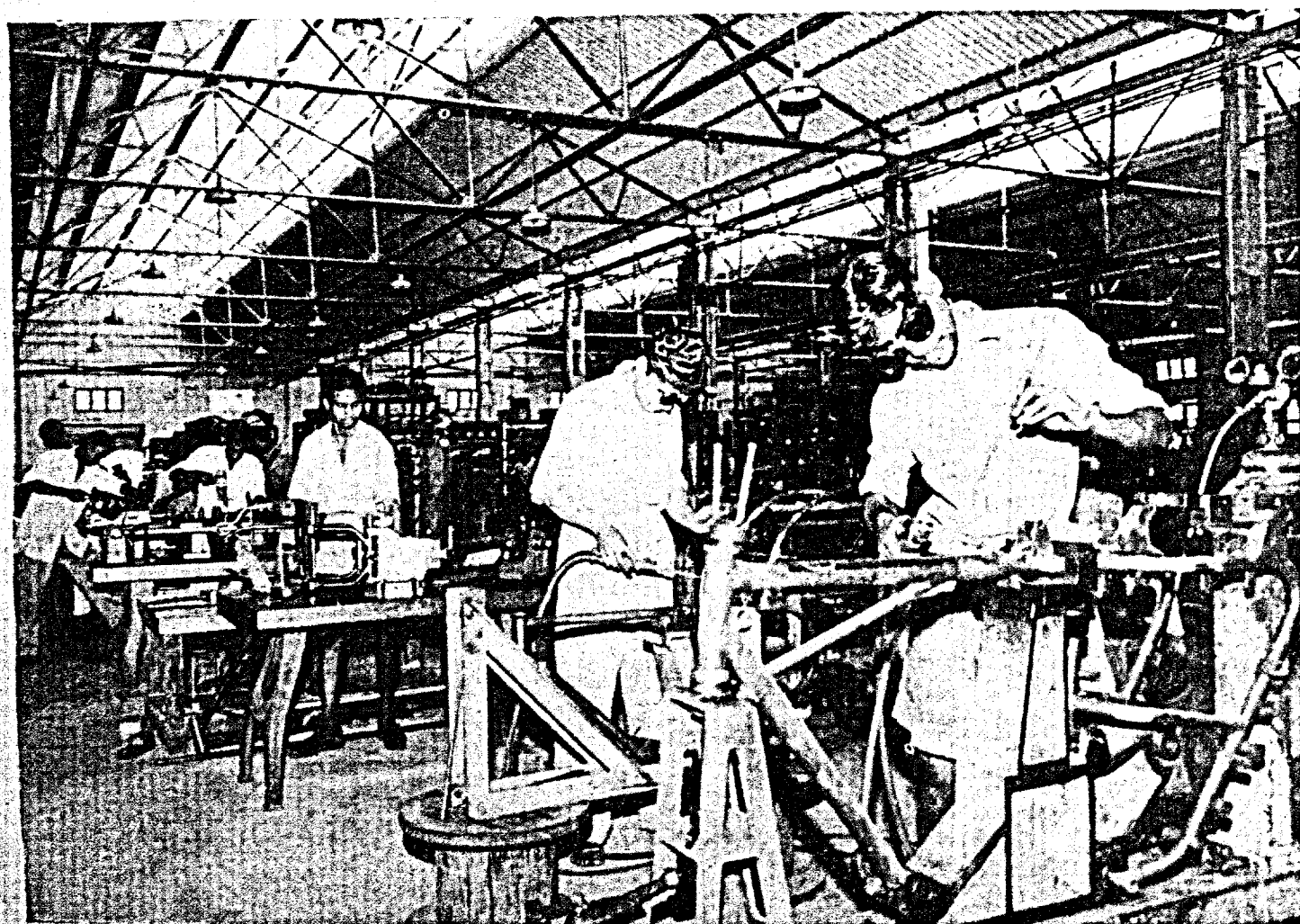
The industry was started with an initial labour force of 250 men. With the expansion of the industry, the number of workers has also increased. In 1957, there were working 600 men which rose to 750 in 1958, 850 in 1959 and 950 in 1960. Besides, a large number of people are employed by their dealers and sub-dealers all over the country for selling and servicing the company's products.

The story of this industry has been one of expansion for the past few years. In 1956, 1,100 motor-cycles were put on the roads. This figure rose to 1,900 in 1957, 2,800 in 1958, 3,500 in 1959. Their target for 1960 is the production of 6,000 motor-cycles. Daily on an average 15 Ensigns and 8 Bullets are being produced.

More than two thousand components go to make a motor-cycle. Seventy per cent of these components are made here itself. Arrangements are afoot to manufacture indigenously the remaining components before the end of 1960. The management feel confident that they could achieve success.

Two varieties of motor-cycles are now produced here: One is called Ensign with 1.5 horse power. It will run 120 miles for a gallon of petrol. The other is called Bullet which will run 90 miles for a gallon of petrol. It has 3.5 horse-power.

Manufacture of Frames



The motor-cycle is really a boon to the salesman, the engineer, etc. If you travel with a man in the pillion, the charges for this will be smaller than what it will be for travelling in a bus. Not only that. There will be no jostling, and the dress you wear will look trim even after the travel! No wonder that there is a great demand for this vehicle. It is also the normal and accepted mode of transport with the personnel of our Armed Forces, the Police, Posts and Telegraphs and other Government departments. The motor-cycling community is on the increase.

The three-wheeler is an ideal vehicle for transporting goods. As a delivery van, this vehicle is unrivalled; low petrol consumption and easy manoeuvrability are its chief recommendations. The three-wheeler can also be used as an auto-rickshaw. It runs 65 miles for a gallon of petrol.

As our roads are rough and are studded with pebbles, and dust abounds in, the management tried in making some improvement in the design and make-up of the original motor-cycles and they have succeeded also. This improvement has not only been okayed by the British firm but it has also adopted it with enthusiasm.

The industry hopes to export from this year onwards to foreign countries and hence they have very ambitious programme under way. Though their aim is to produce 6,000 cycles this year, it is to be doubled soon.

Engineering Works

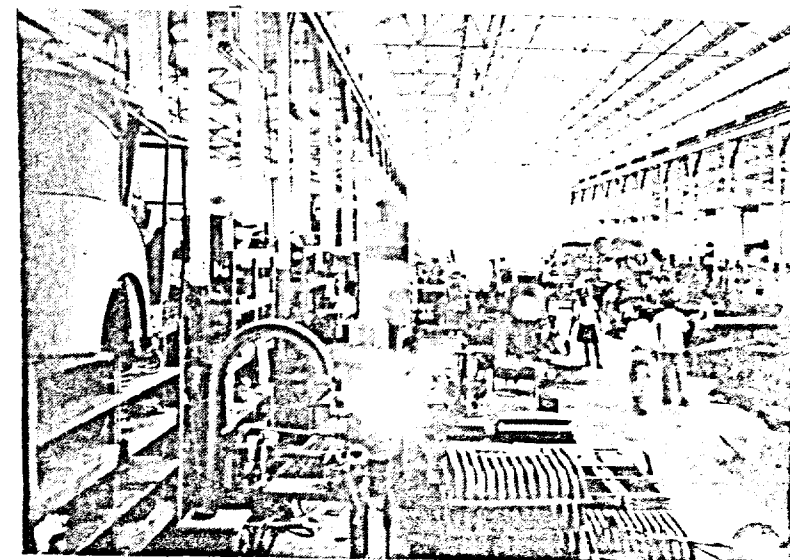
Besides producing motor-cycles, they undertake work from outside. The machinery should not lie idle, and hence general engineering is also being done. They undertake sheet metal fabrication. They make seat frames and luggage carriers and sell them to the Integral Coach Factory, Perambur. They also produce post boxes for the Central Post and Telegraphs Department, bus body kits, petrol and water tanks of huge capacity.

The management can afford to feel proud of the working conditions they provide for their workmen. The canteen which is well-equipped, not only provides tea and coffee on payment but also serves good meals. Special bus facilities, in collaboration with the Madras State Transport, are provided for the workers from Mint every morning. Recreation club and facilities for sports are also arranged adequately.

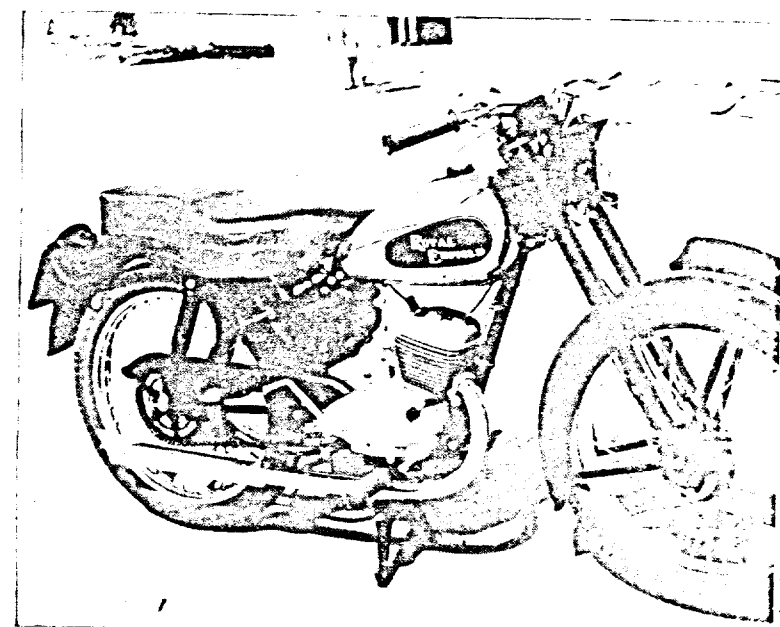
The employees are happy that they are working under ideal working conditions. And they are enthusiastic that a housing scheme is under active consideration for them. Of all the benefits they get, they are happy over the fact that the minimum wage that is paid to a worker is Rs. 88, i.e., an unskilled labourer gets Rs. 88 as salary per mensem.

Training Programme

The management are also having a special training programme, both foreign as well as internal. The selected candidate usually undergoes training at the Redditch Works of the Enfield Cycle Company, Limited. He is asked to visit various manufacturers and suppliers of motor-cycle



Sheet Metal Shop where Fabrication is made



The 150 C.C. "Ensign" Motor cycle

components in the United Kingdom and in the Continent. This programme enthruses the employees to put forth their best in their work.

This industry there is no doubt, will, grow from strength to strength, not only because it has no equal in the whole of the Far East save perhaps Japan, but also because, in our land itself, the demand for motor-cycles is always on the upward curve.

FEES FOR TAMIL TYPING EXAMINATION

The Government have directed that the concession granted to Government typists to appear for the Lower and Higher Grade Examination in Tamil Typewriting thrice, without payment of fees, be also extended to the regular typists employed by the Local Bodies: Typists who are appointed on emergency basis will not be eligible for the concession.

Major Irrigation in Madras

The irrigation system in Madras State has greatly improved since Independence. The First and the Second Five-Year Plans have stimulated steady progress and speedy execution of the works. There has been hectic activity under these Plans and Madras can now say that it has harnessed all its major river resources.

During the First Five-Year Plan period 9 irrigation schemes were taken up and Rs. 28.91 crores were spent on this. 346,000 acres of land were newly irrigated and 124,100 acres of land which were already being irrigated, gained more benefits.

The Lower Bhavani Project and the Cauvery Delta Project were completed during the First Plan period. The Mettur Canal Project, the Manimuthar, Amaravathi, Vaigai, Sathanur and Krishnagiri Reservoir Projects were taken up under the First Plan but were completed during the Second Plan period. The Araniar Project was sanctioned under the First Plan but it has not yet been completed due to various reasons.

The New Kattalai High-Level Scheme, the Pullambadi Canal Scheme, the Vidur Reservoir Project, the Neyyar Project-II stage, the medium-sized projects in Kanyakumari district and the Parambikulam-Aliyar Project were taken up under the Second Plan. The Kundar, Mottai and Sri Mulaperi projects in the Shencottah taluk which had already been sanctioned under the Second Plan have also been included in the special minor irrigation schemes.

Completed Schemes

The headworks of the Kattalai Canal System and the Pullambadi Canal Scheme were completed in September 1959 and 9,000 acres are being benefited now under these two schemes. Other works are expected to be completed during this year. The Vidur Reservoir was completed towards the end of 1959 and during the current fasli year 700 acres were irrigated. This reservoir provides water for irrigating 2,200 acres in Madras State and 1,000 acres in Pondicherry.

Under the Neyyar Scheme-II stage, a canal, 13 miles long, will be constructed in the Kanyakumari district. This canal will continue from the left bank canal of the Neyyar Dam in the Kerala State. Nine thousand two hundred acres in the Kanyakumari district will benefit by this

scheme. Rs. 41 lakhs are expected to be spent on this canal. The work is progressing fast and it is expected to be completed by 1960-61, thanks to the co-operation of the Kerala Government.

The Parambikulam-Aliyar scheme is a multipurpose project. The project contemplates the utilisation 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 flow 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 flow 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 $5\frac{1}{2}$ miles.

Contour Canals

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.

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. An agreement has been entered into with the Government of Kerala about sharing the waters of these rivers.

Preliminary works like construction of staff quarters, laying of roads, etc., have commenced in 1958. The Government have allotted Rs. 79 lakhs for this. Construction of a bridge below the Aliyar reservoir is progressing. A bridge has been constructed below the Thunakadavu reservoir. Construction of the Parambikulam, Thunakadavu and Tirumurthi reservoirs are to be taken up

Agricultural Research

The Agricultural College and Research Institute at Coimbatore was founded in the year 1868. It was then a small agricultural farm at Saidapet near Madras which was gradually converted into an Agricultural School in 1876. In order to expand further in a more suitable location, the institute was shifted in 1907 to Coimbatore and a diploma course was started in 1909. In addition to this, a certificate course was instituted in 1914. The institute was providing trained personnel to the extension wing of the Agricultural Department for carrying the results of agricultural research to the farmers.

The character of agricultural education was changing rapidly with the dynamic developments taking place in the field of agricultural science itself. The tendency was to broaden pure and applied sciences to provide a better understanding of the principles of farming. A higher level of education and training was therefore necessary and the B.Sc. (Ag.) degree course was started in 1920. The College was affiliated to the Madras University.

The Agricultural College celebrated its Diamond Jubilee of Agricultural Education in 1936. The Golden Jubilee of the founding of the Coimbatore Institute was celebrated in 1957. In 1950 the Post Graduate Department commenced leading to the highest level of education of M.Sc. and Ph.D. in Agricultural Sciences.

The Research Sections

Research at the Agricultural College and Research Institute is conducted with the view of helping to increase the agricultural production of the country by improving cultivation practices, breeding better varieties of crops, evolving better manuring and fertilizer practices, controlling plant pests and diseases, and also suggesting good storage and preservation methods for agricultural products. By continuous research, answers are found to the several problems which are faced by cultivators in the State.

The sections dealing with paddy, millet, and pulse, cotton, oilseeds, sugarcane and botany are concerned with crop improvement. The Agronomy and Soil Science Divisions tackle agricultural practices connected with cultivation of crops, manuring, irrigation, etc. The Horticultural section deals with improvement of fruit and vegetable crops and also with ornamental gardening. The Agricultural Engineering section is engaged in devising suitable agricultural implements and other farm equipments and helping the farmers in tapping the

underground resources of water and in improving efficiency of the various implements already in use in the State. The Agricultural Meteorology section is engaged in collecting data on local weather elements and correlating the weather data with crop growth as well as with incidence of pests and diseases. The Entomology and Mycology sections are concerned with problems of plant protection. Extension Division is engaged in the dissemination of results of research to the farmers through the Extension workers in the State and also in bringing the problems of the farmers to the Research workers at Coimbatore for solving them.

Research on Paddy

The Paddy Research Section is concerned with the evolution of improved strains of paddy. Such improved strains have been evolved by adopting improved breeding techniques, by selection or by hybridisation or by introducing desirable characters from imported types. The superior features of these strains are the culmination of many improvements in the long succession of good quality introduced in them. These strains are efficient in their use of land and are adapted to the needs of the grower and consumer. GEB 24, CO. 25 and TKM 6 are some of the outstanding varieties evolved and distributed from the Paddy Research Section. The most prominent among new introductions are SR26B for saline areas and Basumathi, Sugadas, etc., for special preparations. In all, 62 strains have been evolved and distributed and they are popular and widespread in the State.

Increase in Yields

Under agronomic investigations, manurial schedules have been prepared in order to increase yields. Studies are being carried out on the different aspects of Japanese methods of cultivation, irrigation requirements of the paddy crop, economic and most profitable methods of cultivation and application of fertilizers, etc. The improved strains evolved at the institution occupy an area of 39 lakhs of acres, which is approximately two-thirds of the area under paddy in the State. On an average it has been observed that the paddy yield has been increased by about five bags per acre, by the adoption of improved strains and also by optimum manuring. As a result of this, annual production increased by 15 lakh tons.

Cholam, Cumbu, Ragi, Tenai and other minor millets constitute the dry land crops of the State. A small portion of these crops is cultivated under irrigation also. Millet improvement work commenced in 1923. This aimed at evolving better varieties that would yield more under the adverse environmental condition and uncertain rainfall prevailing in the State. The improvement has resulted in the evolution of 54 improved strains and they occupy over four million acres representing forty per cent of the millet area of the State. Cholam being a major millet received greater attention and very promising strains have been evolved so far.

For instance, Co. 18 is a very popular strain combining superior grain quality with superior straw and a very high yield and Co. 10 and Co. 11 are good fodder types giving very good quality fodder. Hybrid 3 of Cumbu and Co. 6 and Co. 7 of Ragi are very popular because of their ability to respond well to fertilizers. Ragi strains are also, in addition, a source of varieties, this section is concerned with the evolution of crop types for resistance to pests and diseases, parasites like striga and to drought. During the last decade, this section has also started work on improving the yield and quality of pulses.

Improvement of Cotton

Attention in respect of cotton improvement has received intensive and the Karunganni varieties which are grown extensively in this State have been considerably benefited by the release of five improved strains of Karunganni and five improved strains of Cambodia. Under rainfed conditions the productivity of Karunganni has been stepped up from 85 pounds of lint per acre in 1920 to the present level of 120 pounds and the Cambodia yield has similarly been raised from 200 pounds of lint per acre to 300 pounds under irrigated conditions, mainly due to the research carried out at Coimbatore. Staple length has reached 1 inch in Karunganni and exceeded 1 inch in Cambodia and the spinning quality is now ranging from 30's to 40's. In the dry cotton Karunganni areas, the improved strains, viz., K-2 and K-5 have spread over four-fifths of the areas.

In the long staple types MCU 1 and MCU 2 released from Coimbatore have replaced the older Cambodia strains. A newer type 9030-G called 'Pongal' is being released which has excellent qualities from the point of view of disease resistance and fibre quality. Among dry cottons K-6 is the latest improved Karunganni strain outshining the earlier ones in all respects. Side by side the quality of lint has also been improved considerably, both in respect of staple length and spinning qualities. As a

result of research the staple length of the fibre has crossed the 1 inch level for the first time in India.

A short duration American cotton known as P. 216F has been introduced in rice fallows in the deltaic areas to supplement the income of the rice grower. In the heavy rainfall areas such as the West Coast, the Sea Island Cotton type, Andrews, the world famous cotton for its long staple has very successfully been introduced which is yielding already a very good profit to the Kerala cultivator.

Research on Oilseeds

Groundnut, gingelly and castor are the three oilseeds on which intensive research is carried out with a view to improve their quality and productivity. Evolution of a bold kernelled groundnut type for edible purpose, induction of seed dormancy in the bunch groundnut, utilization of hybrid vigour in castor, isolation of short duration castor and production of disease resistant and non-shattering gingelly types are some of the more important items receiving special attention. Under agronomic aspects, the optimum seed rate, spacing, use of labour-saving implements for sowing as well as for harvest of groundnuts, manurial requirements and storage techniques have been worked out.

Five improved strains of groundnut have been released which are superior in all respects to the locally cultivated types. Three improved strains of gingelly have been evolved with special characters like disease resistance, high productivity, short duration, etc. Four strains have also been evolved in castor with outstanding commercial qualities. The total area covered by improved strains in the State is estimated at 30 per cent of the total area under oilseeds, by which farmers derive a monetary benefit of two crores of rupees every year. Madras State has been the pioneer in coconut research in India. Very useful data on coconuts have been passed on to the farmers in respect of the cultural and manurial practices. The Coconut Research Station at Nileshtar has been transferred to Kerala State since the reorganization of States. An outstanding work in connection with oilseeds has been the raising of nurseries and distribution of good coconut seedlings.

Development of Sugarcane

Work on sugarcane development was started in the year 1912 when the post of Economic Botanist was created and Dr. Barber took charge of the post in this institute. Subsequently the Sugarcane section expanded into an independent institute under the Government of India, and work in this department was confined to testing of improved varieties evolved in the Sugarcane Institute as to their suitability to the conditions in the State, besides dealing

with the agronomic problems like evolving manurial schedules and good cultural practices. The problem of pest and disease control of this valuable crop is also receiving attention. The outstanding varieties of today are Co. 419, Co. 449, Co. 491, Co. 527, which are being excelled by Co. 658, and Co. 785. They are yet to be propagated and the improved varieties occupy a phenomenal figure of 97 per cent of the cane area in Madras State and has contributed to the doubling of the acre yields of sugarcane from 20 to 40 tons per acre.

Botany Section

This is concerned with all crops and their improvement. With the expansion of work and specialization in different crops, each crop was treated as a unit under a specialist leaving the Botany section to concentrate on introduction of foreign species of plants and their trial, research in fodders, green manures, fibres, medicinal plants and testing seed dormancy, viability, etc. The Cytogeneticist, Plant Physiologist and Fodder Research Officer are attached to the Botany section. The Madras Herbarium, the oldest in the country, was under the control of this section but now it has been transferred to the Regional Botanist, Southern Range, Botanical Survey of India, two years ago. Weed control by chemical weedicides and improving crop yields by foliar sprays of nutrient salts and a rapid method of determining seed viability by the use of chemicals are some of the achievements of this section.

Horticulture

Research on fruits and vegetables have been carried out since the inception of this section, with particular reference to mango, banana, and citrus which are the major fruits of the State. A few hybrids of mango which combine superior fruit quality with high yield have been evolved. Many important problems relating to cultural and varietal aspects of banana are being tackled at the Banana Research Station, Aduthurai. The most economic and high quality varieties of citrus are isolated and the best rootstocks determined. An improved strain of Papaya Co. 1 has been evolved where the tree is of very low height and yields good quality fruits. The Anab-E-Shahi grape has been successfully introduced as a desert crop which has broken the world yield record for grapes by producing sixty thousand pounds of fruits per acre from two crops in a year.

High yielding varieties of sweet potato and tapioca have been selected and popularised. 'The great Scot' variety of potatoes introduced some years ago by the Department continues to be very popular. Newer varieties are being tried from time to time and distributed for cultivation. The agronomic practices for this most important crop of the Nilgiris have been standardized. The Criollo Cacao is coming up very well and has a very good demand.

Attention has also been paid to develop the crops like cashewnut, nutmeg, vanilla, cloves and essential oil-yielding plants which add to the wealth of the State. The State Government have established three model orchards-cum-nurseries at Coonor, Periakulam and Thimmapuram (near Krishnagiri) for production and distribution of good quality plants material and also for dissemination of improved horticultural practices.

Chemical Warfare on Insects

Research on economic entomology to deal with the insect problems associated with the crops of the State and devising suitable control measures have been the important objectives of this section. In Man's unremitting struggle against insect enemies, chemical warfare plays a most prominent role. Study of the life histories of the insect pests to choose the most vulnerable time and point of attack with the chemical has therefore received special attention from early times and with more emphasis in recent times. With the amazing growth of several organic chemicals beginning with DDT, plant protection techniques in the State have been revolutionized. Biological method of control by exploiting suitable parasites and predators to destroy the insect pests has been an important contribution of this section. Some recommendations are the control of the cotton stem weevil by the use of cotton dust, treating with DDT 10 per cent for rice weevil, the use of parathion spray against aphids, thrips and jassid pests of cotton.

Fighting Plant Diseases

Plant diseases also cause extensive damage to the cultivated crops resulting in the loss of several crores of rupees every year. From the year 1910 this section has been tackling the problem of control of plant diseases of the major crops in the State. Among the outstanding achievements may be mentioned, the control of 'blast' on paddy by the evolution of resistant strains like Co. 25 and Adt. 26, the controlling of 'foot rot' on paddy by seed treatment with organo-mercuric compounds, the control of cholam 'smut' by the use of sulphur, the red rot and smut on sugarcane by eliminating disease-affected planting material, etc. This section has also contributed to the successful commercial production of yeast, an important source of vitamins and Ergot, a very important drug.

Plant Protection

In addition to the Entomology and Mycology sections of the Research Institute, there is a plant protection service with three regional officers at Coimbatore, Madurai and Thanjavur with several assistants. These men tour the villages and take prompt measures to control the

pests or diseases on crops. Where the incidence is heavy, chemicals are sold at concessional rates and farmers are assisted to adopt plant-protection measures. Plant-protection equipment is also stocked at every district and block headquarters and at agricultural depots for hiring out to ryots for protecting their crops.

Soil Research

The Chemistry section undertakes research on all physical and chemical aspects of the soil. This is of considerable help to the farmers, in that it conducts analysis of the soil samples received from them and makes suitable recommendations for a correct manurial programme. The soil-testing laboratory attached to the section can handle a thousand soil samples per month. It is one of the 24 units in India. This section has made suitable recommendations for reclamation of Alkali soils in Tiruchirappalli and Tirunelveli districts where the use of gypsum and green manures has proved very useful.

A detailed study on the more important physical and chemical properties of the soil has been made, farming techniques and soil conservation measures in the low rainfall regions of the State have been evolved and recommended. Evolving suitable bacterial cultures for inoculating the legume seeds to increase the nitrogen fixing power of the legumes is another item of work. The section has also contributed much to the development of Agro-industries such as the manufacture of malt from sorghum and preparation of activated carbon. Processes have been evolved for the manufacture of Cream jaggery and Kandasari sugar. This section is maintaining the oldest permanent manurial plot in the country for the last 50 years and more, the results from which have indicated that continuous application of inorganic fertilizers do not cause any injury to the soil. Other useful investigations have been carried out in respect of manufacturing compost, activated sludge, use of iron chelates, trial of soil conditioners, chemical investigations into blast disease, use of peptic nutrient sprays, etc.

Artistic Glassware Training Centre for Madurai

The Government have sanctioned the establishment of a Training Centre for the manufacture of artistic glassware at Madurai. This Centre, for which expenditure of Rs. 1,18,000 on non-recurring items and a sum of Rs. 89,000 on recurring items have been sanctioned, will comprise a section of the existing Glass Beads and Bangles Training Centre at Madurai. Training in this section will be imparted in the making of artistic glassware such as flower vases, ash trays, artistic figures in glass, decoration on glass by printing, transferring, etc. The course of training will last two years but 15 candidates will be taken up every year and each trainee will be paid a stipend of Rs. 30 per mensem for the duration of the course. After training, the trainees will be encouraged to organize themselves into industrial co-operative societies.

Sathanur: An Ideal Tourist Spot

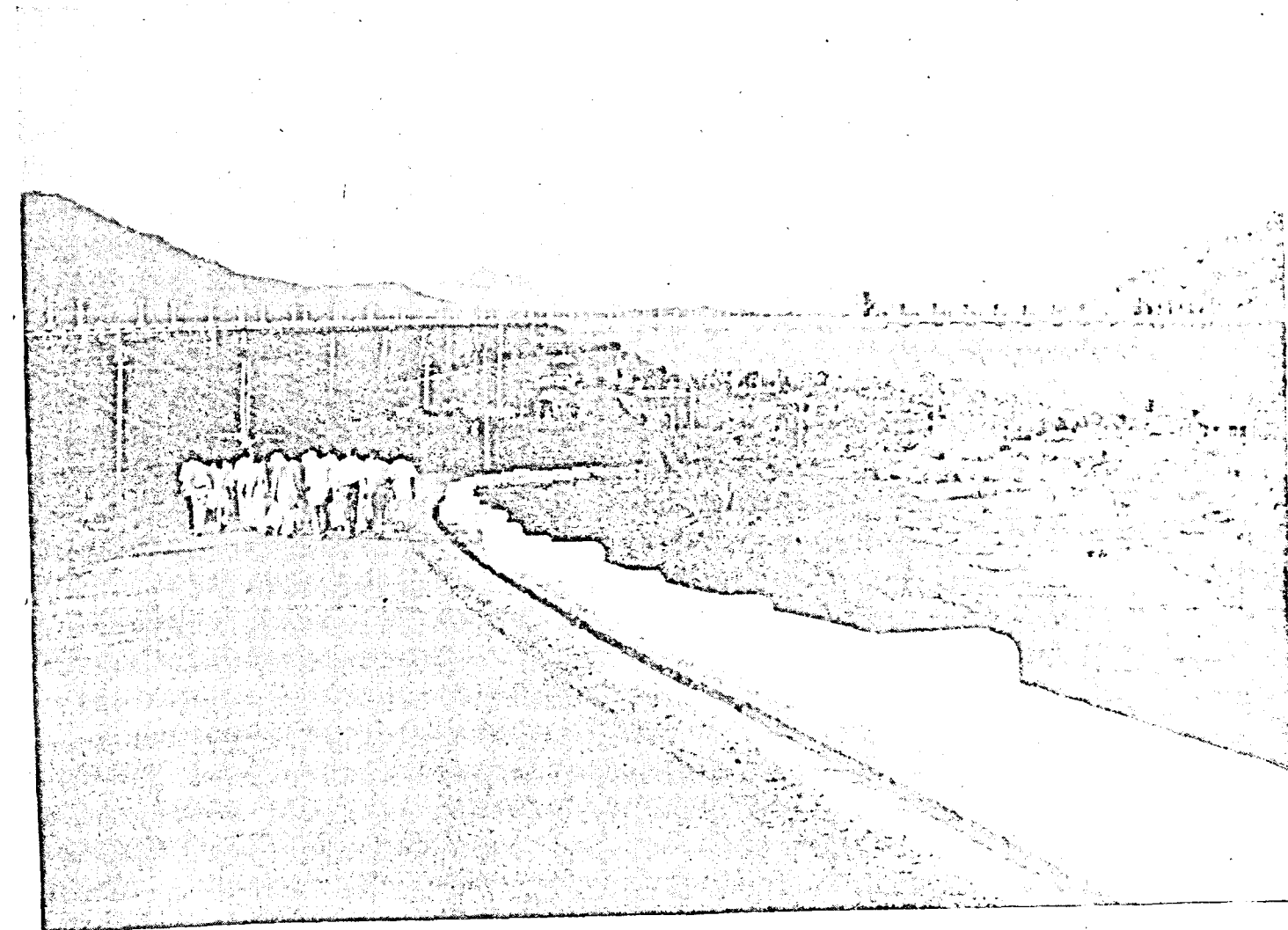
SRI C. SWAMIDOSS, Personnel Officer, The Metal Box Co. of India, Ltd., Madras.

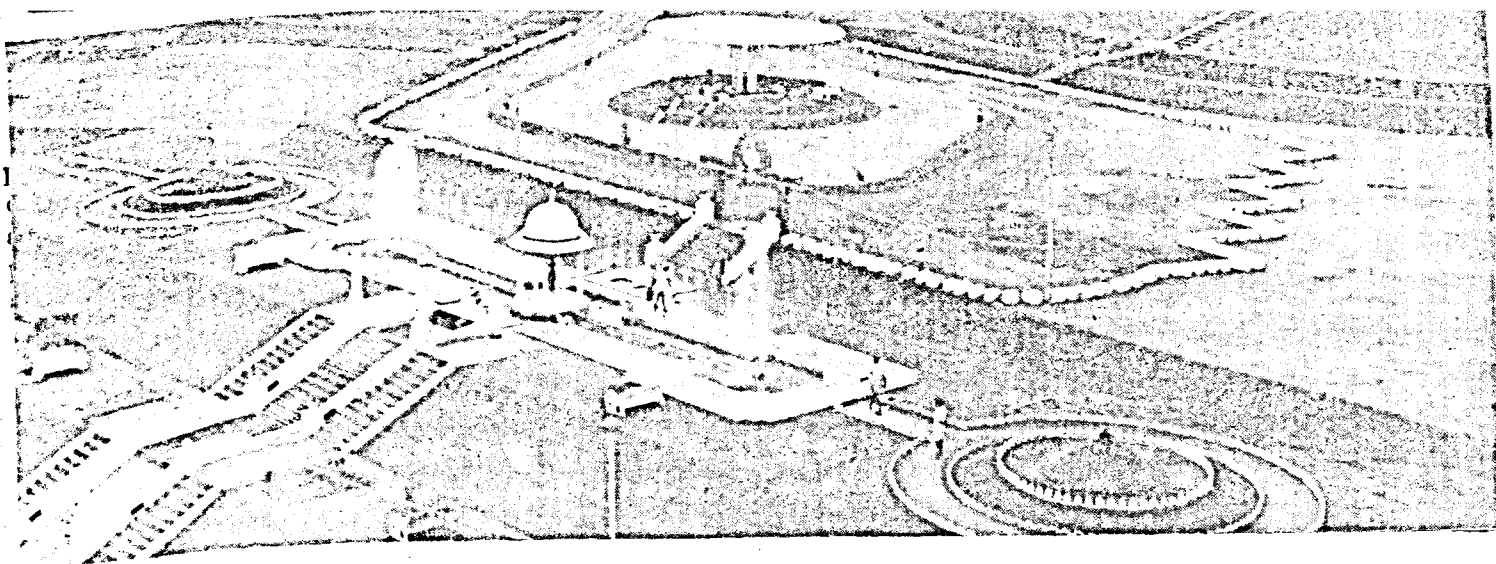
We have heard of an ideal picnic spot modelled on the Brindavan Gardens of Mysore and situated in the foregrounds of the Sathanur dam in North Arcot district, 136 miles from Madras City. We did not believe that such a delightful place was a reality until we actually saw it.

The Sathanur dam is located at a distance of about 21 miles from Tiruvannamalai town across Ponniyar river in a narrow gorge between the Chinnapadi hills on the east and corresponding low range hills on the west. It is about four miles south-east of Sathanur village situated near mile 5/4 of Thandaramput-Chengam road.

In the foreground of the dam the slopes have been laid out with attractive lawns and the whole area has been made as picturesque as possible with flowering plants and shrubs. Artificial water-falls reminding one of the Moghul Gardens of ancient times, canopied seats amidst magnificent parks with a variety of fountains illuminated with coloured search lights was a beautiful sight. The swimming pool where water is changed once a week, club house, a model of an ancient fort, a hanging bridge, fish ponds and a miniature zoo, converging in a valley flowing with swishing waters from the dam, playground for children with slides, swings and seasaws, to the making of which foresight, talent, sweat and toil went in, are added

A view of the Sathanur Dam





A view of the Park laid out at the Sathanur Dam.

attractions. It looked like a fairy land when the whole area was illuminated. It seemed to us for the first time that here is a beautiful holiday spot within the reach and means of the common folk of Madras State. The place is crowded with small and large parties, especially during the week ends and we were advised that if large parties choose to spend a couple of days, week days would be more convenient from the point of view of accommodation.

Amidst Sylvan Surroundings

For the convenience of the tourists, Government have provided five Class I rest-houses, which are spacious and each of which can accommodate a party of twelve comfortably. In addition there are four Class II rest-houses, in which a group of ten can conveniently be lodged. They are provided with electricity, water and sanitary conveniences and located amidst mountainous surroundings and luxurious vegetation. At the moment they are sparingly furnished and Government has been addressed to furnish and equip each of these guest houses with the type of equipment already provided in the beautiful project house which can accommodate two couples. The rent charged for the guest houses is nominal and Sathanur has become a tourist centre.

The choice for the third tour of Government Developmental Projects under the Five-Year Plans sponsored by the Metal Box Company fell on Sathanur Reservoir Project in North Arcot district and Lignite Mining in Neyveli in South Arcot district. Twenty-eight employees of the company were selected for this tour on the basis of good attendance, efficiency, good conduct and seniority under my leadership. Advance permission to visit Sathanur Reservoir Project was received from the Executive Engineer, P.W.D. Canals Division, Tiruvannamalai, and since the party was fairly large, we were advised to depute one representative to make the arrangements in advance.

Accordingly, I left Egmore on 26th April and reached the dam-site at 9 a.m. on the 27th. There are two vegetarian hotels and first-class boarding arrangements for vegetarians and non-vegetarians were made for the following day for the 28 employees.

Lovely Accommodation

Our party left the company's premises at 2 a.m. on 28th April 1960 in the specially chartered luxury tourist coach of the State Transport Department. This bus has a toilet room, fan, curtains and is provided with sleeperette seats. It transported the party without any fatigue. The cost of hiring this coach is very reasonable. En-route our employees visited the Madurantakam Lake, Gingee Fort, bathed in the Tiruvannamalai Temple tank and offered prayers to Lord Siva. They reached the dam-site at 12 noon after visiting Ramanaashramam on the way, covering a distance of 136 miles from Madras. Imagine their surprise at the lovely accommodation, gardens and the bathing facilities available near the dam-site.

The colony for the project staff and workers is well-maintained and has amenities like electricity, pure water, sanitary convenience. Community Radio set and recreational facilities have been provided to ease the monotony of the workers.

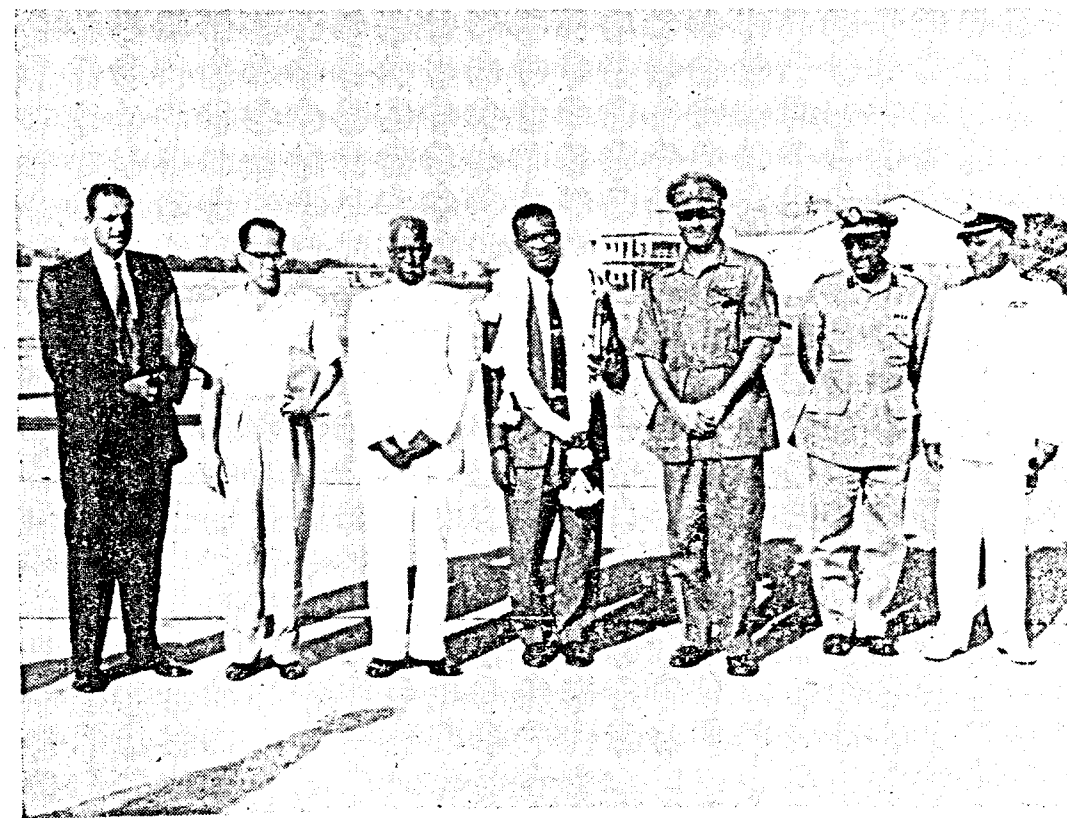
Benefits to the Ryots

Let us now turn to see the use of this dam to the farmers, the main purpose for which we came here. The P.W.D. officials explained to us that the waters of Ponnaiyar has twice been harnessed, first by the dam at Krishnagiri in Salem district and the second at Sathanur in North Arcot district. The proposal for this reservoir which was thought of in 1904 to relieve the plight of the ryots in the rain starved areas in the Tiruvannamalai and Chengam taluks was given up as non-feasible but was revised after

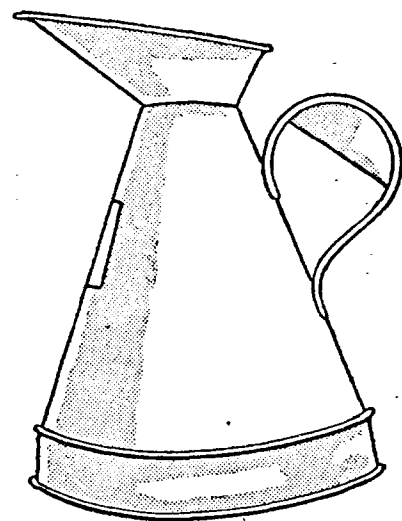
nearly fifty years during the post-war Grow-More-Food-Campaign and Rs. 282 lakhs were sanctioned in 1952 and the project work was inaugurated on 2nd October 1954 and completed in 1957, in record time with a total saving of 1/6 of the total estimated cost. The total length of the dam is 2,580', housing the spillway section of 432' length with nine spans 40 feet each and eight piers nine feet thick in the middle. The height of the dam above the deepest river bed is 135 ft. and 167 ft. above the deepest foundation. The ayacut irrigated at the moment is 20,000 acres. In the second phase, which has commenced, a full reservoir level of plus 729.00 will be obtained with the installation of 20 feet crest shutters over the spillway. The capacity will then be increased to 8,100 million c. feet. The first stage reservoir submerged 3,100 acres of reserve forest. This is a special feature of this project because no person has been displaced from the reservoir water-spread area and therefore no problem of rehabilitation of displaced farmers arose. The Public Works Department Officials explained these details to an interested party and after sumptuous food and a good night's rest we proceeded next morning to Neyveli to see the gigantic lignite mining operations and construction of township and returned to Madras via Pondicherry on 29th night covering 145 miles. Total distance covered by bus was about 400 miles.

Having seen with their own eyes the developmental projects that are now being carried on round the clock the employees now know the Himalayan efforts that are now being carried out by our Government and the people under the Five-Year Plans, towards the making of a better and prosperous India for their children and grandchildren. They broadcast their impressions of the tour over the company's internal broadcasting system, a vivid description of the Sathanur Reservoir, their pleasant stay in this beautiful holiday spot within 136 miles from Madras City; the lignite mining operations in Neyveli and their impressions and held informal discussions with their fellow employees. The A.I.R. was pleased to record the tour impressions of two workers for broadcast later during the workers programme while the local papers gave summary of the tour. Members of the party paid tributes to the excellent arrangement made in advance by the Management.

Thus ended the third tour of Government Projects with a total of 80 employees having seen several projects so far in the Madras State and here's hoping that another batch will go in 1961, probably to see Periyar Hydro-Electric Projects and Vaigai Reservoir coupled with the Wild Game Sanctuary.



Mr. B. R. Benn, Minister for Natural Resources, British Guiana, who arrived in the City on 14th April, was received at the airport by the Chief Secretary to Government, Sri S. Venkateswaran, I.C.S.



NOW-METRIC CAPACITY MEASURES

The Metric capacity measure—LITRE—comes into use from April, 1960 when the PAINT and PETROLEUM industries change over to the Metric System. Paint will be sold in litres and the entire distribution of petroleum will be in litres only.

CONVERSION TABLE

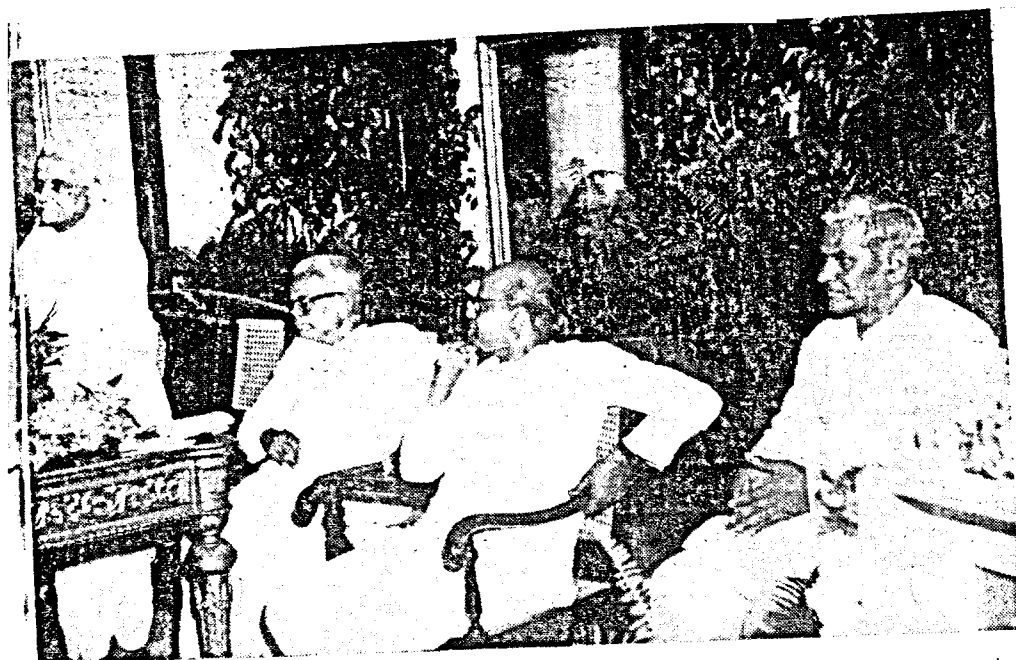
1 GALLON = 4½ LITRES approx.

1 LITRE = 1,000 MILLILITRES

DA-59/577

FL. OUNCE		MILLILITRES (ml) (to nearest ml)	GALLONS	LITRES	MILLILITRES (to nearest 10 ml)		
1		29	1	4	350		
2		57	2	9	70		
3		85	3	13	640		
4		114	4	16	180		
5 (= 1 Gill)		142	5	22	730		
GILLS		MILLILITRES (ml) (to nearest ml)	6	27	280		
1		142	7	31	820		
2		284	8	36	370		
3		426	9	40	910		
4 (= 1 Pint)		568	10	45	460		
PINTS		LITRES (l) MILLILITRES (to nearest ml)	GALLONS	LITRES	MILLILITRES (to nearest 100 ml)		
1		568	20	90	900		
2 (= 1 Quart)	1	1136	30	136	400		
			40	181	800		
			50	227	300		
QUARTS		LITRES MILLILITRES (ml) (to nearest ml)	60	272	500		
1		273	70	318	700		
2	1	409	80	364	100		
4 (= 1 Gallon)	4	568	90	409	100		
			100	454	600		
MILLILITRES (to nearest ½ fl. oz.)		LITRES	GALLONS	QUARTS	PINTS	GILLS (to nearest gill)	
10		1	1	—	1	3	
20		2	2	—	2	6	
30		3	3	—	3	9	
40		4	4	—	4	12	
50		5	5	—	5	15	
60		6	6	—	6	18	
70		7	7	—	7	21	
80		8	8	—	8	24	
90		9	9	—	9	27	
100		10	10	—	10	30	
MILLILITRES	PINTS	GILLS	FL. OUNCES (to nearest ½ fl. oz.)	LITRES	GALLONS	QUARTS	PINTS (to nearest pint)
200	—	2	—	10	2	1	—
300	—	3	—	30	6	3	—
400	—	4	—	40	8	4	—
500	—	5	—	50	11	5	—
600	—	6	—	60	13	6	—
700	—	7	—	70	15	7	—
800	—	8	—	80	17	8	—
900	—	9	—	90	20	10	—
1000 (= 1 litre)	1	10	—	100	22	11	—

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Sri M. Bakthavatsalam, Minister for Home, presided over the function of releasing the fifth volume of "Mahatma Gandhi Noolgal" held at Rajaji Hall on 26th April. Photo shows Sri R. R. Diwalar addressing the gathering.

Sri C. Subramaniam, Minister for Finance, who inaugurated the Madras State Transport on 20th April, is seen in the picture inspecting one of the new buses that have been put on the road recently.



Sri Bismuram Medhi, Governor of Madras, distributed the award of prizes to the distinguished Artists at R. S. Rajani Sabha Hall, on 14th April 1950. Photo shows the Governor with the recipients of the awards.

Gandhiji—As others saw him

Gandhiji is an eternal subject, and as Dr. Rajendra I has said elsewhere, in the stream of Gandhiji's life lies buried a hidden treasure out of which every one can carry as much as he likes, according to his own capacity and faith.

And my memorable moments with Babu written by Manubehn Gandhi and Babu as I saw him shed a flood of light on the characteristics of Gandhiji and make interesting reading. Homer might have nodded in his work, but Gandhiji never nodded even in his weak moments, if there were any, and in his private life. He had been the same unbending idealist, who was also practical, in his private life as well as in his contact with the high and the low. These two works under notice bear ample evidence to this.

Once in Noakhali, on account of the severe cold Manubehn Gandhi brought him hot water with which to wash his feet. He was pained and said, "I can understand you using hot water for a bath, but how dare you use it for washing the legs when such abnormal conditions exist here? Do you not realize that a number of women fail to get enough fuel even to bake their daily bread? On what grounds can we then use hot water for washing our feet?" He finally washed his feet with cold water.

Once, in the month of May, while in Delhi, Gandhiji was staying at the Harijan Colony. The mango had just come into season, and they had been sent a basketful of the delicious fruit. Manubehn Gandhi took him a glassful of its juice. Babu then asked her about its cost. Ignoring this as a joke, she engaged herself in copying out his notes, letters and memoranda. After a while, she again went to him and told him to drink the juice. He said, "I thought you would return only after you had found out the price of the fruit. As a matter of fact, it was imperative that you ascertained its price before giving it to me. Not only you have failed to do this, but also you have not brought me a reply to my inquiry. As I have heard, each mango at present costs ten annas, and thus the price of this glassful of juice comes to two and a half rupees! I can, therefore, very well do without it. But you had the temerity to serve me a full glass of such costly juice in these days when our people are faced with high prices, starvation and hardships. Can you not realize that this juice, instead of providing me with nourishment, causes me considerable anguish?"

He was much perturbed when telling her this. In the meantime, there came two refugee women with their children to pay their respects to him. Without losing any time Babuji passed on the juice to those kids in separate glasses

and received. "this is a decisive demonstration of the fact that God is always my Saviour. I was actually pained in my heart and was wondering what was to become of me. It was disconcerting to find that even this girl, who has been closely associated with me for many years, should be tempted to serve me such expensive juice. But the Saviour sent these kids in time. I am all the more grateful to Him that they are such ones as I wished would come. Just see how merciful is my Lord!"

Manubehn Gandhi stood there, very unhappy that Babu should suffer such mental torture.

Gandhiji was always thrifty and was keenly interested in dietetics in which he carried on experiments, says Mr. Ramnarayan Chaudhary. Boiling destroys vitamin C in milk while raw milk contains bacteria. So Gandhiji advised adding tomato or lemon juice to the milk; plenty of lemons grew in the Ashram compound. But, after squeezing the juice, the rind was thrown away. This Mr. Ramnarayan Chaudhary did not like. One day he suggested to Gandhiji, if the rind could be collected in a jar and a little lemon juice and table salt added to it, it would make a palatable pickle. Since the Mahatma was fond of experimenting and sought methods of economy, he at once agreed. After a fortnight when this new pickle was served in the Ashram, every body relished it. Then, the making of such pickle, without the addition of spices, became a rule, says the author.

The incidents narrated by these two authors help to bring out the qualities of the Mahatma.

Manubehn Gandhi writes lucidly and interestingly. The booklet has a peculiar value because the granddaughter of Gandhiji has collected the anecdotes from her own experience of her grandfather. "They bring out" as Sri Jawaharlal Nehru, Prime Minister says "in simple language simple deeds, simple gestures and simple approaches to the day-to-day problems of life, and yet they have a profound meaning as almost everything that Gandhiji did had meaning. Grown-up people can learn much from them; but more particularly they are models for children who may, by these simple stories, get some glimpses of a person whom they have not seen but who is always with them in the very texture of India which he fashioned."

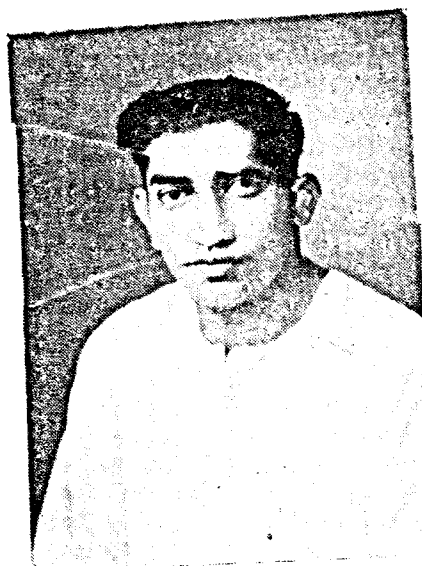
The recollections of Babu set down by Sri Ramnarayan Chaudhary who had twenty years' close and ten years' not so close association with him will go a long way to add to the knowledge of the readers about Gandhiji.

S. T. K.

MY MEMORABLE MOMENTS WITH BAPU: By Manubehn Gandhi, pp. 47 price 50 naye Paise.
BABU AS I SAW HIM: By Ramnarayan Chaudhary, pp. 274, price Rs. 2.50. Both published by Navajivan Publishing House. Ahmedabad-14.



Sri K. Senthilandavar



Sri W. P. A. R. Nagarajan



Sri S. R. Muthusamy Gounder

State Banana Competition

To encourage fruit growing in this country, the Indian Council of Agricultural Research have organised All-India Competitions for the award of the title of Udhyan Pandit for growers of several fruits. To select the best growers in banana from the Madras State and recommend them for the All-India Competition, the State Competition was held in 1959. The evaluation of the banana orchards of the competitors was done by a Judging Committee which visited 94 orchards. One feature of this competition was the way in which the best orchards were evaluated. Consideration was given not only to the yield but also to other aspects such as the soil, area, lay-out, varieties grown, orchard practices adopted, plant-protection measures, cleanliness of the orchard and quality of fruit. To encourage many growers to take part in the competition, the minimum area that could be entered into the competition was fixed as low as one acre. The competition was open only for growers of desert varieties of banana.

The Winners

The following competitors were adjudged the State Prize Winners :—

Sri W. P. A. R. Nagarajan of Pattiveeranpatti, Madurai district, got the first prize of Rs. 500, his orchard being awarded 87 per cent. Sri K. Senthilandavar of Chuchirappalli, was awarded the second prize of Rs. 200, his orchard getting 78 per cent, and Sri S. R. Muthuswami Gounder of Oravandur in Salem district knocked away the third prize of Rs. 100, his orchard being awarded 75 per cent.

The prize winners come from popular banana-growing belts of the State. It is a pleasure to note that the first prize winner is a grower of hill type bananas, the proud produce of Madurai district. The yield of 34,640 lb. (Var. Virupakshi) per acre of this competitor, though comparatively less than those of the second and third prize winners [viz., 45,900 lb. (Var. Poovan) and 44,400 lb. (Var. Poovan) respectively] has won him the first place in the competition. He has about 1,200 acres of banana and adopts highly standardised cultural and manurial practices arrived at by the trials of his ancestors and of his own. He has many progressive ideas and planning for the improvement of banana cultivation and trade. The second and third prize winners come from Kattuputhur and Mohanur areas which are famous for highly improved methods of Poovan banana cultivation. The perfect weeding, manuring, propping and desuckering practices adopted by these growers have been greatly appreciated.

The prize distribution function was held at the Fruit Research Station, Periakulam, on 10th February 1960. Sri M. Bakthavatsalam, Minister for Home and Agriculture, congratulated the prize winners and distributed the prizes. Sri M. Alagirisamy, M.L.A., presided. Dr. S. Krishnamoorthy, Dean and Additional Director of Agriculture welcomed the gathering and Sri R. Bettai Gounder, Horticulturist, Periakulam, read out the names of prize winners. Sri C. R. Seshadri, Joint Director of Agriculture (Planning and Development), proposed a vote of thanks. The prize winners gave an account of the practices adopted by them.

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A WORD TO THE BREAD-WINNER

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JULY 1960

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This month's cover

The Tribes, the earliest inhabitants of this land are fast disappearing. Steps are being taken by the Government to help them preserve their individuality and to ameliorate their lot. A conference was held in Ootacamund in May 1960 when problems relating to the Tribes were discussed fully. The article on the facing page gives a resume of the steps taken by the state for the progress of the Tribes. The article on page 5 gives brief sketches of the Tribes in Madras State.



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.

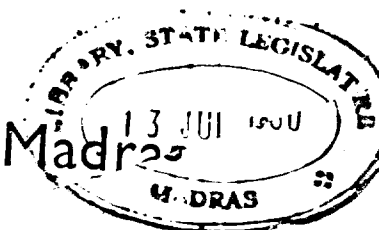
Today's striving and effort is for the world
he will grow into, a world that offers a little more—
a little less of the care, a little more of the joy.

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.

PRJ-X52

Welfare of Scheduled Tribes in Madras



The tribal population of Madras State is about 1.84 lakhs. They are mostly found in the districts of the Nilgiris, Salem, Coimbatore, North Arcot, Tiruchirappalli, Madurai, South Arcot and Chingleput. They generally live in the forests and hills far away from the highways of civilisation and the amenities of towns and cities. They are therefore very backward in all respects.

Since the attainment of Independence, the problem of ameliorating the conditions of the tribal population of this country and bringing them to the level of others has engaged the serious attention of the Government. The promotion of the educational and economic interests of the Scheduled Tribes and the adoption of measures to that end have become a directive principle of State policy. The Government have therefore formulated several schemes under the First and the Second Five-Year Plans.

Plan Schemes

During the First Five-Year Plan, a sum of Rs. 2.496 lakhs has been spent for the development of the Scheduled Tribes. This amount has been spent for imparting education, development of agricultural methods and for providing medical aid to these tribes.

During the Second Five-Year Plan, a sum of Rs. 47.80 lakhs has been provided under Grant-in-aid and Centrally-sponsored Schemes for the Welfare of Scheduled Tribes under various heads of development programmes. During the first four years of the Second Five-Year Plan period, a sum of Rs. 30.51 lakhs has been spent and the balance of the provision already made will be utilized during the last year of the Second Plan period.

Eradication of Illiteracy

Illiteracy is the main cause for the backwardness of the Scheduled Tribes. They do not understand the value of education and are averse to sending their children to school. Residential schools have been opened in the places where the Scheduled Tribes reside and remarkable success has been achieved in educating their children.

Twenty-six such residential schools are run in this State. These students are given food, books and clothing free of cost in order to make them interested in education. In addition to the residential schools run by the Government, supply of midday meals, books and clothing is made at Government cost to the Scheduled Tribe students studying in other schools run by private managements.

1A

During the Second Five-Year Plan, a sum of Rs. 11.19 lakhs has been provided for the continuance of these 26 residential schools, three adult education centres, five hostels and for the award of scholarships and boarding grants.

With a view to make adults also literate three adult education centres were opened in the districts of Salem, Tiruchirappalli, Madurai and Coimbatore. As this was found to be successful, the Government of Madras have proposed to open twenty-five adult education centres in Madras during 1950-51.

In order to enable more children belonging to Scheduled Tribes to receive education, five more hostels were opened in the districts of Chingleput, Tiruchirappalli, Madurai and Coimbatore. The Scheduled Tribe children studying in these schools are being admitted in the hostels. Besides food, they are also given books and clothing at Government cost.

In some places, it was found difficult to open residential schools exclusively for the benefit of Scheduled Tribes. The students receiving education in the mixed day-scholars are granted non-residential scholarships. The private hostels which accommodate the Scheduled Tribe pupils are also granted lump-sum boarding grants.

Private Agencies

The Palaniamalai Adivasigal Sangam in Thandikudi, Madurai district, is running a girls' hostel for the welfare of Scheduled Tribe girls. Boarding grants are sanctioned to this hostel from out of the provision made under Grant-in-aid schemes.

The Servants of India Society is an organization working on an all-India basis for tribal welfare activities. The society is maintaining a hostel "Thakkar Bapa Gurukulam" at Nirgacimund in Nilgiris district for the welfare of Scheduled Tribe pupils studying in the various schools situated nearby. This hostel is also being granted boarding grants.

Sri Satguru Sarva Samaj Sangam, Coonoor, is running under its management two tribal residential schools at Coonoor (one for boys and another for girls). Boarding grants and financial aid for the employment of staff have been granted to the Sangam by the Government.

During 1958, the Sangam conducted an excursion of twenty Toda women from Nilgiris to Madras with a view to make them know personally the modern civilized ways of life and the modern amenities for a better and happier life. During January, 1960 the Sangam took a party of tribals to Bangalore during the All-India Congress Session and the party visited the exhibition and saw the fairs, festivals, etc., in connection with the Congress Session.

The economic advancement of the Scheduled Tribes is next in importance only to education. The measures taken by the Government in this regard can broadly be classified under agriculture and cottage industries.

Aid for Agriculture

During the Second Five-Year Plan period, a sum of Rs. 60 lakhs was provided for the grant of agricultural subsidy. The subsidy is granted for the purchase of plough bulks and for improving potato and millets cultivation. During the first four years of the Second Plan period a sum of Rs. 3.40 lakhs was spent towards the grant of subsidy for cultivation of potatoes and millet in the Nilgiris district and for the purchase of plough bulks and other agricultural implements in other districts. Seven hundred and eighty-two Scheduled Tribe families benefited from this and six families of Paliyars were settled in agriculture. During 1960-61 also similar subsidies are proposed to be granted and it is expected that about a hundred and fifty families will be benefited by this scheme. In addition to this, it is proposed to settle eighteen families of Kanis in Ambasamudram taluk in Tirunelveli district and to sink 75 irrigation wells at a cost of Rs. 1,00,000 during 1960-61 for the benefit of these tribes. A Horticultural Farm is proposed to be started at Periakolrayan hills in Salem district at a cost of Rs. 1.30 lakhs which will supply seedlings and other agricultural requirements to the tribals and arrange to bring about 2,000 acres under cultivation for the benefit of these tribes.

The Government of India have allotted a sum of Rs. 1,00,000 during the Second Five-Year Plan period for the purpose of rehabilitation of tribal families who did not take to cultivation as their permanent means of livelihood. A scheme was implemented at Talayanai Dam in Tirunelveli district to induce six families of Paliyars to take to agriculture as a permanent means of occupation by sinking a well, providing one pumping engine and shed and meeting cost towards employment of a maistri, cost of seeds and other incidental charges.

Cottage Industries

These tribes have considerable inherited skill, and it is essential that their arts and crafts should receive encouragement and support. One training-cum-production

workshop at Kotagiri, Nilgiris district, three small-scale industry training centres and one basket-making centre in the Nilgiris district, eight cottage industry work centres for tribal women in Chingleput, North Arcot, Coimbatore, Madurai and Nilgiris districts, one cottage industrial school for Kanikars of Pachipparai in Kanyakumari district, one industrial school for smithy and carpentry at Hassanur in Coimbatore district, and two cottage industrial centres for bamboo and cane works in Tirunelveli district have been established for the development of cottage industries among the Scheduled Tribes. Besides these, the Scheduled Tribes of Kanyakumari and Nilgiris districts were supplied with bee-hive boxes and were helped in starting bee-keeping industry. About 309 Scheduled Tribe families in North Arcot and Nilgiris districts were supplied with charkas. One poultry unit was formed at Kargudy in the Nilgiris district.

Medical Aid

As the Scheduled Tribes are living in hilly areas, they are very often attacked by malaria and other infectious diseases. Two mobile medical units have been established in the Nilgiris and North Arcot districts to render medical aid to the Scheduled Tribes of those areas. A special staff is working in the lower Palani Hills to look after the health of the Scheduled Tribes in the Madurai district. Supply of revitalizing food and milk powder has been made to the Scheduled Tribes residing in the seven settlements in Coimbatore and in Palani Hills in Madurai district. One hundred and seventeen drinking water wells have been sunk in tribal areas and 98 drinking water wells are proposed to be sunk in the current year.

Provision of decent houses is also an important matter which is engaging the attention of the Government. A provision of Rs. 12.00 lakhs has been made in the Second Plan for providing houses for these tribes. One thousand four hundred and forty-two houses were constructed for Scheduled Tribes during 1956-57 to 1959-60 and 595 houses are proposed to be constructed in 1960-61.

Two road works were undertaken and completed in 1959-60 in Salem and Nilgiris districts in the areas where Scheduled Tribes are residing and are in need of communications. Similar works will be undertaken for execution during 1960-61 wherever feasible.

A considerable number of the tribal people live in forest areas so that the manner in which forest resources are exploited has a bearing on their welfare. In tribal areas forest contracts are given to tribal co-operative societies and they are assisted in the collection of minor forest produce. Three co-operative marketing societies have been organized for the tribals in North Arcot, Tiruchirappalli and Coimbatore districts.

The Tribes of Madras

SRI C. J. JAYADEV, M.A., L.T., Assistant Superintendent, Government Museum, Madras

The primitive tribes of India who number about 20 millions were once the original inhabitants of the land but were pushed back into the hills and jungles by the advance of the more vigorous peoples. Thus isolated, most of them came to live in a hostile environment by a simple subsistence economy of gathering food and forest produce, hunting, fishing, fowling, by pastoral pursuits and by axe cultivations variously known as punam, podu or kumari. Gradually many of them settled down to cultivate and became civilized through contacts with the plains peoples. Of these, 'adivasis' or aboriginal tribes in Madras State account for only a hundred and eighty-four thousands. Even among these, several larger groups like the Malaiyalis, Maravar and the Kallar of the south have taken to agriculture and can no longer be considered tribals. Some like the Koravar and Kurivakar continue to lead a miserable nomadic life.

Most Unique in the Nilgiris

Among the peoples of the Nilgiris Hills, the Todas are the most unique tribe. They live in amity with the other tribes—the Kotahs, Kurumbas and Irulas, to all of whom they consider themselves to be superior. The Todas are a pastoral tribe tending buffaloes and living on their produce. The men are tall and handsome with aquiline noses, full beards and clear-cut features while their women are plain with infantile features. The men are good at wood carving and make good walking sticks while their



Mala Malasar women of the Anamalais

women excel in embroidery. Their embroidered garments or 'putkuli' are much appreciated. They live in settlements called 'kudam' in half barrel shaped low dwellings. They have sacred herds of buffaloes in the milking of which they perform elaborate prayers and ceremonies. The sacred dairies are their temples and the milkman or 'palol' their priest who has to be celibate and observe austerities during his term. The Todas sacrifice buffaloes at their funerals and give them away to the Kotahs as they are vegetarians. The tribe is a very small one of about 600 people.

Expert Artisans

The Kotahs who number about 1,000 are the artisan tribe of the Nilgiris. They are potters and musicians, carpenters and blacksmiths and are at the same time tillers of the soil. They are also jewellers who work on gold and silver. They provide music for most of the local festivals. They resemble the Todas in appearance and are sturdy and hard working people. The Todas consider them untouchables as they eat the buffaloes sacrificed at the Toda funerals and as they work as tanners. As potters they have a very simple type of wheel or turn table called the tournette which is worked by the women. The Kotahs resemble the Todas in most of their customs.

A Toda settlement





Kotas of the Nilgiris

There are about 2,000 of them in the Nilgiris. Other scattered groups are found in North Arcot, South Arcot and Chingleput districts where they are called Villiar. A good number of them are found in Coimbatore. They are a dark coloured tribe with flat broad noses and they speak Tamil. While the greater number of them work on plantations or collect forest produce, others do mostly menial occupations. Of these, the Villiar of Pondicherry are good masseurs.

Skilful Musicians

The Kurumbar of the Nilgiris and Kerala are mostly hill cultivators. They also gather honey and other forest produce. They number about 10,000. The Kurumbas of Mysore who are shepherds and the Kurumbas of the Nilgiris are all considered to be the descendants of the Pallava Kurumborai who were scattered after their defeat by the Chola Adondai in the 8th century. The Kurumbas are who make their own flutes. Their hamlets are called Kombai or sheep folds. These facts are reminiscent of their sheep farming like the Mysore Kurumbas. The Kurumbas have exogamous clans. Their clan chiefs are called Mudalis whose succession is both hereditary and by election. The Kurumbas used to be employed as watchmen of a group of Badage village under the kaval system. Among the interesting customs of this tribe is marriage by service with the bride's parents.

Most Ancient Inhabitants

The Kadar of the Anamalais in Coimbatore are the most ancient inhabitants of this land. Their population of about 600 is fast dwindling. The Kadar are dark coloured and short in stature and have stout and muscular bodies, frizzly hair, broad flat noses and thick everted lips. They speak a dialect of Tamil. They know no agriculture,

nor do they have any domestic animals except the dog. They collect honey and other forest produce, are good at tracking elephants and are expert tree climbers. They live in rectangular huts in small hamlets. They have some quaint social customs. Men and women have their front teeth chipped or filed into pointed cones when they come of age. Every man has to make an ornamental carved bamboo comb and present it to his wife on marriage and she wears it in her back hair. A man must not see or address his mother-in-law nor could she do likewise. This custom is called mother-in-law avoidance.

Malasars of the Anamalais

The Malasar or Malayar of the Anamalais of Coimbatore are very much like the Kadar, both in being short in stature and dark coloured and Australoid in physical type. They speak a Tamil dialect and their population is about 10,000. They work on plantations and are good at tracking and training elephants. They live in small hamlets called *padi unna*. Their headmen or *mooppans*. They have two divisions among them, the Nattu Malayar who observes Marumakkathayam and the Kongu Malayar who observes Makkathayam. The headman allots them work in their landlord's fields, settle disputes and presides at marriage and other festivals. Malasars worship village gods and observe rural customs.

A Tribe of Hunters

The Mudugar or Mudugar are a tribe of Coimbatore, Madurai and Kerala. Their population is about 3,000. They are mostly hunters and shifting cultivators. They

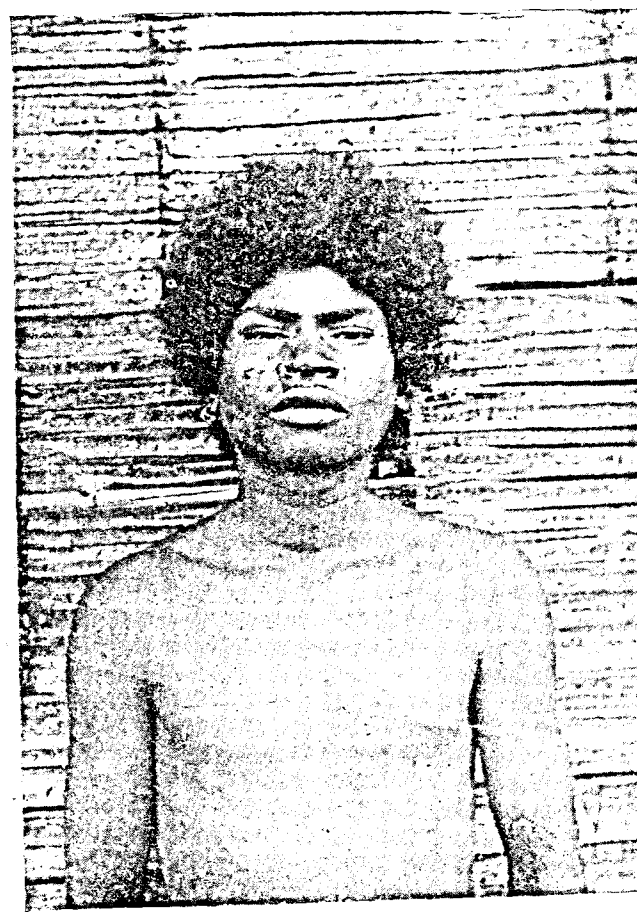


A family of Mudugas in Coimbatore district

work in forest reservations. They speak an archaic form of Tamil. Thus they say *Al'an* (அன்) for husband, and *Pendu* (பெண்டு) for wife. The Mudugars have a tradition that they carried Meenakshi of Madurai on their backs to Neriya-mangalam. Their hamlets are on elevated places where they build about 15 to 20 rectangular houses. Each village has a headman or *Mooppan* who is assisted by three village officers called *Kurudalai*, *Bandari* and *Mankaran*. The Mudugars worship Hindu gods. Besides hill cultivation and hunting, they catch rats with bow traps and fish with blow pipes and darts. The bill hook is the chief tool of the Muduga. Their women are shy and timid.

Jungle Tribes of Coimbatore

The Uralis and Sholagas are jungle tribes resembling the Irular of the Nilgiris. They live in the hill ranges of Coimbatore and their population is about 4,000. They speak a dialect of Tamil mixed with Kannada. They are employed as forest labourers. They have had many settlements allotted to them in the reserve forest areas. The headman called 'yejmana' has three village officers *Pattakara*, *Gowda* and *Kolkara* to assist him. Their



A young man belonging to the Kadar Tribe

social customs have been influenced much by rural practices. They observe Hindu festivals and worship Hindu gods. They have a tradition of descent from two brothers, *Biliayya*, the ancestor of the Uralis and *Karayya*, the ancestor of the Sholagas. But the two groups do not intermarry. The Uralis and Sholagas collect forest produce besides doing hill cultivation and farming.

Hill Tribes of Salem and Tiruchi

The Malayalis inhabit the Shevaroy and Kolli hills of Salem, the Pachaimalais of Tiruchi, the Kalrayan hills of South Arcot and the Javadi hills of North Arcot. They number about 60,000 and come under three divisions, *Periya Malayalis* of Shevaroy and *Kalrayan*, *Kolli Malayalis* and the *Pachai Malayalis* of Musiri. They speak Tamil and have traditions of having migrated from Kancheepuram, though in dress and some of their customs they resemble the people of Kerala. The *Kolli Malayalis* wear only white cloths. The *Pachai Malayalis* are tattooed and wear coloured cloths. The Malayalis are an agricultural people and are employed in plantations and in forest labour. They take to both hill cultivation as wet cultivation. Their social organization is patriarchal though the women enjoy considerable freedom. The headman or *Ur Goundan* is hereditary village chief and has a number of clan chiefs called *Karakkarar* to assist him. They worship Hindu gods and observe Hindu festivals. The Malayalis consider themselves a very superior caste and call themselves *Vellalas* and have the title of *Goundan* and at the same time are economically backward lacking most of the amenities of civilization as their habitats are not easily accessible.

The Mukkulathar

The Kallar, Maravar and Agamudayar are three very proud communities of Southern Tamil Nad known as *Mukkulathar*. Many rajahs and zamindars of the south pride themselves on their Kalla or Marava ancestry. Thus the Rajah of Pudukkottai belongs to the *Anthonathu Kallar*. Though landed proprietors, the Kallars have had throughout the past a notorious record of cattle lifting and highway robbery as their land is arid and unproductive. The Kallars inhabit Madurai and Thanjavur districts and their population is about 50,000. With the improved irrigational facilities of Thanjavur the Kallar there have settled down as good ryots.

The Kallars have a number of interesting customs. They include a *boom* among their wedding gifts, their women wear horse hair tails, and a man has a right to marry his paternal uncle's daughter. The Kallars are very fond of bull baiting. This pastime they enjoy during the Pongal season.



Irulas gathering honey

What shall we do with the tribes? Do not detribalise them. Do not treat them as museum pieces. They should progress through their own institutions, arts and crafts. Their material, psychological, religious,

social and cultural aims should always be taken into consideration in arriving at a policy for helping them. There should be no condescension. Administrators, missionaries, and social reformers should not have a patronising attitude towards them. Traders and settlers in tribal areas should not exploit them. In short all outsiders should not ridicule or despise their tribal ways and beliefs. For all this the tribes should be studied with sympathy and understanding. This is best done by an ethnographic survey. The last time when such a survey was carried out in 1894 by Dr. Edgar Thurston, Superintendent of the Madras Government Museum, the survey took eight years at an expense of Rs. 5,000 per year. As a result, Thurston's 'The Castes and Tribes of Southern India', the only work of its kind on the peoples of Southern India, was published in 1909. This classical work is in need of revision. Most of the castes and tribes described therein have undergone remarkable changes in their material culture, ways of life, beliefs and practices. Several of them are undergoing rapid cultural disintegration. The fact that they are small and scattered and are fast merging into other groups makes the problem all the more difficult. What is left of their unique culture has to be recorded for posterity before they disappear completely.



The second long-distance service of the Madras State Transport Department between Madras and Salem was inaugurated on 1st June 1960 by Sri R. Venkataraman, Minister for Industries.

Madras in May 1960

The two important events of the month established Salem as an indispensable link in the industrial pattern of the State. It was in 1942 that the bauxite resources of Sheveroy Hills were discovered and May 1960 saw the licence being issued to a company for commercial exploitation of the ore to make aluminium ingots at the rate of 10,000 metric tonnes per annum. It has been specified in the licence that a third of the annual production by the company to be formed should be of electrolytic type capable of use in making conductors. It is significant that the 'venture capital' for this enterprise has come from the heavily industrialized district of Coimbatore and that the abundance of power needed for the aluminium plant will come by the newly laid out 220 KV transmission line from Kundah, the first such high power line ever laid anywhere in India. The plant is to be located at Mettur which in recent years has been the venue of many small scale industries demanding high industrial skill, thus providing the 'base' for large industries like the aluminium plant to come up.

The Sheveroy bauxite has been adjudged the best in the world for the production of aluminium, the alumina content ranging from 50 per cent in the run-on-mine ore and 60 per cent in picked pieces. At present this bauxite is used only for the manufacture of abrasives. After the establishment of the aluminium plant, it is envisaged that attempts will be made to utilize the bauxite for making refractories. The most important use for the high grade Sheveroy bauxite will occur when India's petroleum industry gets in its stride, as activated bauxite is the best absorbent for petroleum refining. The estimated reserves are about 6 to 7 million tonnes.

Steel Plant at Salem

Ever since the discovery of the Neiveli Lignite the possibility of establishing a steel plant to utilize the Salem iron ores has been foremost in the minds of people in the State. It was the rise in the cost of fuel that killed the iron melting industry of Salem district. So when cheap lignite as fuel came to be discovered in the State, the hopes

The Pay Roll Savings Scheme was inaugurated by Sri Bishnuram Medhi, Governor of Madras, at the Craigmere Estate, Coonoor, on 19th May. Photo shows Mr. Clarke of the Craigmere Estate, where 30,000 labourers work, receiving the first Pay Roll with savings deductions.





Mr. Helmut Rochl, Leader of the Team of Steel Experts from the German Democratic Republic, presented to the Government a report on the possibility of establishing a Steel plant in the State. Photo shows Sri S. Venkateswaran, I.C.S., Chief Secretary to Government, receiving the report from the leader of the team on 20th May 1960.

for starting the industry was entertained. Unlike the bauxite reserves, the Salem iron ore is not of high quality; hence prolonged tests as to the economic feasibility of the industry have been conducted in India at Jamshedpur and in many countries abroad. Making steel from ore containing low percentage of iron content is a new thing to most countries which were consulted; the only country which specializes in this line is the German Democratic Republic (popularly known as East Germany). A team of East German experts toured the State at the invitation of the Government for over a month and this team presented a report in May 1960, to the Government, giving a broad outline for the proposed steel plant. As yet the best news in relation to this industry has been to receive the report that 'it is possible' which is what the East German experts have said. From the 'possible' stage to the 'production' stage is a big leap, involving many considerations. The stage has now been reached that at least for the sake of economic utilization of the Neiveli Lignite the Salem steel plant will have to come up soon enough. The estimated iron ore reserves of the district are 300 million tonnes, located in the Kanjamalai and Tirtamalai deposits.

The Cinchona department took what must have been a decision which can only be characterised as a 'wrench'; for, it decided to reduce the acreage under Cinchona from the present extent of 9,600 acres to 8,000 acres. While the decision to reduce the acreage under cinchona was not an easy one by itself what to raise on the areas so released became quite a problem. The Cinchona department had

devoted a good deal of care to develop the areas and any of the commercial crops like coffee or tea would come up very well in these areas and may also be a paying proposition, earning valuable foreign exchange at the same time. But the need for providing the industrial raw materials is greater. It has, therefore, been left to the Director of Industries and Commerce to submit concrete proposals in the light of the Techno-Economic Survey to advise what plantations to raise in 1,000 acres in Anamallais area released from Cinchona.

Bamboo Plantations

The Government are definitely committed to the view that growing industrial raw materials will give far greater indirect returns by way of growth of industries, increase of employment opportunities and income from sales-tax. Orthodox departmental view is also loth to the conversion of areas which were good forests and forest plantations to merely an extension of the area under commercial crop and that too by private enterprise, as only private enterprise can take up tea plantations. There is a distinct possibility that the whole area may be planted with bamboos in view of the shortage of bamboos in this State. But before this can be done experiments with certain high altitude types of bamboos obtaining in Assam and West Bengal will have to be carried out on site. If these experiments prove successful, a factory will also be established at site to reduce the bamboo to pulp, and save on the cost of transport.

While the ultimate disposal of the 1,000 acres available in the Anamallais area of the Cinchona plantations, is still under consideration, there is no such doubt about the 500 odd acres available in Cherangode division of Nilgiris. A large chunk of this area comprising nearly 325 acres is to be used for raising coffee with the advice of the Coffee Board, by the Cinchona department.

New Thinking

All this new thinking about the extent of our cinchona plantations is the result of putting the department to a severe test of proving itself remunerative. With quinine losing its place as the remedy for malaria and malaria itself being on the decline, in India, the department has been facing heavy weather to prove itself profitable. In recent years the department has embarked on large-scale cultivation and distillation of a number of medicinal and essential oil-yielding plants. In fact such good work has been done in this new activity that the research schemes on medicinal and essential oil plants of the Indian Council of Agricultural Research and the Central Indian Medicinal Plants Organization have been entrusted to the Cinchona department. The latest success of the department is in raising menthol and extraction of mint oil therefrom. Species of this

plant were obtained from Japan which country, till now, has been holding the world monopoly in this line. Different strains are being observed under plantation conditions. Rawolfia Serpentina, the famous medicinal herb for blood pressure, is also being grown by the Cinchona department. So the exacting standards, particularly in respect of returns, adopted towards this department has borne fruit.

The 9,600 acres of cinchona plantations in the State are spread in the Cherangode division of the Nilgiris and in the Anamallais in the Coimbatore district. There are two Government quinine factories one at Naduvattam in the Nilgiris district and the other at Anamallais in the Coimbatore district. While the factory at Naduvattam manufactures quinine for the Government of Madras, the Anamallais factory manufactures quinine on Government of India account, transferring quinine stocks to the Government of India Medical Stores Depot at Madras. Moreover the Anamallais factory is an experiment to prove the worth of the Russian method of cinchona plantation undertaken in the Anamallais area on behalf of the Government of India. During the year 1958-59 the Naduvattam factory processed 9.03 lb. of cinchona bark and produced 18,139 lb. of quinine sulphate and 14,594 lb. of Cinchona febrifuge.

State Transport MADRAS CITY

The fleet strength during the month of April 1960 was 484.

Operating statistics—

	April 1960.		March 1960.		April 1959.	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Average number of buses operated—						
(a) Working days	343	331	314	308	323	327
(b) Holiday	291	292	269	285	279	303
Total collection	Rs. 16,88,319		Rs. 16,74,289		Rs. 15,23,184	
Total mileage	1,233,430		1,191,696		111,384	
Total passengers	12,669,202		12,558,961		11,853,608	

KANYAKUMARI BRANCH

The fleet strength during April 1960 was 88 and an average number of 63 buses was operated daily.

The buses brought in a total monthly collection of Rs. 3,12,57,879 after running 3,054,207 miles. Specials brought in Rs. 58,896.



Sri Ranga Raj

Gallant Officer Who Laid his Life At the Altar of Duty

Whenever we hear the frantic clanging of bells which announces the movement of the Fire-brigade, we just say 'Ah, there is another fire' and then forget about it. The newspapers carry a bit of a news item on the morrow and that is the end of it.

Little do we know of the risk taken by the brave men wearing the fire helmets who fight the flames and rescue life and property. There have been many instances of these men of action losing their lives in the effort to save their fellow citizens. These unsung heroes go down fighting and the world knows little of what has happened. Sub-Officer C. Ranga Raj is one of these brave men who laid down their lives at the altar of duty. Sri Ranga Raj was attached to the Fire Brigade at Cuddalore in the South Arcot district.

At noon on 24th May 1960, a fire broke out in a thatched house in Hawkers Lane, Manjakuppam, Cuddalore. The fire units of Cuddalore fire station attended to the fire.

Sub-Officer Ranga Raj while engaged in fighting the fire was trapped inside the house due to the sudden collapse of the burning roof and was burnt to death, all attempts made to rescue him alive having failed. The body was brought to his residence at Madras. The Inspector-General of Police and senior Officers of the Madras Fire Service visited the residence of the late Sub-Officer and offered their sympathy to the members of the bereaved family. The body was buried on 25th May 1960 with service honours.

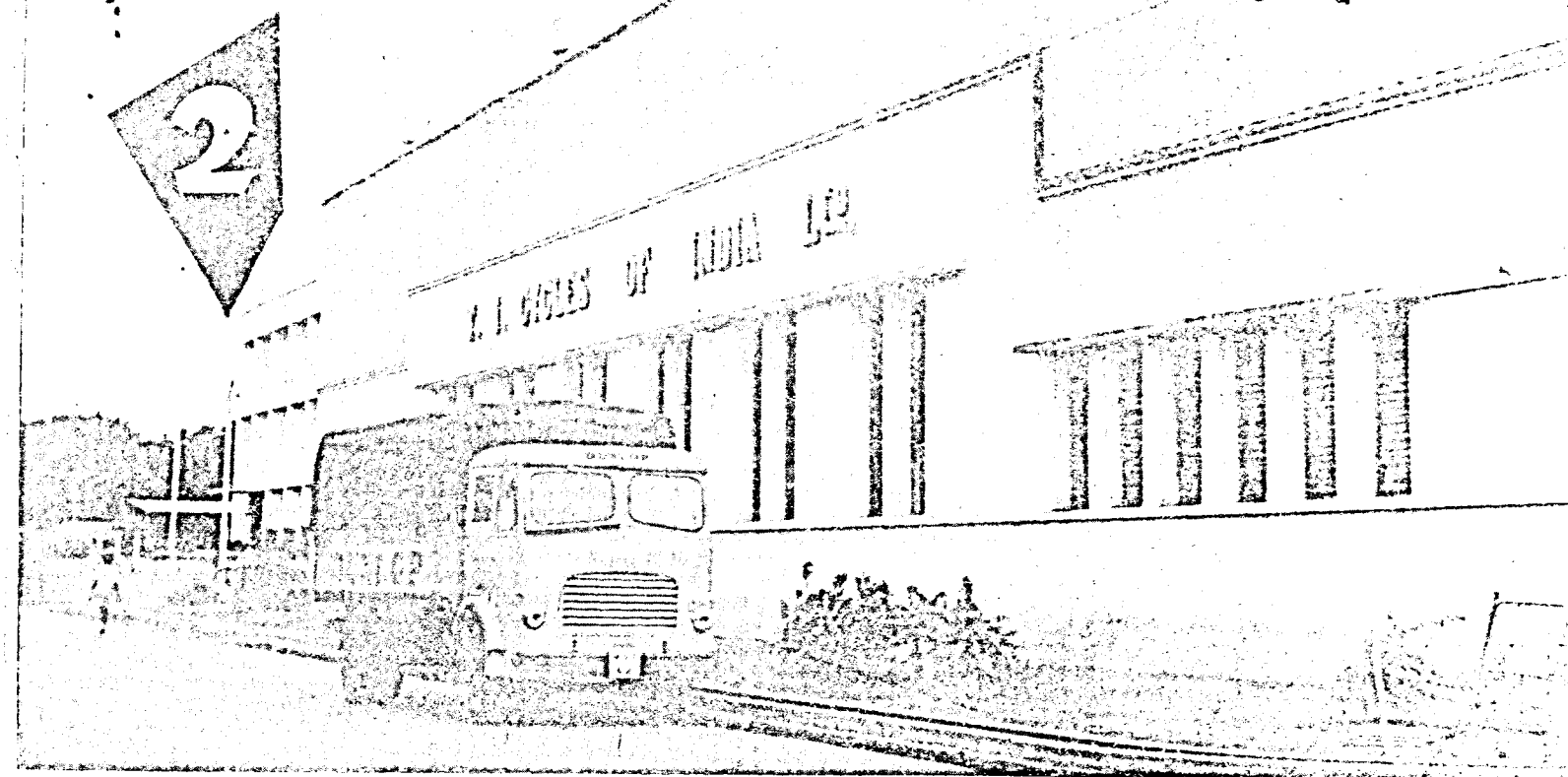
The late Sub-Officer Ranga Raj was aged 38 years and had put in a service of about 19 years in the Fire Service department where he began his career as a Fireman and rose to the rank of Sub-Officer.

This is one of the many instances of bravery shown by our gallant fire fighters.

May his soul rest in peace!

INDUSTRIES ¹⁰²

IN THE PRIVATE SECTOR



T.I. Cycles of India, Limited

"A cycle is better than a horse, an elephant or a motor as it does not need any food or petrol. It is better than hiking as it is a swift means of transport and costs little for upkeep. To a man, a cycle is like his wife and to a woman like her husband, but while the husband may be despotic and the wife may be nagging, the advantage of a cycle is that it does not speak". It ideally caters for the needs of the common man and hence the Government of India left no stone unturned to give a fillip to the bicycle industry which comes under the category of light engineering industries. Before the attainment of independence, this industry received but Cinderella-like treatment from the hands of the foreign government in our land as most other industries did. But with the advent of freedom, this industry has made extraordinarily rapid strides.

Records are not available to show when cycles were first pressed into service in our country. There is however evidence to indicate that Bombay had cycling clubs, with a good number of enthusiasts, in the last decade of the last century. There is also a photograph taken in 1899 which shows the members of the Dharwar Cycling Club in typical Victorian costumes. From the little amount of evidence that we now have, we can safely infer that India saw cycles in the ninety's of the nineteenth century.

However the history of the cycle industry as such commenced only in 1925 when cycles with the brand of "Swan" were manufactured by some South India pioneers of Madras with the help of German technicians. But it ceased to function after a time owing to the adverse circumstances that obtained then.

The beginnings of bicycle industry proper could be said to have been made only between 1938 and 1941, when three important bicycle manufacturing Units, viz., the India Cycle Manufacturing Company, Limited, Calcutta, the Hindustan Bicycle Manufacturing and Industrial Corporation, Limited, Patna, and Hind Cycles, Limited, Bombay, came into existence. However only Hind Cycles, Limited withstood the impacts of war and trials of time and emerged as a manufacturer of cycles in the real sense of the term, while India Cycles, Calcutta, bestowed their attention on the making of cycle accessories like bells, lamps, etc., and the Hindustan Bicycle Manufacturing and Industrial Corporation, Limited, Patna, remained static for a considerable time.

Tariff Board's Recommendations

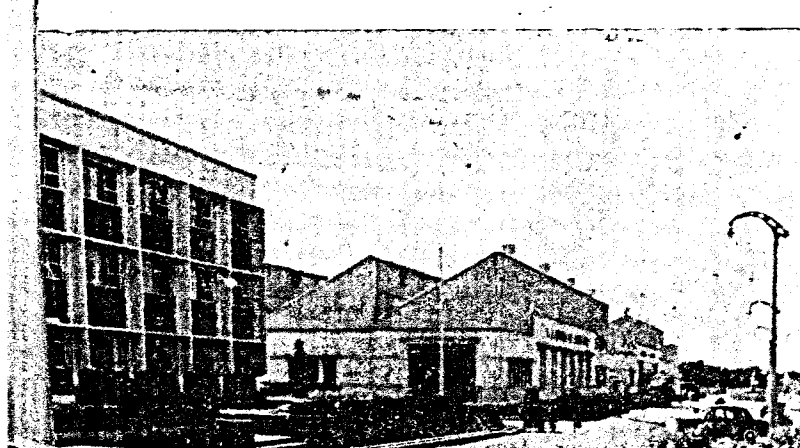
The first Tariff Board constituted in 1946 saw the state of this indigenous industry and recommended to the Government to accord protection to it. The Second Tariff Board in 1949 also did the same. The Government heeded their recommendations. Consequently the industry has been recording steady progress from 1947 onwards.

The Tariff Board stressed the poor quality of the Indian made cycles and pointed out that it was due to the lack of required specifications in the raw materials that went into the production of cycles and to the deficiency of precision tools and technical skill in manipulating them. The industry felt that it could not reach the high pitch of perfection in the production of cycles if it did not collaborate with the foreign manufacturers who had behind them rich experience and technical dexterity gained through years and years. The stupendous potentialities of foreign collaboration were realized by them in no time.

Foreign Collaboration

To the industry which was in such a position of pathetic plight came indeed as an amulet the epoch-making announcement of the Government of India in 1949 widely welcoming foreign capital participation in our land to

View of Administrative Block and three Factory Units



Inside the Lusy factory

accelerate the pace of industrialization, which tended to act also as a spur to foreign capital's wholehearted association with the Indian business for mutual benefit.

It is in this happy context that three new cycle units were offered permission to establish manufacturing plants. They were regionally well distributed: T.I. Cycles of India, Limited at Ambattur near Madras, Sen-Raleigh Industries, Limited at Asansol near Calcutta and Atlas Cycles Industries, Limited at Sonapat near Delhi. Of these, the first two have powerful foreign collaboration and the third has sought only the help of foreign technicians. T.I. Cycles are closely associated with and have the active support of one of the world's renowned cycle manufacturers, the Hercules Cycle and Motor Company, Limited, Birmingham and the leading designers and the largest producers of all kinds of steel tubes, the Tube Investments, Limited, United Kingdom. Sen-Raleigh Industries, Limited are associated with the well-known firm-Raleigh Industries, Limited, Nottingham.

Factory at Ambattur

The factory is situated at Ambattur, about eleven miles from the City of Madras, amidst healthy surroundings and in an open area of about 55 acres. It now consists of two units, namely, the main building for the manufacture and assembly of complete bicycles and the subsidiary unit for the manufacture of bicycle components. The first assembly unit was formally opened on 26th September 1951 by His Excellency the Maharaja of Bhavanagar, the then Governor of Madras. The second components unit was declared open by His Highness, the Maharaja of Mysore, on 29th January 1954.

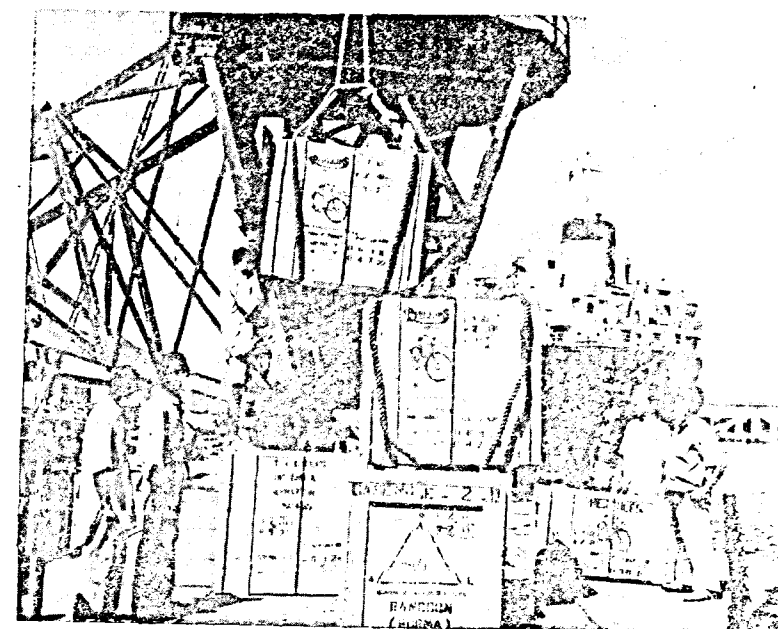
The first unit started with all the manufacturing processes of making frames, forks, chain stays and seat stays as also the finishing processes of enamelling, plating, etc. In the initial stage, the completion of assembly of cycles was largely done with imported components to ensure quality. In 1952 the imported components in a cycle produced in this factory comprised 83.87 per cent. Gradually this has been reduced as local skill gathered competence and more

and more parts were manufactured in Ambattur. While the imported component in a cycle represented 38.37 per cent in 1957, it was only 28.45 per cent in 1959.

The factory employed 283 people in 1952 which rose to 905 in 1955 and 1,682 in 1959. The production of cycles has made steady progress. 36,790 cycles were produced in 1952. The figure rose to 89,041 in 1955, 129,922 in 1956 and 200,676 in 1959.

The factory has begun exporting cycles to Burma since October 1959. So far 280 cycles have been exported to Burma. It is likely to export to the Middle East shortly.

There was of course a prejudice in the minds of the people against the Indian-made cycles. But this was nothing but a bluff and the bluff was called in no time. The Indian product is now bought not because of its lower price and the imported ones are scarce but intrinsically due to its improved quality not a little as a result of foreign collaboration. The cycles manufactured at Ambattur were known by the trade mark "Hercules-India" only till April 1955 when it was changed into "Hercules", the world famous trade mark because by then it had reached the high standard of technical perfection, superior strength and other qualities of excellence which go with the name of "Hercules" manufactured in Birmingham.

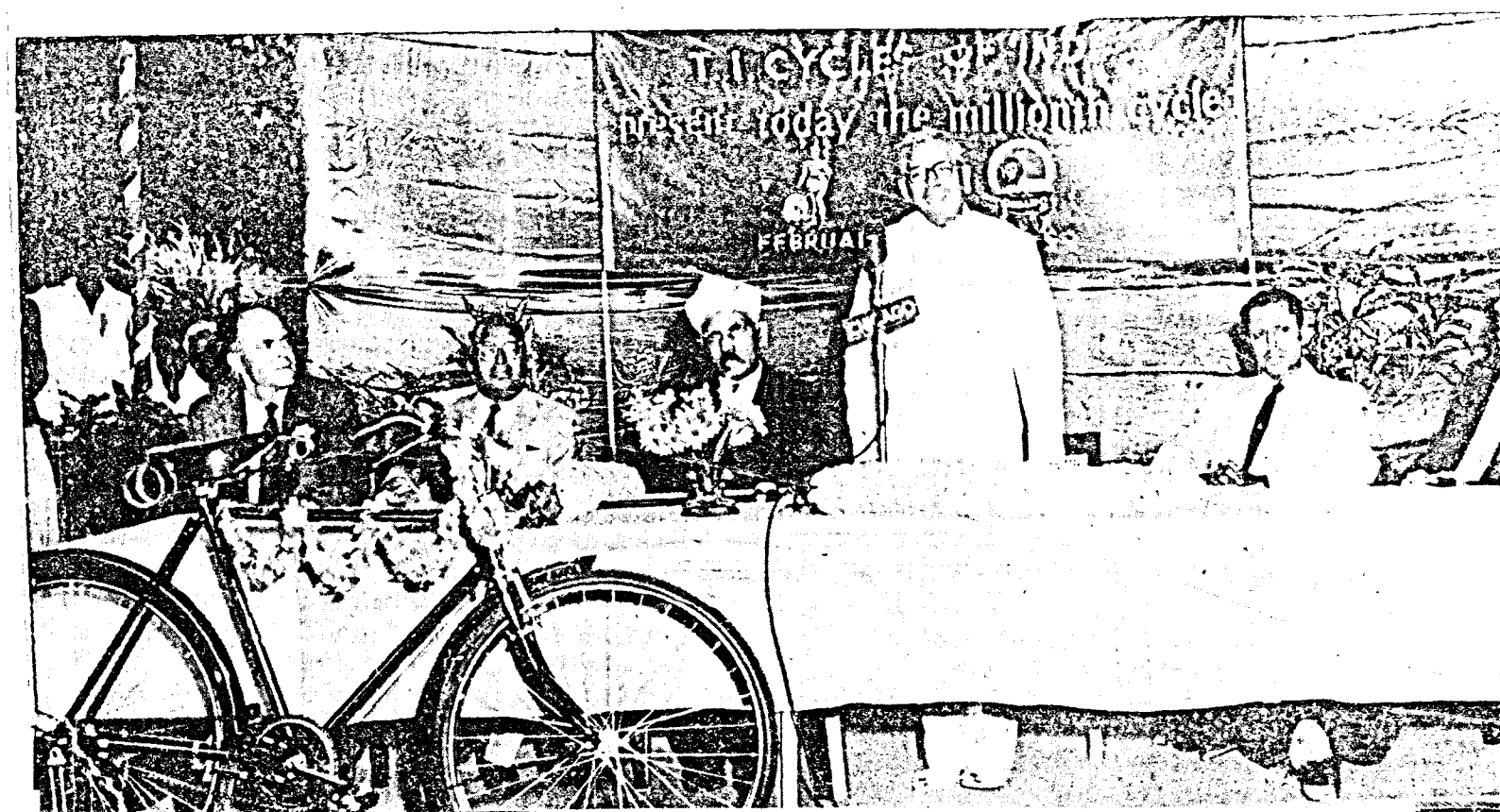


View of the first consignment of Hercules and Phillips Bicycles being shipped to Burma. T.I. Cycles of India are now exporting cycles to Burma and Egypt.

Phillips Cycles

The T.I. Cycles have now begun producing the famous Phillips Cycle in association with Messrs. J.A. Phillips and Company Limited, Birmingham, a subsidiary of Tube Investments Limited, United Kingdom, and have also entered into an agreement with Brampton Fittings Limited,

At the celebration of the production of the Millionth Cycle in eight years Sri R. Venkataraman, Minister-in-Charge of Industries and Labour, Madras State, presided over the function on the 22nd February 1959.



United Kingdom, another subsidiary of Tube Investments, Limited to manufacture bicycle fittings in their well-known brand name "Brampton". In accordance with their latest expansion programme, two schemes are under implementation, one for the manufacture of bicycles and industrial chains and another for the manufacture of saddles for bicycles under the name of "Wright Saddles of India".

Consequent on the expanded scope of their business, a further change in name became necessary to identify all the manufacturing units under a common administrative system. A formal change in name was therefore effected on September 16, 1959, whereby T.I. Cycles of India Limited now functions in the name of the Tube Investments of India, Limited.

The authorized capital, under the joint ownership of Tube Investments of India, Limited comprising all the units is Rs. 7 crores and the issued capital is Rs. 2.5 crores.

Labour Welfare

The factory at Ambattur has a canteen which is well-equipped. Food and snacks are served at concessional rates. The canteen is entirely run by T.I.C. Co-operative Canteen, Limited. The company has also provided a fine and spacious ground for out-door games and well-equipped premises for indoor games.

Besides the Statutory Provident Fund, there is also an Employees' Co-operative Thrift and Credit Society consisting of 710 members. The Society constitutes thrift deposit and long-term loan schemes to throw succour to the needy members. A scheme for housing the employees is also under way.

Matter of Satisfaction

It is really a matter of gratification that the cycle industry in India has forged ahead remarkably despite difficulties. The total number of bicycles on the road in India is estimated to be about 4.5 million and in 1961 according to the Tariff Commission's estimate this figure is likely to go up to 7 millions. While a few years back bicycles produced in the country were mostly assembled with imported parts, to-day the percentage of imported parts varies from 2 to 5 per cent in value. The quality of Indian cycles has improved to a degree that compares favourably with foreign products. No wonder Indian bicycles are becoming increasingly popular. Bicycle ownership is 12 per 1,000 at present as against 3.5 in 1949. With the implementation of our Five-Year Plans and an increase in the standard of living, the demand for bicycles is bound to go up and the bicycle industry, as Shri Bishamber Das Kapur, President, Cycle Manufacturers' Association of India, says, has a bright future ahead.

Integrated Course in Medicine Abolished

Representations have been received from various organisations for the abolition of the present G.C.I.M. course on the ground that it has proved to be an impediment to the growth of Indian Medicine and that there is no prospect of improving the Indigenous system unless a radical change is brought about in the set up of the College. On the other hand, it is found that the majority of the students join this G.C.I.M., as an alternative to M.B.B.S., attracted by the provision of three years teaching in Modern Medicine and after admission react unfavourably due to frustration and disappointment on account of the lower status conferred on them as compared with the M.B.B.S. course. The Government have come to the conclusion that teaching of the two systems of Medicine together to the same set of students should be stopped as it is detrimental to the development of the Indigenous system.

After examining the various suggestions that have been made for the reorganization of the College, in consultation with the Director of Medical Services, the Government have decided that the courses in the College should be reorganized on the following lines:—

- (i) The integrated course now being imparted will be abolished with effect from the academic year 1960-61.
- (ii) Admission from the academic year 1960-61 in the College will be confined to the M.B.B.S. Course only.
- (iii) The existing students of the College will however be provided with facilities to complete their courses of studies on the present basis.
- (iv) Facilities for post-graduate research in Indigenous systems of Medicine will be provided in the College to the maximum possible extent.
- (v) Separate steps for imparting instruction in the Indigenous systems of Medicine, will be explored.

Industrial Plan for Madras

The Techno-Economic Survey of Madras State conducted by the National Council of Applied Economic Research: an attempt to assess the development potential of the State in the context of the availability of resources and other related factors and to suggest on the basis of these findings, appropriate measures to step up the rate of growth of the economy through expansion and diversification of economic activities, so as to raise the standard of living of the people.

Madras State has a relatively diversified pattern of economic activity with a well-developed agriculture, widespread industrial activity and good transport and communication. The characteristic feature of the economy, however, is the high pressure of population on limited resources which has led naturally to severe unemployment, both in the rural and urban areas. The crux of the problem, therefore, is to diversify and expand economic activities in a suitable way so that not only unemployment is reduced to the minimum but new jobs are created at a high technological level so that the average per capita output of Rs. 230 (1956) which is lower than the All-India level of Rs. 261 (1956) is raised.

Future Development Pattern

The development pattern in the future will necessarily be dominated by the growth of industries, as agriculture being already very well-developed, offers very little scope either for increasing productivity or for providing more employment. The advantages the State possesses with respect to industrialization are availability of skilled labour and the aptitude to learn new skills, the existence of many large-scale industries, large population providing a large market and a well-ordered political system. Under-utilization of existing industrial capacity has to be remedied. In order to facilitate and to speed up such industrial expansion, it is necessary to expand transport facilities and the availability of power. Thus, the strategy of action suggested by the National Council is to plan for the co-ordinated expansion of all the three sectors—primary, secondary and tertiary with a definite and deliberate emphasis on the growth of industries.

It is with this development pattern in view, that the programme of action suggested for the next decade (1961-71) is made. It is assumed that Madras State will keep pace with the All-India rate of growth suggested in the Second Plan, i.e., doubling of National income of 1956 by 1971. Taking the capital output ratio to be a little

less than 3:1 suggested for All-India, because of the need of comparatively lower capital investment, both in agriculture and industry, the total investment needed to double the State Income of Rs. 7,300 million in 1956, will be of the order of Rs. 20,000 million. As there is a close resemblance between All-India and Madras in the pattern of economic activity, tertiary income may be assumed to increase at a slightly lower rate than total income (95 per cent, an increase of Rs. 2,780 million), leaving an increase of Rs. 4,500 millions to be obtained from the primary and secondary sectors.

Based on the above analysis of economic growth and the proportion in which the various sectors of economy have important recommendations regarding the development of industry, agriculture and other sectors of the economy

Programme of Industrial Development

According to the Council, the approach to the industrial growth for Madras should include a vigorous programme for the development of large-scale industries. The Council feels that it is the relatively small number of large-scale units in Madras that makes its industrial development compare very unfavourably with Bombay or West Bengal. The establishment of large units will not only serve as a nucleus from which improved technology will spread but also help to develop other ancillary units. In the next five years, the report affirms, Madras can expect to have three such leaders: the Neyveli industrial complex comprising chemical and engineering industry; the Salem complex centred around iron, steel and aluminium industries and the Tuticorin complex based on chemicals and fisheries. The Council has however emphasised that the development of large-scale industries should not be carried out to the exclusion of small-scale industries but rather that both small-scale and large scale industry should grow side by side with the large-scale industry as the base.

Based on an analysis of the availability of mineral resources, skilled labour and existence of a large population which constitutes a growing market for consumer goods, the Council is of the view that emphasis should be laid more on the non-resource based industry. Unlike physical resource industries like textiles, sugar and oil, these industries, according to the Council, will increase income and employment directly and will open up scope for many ancillary industries. The Council therefore recommends both engineering (Metal based) and Chemical industries

specially. The development of a special resource based on consumer goods industries is also important because of their high employment potential.

Engineering Industries

After technical appraisal, the Council has recommended the creation of additional capacity in Madras State for the following engineering goods industries:—

Ball and Roller bearing (one million units); Bolts, nuts and rivets (6,000 tons); Shot and chilled iron (1,000 tons); Tea processing machinery; Power Station equipment; Industrial Gas Cylinders; Industrial blowers; Air Compressors; Machine tools; Diesel Engines; Power Transformers (1 million KVA); Electric fans (1 lakh units) and ACSR conductors (3,000 tons).

In addition to the abovementioned new units, the Council has suggested substantial expansion of capacity in the following engineering industries:—

Bicycles; Machine pipes and tubes; Structural fabrication; Metal containers; Sugar mill machinery; Automobiles and Accessories; Pistons and Piston rings; Power driven pumps; Dry batteries; Storage batteries; Galvanized and barbed wires; Textile machinery; Agricultural tractors and Enamel wares

It has recommended doubling the installed capacity in respect of the following engineering industries:—

Automobiles and trucks; Motor cycles; Vehicular type of diesel engines; Electric motors; Abrasives; Small tools and Distribution transformers.

According to the National Council, one of the weaknesses of the engineering industry in the State is inadequacy of intermediate processing facilities such as foundries and forges. To overcome this obstacle to the growth of engineering industries, the Council has suggested the manufacture of Grey Iron Castings; Malleable Iron Castings; Steel Castings; Steel Forgings; Steel Press Work; Aluminium Castings; Electrical Steel Sheets, Re-rolled steel and Alloy; Tool and Special Steel. The Council considers Salem to be the best location for rolling and re-rolling, Madurai for malleable iron castings and Coimbatore for grey iron castings and for the rest of the above items.

Chemical and Allied Industries

The Council's recommendations in regard to chemical and allied industries include doubling the existing capacity of cement production by 1971 and increasing the installed capacity of the following articles:—

Two thousand tons of domestic and sanitary ware and tiles at Ranipet or Neyveli; 2,000 tons of insulators at Neyveli; 25,000 tons of refractories, 250 tons of carborundum refractories and crucibles at Tirupattur or Salem,

20,000 tons of sheet glass at Salem, 1,000 tons of neutral and Pyrex-glass at Madras and 350 tons of optical glass at Madras. It has suggested that the possibility of manufacture of calcium carbide from carbonised briquettes instead of charcoal and calcium carbonate from lime-stone needs further investigation.

Having regard to the rapid expansion in the country's requirements of caustic soda, the Council recommends doubling the capacity of the two caustic soda plants in Madras (The Mettur Chemicals and the Dhrangadhara Chemicals), giving a total installed capacity of 200 tons per day. The Council considers a soda ash plant (there is no factory producing this at present in the State) to produce 200 tons of soda ash per day very feasible.

Since Madras produces a large quantity of salt, the Council suggests the establishment of a plant for extracting from bittern (the thick liquor left behind after the salt crystals are separated from brine) with an annual capacity of utilizing 60,000 tons of bittern. The first plant with a capacity of 20,000 tons of bittern is recommended to be set up at Tuticorin.

Based on Forest Resources

The most important industrial possibilities based on resources available from the forests are pulp and paper, paper board, hard board, particle board and wattle bark extract. Having regard to the increasing demand for various varieties of paper, the Council is of the view that there is scope for making writing, printing and wrapping paper in the State. Based on the supply of bamboo, wattle, blue-gum and sugarcane bagasse (waste paper as an alternative), a 15,000-ton plant for making wrapping paper at Mettur Dam, a 15,000-ton plant for the manufacture of rayon pulp and paper pulp at Dhanuvasagar, a 25,000-ton plant for making printing and wrapping paper at Nellikuppam or Neyveli and a 6,000-ton plant for paper board are recommended by the Council. With the availability of Urea, formaldehyde and phenol-formaldehyde from domestic sources, two plants for manufacturing particle board, each with an annual capacity of 4,500 tons, could be established at Kodaikanal using wattle bark from the plantations in that area. According to the Council, there is scope for setting up two plants for the manufacture of hard board each with an annual capacity of 6,000 tons at the Nilgiris. To synchronise with the wattle bark from the new wattle plantations, two 4,500-ton annual capacity plants for manufacturing wattle bark extract are recommended by the Council either at the Nilgiris or in Kodaikanal.

In regard to sugar production, the Council recommends an additional capacity of 15,000 tons per day (including 5,000 tons licensed during the second Plan) in 15 plants.

At the present level of sugar production, the Council considers it possible to set up a distillation plant with a capacity for processing 20,000 tons of molasses a year which can supply the necessary raw materials for a plant, each for producing PVC, ethylene, and its derivatives, acetic acid and acetic anhydride. With the expansion of sugar industry, further scope for the development of these chemical industries will also arise.

The Council recommends the establishment of a plant for producing gelatine to supply the proposed raw film factory at Ooty. It suggests a capacity of 5½ tons of ossein and 11 tons of dicalcium phosphate.

The Council considers that in the case of oil crushing, a further capacity for expansion exists, for even at the present level of output it will be possible to establish about 20 solvent extraction plants each with a capacity to process 50 tons of oil seeds per day and 5 plants for crushing cotton seeds with a capacity of 75 tons per day.

The Council recommends a plant to produce high quality hand-made paper from linters which are available from textile mills with a capacity of 90,000 lb. per year.

After a careful examination of the economics of iron and steel production in the State, the Council recommends a capacity of 30,000 tons of pig iron at Salem and Coimbatore and a capacity of 200,000 tons of steel at Salem.

Small-scale Industries

In regard to small-scale industries, the Council is of the view that their importance lies in their large employment potential. But due emphasis needs to be laid on a gradual technological transformation in the industries.

On the basis of an evaluation of the existing resources and demand, the Council recommends a scheme to develop 42 small-scale industries (267 units) with a proposed investment of Rs. 60 million and an employment potential of 11,330. Important among these small-scale Industries are leather goods, fruits and vegetable preservation, confectionaries, hosiery and ready-made garments, Agricultural implements, cycle parts and accessories, scientific instruments, textile mill parts, surgical instruments, radio accessories and parts, automobile parts, sports goods, etc.

The Report also recommends establishment of an Industrial Investment Trust to accept contributions from individuals for investing in profitable enterprises, an Indus-

trial Consultants Organization to make techno-economic evaluations of potential for industrial development and a consortium of various financial agencies to give financial help to new undertakings.

Agriculture

Agriculture still being the most important occupation, contributing 45 per cent to State Income and engaging 60 per cent of total working force in 1956, it has to be developed to the maximum extent possible. Its development is crucial in two ways: (1) It has to feed not only the additional 12 million mouths in 1971 but also the increasing demand for food arising from the growing urbanization. (2) It has to provide the raw materials for a number of consumer goods industries like textiles, sugar, and vegetable oils whose growth is a *sine qua non* for providing employment to many. But the highly-developed nature of agriculture with large area under irrigation and improved practices, offers little scope for further development except through more intensive cultivation. Changing the crop pattern to raise more of the high-value crops will also become necessary in future to bear the increasing cost of irrigation by the end of the IV Plan when the State would have tapped all its water resources. Various developmental measures taken in 1956-71 (like use of improved seed, plant protection, etc.), is expected to raise the value of agricultural output by 27 per cent. Income from other primary activities like mining, fishing, animal husbandry, is also expected to grow more rapidly. In all, additional net primary output in 1971 may be Rs. 2,150 million, i.e., 65 per cent over 1956-57.

Demand and Supply of Power

The improvement of the transport and power position becomes very necessary if the industrial programme recommended by the Council is to be successfully carried out. The power bottleneck poses a serious problem. The Council believes that for a State like Madras, power policy should be based upon creating surplus power rather than merely be content with catching up its demand. The Council is of the view that notwithstanding the rapid generation of power in the III Plan, there is every possibility of a continuing and recurring deficit in power supply. Madras would start the III Plan with a heavy deficit of power and with a very large unsatisfied demand, the extent of which has been estimated at about 2,230 million units. At the end of the III Plan, this deficit seems likely to continue in the same magnitude. According to the Council, the demand for power would increase from 3,232 million units in 1959-60 to 4,776 million units in 1960-61 and to 9,513 million units in 1965-66. In other words, the total demand will double itself in five years between 1960-61 and 1965-66. The development of power contemplated by the Madras State Electricity Board

during the Third Plan, i.e., from the present installed capacity of 530,000 KW to about 1 million KW excluding the 300,000 KW which Neyveli is expected to make available will just enable the Madras Government to meet the additional requirements which arise out of the development of agriculture, industry, transport and so on. Unfortunately, even this rapid development may not enable the State Government to remove the present restrictions which are the result of deficit to the extent of 2,230 million units. The Council is of the view that the Government have to solve the problem of meeting its power requirements by further investment in the Third Plan, if possible, and by seeking to get additional power from the neighbouring States, or by establishing a nuclear power station in the near future.

Development of Transport Facilities

Transport facilities in Madras need to be strengthened very much in future because of the necessity to import many raw materials, coal, iron and steel to feed the non-resource based industries and also because industrial output from Madras is destined for markets all over India and outside India as well. The most important consideration is the physical availability and on time and regularity of the raw materials and semi-finished products required by industry. The objectives to be kept in view in expanding and improving the transport system are: (1) Improvement in railways particularly by strengthening the construction and eliminating breaks in gauges to provide cheaper access to semi-finished products of other States. The line expansion, (2) Road construction and improvement of bridges to facilitate distribution of manufactured products to the North India markets and (3) construction, modernization and improvement of port facilities for both coastal and overseas maritime traffic. The report recommends an investment outlay of Rs. 3,500 million for transport development for the period 1955-61.

The important problem being unemployment, the emphasis in all the developmental measures should be to open up as much of opportunities for new jobs as possible. It is found that the addition to man-power supply during

the next 15 years will be of the order of 2.8 millions. The new jobs created during the same period if the proposed outlay of Rs. 20,000 million is invested, will be around 2 million. It is clear that the problem will continue to plague the economy even after 1971.

This vast development effort calls for planned needs, proper allocation of resources, correct phasing of expenditure, and co-ordination of development in all the sectors. This requires a careful study of the existing resources and improvement in planning techniques. The State Government must play a dominant role in promoting economic development not only by extending all facilities to private sector which has a crucial role to play in the future but imposing on itself many activities which will strengthen the overhead facilities and provide a base of quick industrial growth. A State Development Agency has been suggested by the Council for co-ordinating the efforts of different departments, for disseminating information and giving guidance.

Future Programme

The programme of development envisaged during the next ten years in this report may now be summarised.

	Investment in million rupees.
Primary sector	2,000
Industry	5,000
Transport	3,500
Power	1,500
Housing, Education and Health.	8,000
Total	20,000

It is expected that the value of net output will go up from Rs. 7,300 million to Rs. 14,720 million and that per capita income would go up from Rs. 230 to Rs. 365 in 1971. The average productivity per worker is expected to go up from Rs. 1,000 to Rs. 1,700. This investment would create about 2 million additional jobs. It is believed that by 1971, Madras will be able to secure a substantial increase in the standard of living of its people and that the economy will generate a sufficient volume of savings so as to sustain a fairly high rate of economic growth.

Tuticorin Pearl Fishery

SRI V. D. SPURGEON, Deputy Director of Fisheries (Marine)

During the Pearl Fishing season, Tuticorin is a very busy town. Daily the boom of three guns is heard throughout the town in the small hours of dawn. Loud speakers announce the departure of 1,560 skilled deep-sea divers in 160 canoes from the shores of Tuticorin to the deep sea 20 miles off the town. They go in search of pearls that lie buried 60 feet under the blue-green waters and hidden inside tiny shells of living animals called *Muthu Sippi* or Oysters.

In north-eastern end of Tuticorin, lies what is called the "Pearl Fishery Camp". Pearl Bazaar is busy in the camp till midnight and oysters are sold and packed in gunnies throughout the night. In the pearl fishery camp there are pearl shops, police station, medical and health units, etc. Sale of oysters and pearls keeps the place lively.

Best in the World

Pearl fisheries are very rare in the whole world today. In 140 millions of square miles of sea, pearl fishery is conducted in only four places. They are in Bahrein in Persian Gulf, Mannar in Ceylon, Tuticorin in India and Tokyo in Japan. Thus Tuticorin is one of the four rare places in the world where pearls are obtained. Tuticorin pearls are the best and they are exported to all countries in the world. A French National has settled in Tuticorin in order to buy and export Tuticorin pearls to France. The bungalow he has built here is named as "Muthu Vilas."

Pearls are manufactured only by Mother Nature, and buried deep in her bosom. Man with his ingenuity goes in quest of the hidden treasures and brings them to the land. These hard-won trophies adorn women the world over. Kings and Queens in days of yore bedecked themselves with pearls. In crowns, necklaces, arm-bands, ear-drops, pendants, rings, amulets and waist-bands pearls find a proud place. Today pearls are part and parcel of aristocratic life and the valued possession of the opulent.

How a Pearl is Formed

Mother Nature produces beautiful pearls through her agent, the lowly and ugly looking creature called oyster. Oysters are bivalves and they live in the deep banks in the sea. These double-shelled animals are soft bodied and

are easily perishable but for the two hard shells that protect them. So soft and delicate are they that when sand particles or parasites get accidentally into the fleshy matter, they are easily irritated and annoyed. They have no hands or arms to pick and throw them out of their shells. But Nature has endowed them with the faculty of quickly secreting a fluid called *nacre* to absorb the sand particle or worms. The *nacre* accidentally shines. The fluid accumulates round the sand particle and the hardened fluid is lustrous and brilliant. This is the pearl. Pearl is therefore nothing more than the beautiful scar that remains of the unpleasant wound that was inflicted by sand and parasites! Unlike human beings who bear vengeance towards wrong-doers for long, the pearl oyster coats up the wrong-doer with lustrous *nacre* and soon forgives and forgets! Man dives deep into water and brings them to land. The jeweller sets them in gold. Women wear them after paying fancy prices for them. The poor diver earns his wages, the Government its revenue the merchant his profit, the jeweller his share and woman gets her beauty enhanced and man in turn appreciates her!

An Arduous and Risky Job

All this sounds exhilarating but pearl fishing is an arduous and risky job. To hold one's breath and to quickly descend down a depth of 10 fathoms (60 feet) and to crawl on the sea-bed, to spot oysters 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 job. Besides, the huge column of water above will be exerting a terrific pressure on the diver's body. You will be interested to know that the pressure on the sea surface is 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 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 due to asphyxia. Such expert Oyster divers are called *Kuzhial* in Tamil, usually a *Kuzhial* is a robust

Khadi—Sales Report for April 1960

The various Khadi Centres of the Department of Khadi of the Madras Government produced 451,372.62 yards Khadi, valued at Rs. 12,01,230-12 nP. in the month of April 1960.

During the month, wholesale and retail sales through the Government Khadi Sales Depots and other agencies are 106,609-10 yards, valued at Rs. 3,37,606-49 nP.

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 population of divers dwindled to an alarming extent some time ago. But on account of handsome wages earned in pearl fishing, there is a great influx of divers from all parts of east coast and west coast of Kanyakumari district and since then the divers have increased to 1,500 in this year's pearl fishing operations.

Daily Routine

All divers assemble at 5 a.m. at the quay when they hear time-gun signal. Officers on the beach issue permits and the canoes spread out their picturesque sails and all go out in beautiful formation. Usually a morning breeze carries the canoes at a speed of three to five knots towards the fishing spot. When there is no wind, the Fisheries Department arranges a free and quicker towage through the Departmental and hired motor launches.

To know the direction in the high seas when the landmarks are totally out of sight and to reach a particular bank where oysters are plenty is not an easy job. A good deal of nautical and navigation knowledge is essential. The diver who is illiterate has his own rule-of-thumb method in locating fishing grounds. One would be surprised to see a diver reaching the same spot, miles and miles 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. The *Paramandadi* sails ahead of other canoes and stops at a place suitable for diving. The Oyster grounds are marked by means of red flags tied to long bamboo poles to help in easily locating the spot the next day even without the help of *Paramandadi*.

Naked Diving

Divers reach the fishing spot by 10 a.m. The majority of the divers being Catholic Christians, they offer a word of prayer before exposing themselves to the 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, pulled down by the weight of 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 a depth of sixty feet in search of brown clusters 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 ninety 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 a depth of ten feet. He appears like 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.

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 1,500 divers which means that they literally comb the sea-bottom for shells. Among the Travancore Malayalees, the Mohammedans from Ramana-nathapuram and divers from Arabia, the local Parava Christian divers, are the best. The oldest diver is aged 85 years.

Sale of Oysters

In the 1950 pearl fishery a total of 16,428,249 oysters was collected. Of these, 10,952,199 oysters were the Government's share, and the Government sold its share for Rs. 8,00,568.22 nP. In 1960, of the total catch of 15,829,261 oysters the Government share was 10,552,841 and they were sold for Rs. 2,15,266.88 nP.

Merchants from far and near flock to buy oysters and pearls. Local people and those from neighbouring districts buy oysters in small numbers and try their luck. Every pearl fishery yields a good lot of costly pearls. Diver's homes are cheerful and 1,500 divers and five times that number of fisher-folk have earned a good living by working as coolies, carrying oysters, washing them in 'Thotties' and doing other sundry jobs.

Pearls from great depths is brought to land and that brings prosperity to the country. Tuticorin is therefore literally a pearl set in the coastal contour map of India.

Khadi—Sales Report for 1959 - 60

From 1st April 1959 to 31st March 1960, 4,266,732.06 yards of Khadi worth Rs. 1,10,78,541.64 were produced by the State Khadi Department through its various agencies and 2,753,746.13 yards worth Rs. 84,70,714.53 nP. were sold.

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Tunnelling

Sri K. S. KUNJITHAPATHAM, B.E., Assistant Engineer, Emerald Camp.

Recently the Kundha Power House was inaugurated by the Prime Minister and a lot is said about this mammoth project and the long tunnels that made it possible. Water is taken to Power Houses through tunnels several miles long, bored through hills and mountains. There are several such long tunnels contemplated in this project and also in the Parambikulam-Aliyar Project. Even though one gets astonished at what they do there it will be more interesting to know what it is and how it is done.

Tunnels are not new to us, nor are we Indians new to the art of tunnelling. Tunnelling is cutting into hills and mountains. The Ellora and the Ajantha caves are there to prove our knowledge in this field from the days of antiquity. Though these caves are the works of men with architectural and artistic taste, the necessity for tunnels now-a-days is only to establish a line of shortest distance between two points on either side of the hills.

The Need

For example, the Western Ghats is a series of hills and mountains and the towns in Madras and Kerala States are to be connected by railways and highways which cross these hills. There are four ways of connecting them.

One is to go up the hill and get down the slope on the other side. As the hills are thousands of feet high and the roads and railways are to be formed with a flat slope, several miles of them are to be formed and maintained.

Another is to follow the foot of the hills till a pass is found and to cross the hills at the lowest place and reach the other side. Here also the length of road to be formed will be very long.

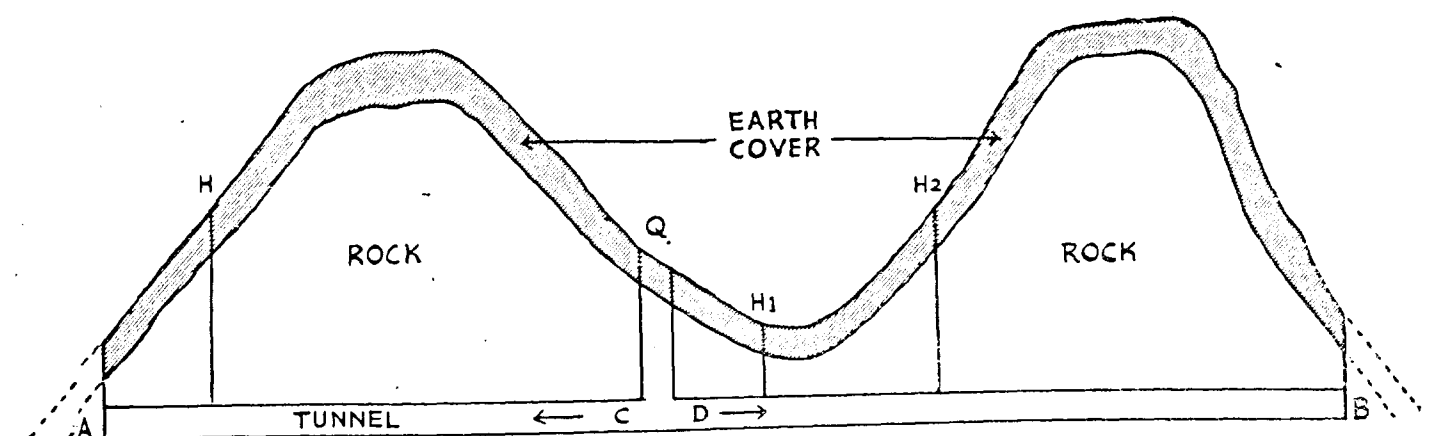
The third alternative is to cut open the hill and bring it to the road level, which is an impossibility.

And the last alternative is to bore through the hill and connect the points on either side of the hills.

Economy of Tunnels

If the length of a tunnel is about two miles, the roads to be formed in the case of circuitous routes will be 20 or 30 miles. Forming highways or railways in ghat section is as difficult as tunnelling and the expenditure for both will be the same. But the recurring expenditure on the maintenance cost will be more in the case of roads than in the case of the tunnel as the length to be maintained is more. Further, the vehicles have to ply 20 to 30 miles in ghat section instead of two miles on a straight road through a tunnel. The extra fuel consumed, wear and tear of tyres and engine parts are a national waste. The time involved in journey will be several times more. The same is the case in railways also. Hence is the necessity for tunnels.

Tunnelling is done for highways, railways, irrigation purposes and for Power projects. The tunnels cut for railways and roads are open tunnels exposed to atmospheric pressure always, whereas the others are tunnels through



which water has to pass under high pressure and they will be subjected to huge pressure from inside. Naturally the design and construction of pressure tunnels present more problems than ordinary tunnels, though the actual tunnelling process is the same. Pressure tunnels for a total length of more than 12 miles are intended to be cut in the Parambikulam-Aliyar Project.

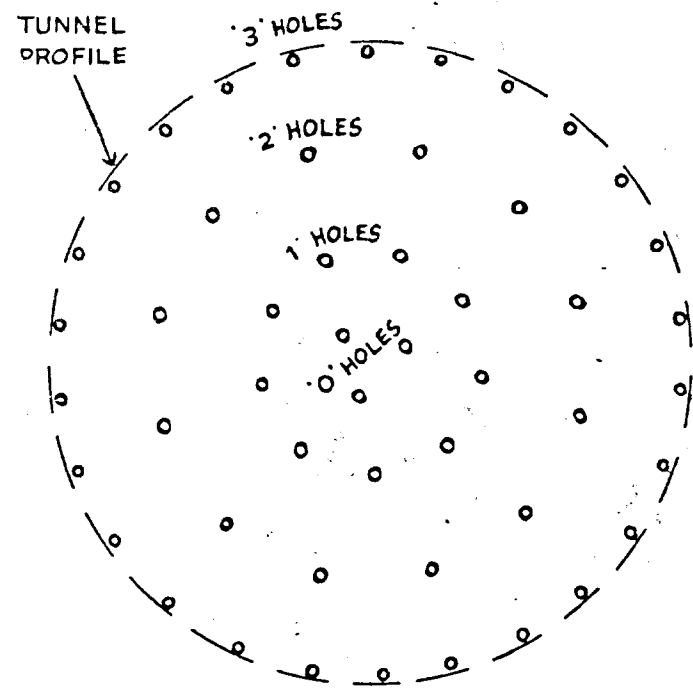
Preliminary Survey

After the two points on either side of the hill are fixed, the line connecting them is marked over the hill and exploratory holes are drilled along this line at intervals, to study the nature and depth of earth and rock over the proposed tunnel. (Please see the illustration.) Over the tunnel there should be enough rock cover (thickness of rock should be sufficient), to support the top earth and if it is a pressure tunnel to withstand the internal water pressure acting upwards. If not, water from inside the tunnel will break open the top surface and come out like artesian wells. In such places the tunnel will be lined with reinforced concrete designed to stand the pressure. The shape of the tunnel section can be anything which suits us—round, oval, semi-circular roof with flat bottom, etc. Usually pressure tunnels in Madras State are in the shape of horse-shoe.

If during the preliminary survey sufficient rock cover of hard quality is not found, which may result in earthslip, etc., during tunnelling and may entail heavy cost in lining the tunnel after boring is over, a slightly different alignment will be tried and the most favourable and economical site will be fixed. During this survey several points will be fixed over the hill slopes along the alignment and the horizontal distances between them starting from one end to the other are to be accurately measured as the same points are to be fixed into the tunnel by horizontal measurements. These points are the only guidance during tunnelling. Measuring horizontal distances in hill slopes is a delicate job which is to be done very accurately and patiently.

Method of Tunnelling

Tunnelling can proceed from both ends. In the vertical rock face, which will be exposed first the shape of the tunnel will be marked and holes will be made within the mark and blasted. This operation has to continue slowly till both the ends meet at the middle. In longer tunnels two working faces are not sufficient. Hence vertical tunnels known as shafts will be cut at suitable places to the floor level of the tunnel. Now tunnelling can be done from four faces, so that tunnel from one end and from the middle will meet at one point and the other end and the middle will meet at another point. This not only quickens the progress but also facilitates the removal of the blasted rock



called muck from the interior of the tunnel. For instance, the muck from the middle has to be conveyed to one of the ends and taken out if no shaft is cut in the middle. Where the rock over the tunnel is very high or where a shaft cannot be cut due to other difficulties, transverse tunnels which are called addits (horizontal or inclined) can be formed and used for the same purpose as shafts.

From both the ends the centre line of the tunnel and floor level will be marked and checked by surveyors as and when the tunnelling proceeds inside.

Operations involved in Tunnelling

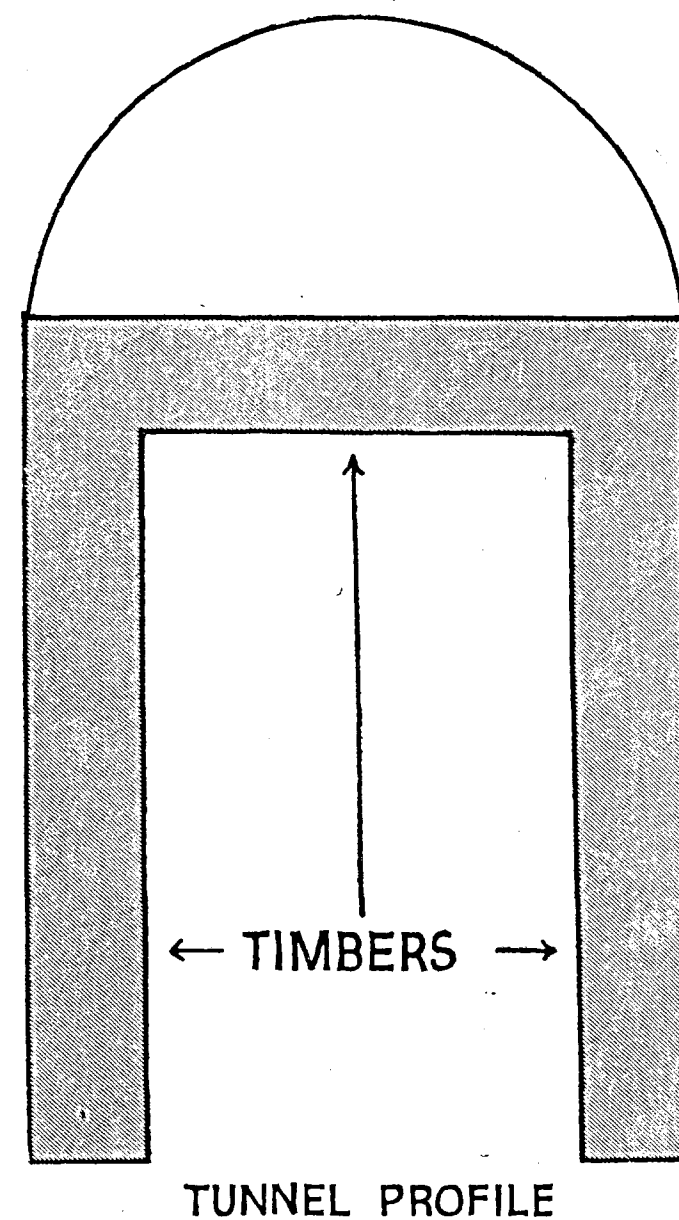
The routine work to be done daily during the process of tunnelling are as follows: The centre line is marked and the floor level is fixed. The profile of the tunnel is marked at the blasting face. The hole positions are indicated along the pattern adopted and holes are drilled. These holes are loaded and blasted. Provisions for proper ventilation and removal of muck are also attended to.

The centre line is marked and the floor level fixed in order to check whether the tunnel is proceeding in the right direction as fixed on the ground originally and that the bottom level is kept up. If there is no proper check in this regard, the tunnelling operations from both the ends will not meet at all, and ultimately we will find two tunnels side by side or one over the other. Hence surveyors will give the alignment carefully with reference to the fixed line on the top ground and give the levels with reference to the Bench marks fixed during preliminary survey.

Whatever shape of profile is decided will be marked on the rock face with paint with reference to the level and alignment given as above to serve as a guidance for drilling further holes and blasting.

Drilling of Holes

We cannot just put a few holes and blast the rock as it may break the rock at random which will be similar neither to the shape of the tunnel nor to the alignment. Effective blasting cannot also be done. So a particular pattern of holes is decided based on experience and adopted. There are several scientific patterns in use. The popular one is the "Burns Cut Pattern" and is adopted in the tunnels in Nilgiris.



The general principle is that blasting should proceed from the centre to the periphery of the profile. In the centre three holes which are called zero holes will be made close to each other and these will be blasted first, making a small depression in the centre. After one second the second series of holes known as "one" holes will be blasted which will widen the pit first formed. Then the "two" holes and "three" holes will be blasted with an interval of one second each which will give shape to the tunnel. In Burns Cut Pattern about 50 holes of 5 feet each are cut for a tunnel with cross sectional area of 100 square feet for one operation and this will give 5 feet of tunnelling in hard rock. For drilling rock, drills are used with tungsten tipped drill rods.

Blasting of Rocks

The drilled holes are cleaned of water and dirt and loaded with gelegnite. In olden days the holes were loaded with gun powder and fuse coil and hand firing was resorted to. Now-a-days electrical detonators with gelegnite are used and electric firing is done. As the holes are to be fired at different times several types of detonators are used such as instantaneous type, delayed action type of one second, two seconds, etc. This is how the different sets of holes are fired at different intervals. All the holes for one operation will be loaded with proper kind of detonators connected in series or in parallel and the connections are tested. Then the leading wires are connected to an exploder and firing is done from a safe distance.

After blasting, the tunnel will be full of smoke and foul gases. As the tunnel in progress will be closed at one end with natural rock, air circulation will not be there. Breathing inside will be impossible and visibility will be very poor. So before men enter for work, the smoke has to be expelled. Large ventilation pipes will be taken from the ends to the working place and fresh air will be sent through them. Exhaust fans will be installed for this purpose. The longer the reach of the tunnel, the more is the time taken to relieve this smoke congestion. So, when the tunnelling has advanced far interior, a series of fans will be used at different intervals. Clearance of this gas and smoke takes several hours.

Removal of Muck

When all gases and smoke are removed and it is safe for men to enter, removal of the blasted rock and debris is started. This is done usually by locos and trucks. Track lines (rails) are laid on the floor and loaded tip trucks are hauled by locos. The loading of the trucks will be done by men or mechanised shovels. This is

done in the horizontal reaches of the tunnels. If muck is removed through shafts, trucks are brought up to shafts and pushed into cages, lifted by electric winch to the top and unloaded there. The emptied truck is brought down by the same cage. Hand mucking by head load is out of date now. After the muck is removed, the second rotation of the same operations starts. One set of such operations will complete about 5 feet of tunnelling and the time taken will be about 15 to 18 hours. As tunnel work always goes on round the clock, three sets of operations can be done in two days.

This is a very delicate and difficult process which warrants great care and skill in operating the instruments. When once you enter a tunnel you will be completely cut out from the external atmosphere and will not know where you stand with reference to the outside landscape. You have only to rely on your theodolite and tape, just as a captain of a ship relies on his compass in the midst of the sea. Any unexpected danger may happen if the alignment of a tunnel is changed by mistake from the one decided already by survey. No one will know what the soil and rock conditions are in those places. Solely with the help of engineering instruments and having confidence in his engineering knowledge, an engineer ventures to start the tunnelling work. His accuracy is to be seen and appreciated only when the tunnel is completed.

Levelling in the tunnel is done by the levelling instrument (which is the same as a mason's spirit level in principle but fitted with a telescope) and a graduated staff which is illuminated. Either a uniform level or any decided slope will be fixed along the floor of the tunnel.

Ranging rods cannot be used for alignment as in the open field survey due to the darkness inside. In the centre of the roof hooks will be fixed on wooden pegs and

pieces of string will be hung from them. At the bottom of these strings lighted candles will be fixed and three of such lights hung at every 50 feet will be aligned and the centre line fixed for everyday's work. As the tunnel advances, fresh roof points will be fixed by theodolite.

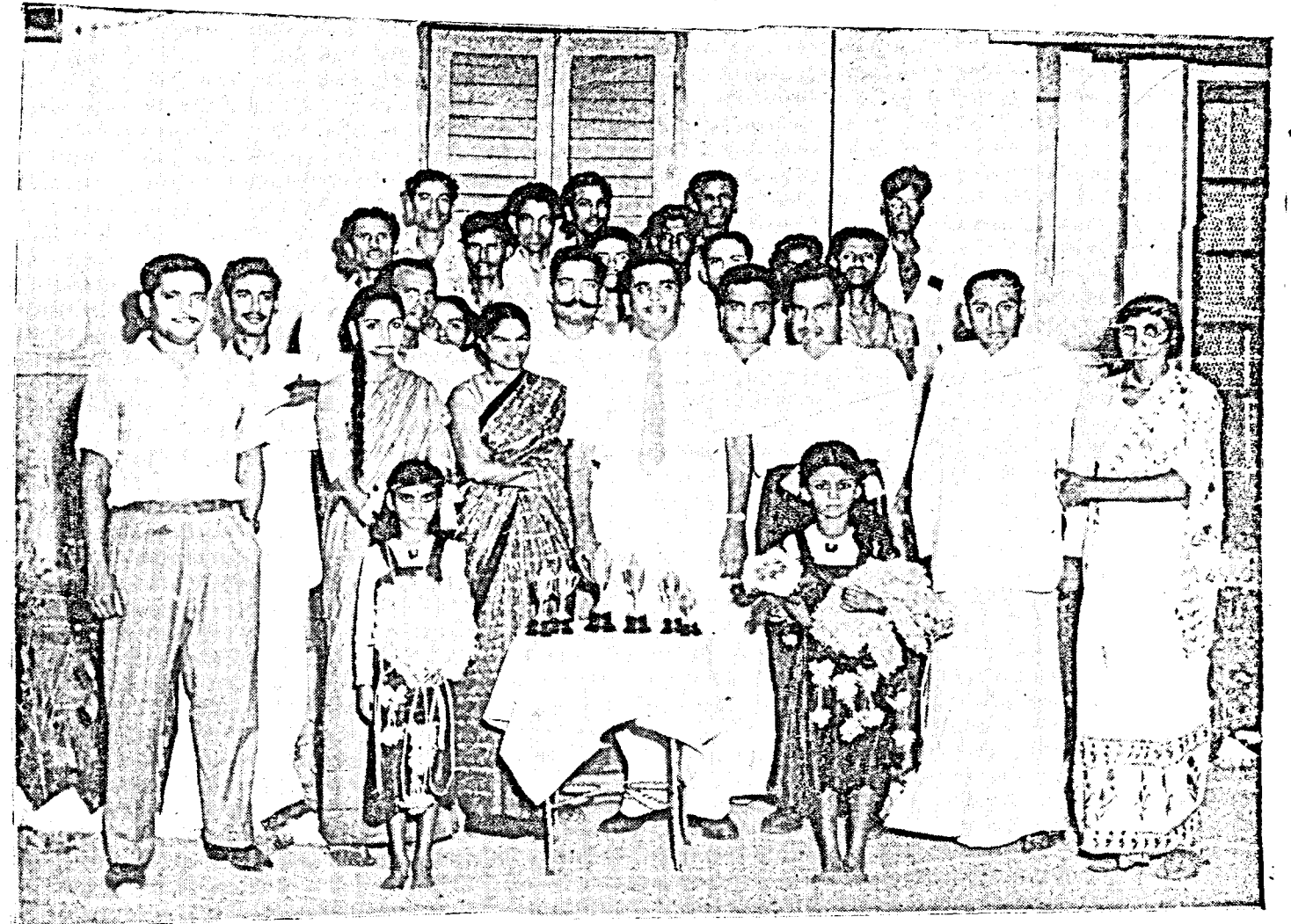
There are complicated tunnels with curves and bends which will be very difficult to align and bore through. Such curves and bends are also fixed by theodolite and tape measuring angles and distances.

Timbering in Tunnels

If there is no hard rock in a particular reach of tunnel, say for 100 feet, and disintegrated rock or some other soft stuff is met with, it is dangerous to bore through this reach and go beyond as this may slip at any moment. Even due to the vibrations of blasting in the nearby reach, this may fall down and people cannot cross this portion with safety. Therefore thick timbers of 12 inches to 15 inches diameter will be erected on either side and a cross timber will be fixed over these so that the tunnel is bridged and the roof supported. Such timbers will be erected very closely for this distance without leaving gaps. At top joints, the timber will be grooved and secured well with bent steel rods. Later when the concrete lining is taken up these timbers will be removed for five feet at a time and lining done. Like this, the whole reach will be completed slowly.

The capacity of machines and the number of them required depends on several factors such as the length of the tunnel, cross sectional area, number of working faces, duration fixed for completion and the skilful way of staggering the work in the different faces.

This is how tunnelling is done. It is very interesting to do this job and instructive to see it done.



The 26-member Police Cultural Team returned to Madras on 12th May 1960, having won first prizes and two second prizes won at the Second All-India Police Cultural Meet held at Simla.

The Police Cultural Team

The 26-Member Police Cultural Team which participated in the All-India Police Cultural Meet at Simla, returned with 7 First prizes and 2 Second prizes to its credit. The Police Cultural Meet was open for Policemen as well as their families; the items of competition related to Music—Classical and Folk, Dancing, Instrumental music and Orchestra. The Madras Team won first prize in Carnatic music as well as light music and folk music, in flute and in Bharathanatyam. Bharathanatyam was performed by the daughters, aged 7 and 8, of a Salem Head Constable. Srimathi Kesi Narayanasamy won the first prize in flute. In instrumental orchestra, Head Constable Nallaya and party got the second prize, while Sub-Inspector Guna Bushanam got the second prize in Mirudhangam. The Cultural Team was led by Sri P. Kuppusami, Deputy Inspector-General of Police, Special Armed Force, Training and Welfare. The Madras Team also staged folk dances comprising Karagam, Kavadi and Oyil Attam, as also a tableau in Tamil which were very much appreciated by the Simla audience, in spite of the language barrier. The Madras Team also participated in an exhibition of articles produced in industrial co-operatives for wives of Policemen and won prizes in Weaving and Spinning.



The Annual Flower Show which marks the end of the Social season at Ooty was held on 21st May 1960. Photo shows Dr. S. Radhakrishnan, Vice-President of India and the Governor of Madras with others at the show.

Roads in Madurai District

SRI S. C. NAYAK, *Chief Engineer, Highways*



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After Independence we are striving in all spheres to bring our country on a par with the more advanced nations. With limited funds at our disposal, we have made rapid strides in the improvement of communications. The targets of the State Second Five-Year Plan which total up to 50-60 lakhs for the Madurai district will be achieved in full by the end of the Plan period. Notable among the achievements will be the completion of 22 minor bridges and four major bridges.

The Third Plan

The Third Five-Year Plan of the district has been drafted for a total outlay of Rs. 1.40 crores including National Highways. Madurai district with its abundance of forest and mountain wealth, health resorts and architectural treasures, is one of the biggest dollar earning district in our State and hence several schemes have been contemplated with Central Government help to connect these places. The following are some of the schemes sanctioned in this regard: Forming a road from Adalur in Pannai-patti-Pachalur road to 12/0 of Perumbarai-Thanidigudi ghat road at a cost of Rs. 9 lakhs; forming of a road from Pachalur to Vadakkadu and on to Oddanchatram, costing Rs. 9 lakhs and forming a road from 5/1 of Uthamapalayam-Thevaram road to Travancore-Cochin State via Sakkalathumettu at a cost of Rs. 6 lakhs.

In addition to the above, proposals are sent for the execution of the following two schemes also with Central aid: Forming a road from Kodaikanal to Palani at a cost of Rs. 38 lakhs and blacktopping and construction of drainage works of Pannai-patti-Pachalur road at a cost of Rs. 40 lakhs. It is hoped that these schemes also will be sanctioned early.

Among the other important schemes in the district, the works of widening the road surface to two lane width from Dindigul to Madurai (Rs. 15.85 lakhs) and cement concreting miles 6/6-10/2 of the Madurai-Melur road at a cost of Rs. 3.78 lakhs and widening, blacktopping and construction of retaining wall from 4/4 to 6/2 of Madurai-Ramnad road have been sanctioned. The first-mentioned scheme is in consonance with the policy of the Government of India to provide for two lane widths on important stretches of National Highways, and is also justified by the

introduction of several express buses plying in routes such as the Tiruchy-Tirunelveli service of the Government Transport Department.

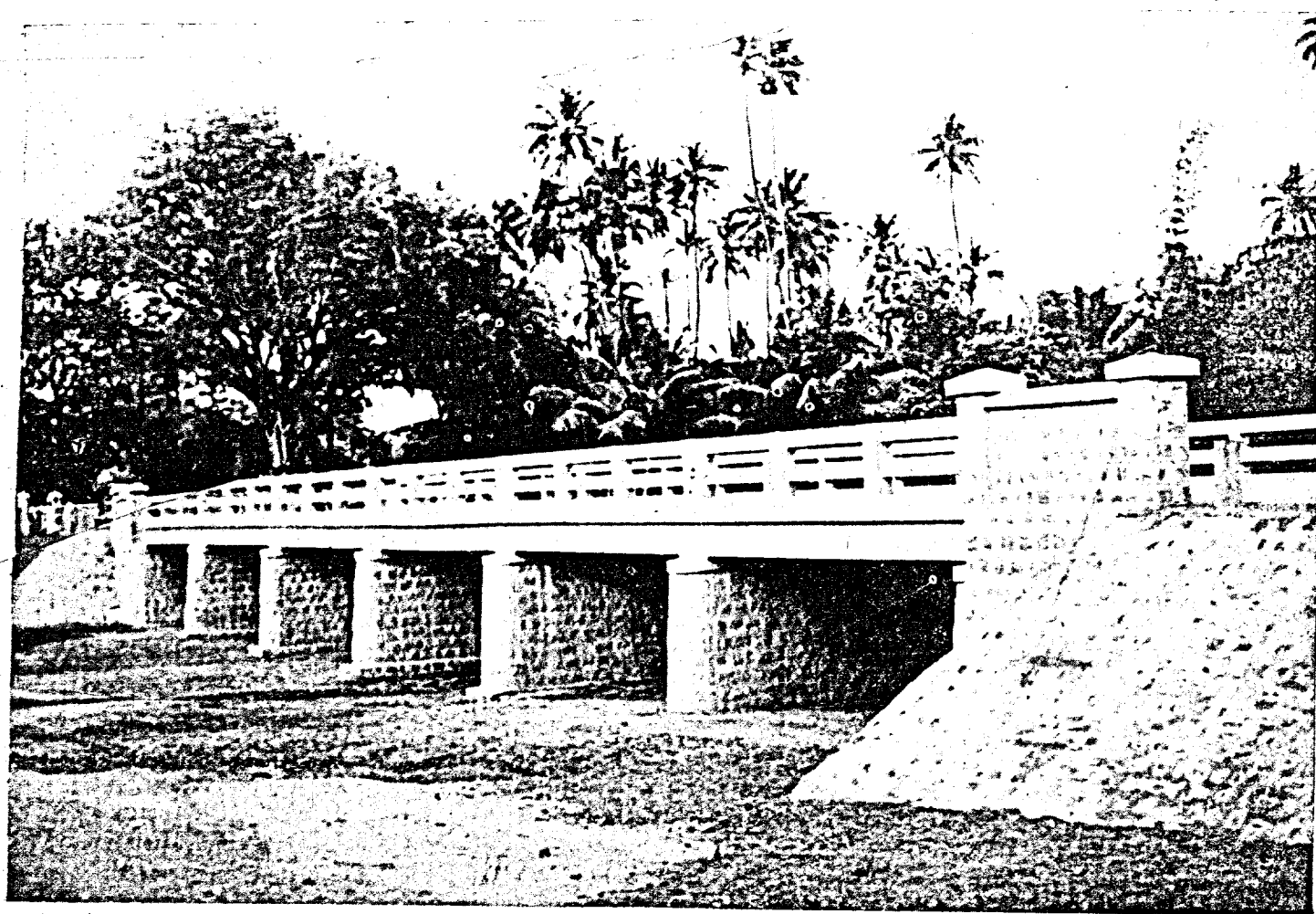
Roads in Rural Areas

As remarked by our Prime Minister Shri Nehruji, "The real yardstick to measure the progress of the country is how far our villages have gone forward". During the Third Plan period, it has been proposed to form 210 miles of new roads, and metal 82 miles of earthen roads in the districts. While it is an accepted fact that since the advent of independence the standard of all important roads has been very much improved, much remains to be done in respect of the other district roads and village roads under the control of District Boards, as also roads formed under Community Development and Local Development Programmes which are lying in a bad state of maintenance due to the slender means at the disposal of the local bodies. These rural roads totalling up to 10,000 miles will have to be handed over to the 360 Panchayat Union Councils proposed to be formed in our State and the Government decided to improve about 10,825 miles of these roads out of Government Funds on a phased programme before handing them over to the Panchayat Unions. At a maximum cost of Rs. 1,500 per mile in respect of metalled roads and Rs. 500 per mile in respect of unsurfaced roads, the total cost of this improvement scheme will come to approximately Rs. 115 lakhs. The mileage of such roads proposed for improvement in Madurai district comes to 1,212 miles. Out of this, 105 miles of rural roads on which buses are plying and 108 miles of non-bus routes are proposed to be taken up for improvement during this year itself at a total cost of Rs. 2.87 lakhs. The laying of the roads to prosperity, by the implementation of the above schemes, not only the economic advancement of the country, but every other welfare activity like the spread of education, expansion of medical services, administrative organizations and facilities for contacts between the leaders of the nation and the teeming millions that derive inspiration from them, will all be assured.

Another scheme recommended by the Board of Communications of the State which is now under consideration of the Government is one by which it is hoped to achieve the double object of augmenting the revenue of these rural bodies and at the same time effectively preventing the

illicit cutting of avenue trees on road sides by unsocial elements. It is a matter of profound regret to see that this land which was noted for its beautiful stretches of avenues planted during the Nayaka regime should present a barren and desolate appearance now by the thoughtless acts of vandalism committed in recent years. The scheme contemplates handing over of the avenue trees to the respective panchayats in whose jurisdiction the stretches of roads pass through and the panchayats should properly maintain, protect and nourish them in exchange for the produce they are allowed to enjoy. The scheme is to be tried first in the two districts of Madurai and Ramanathapuram and, if found successful, will be extended to other districts as well. I hope that the people of these districts will co-operate in making this scheme a success and increase the "Tree wealth" of the State.

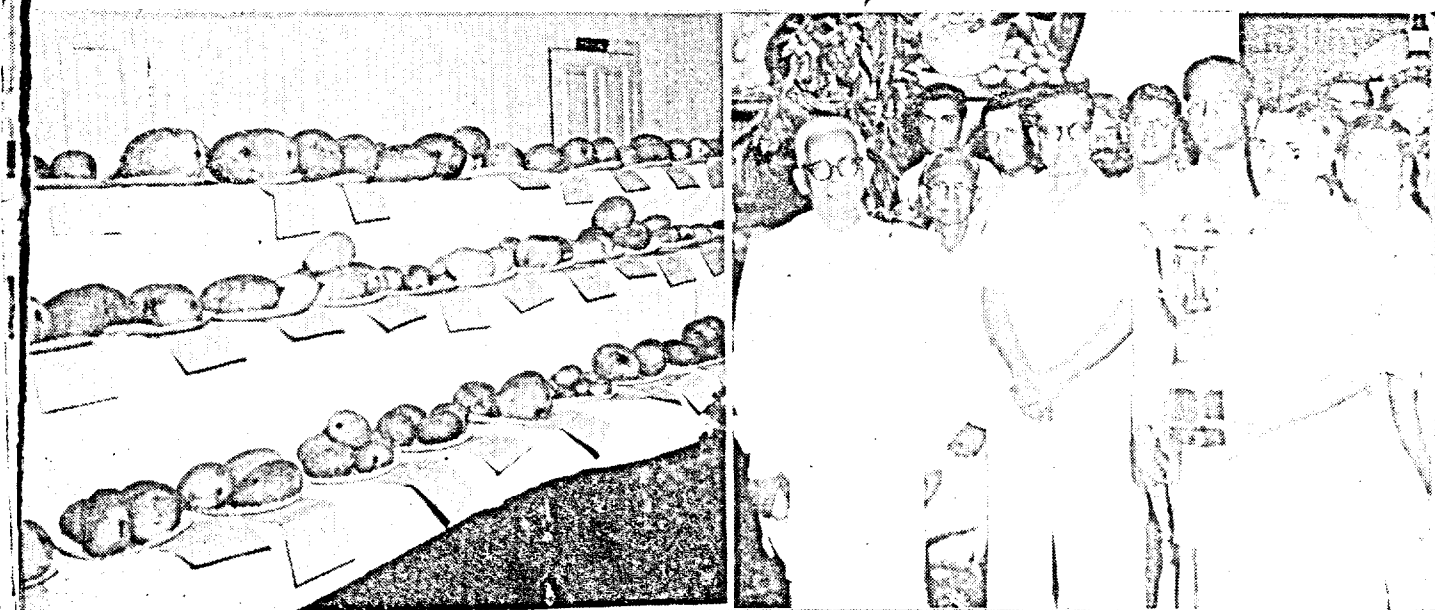
Surrounded on all sides by hills and high ground, even the slightest rain brings forth torrents of floods in this river Manimuthar. Being on the approaches to the town, pedestrians and vehicles find it extremely difficult to negotiate this crossing. With the completion of the bridge the difficulties and anxieties experienced by the people have been alleviated. The bridge has got a lineal waterway of 120 feet consisting of six spans of 20 feet each with a roadway of 24 feet. About 21 tons of steel and 181 tons of cement have been used in the construction. The bridge which was estimated to cost Rs. 1.70 lakhs has been completed with a savings of Rs. 50,000. The work which was commenced on 7th September 1959 and programmed for completion by 31st August 1960 has been completed three months ahead of the schedule.



The bridge across the river Thirumanimuthar, near Natham in Madurai district



The Khariff Campaign was inaugurated by Sri M. Bhaktavatsalam, Minister for Agriculture, at Pallikaran village near Madras. Photo shows the Minister sowing paddy seeds in a field.



The All-India Mango Show was concluded on 29th May 1960 with the distribution of prizes to the winners. Photo shows Sri P. Madhava Rao, one of the prize winners, with Sri M. Bhaktavatsalam, Minister for Home and Agriculture.

Economic and Industrial Life

The three volumes under review gather together the speeches and writings of Gandhiji on the subject of economic and industrial life and relations in the modern world in general and India in particular.

The first volume contains four sections, dealing with the Mahatma's views on socialism, communism, swaraj, bread labour, economic equality and trusteeship. Swaraj does not mean to Gandhiji mere transference of political power from the hands of foreign masters to those of indigenous masters. It has rich import for him, best conveyed in his own words.

"By Swaraj, I mean the Government of India by the consent of the people as ascertained by the largest number of the adult population, male or female, native born or domiciled, who have contributed by manual labour to the service of the State and who have taken the trouble of having their names registered as voters. . . . Swaraj really means self-control. Only he is capable of control who observes the rule of morality, does not cheat or give up truth and does his duty to his parents, wife and children, servants and neighbours."

True democracy as visualized by Gandhiji would be a republic of innumerable village *panchayats*, and independence must begin at the bottom. Thus every village has to be self-sustained and capable of managing its affairs even to the extent of defending itself against the whole world. It will be trained and prepared to perish in the attempt to defend itself against any onslaught from without. Thus, ultimately, it is the individual who is the unit. This does not exclude dependence on and willing help from neighbours. It will be free and voluntary play of mutual forces. Such a society is necessarily highly cultured in which every man or woman knows what he or she wants and, what is more, knows that no one should want anything that others cannot have with equal labour.

No faith in Dictatorship

Gandhiji opposes communism tooth and nail and challenges the whole thesis of the communist theory. He has no faith in dictatorship of any kind and is not prepared to sacrifice the masses at its altar. He is firm that secret methods should be tabooed for good, because "secrecy has caused much mischief and if it is not put down with a firm hand, it may ruin the government", and he has no hesitation in saying that the Bolshevik regime in its present form cannot last long, for it is his unassailable conviction that nothing enduring can be built on violence.

Yet he claims to be a socialist and supports, if it is unavoidable, a minimum of State ownership, and advocates the nationalization of some of the key industries and large-scale factories. But he desires that workers should have the most attractive and ideal working conditions. And love of working for mankind should take the place of the profit motive. In the process of conversion to State ownership, there should be no violent dispossession of moneyed men.

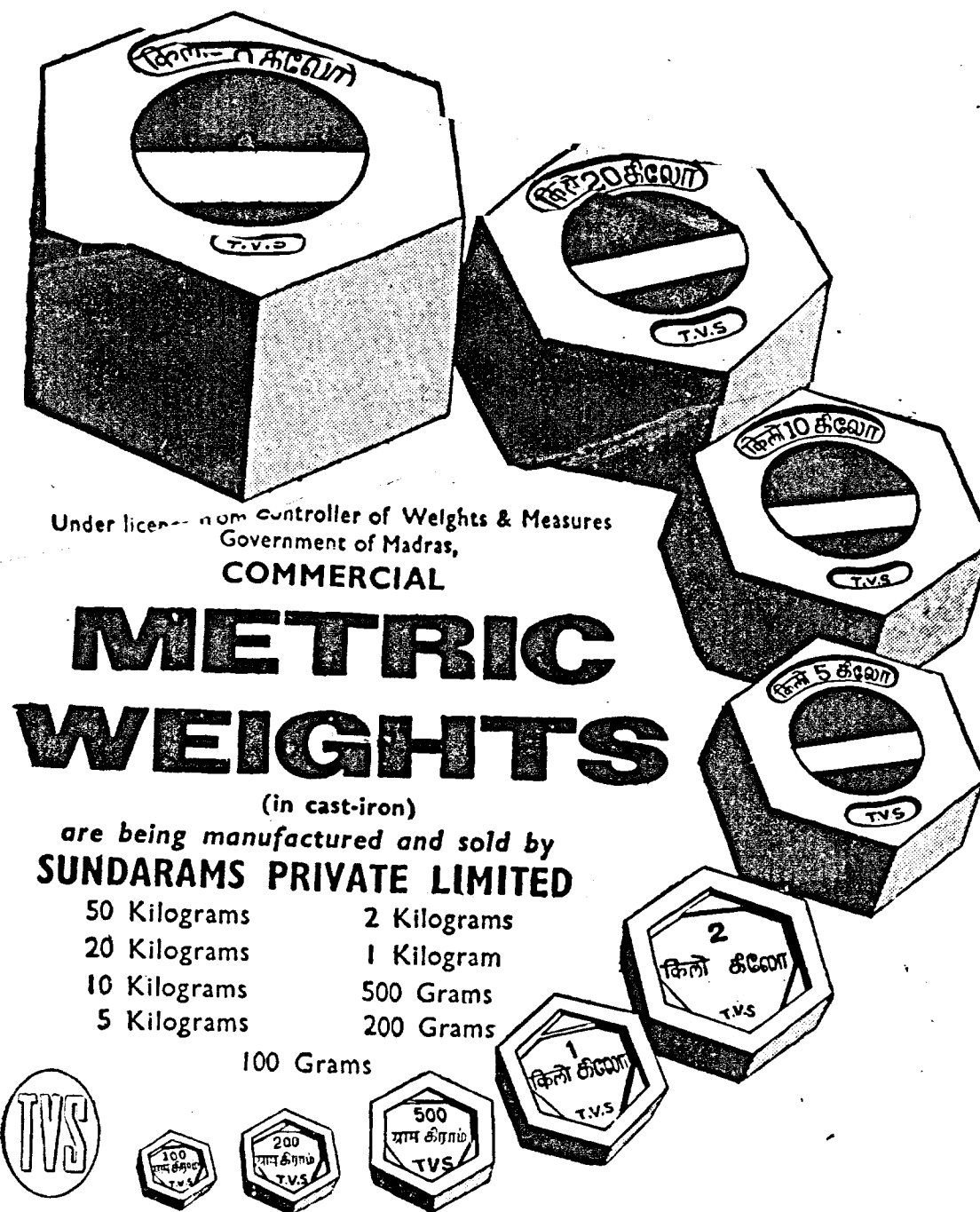
Swadeshi, according to Gandhiji, is a principle of men's economic duty and obligation to his neighbours. Thus understood, it is a universal law defining man's economic religion on earth. "One who serves his neighbour serves all the world". This is the fundamental doctrine from which springs all his derivatives like khadi and village industries and rural exhibitions. This part of his economic ideas forms the second volume which contains seven sections.

Machinery and Industrialisation

Gandhiji's views about machinery and industrialisation underwent a progressive change. When he penned his *Hind Swaraj* or *Indian Home Rule* in 1908 which, says a thoughtful student of Gandhiji, is the most controversial of all his writings, machinery was his *bête noire*. But then, he did not understand the distinction between machinery and industrialisation. When he understood it, his condemnation of industrialisation gained in emphasis and he conceded the usefulness of machinery in any scheme of things but asserted that it must be used under ideal and attractive conditions. According to him, industrialization is not suited to our land with its teeming population and with an ancient tradition which has hitherto answered its purpose.

Gandhiji is against unadulterated capitalism. "The economics that disregard moral and sentimental considerations", he writes, "are like wax works that, being lifelike, still lack the life of the living flesh". He not only endeavoured to spiritualize politics but economics too. Even his theory of trusteeship is a concession to the unedified human habit.

He has also done some plain speaking both to the capitalists and the labourers. Gandhiji was, as everybody knows, an expert in organizing strikes. And he says that strikes could be made irresistible. He looks askance at the fact that capital is afraid of labour and labour scowls



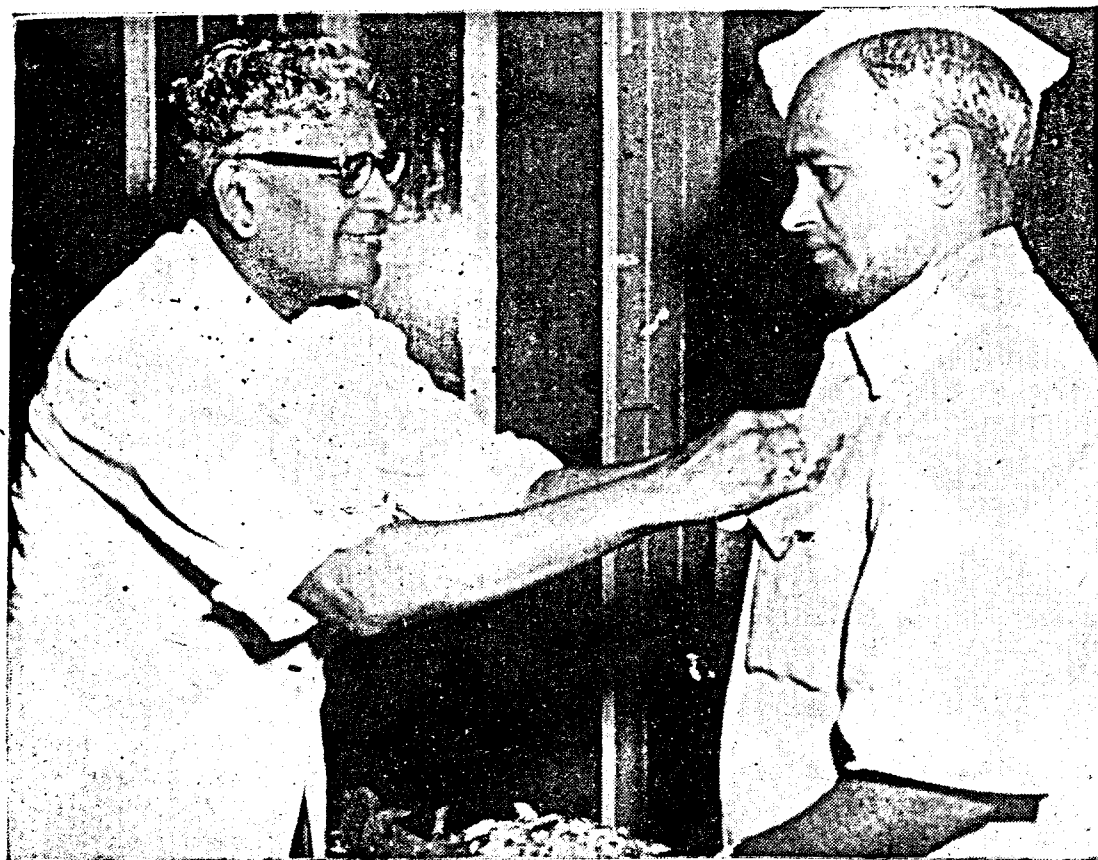
at capital. This relationship should be replaced by one of mutual trust and respect. He gives the conditions under which the labour could resort to strike. If the labourers are proud of their numerical strength, the capitalists are proud of their wealth. It is therefore necessary to understand the correlation of rights and duties. "Rights that do not flow directly from duty well performed are not worth having. They will be usurpations sooner discarded the better..... Force that performance of duty naturally generates is the non-violent and invincible force that Satyagraha brings into being." Class war becomes an impossibility, he says, when people adopt non-violence as a principle of conduct.

The editor remarks that great injustice is generally done to Gandhiji's ideas owing to ignorance. The ignorance is not confined to laymen. A scientific study of his teachings can be made with the help of this compilation which contains an excellent epitome of his teachings about the economic life of the society, with a learned introduction by Mr. V. B. Kher running to one hundred and six pages, knitting all the

sections together, presenting a clear pattern of Gandhiji's economic ideas and showing vividly the path of economic salvation chartered for India and the humanity by the Master. These volumes are a *must* for those who want to learn scientifically the teachings of the Mahatma and carry forward the torch of progress lighted by him. The editor deserves thanks for taking upon himself this self-imposed task of compiling these hugely useful volumes from a mass of extensive material in the form of speeches and writings spread over a long period and for doing it in a systematic manner that cannot but excite the admiration of one and all. This compilation is distinctly a valuable service rendered by Mr. V. B. Kher to the public and especially to the students of Gandhiji.

S.T.K.

* **ECONOMIC AND INDUSTRIAL LIFE AND RELATIONS** : Three volumes, by M. K. Gandhi, compiled and edited by V. B. Kher, published by Navajivan Publishing House, Ahmedabad, pp. 106, plus 757 Rs. 3 per volume.



During the Courtesy Week celebrations of the State Transport Department, conductors and drivers were presented with Gold and Silver insignia for excellent service. Photo shows the Minister for Industries pinning the Gold Medal on Sri Govindan Nair, Driver.

● *Anecdotes from Bapu's Life*

Michelangelo is reported to have said that trifles make perfection and perfection is no trifle. This simple statement, pregnant with profound meaning, seems to be exemplified in the life of Mahatma Gandhi. Whatever he touched, he adorned. Not even the minutest details escaped his notice. He was the hardest taskmaster, the political India had ever seen. He was punctilious in the choice of his means to achieve his ends. He took the total view of life and paradoxical as it may sound, he was at once fiercely idealistic and thoroughly practical.

The anecdotes gathered together in the booklet under review can be said to be the so many abridged autobiographies of his as Mr. Gurdial Mallik avers. They are vividly illustrative of his particular vision and way of life. A few samples may be given for the benefit of the readers.

Secret of Gita.

A friend went to Gandhiji and requested him to explain the secret of the Gita. Bapu said, "Well, look there are some bricks. Please attend to the work of counting them daily."

The friend did as he was told, and counted the bricks for a few days. Then he felt tired of the monotony of it. He remarked to a colleague of his: "This is the job of a labourer. This is not my work. I came here to learn the meaning of the Gita, not to waste my time in counting bricks."

These remarks reached Bapu's ears. He summoned the friend and said: "Well, have you not yet understood the secret of the Gita? It is the performance of one's work in a selfless spirit."

Simple Life.

Gandhiji was always very simple. Bapu had just founded the Satyagraha Ashram in Ahmedabad. A few days after its opening, a rich merchant came to the Ashram, and on entering its precincts, he met Gandhiji with a pot in his hand. Bapu was going to a nearby well to fetch water. The visitor said: "I want to see Mahatma Gandhi. Where can I do so?"

Gandhi said: "Come along with me." The visitor and Gandhiji went to the well. Bapu leisurely drew water from the well and showed no signs of haste to complete his business. The visitor became impatient and said: "Well

friend, did you follow what I said or not? I want to see Mahatma Gandhi. I have some important matter to discuss with him."

Gandhi smilingly said: "Friend, I am Gandhi; let me know what it is that you wish to discuss with me."

When the visitor saw the internationally renowned Mahatma in simple dress and doing the job of a common labourer, he was wonder struck, and did not know what to say.

Equality of all Work.

Gandhiji was never tired of preaching the equality of all work. Of course, he always preached by setting an example. In the Sabarmati Ashram, Bapu was sitting with some co-workers and they all were cleaning food-grains. At that time, some lawyers came to see him. Bapu welcomed them and asked them to sit down.

The lawyers said: "We have come here to do some work. We shall not sit idly. Please give us some work."

Bapu exclaimed: "Well, this is good news", and instantly placed before them plates of grain and said, "Please clean them. Do the job properly."

The lawyers with astonished looks on their faces asked: "Are we to do the cleaning of *Jawar* and *Bajri*?"

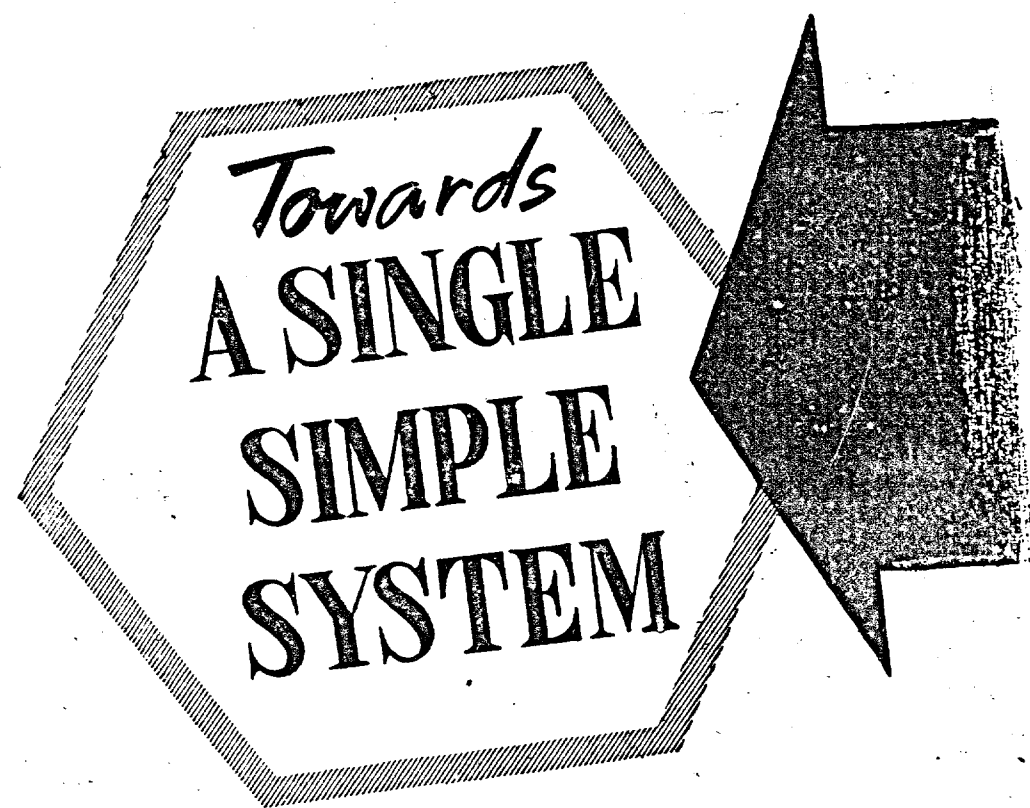
Bapu replied: "Oh yes, I have only this work to offer you at present."

Gandhiji was thrifty to an extent that cannot but excite laughter in the hearts of most of the people. But that was the way of the Mahatma! He once saw a piece of soap lying in water outside a privy while he was staying in Maganwadi in Wardha. He took it out and gave a talk on the subject to the executive staff for half an hour. "We have no right to waste the nation's wealth in this way. Our country is poor. We should be thrifty to live the life of the poor."

These anecdotes reveal the Master in all his splendour, and this slender volume, whose price is also attractively low, should occupy an honourable place in every heart and home.

S.T.K.

* **ANECDOTES FROM BAPU'S LIFE**: By Mukul Bhai Kalarthi. Published by Navajivan Publishing House, pp. 47, Price 0.40 nP.

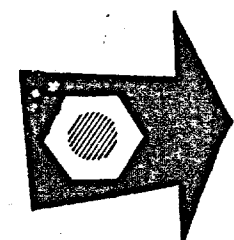


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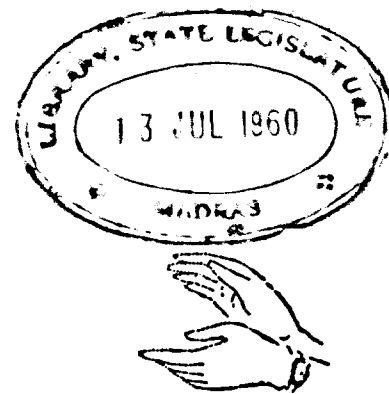
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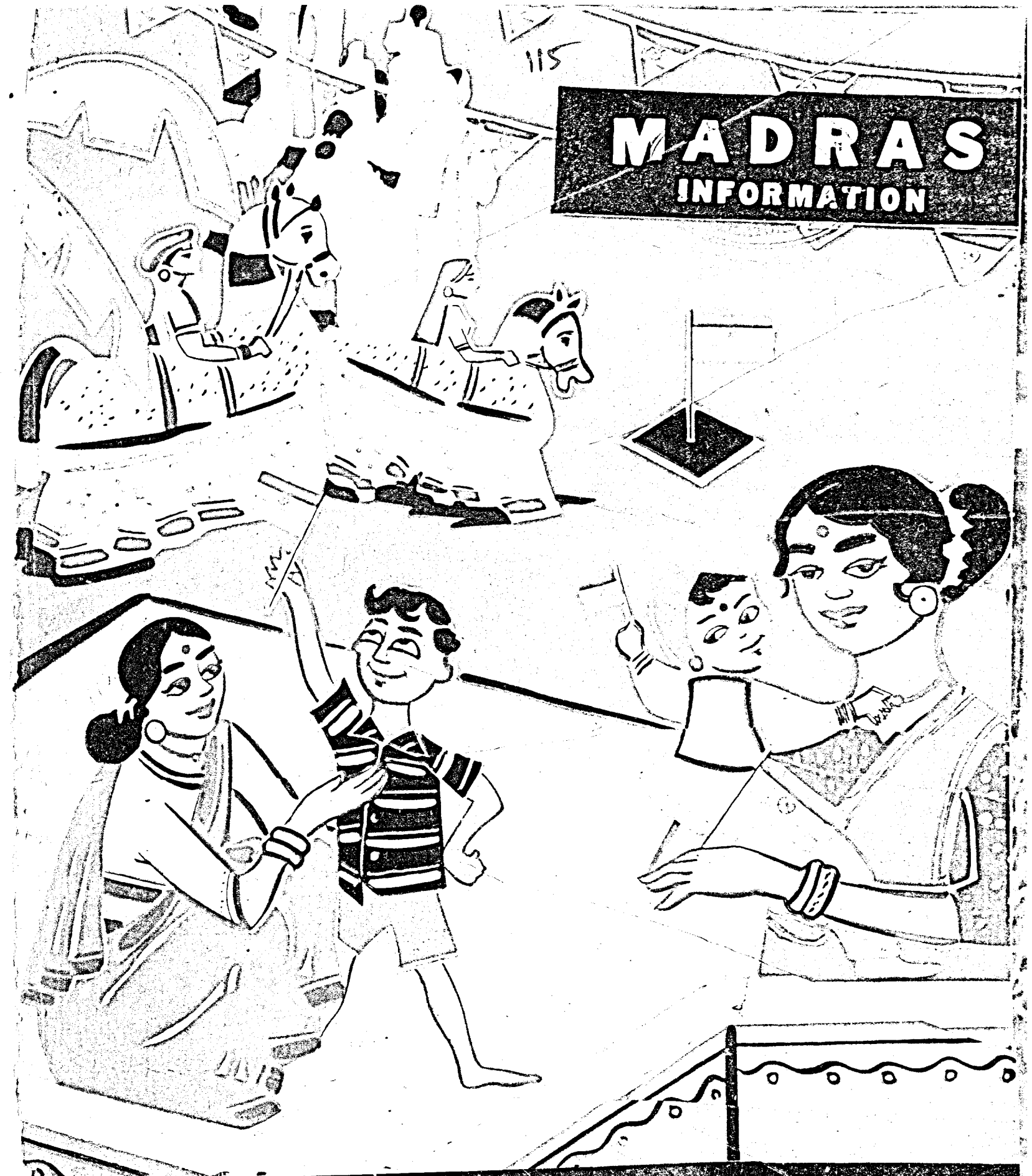


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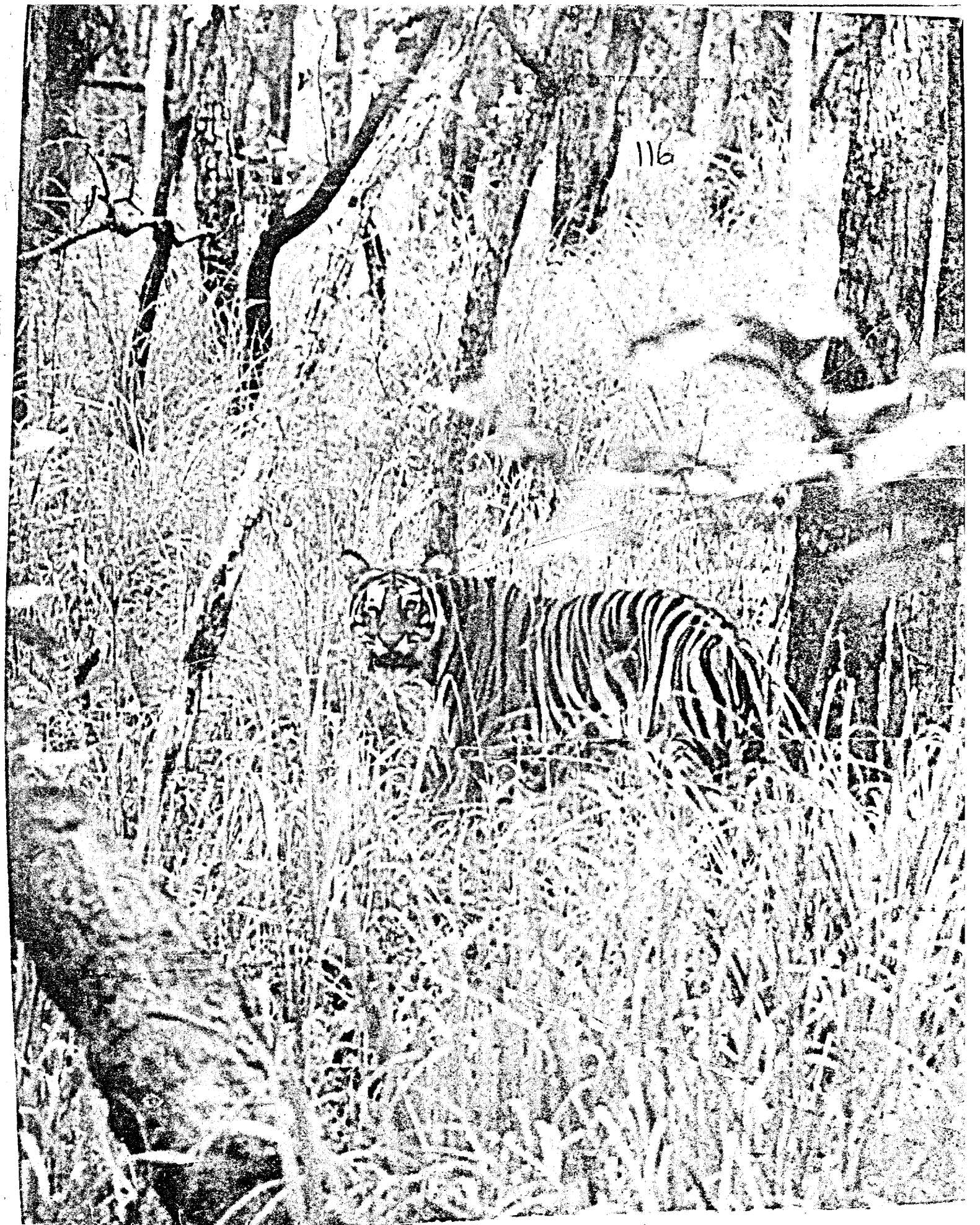
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Thirteen years have passed since we attained Independence from foreign yoke. People are jubilant when the celebration of the Independence Day comes.

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Development of Highways in Madras State

By SRI S. C. NAYAK, Chief Engineer (Highways), Madras.

It was Lord Wavell who stated that among the measures calculated to bring about the development of a country he would give the highest preference to communications. Roads are indeed the arteries of a nation. A good network of highways directly or indirectly contributes much towards the development of the primary needs of mankind such as food, shelter and clothing. Whether it be for the transport of agricultural produce or for the movement of raw materials to the factories and finished products of industry to the markets and railheads, the road communications play a vital part. As Mr. Hillaire Belloc has rightly said it is the road which determines the sites of many cities, controls the development of strategies, gives its framework to all economic development and is the channel of all trade and what is more important, of all ideas. In this agricultural country with the bulk of its population spread over 600,000 villages, lack of feeder roads to connect the farms with the markets would be a serious bottleneck against the free movement of agricultural produce. So is the case with industries—big and small: lack of adequate communication facilities connecting the industrial centres to nearby cities would be a serious handicap.

No doubt, we have a fairly good network of railways in the country. But railways cannot reach all our 600,000 villages and railway transport alone also cannot meet all our needs. Further railways and airways are available only at certain pre-arranged times between restricted localities and frequently involve changes of transport by other means. So, in modern transportation, roads, railways and airways play each its own part and are complementary in their functions; and investments in harbours, railways and airfields are of little value if there is no network of roads for the economic justification of the whole transportation system. Our main stay in the matter of land communications must, therefore, be a good network of roads.

Appointment of Jayakar Committee

It is worthwhile to trace the history of roads in the country. In days gone by, tracks were formed by people following the same routes day after day. With the growth

of civilization and use of vehicles for transport these tracks were improved and conditioned to suit the needs of transport. Systematic road development was planned only about 150 years ago under a unitary form of Government for purposes of strategy as well as for the development of commerce. With the development of railway construction, the responsibility for road development was shifted to the provinces by the Government of India Act of 1919 except for roads of military importance and certain essential roads in Indian States. The Provinces in turn placed the greater part of their road mileage in charge of local bodies which could not maintain them properly for want of funds. The advent of the automobile in the field of transportation and the impetus given to motor transport after World War I led to a realization of the public on the need for better roads. As a result of public opinion, a Road in the Council of State in February 1927, the Jayakar Committee was set up to investigate into the matter. The Committee recommended that the Centre should assist co-ordinated development by means of a Central road fund financed by petrol tax surcharge of two annas per gallon. Accordingly a Central road fund was set up in March 1929. To allay the fears of the railway administration due to unhealthy competition, consequent on the above, the Road Rail Conference was held in April 1933 and agreement was reached on certain measures for intelligent co-ordination of road and rail development.

Vipan Scheme

The Madras State was among the pioneer States in India to make a scientific approach to the development of highways and a scheme for road development in the presidency known as the "Vipan Scheme" was published in 1935. The Second World War spotlighted the importance of road communications during war time. There is no gain-saying the fact that roads play an important role in the well-being of the people during peace time also. Fully alive to the basic requirements in our State in respect of communications, a number of plans were drawn up. For evolving a co-ordinated plan for the development of roads on an all-India basis, a conference of the Chief Engineers of various provinces was convened by the Government

of India at Nagpur in 1943. The Nagpur Plan was formulated at this historic conference for an integrated system of road development in India. The chief recommendation made therein was to provide a well-balanced road system suitable for the needs of the country for the next 20 years so as to bring all the villages reasonably close to the main highway. The Government of Madras formed in 1946 the Highways Department, an organisation conceived and dedicated for the express purpose of promoting good roads for better living. Soon after the Post War Road Development Plan was also drawn up based on the Nagpur Plan and was put into operation in 1946, to meet the needs of the country anticipated in 20 years and to provide road communications to all villages with a population of more than 500. Costing Rs. 40 crores at the level of prices obtaining in those days the scheme contemplated adding 8,239 miles of new roads converting 17,038 miles of unmetalled fair-weather roads into water-bound macadam all-weather roads blacktopping 1,257 miles and cement-concrete surfacing 1,229 miles besides constructing bridges and causeways across most of the unbridged river crossings.

Planning Commission

The Planning Commission constituted by the Government of India suggested that the problem of planning may

be approached both by the Central and State Governments together so that the national economy can derive the greatest advantage and as a result of this the national First Five-Year Plan was formulated and launched in the year 1951. The Post War Road Development Programme already under implementation was therefore merged with this First Five-Year Plan. The progress in terms of physical and financial targets for roads other than national highways at the end of the First Plan period is as follows :—

Serial number and item of work (1)	Plan Provision	
	Physical	Financial
	(2)	(3)
	MILES.	RS.
1. Cement-concrete	48	358 lakhs
2. Black-top	37	
3. New-metalling	392	
4. New-formation	1,038	
	NOS.	
5. Major bridges	34	..
6. Minor bridges	107	

Highways in Chingleput



Serial number and item of work (1)	Achievements	
	Physical	Financial
	(2)	(3)
	M. F.	LAKHS
1 Cement concrete	57	2
2 Black top	940	0
3 New metalling	2,700	5
4 New formation	875	7
5 Major bridges	Nos. 142	175.50
6 Minor bridges	241	30.63
		444.35

The figures relate to the Madras State after the separation of Andhra State but including Malabar and South Kanara districts which went out of the State only in 1956. As for national highways, 48 miles were cement concreted at a cost of Rs. 36 lakhs, 35 miles were blacktopped at a cost of Rs. 25 lakhs, 140 miles of road were newly formed at a cost of Rs. 20 lakhs and 70 bridges both major and minor were completed at a cost of Rs. 70 lakhs. A remarkable achievement in the First Five-Year Plan is the completion of providing improved surfacings to the entire stretch of the national highways in the State. Though the progress of road development has been well up with the programme, it was felt that the First Five-Year Plan has met only a fraction of the present highway needs. To provide

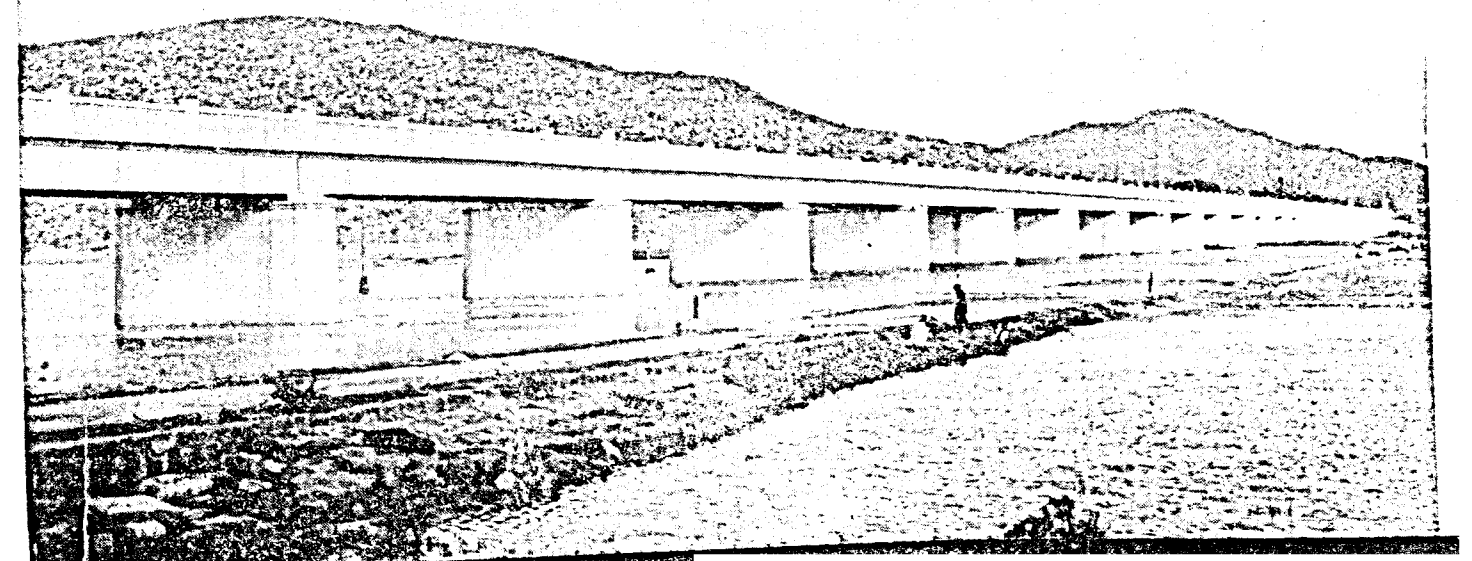
for the highway of tomorrow adequately improved and properly correlated, to form a unified safe and economic transport system, the Second Five-Year Plan was drafted.

Second Five-Year Plan

The Second Five-Year Plan was drawn up for Rs. 16.33 crores for roads other than national highways but the provision was reduced by Government to 5.47 crores in stages due to various reasons. The progress in terms of the physical and financial targets under this Plan up to March 1960 is as follows :—

Serial number and item of work (1)	Plan provision	
	Physical	Financial
	(2)	(3)
	M. F.	RS
1 Cement concrete	10	0
2 Asphaltic concrete	23	1
3 Blacktopping	399	6
4 New metalling	1,104	7
	NOS.	547 lakhs
5 Improvement schemes	23	
6 Minor bridges	236	
7 Major bridges	81	
	M. F.	
8 New formations	1,756	0
9 Tools and plant	..	..

Palar Bridge



Serial number and item of work (1)	Achievements up to March 1960		
	Physical		Financial
	(2)	(3)	(4)
	M.	F.	RS.
1 Cement concrete	7	7	384.06
2 Asphaltic concrete	20	4	
3 Blacktopping	441	6½	
4 New metalling	911	6½	
5 Improvement schemes	33	64	
6 Minor bridges	182	27	35.92
7 Major bridges	36	41	
8 New formations	948	5	
9 Tools and plant			

Considering the difficulties due to non-availability of cement and steel in adequate quantities, restrictions in importing tools and plant from abroad and acquisition of lands, the targets achieved may be considered satisfactory with only a year left for the completion of the plan.

Nagpur Plan

The targets of the Nagpur Plan having been almost achieved, a new All-India Development Plan has been drafted for a period of 20 years to be executed in a phased programme of four "Five-Year Plans". The First Five-Year Plan will synchronize with the commencement of the Third Five-Year Plan and the target of expenditure for Madras State is roughly Rs. 40 crores. The Third Five-Year Plan is being finalized highlighting provisions for developing the East Coast road from Madras to Kanyakumari and providing an Express way from Madras to Bangalore.

Besides the Five-Year Plans there are other schemes like the Central Road Fund Scheme, Schemes of Economic and Inter-State Importance, etc. Under the latter scheme important ghat roads like forming Mannarghat-Chinnathadagam road, improving Anamalai Ghat road in Coimbatore district and Kodaikanal-Munnar road in Madurai district and Major bridges like the Ponnar bridge at Tirukoyilur, etc., are being executed.

Bridge Construction

Great strides have been made in the sphere of bridge construction in Madras State. The construction of the first prestressed concrete road bridge near Chingleput across the Palar was a landmark in the history of bridge construction in the whole of India. The bridge has 23 spans of 90 feet each, costing Rs. 25.75 lakhs and was completed in the summer of 1955. Another prestressed concrete bridge based on a more daring design was constructed across the river Coleroon consisting of 14 spans of 150 feet clear costing Rs. 34.5 lakhs and was declared open for traffic in June 1957. The bridge across Cauvery

at Pugalur at N.H. 7 consisting of 40 spans of 60 feet and costing about Rs. 35 lakhs was completed in 1951. The bridge across Vaippar at mile 345/7 of Baires-Cape Comorin road costing Rs. 13 lakhs, another bridge across Palar at Ranipet at mile 71/1-5 of Ranipet-Krishnagiri road costing Rs. 29 lakhs. The Marudhayar bridge at mile 38/4 of Tiruchy-Chidambaram road costing Rs. 7.2 lakhs and the Kaduvayar bridge at Nagapattinam costing Rs. 5.25 lakhs, have all been dedicated for the use of the public in the Second Five-Year Plan period. The unique feature of the last-mentioned Kaduvayar bridge is that it has got a lift span of 32 feet in the middle for navigation purposes, the first of its kind in the State. In addition to all these a prestressed concrete bridge is fast coming up across the river Cauvery near Tiruchirappalli town. These are only a few of the many bridges designed and constructed by the Highways Department adopting the latest techniques in bridge engineering.

Cheap roads

To enable cheap roads to be constructed making use of materials available locally the technique of soil stabilization was introduced in the State and it has now come to stay as an important feature of road construction. Only a couple of decades ago, the science of soil mechanics and its application to highway engineering were totally unknown to the engineers. To-day the highways engineers analyse the soils, their grain sizes, moisture content, density, plasticity, etc., and decide by laboratory tests the correct proportions of natural and imported soils to be admitted and the optimum moisture content to be added to produce the maximum density and compaction of the road surface. This, in brief, is the technique of what is known as mechanical stabilization of soils. Ramnad-Mandapam road and Tuticorin-Tiruchendur road, Covelong-Mahabalipuram road along the coast were some of the roads formed employing the above modern technique. Further experimental stretches are being constructed in different soils, the experience gained from which will go a long way in reducing the costs of construction of roads especially in sandy tracts.

Under the development programmes such as National Extension Service, Community Projects, Local Development Works, etc., roads are being formed to serve the rural population scattered in villages having population of less than 500. The personnel of the Highways Department have been deputed to be in-charge of the above road construction also and by their unstinted co-operation with the several local authorities, non-officials and the public at large, the highways engineers have acquitted themselves very creditably.

Equipment

In order to ensure speedy and economic execution of all these schemes it is necessary that all the essential equipments are made available to the engineers in the field without delay or difficulties. The Department has therefore rigged up a workshop solely to carry out repairs to all tools and plant and construction machinery belonging to the Department such as road rollers, asphalt boilers, asphalt and concrete mixers, motor graders, bulldozers, etc., as also to manufacture equipment of construction such as bearings for bridges and other accessories required for day-to-day work of this Department. Construction of a suitable building to locate this workshop and equipping it on a better scale is in progress.

Research

To assimilate and develop newly acquired knowledge and technical information, a highways research station has been set up at a cost of Rs. 13 lakhs at Guindy, Madras.

Sampling, inspection, testing and reporting on materials, special investigations to determine the cause for distress or failures of road structures and study of basic principles, development of new and better methods and evolving better designs of roads and structures—these represent the major activities of the research station.

Road development should precede all other kinds of developments if these development projects are to be accomplished quickly and economically. Expenditure on road development is a sound national investment. A country pays for its roads whether it has them or not, more so when it does not have them. The development of the highways at the tempo contemplated in the All-India Road Development Plan will surely accelerate the various developmental activities in the State, contribute towards the stabilization of the economic system, exercise the most influential nationalizing force and in short, reflect the progress of the nation.

SUBSIDY ON RETAIL SALES OF KHADI

The State Khadi and Village Industries Board which met in the Secretariat on 21st July 1960 decided to apply for a grant of Rs. 27 lakhs and a loan of Rs. 67 lakhs for implementing the several Khadi programmes and a grant of Rs. 15 lakhs and a loan of Rs. 27 lakhs for other Village Industries during 1960-61. Sri M. Bhaktavatsalam, Home Minister, presided over the meeting.

The Board also appointed a committee with Dr. (Smt.) T. S. Soundaram Ramachandran, M.L.A., as Chairman, the Director of Khadi, Sri K. S. Subramaniam Gounder, M.L.A., Sri V. Ramachandran of the Tamilnad Sarvodaya Sangh and the Secretary of the State Khadi and Village Industries Board as members, to formulate a scheme for improving the sales organization of Khadi.

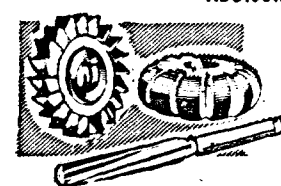
The Board also decided to increase the special subsidy of ½ anna in a rupee to one anna on retail sales of Khadi. The special subsidy will be met by the several institutions producing Khadi like the Department of Khadi, the Tamil Nad Sarvodaya Sangh and the Tiruchendur Gandhi Ashram from the margin obtained from the purchase of Ambar charkha yarn at a lower rate compared to the traditional charkha yarn. This special subsidy will be in force from the 14th August 1960 to the end of October. The Board decided to approach the Khadi and Village Industries Commission for a grant of Rs. 50,000 for conducting a Khadi and Village Industries Exhibition on a grand scale at the Congress Grounds, Teynampet.

The Board considered the suggestion of Sri Manubhai Shah, Union Minister for Industries, to appoint special sub-committees of State Boards to evolve a suitable pattern for the development of the Village Leather Industry. Accordingly a committee with the Vice-President, Dr. (Smt.) T. S. Soundaram Ramachandran as Chairman, and Sri K. Arunachalam, Member in-charge of Village Industries, Khadi and Village Industries Commission, Bombay, the Regional Organizer in-charge of Leather Industry, Khadi and Village Industries Commission in Madras and the Secretary of the State Khadi and Village Industries Board as members was appointed.

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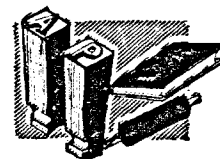
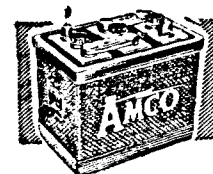
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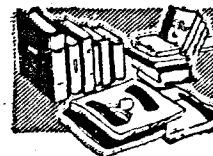
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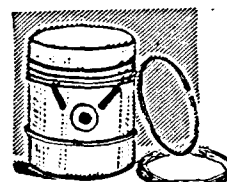
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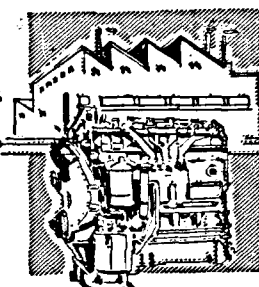


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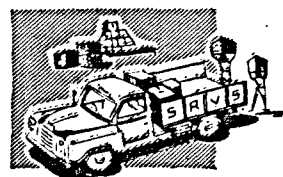
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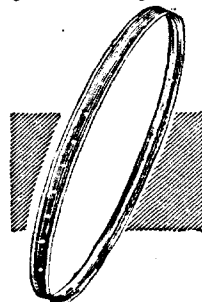
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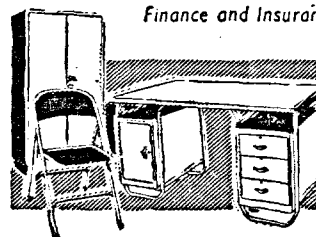
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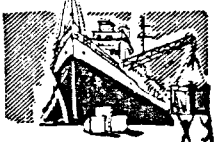
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**Ashok Leyland,
Limited**

Situated at Ennore, a suburb of the city of Madras on the Madras-Calcutta railway line, Ashok Leyland, Limited was originally engaged in the assembly and sales of Austin cars and trucks in India. It is now engaged in the manufacture of Leyland vehicles. The factory comprises an area of 134 acres. Buildings in existence cover about 276,000 square feet and new buildings covering an area of 87,600 square feet are under construction. Plant and machinery to a total value of Rs. 2 crores have been installed and further installations are continuing at a rapid rate.

In 1950, the company acquired the rights of manufacture and sale in India of the world renowned Leyland Comet Commercial vehicles. Since then it has been assembling Leyland "Comet" chassis from parts imported from Leyland Motors, Limited, U.K.

Phased programme

In 1953, on the recommendation of the Tariff Commission, the Government of India selected this company among the five firms, entrusted with the responsibility of developing an organized automobile industry in India. This company submitted to the Government of India a phased programme for progressive manufacture in India of Leyland Comet chassis and the same was approved by the Government in 1954.

Discontinuing the assembly of Austin vehicles in 1953, the company devoted its resources solely to the task of ensuring efficient assembly, organizing for expansion of its output of finished chassis and improving the standard of inspection and testing of vehicles before delivery.

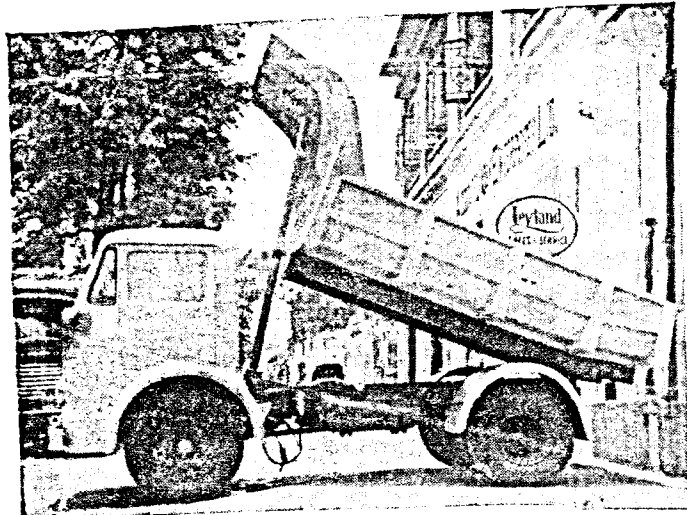
It can be reasonably claimed that its objective in this regard has been achieved to a very great degree as has been amply demonstrated by the very satisfactory performance of the Comet chassis assembled at its factory used for the strenuous and spectacular tour by road undertaken by the All-India Motor Union Congress from Basra to Stockholm in Sweden through the various countries in the Middle East, East and Southern Europe and U.K.

Inauguration of the Project

In December 1950 the paid-up capital of the company was Rs. 32,45,480 and it rose to Rs. 54,56,500 in 1957 when the Leyland Comet manufacturing project was inaugurated. By an agreement with this company, Messrs. Leyland Motors, Ltd., who collaborated with the company in the submission of the manufacturing programme to the Government of India, committed to participate to the extent of 49 per cent of the capital of the company.

The authorized capital of the company which was originally Rs. 2 crores was increased to Rs. 3.25 crores in 1958 with a view to procuring the necessary capital required for its expansion programme of the Comet project and also for the new Titan project which was recently approved by the Government.

The paid-up capital of the company as on 31st December 1958 is Rs. 1,87,10,000 of which the Leyland's holdings amount to Rs. 85,00,000. The company has maintained the rate of dividend at 5 per cent between the years 1951 to 1954 and for the years 1956 and 1957 an increased rate of dividend, namely, 6 per cent was declared.



Leyland Tiger

Elaborate Planning

During the most part of 1955, elaborate planning for the project was completed and contracts placed for building extensions and arrangements satisfactorily completed for import of machine tools, plant, jigs, etc., from U.K. By the end of 1956 machine tools and plant to the value of nearly Rs. 31 lakhs had been imported and buildings to the value of Rs. 3.5 lakhs have been erected. During the year 1957, capital expenditure to the tune of Rs. 48.87 lakhs was incurred out of which, the value of plant amounted to Rs. 31.34 lakhs and buildings Rs. 16.75 lakhs. During the year 1958, additional floor space of nearly 1 lakh square feet was covered by buildings, that is, out of the area of nearly 134 acres, 245,000 square feet has been covered by buildings for workshops. The whole site at Ennore has undergone a remarkable change in its appearance since 1955. A modern up-to-date and well laid out workshop has sprung up and most modern equipments for machine shops and foundry have been installed.

Major Change

The company has achieved with a large measure of success its objective of converting what was once a mere assembly plant into a full-scale manufacturing unit and is now confidently expected that they will be able to fulfil their commitment of manufacturing a complete chassis within the period of five years. In 1956 components representing approximately 15 per cent of the c.i.f. value of complete chassis were being manufactured at the factory and at the end of 1957, they were able to achieve as high a percentage as 36 per cent of the c.i.f. value of a complete chassis. At the end of 1959, it was able to achieve a percentage of nearly 60 per cent of the c.i.f. value of the complete chassis.

The success that has attended its efforts with regard to the Leyland "Comet" project has encouraged the company to submit a programme for the manufacture of heavier Leyland Tiger/Titan vehicles for which a licence has been issued by the Government of India. This programme covers a six-year phased manufacturing programme with the engine as the first unit to be produced in India. The engines are the famous Leyland "600" and "680" diesel engines developing maximum torques of 410 lb. feet at 900 R.P.M. and 450 lb. feet at 1100 R.P.M. respectively, the corresponding H.P. being 125 at 1800 R.P.M. and 150 at 2000 R.P.M.

The two engines referred to above are standard fittings in the complete range of Leyland heavy-duty goods vehicles and the Leyland "Tiger" and "Titan" chassis in categories heavier than the "Comet".

Turnover on the Increase

The production of the Leyland "Comet" to 5,000 vehicles per annum and to meet the new programme for the phased manufacture of 50 "Tiger" and "Titan" chassis and the "600" and "680" type diesel engines per month is to be also expanded.

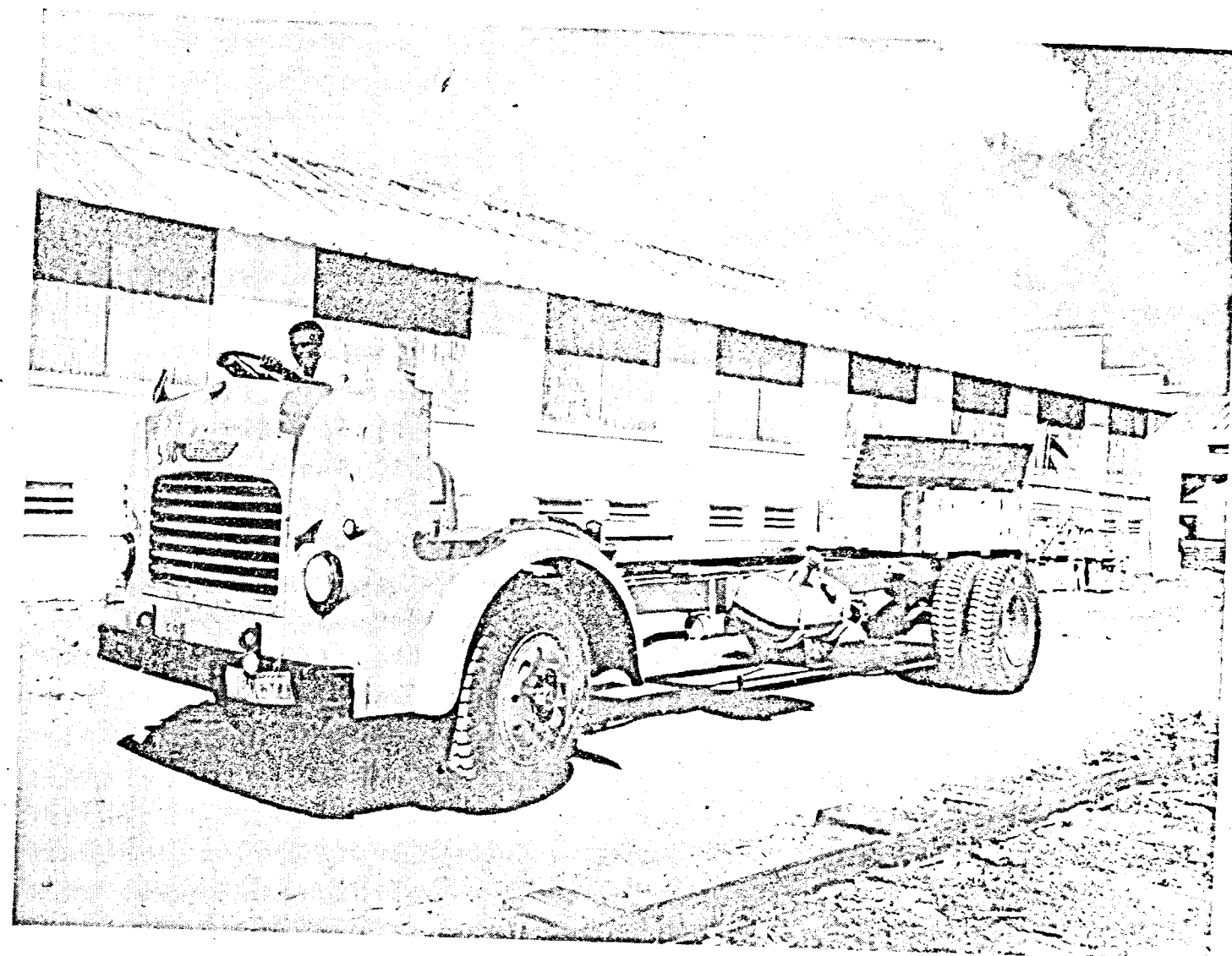
The popularity of the Leyland chassis is indicated by the following figures with regard to the turnover of the company during the years from 1955 to 1959:—

		RS.
		IN CRORES.
1955		1.50
1956		2.86
1957		4.26
1958		4.75
1959		5.78

High Quality Castings

The need for high quality iron castings for the cylinder blocks and heads and castings required for the automobile industry in general was keenly felt. A scheme was, therefore, submitted for forming an associate company for foundry work and, as a result of the visit of Mr. Walter West, Chairman of West Yorkshire Foundries, Limited, and Deputy Chairman of Leyland Motors, Limited to India in December 1958, the Government of India approved the scheme for the erection at Ennore of a modern foundry capable of producing all types of quality castings. Work on the construction of the foundry is nearing completion.

The Service and Spare Parts Departments of the company stand on their own imposing grounds. In the stores section, approximately Rs. 20 lakhs worth of stores are available to give operators a service commensurate with their needs.



Leyland Comet chassis on test run after final assembly

A team of trained engineers are based at important centres to give advisory service to users of Leyland vehicles; tuning and advising operators on the best methods of maintaining their vehicles are also part of their duties.

Apprenticeship Scheme

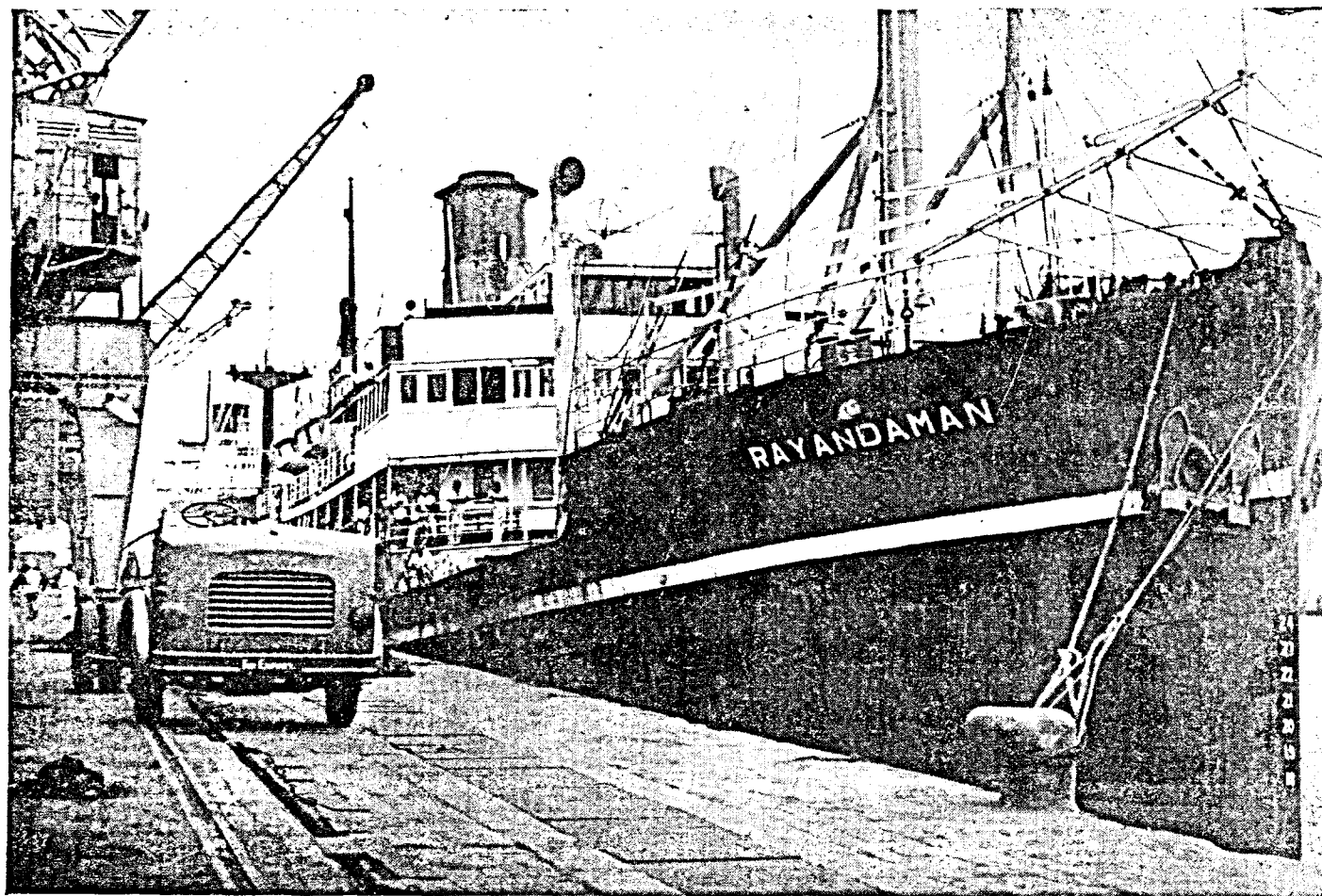
There are three main classes of apprentices in training at the factory. These are Graduate Apprentices whose period of apprenticeship is three years, engineering apprentices who complete a three years period as apprentices and trade apprentices who complete a period of five years training. In addition, there are trade trainees specialising in particular trades and apprentices who are sponsored by the various Governments for training at our factory. The number of apprentices sponsored by this company is now about 80.

To cater to the requirements of Leyland operators all over the country a network of service and dealer organisation has been efficiently organized and the service problems of operators are dealt with expeditiously by personal visits by the service engineers stationed in all parts of the country.

Messrs. Leyland Motors, Limited, have provided training facilities for Indian personnel to man the project in India. Besides, Messrs. Leyland Motors, Limited have been sending to them from time to time technicians who have rendered valuable service in training the staff and workers there.

Employment Opportunities

The company has immensely increased employment opportunities in the locality and the figures of employment



Export of Ashok Leyland "Comet" to Ceylon on the 11th September 1959

have risen from 350 in 1953 to 1,000 in 1958 and to 1,500 at present. There is further scope for an additional employment in view of the expansion programme for Comet and Titan projects now under way. Welfare amenities of the staff and workers by way of a modern well-equipped canteen and dispensary have also been provided. A sports club has been formed and games like football, hockey and cricket are played. And all forms of athletic activities are also encouraged.

The company participated in two big exhibitions organized by the Government of India, namely, Indian Industries Fair, 1955 and India 1958 Exhibition. The

company has been awarded a gold medal for the most effective presentation of the theme in India 1958 Exhibition.

Since the heavy duty field, i.e., the transport by road of loads in excess of five tons, has been allotted to this company in accordance with the Tariff Commission proposals, and accepted by the Government of India, Ashok Leyland is doing its best to produce in India at the maximum rate practicable Leyland Heavy Duty vehicles. This company is confident that, with the expansion of the commercial vehicles industry along with the Five-Year Plans of the Government, it will play its due role as major contributor to the growing needs of road transport in this country.

THE BRITISH PHARMACEUTICAL CODE

The British Pharmaceutical Code, 1959 will become operative from 1st September 1960, in this State for the purposes of the Drugs Act, 1940 and the Drugs Rules, 1945. The standards of identity, purity, and strength specified therein will be rigidly enforced from that date.

Foundation Treatment for Dams

SRI K. S. KUNJITHAPATHAM, B.E.

We know that foundation for anything is very important and should be laid with care. Even for small structures like houses, etc., we are careful in preparing the foundation. Then what about huge structures of hundreds of feet high like dams?

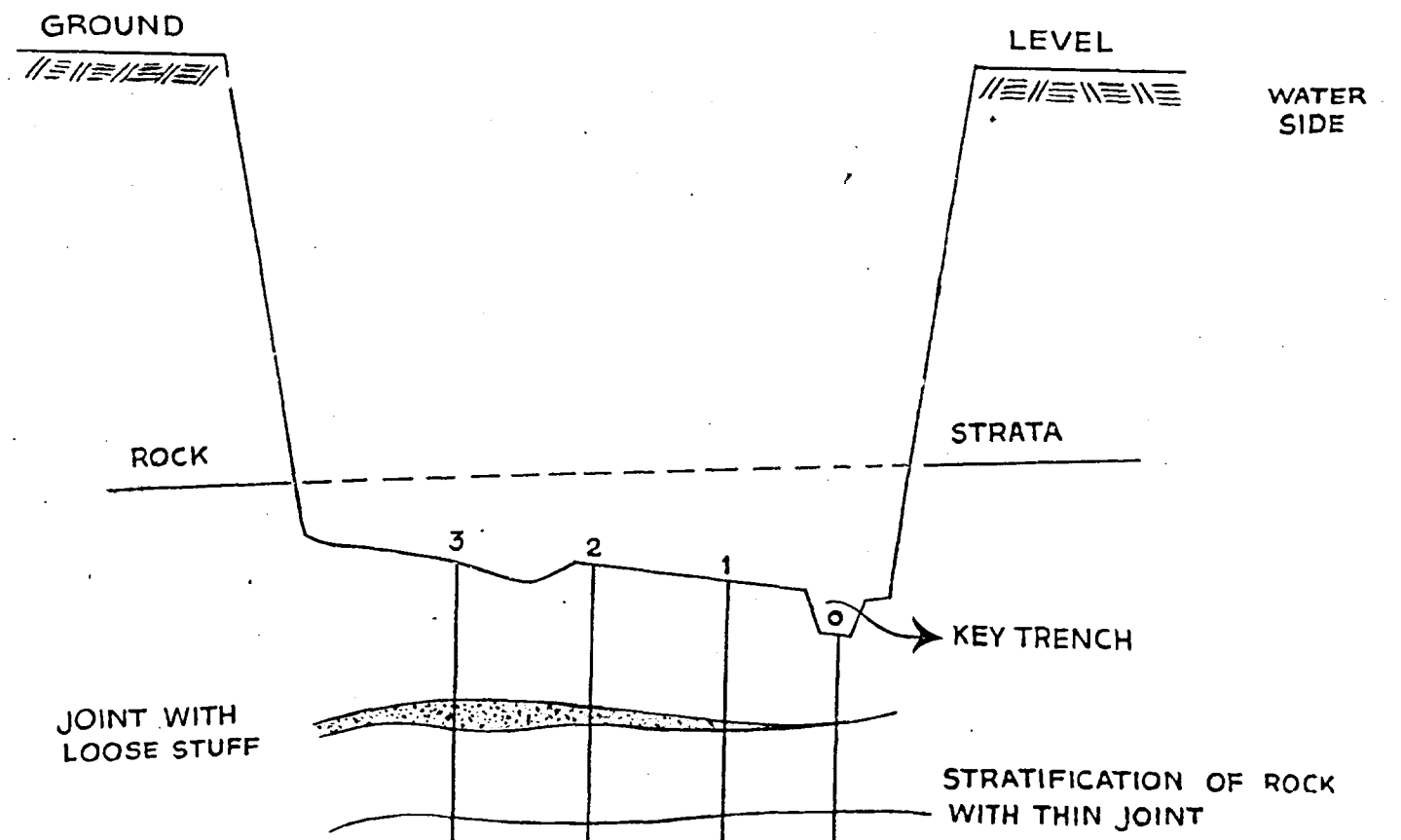
When a location has been chosen for dam construction during the preliminary survey, examining the foundation conditions before the excavation is an important work. Holes will be drilled along the dam line in several places to study whether rock foundation is available in all places and at what depth sound rock is found, etc. If satisfactory foundation conditions are not met with, the alignment is changed slightly and tried. Finally a favourable one is fixed and excavation started.

In dam foundations three factors are very important. Firstly the foundation should be so strong as to bear the whole weight of the dam above. Secondly it should be

water-tight to sufficient depth, and thirdly proper bond between masonry and foundation rock should be ensured.

Huge weight will act over the foundation rock after the dam is completed. To bear this, the rock should be a sound one without much of gaps and cleavages. It should not be stratified too closely. Solid rock of five or six feet thick at least should be found. Thin scales lesser than that should be removed. The whole foundation area will be sounded with heavy hammer to see if any hollow sound is heard anywhere. If so, such rocks will be removed till the hollow is exposed. Then the area will be washed and examined to see whether any soft rock locations or any cleavages are found on the surface. If found, all the soft stuff will be removed.

If we are satisfied with the surface conditions, we have to satisfy ourselves with the interior of the foundation also. How to do it?



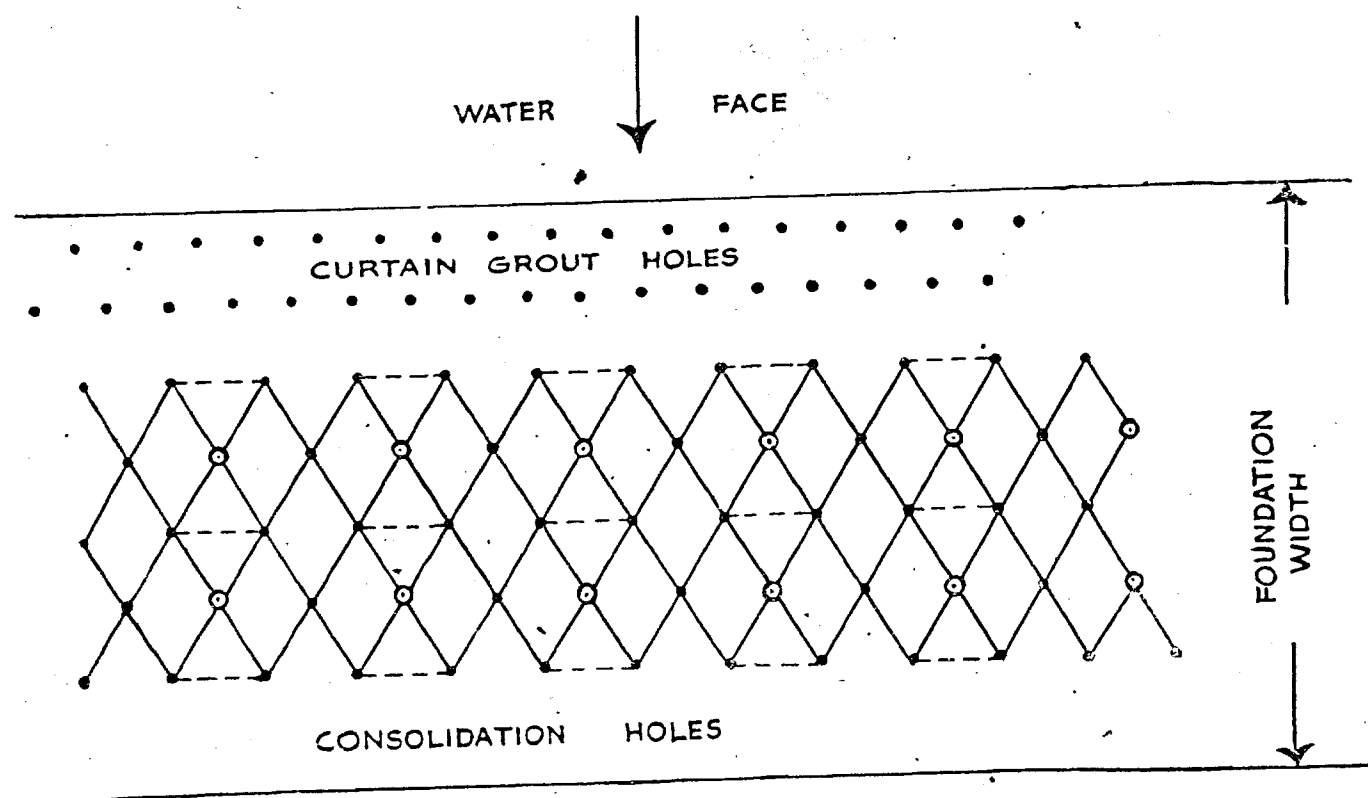
Below 6 feet depth of sound rock, there may be a layer of earth or soft rock with air spaces which is objectionable. To examine this, a set of holes will be drilled, depth depending on the height of dam. The drilling machine will rotate a long pipe with a cutting edge which will cut the foundation rock. The cut rock will enter into the pipe in a cylinder shape and will be taken out at regular intervals. Hence, the drilling machines not only form holes into rock but also take out a core of cut rock to the required diameter for examination.

For example, see the hole No. 3. When 6 feet depth of hole is drilled, a core of sound rock for 6 feet will be got. For the next one foot, no core will be obtained. Though the hole drilled is 7 feet, only 6 feet of rock core will be got and 1 foot will be core loss, as earth will not come out as core. While drilling such holes, these losses will be calculated, considered and the foundation conditions studied. If

continuous long core is obtained, it means one sheet of rock of good thickness is available. If the rock is stratified, the core obtained will be in several bits. These joints in stratification and gaps which give core losses should be filled up with cement by the process known as 'Grouting'. Then only, the gaps will close and the separate rock sheets will be bonded together and made as a big mass of strong foundation.

Water-tight Foundation

For this, several holes are drilled all over the foundation area, depth depending on the height of dam and grouted. Usually the holes are drilled in a diamond pattern as per which several rows of holes are put spacing the rows at 20 feet and also the holes in each row at 20 feet. In alternative rows the alternative holes will be 30 feet deep and all others 20 feet. The number of rows depends on the width of foundation. The centre of each hexagonal pattern of holes will be 30 feet hole.



Almost all the joints and cleavages will be met by this drilling and get closed during grouting making the foundation dense.

Dam is built to store up water and if the water escapes through the joints and cleavages into the foundation rock most of the water will be wasted and the object of constructing a dam will be abused. Hence, it is imperative to make

the foundation as water-tight as the dam is. This requires more care and precaution as the foundation is in a deeper level and is subjected to more water pressure than the dam itself.

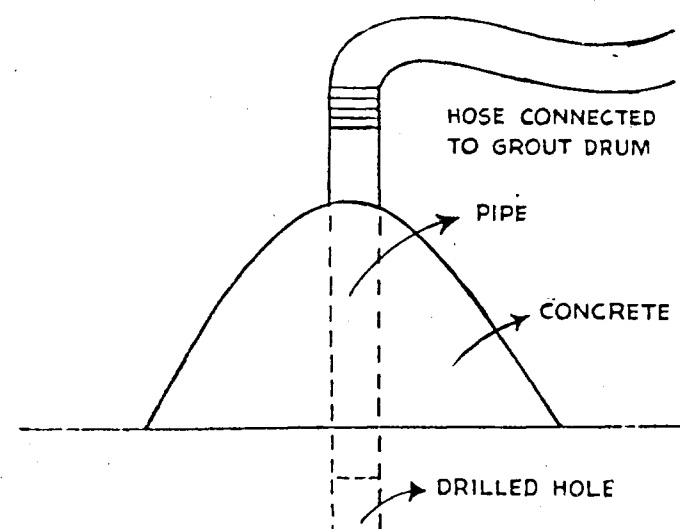
To attain this, all the joints and gaps into the foundation rock which have connections to the water storage in the front should be perfectly sealed by cement so that no water

is permitted to pass through these. This is also done by drilling a series of holes at the front edge of dam (this edge is called the heel of dam and the rear edge as the toe of dam) and grouting them.

Grouting

Cement grout is the admixture of cement and water in suitable proportions. This will be sent into the holes by pressure. At the top of the drilled holes a piece of pipe with diameter suitable to the hole and threaded on the top end will be fixed and concreted all round. The hose from the grout drum will be connected to the threaded end of the pipe. The grout drum is a big container which is made to withstand high pressure with internal arrangements to stir the cement grout poured in, so that the cement will not set during grouting operation. The cement grout will be poured into this drum and closed airtight. The delivery hose from the drum is connected to the pipe end. Then compressed air is sent into the drum (which is fitted with a pressure gauge) to the required pressure and a constant pressure is maintained till the grout in the drum is sent into the hole and into the rock joints. Usually, the pressure maintained is 100 lbs/sq. inch. When the drum is emptied, again it is filled with grout and sent into the hole by pressure. This will be going on repeatedly till all the joints and gaps are filled and sealed by grout and till that hole refuses to take any more grout. Like this, all holes will be grouted.

Some of the several holes drilled may be connected internally by the joints and cleavages. One such hole when grouted will feed the other holes also with grout which will come out through the other holes. All such holes will have to be sealed before grouting, except the one through which grout is to be sent.



Before grouting, to get an idea of inter-connections between holes and of the quantity of grout consumption, these tests are conducted. After the threaded pipe is fixed to the hole, it is cleaned well of dirt, etc., and washed by blowing air and water. Then compressed air is sent into it through the grout drum and a fixed pressure maintained for half an hour. If the pressure falls down appreciably, it means there is leakage somewhere and the locations (holes or surface joints) are traced.

Water and Air Test

Then, the grout drum is filled with water which is sent into the hole with the same pressure as for grouting. The air-leaking points are watched. Water being more viscous than air, it may or may not come out. If it comes out freely, such places are to be plugged before grouting starts. If the holes have any inter-connection to the bed of river where water is flowing, it will be revealed by bubbling air during air test and by coloured water (which will be used for test if such leakage is anticipated) during water test. In such cases, where the grout goes freely to all joints and comes out in certain distant places, grouting will start by lean grout and low pressure till the far off gaps are closed and the grout set. After sometime the pressure is increased and thick grout used for filling the joints and cleavages just into the foundation rock. The air and water sent during the tests washes and cleans the joints and cleavages also.

This grouting seals up all the joints horizontal or inclined met by the borings, thereby (i) consolidating the foundation rock and (ii) rendering it water-tight. The grouting done for the purpose (i) is called 'consolidation grouting' and (ii) is called the 'curtain grouting' as this grouting serves as a curtain between the water and the foundation in not allowing the water to enter into the foundation. The holes drilled for (i) are the consolidation grout holes and (ii) are the curtain grout holes. Item (i) is done all over the foundation area (at least to two-thirds of the width where the pressure will be heavy) and the holes will not be as deep as for (ii) because consolidation of rock to a limited depth is enough to bear the pressure. Item (ii) is done only at the front edge of foundation, as near to the water side as possible, as water is to be arrested at the front edge itself. Usually two rows holes, one at front edge and the other about 15 feet in rear will be drilled with the holes in both rows staggered in position and spaced at 15 feet for this purpose. These holes will be deeper than the consolidation holes to arrest water which will easily enter into even deep joints due to great pressure.

If there is any slackness in this respect and grouting is not effectively done, besides the apprehension of unsound foundation, the possibility of water-leaking through the gaps

which results not only in wastage of water potential but also in uplift of the dam and the apron, etc., in the rear is also there. This uplift endangers the stability of the dam. Thereby the three pre-requisites of a dam (1) stability, (2) strength (when the foundation is not strong, no use of dam along being strong) and (3) water-tightness (net result is the same whether water passes through the foundation or the dam above) are lost indirectly.

Treatment to the Surface

When the foundation is ready, proper precautions are to be taken to see that the mortar adheres well to the wide sheet of rock in the foundation. The main drawbacks are (1) the foundation being a plain sheet of smooth rock mortar will not adhere well to it and (2) it being a straight joint between masonry and rock for the full width of the dam it provides easy passage for water without any obstruction.

Hence, a flat surface of foundation is not allowed and the foundation surface is benched suitably. In addition a trench about 5 feet deep is formed at the front edge of the foundation so that the line of contact between masonry and rock will not be a flat one and that the masonry structure can be keyed into the foundation. The remedy for the first drawback is to change the smoothness of the rock surface and make it rough by chipping with chisels.

If any cleavages or gaps of small width are noticed, the loose stuff into them are removed to the extent possible and the thin joints are packed with mortar and wide joints and gaps are concreted to the surrounding rock level. Weak zones noticed in the foundation area due to foreign materials other than sound rock, should be bridged with

suitably designed reinforcements or arch concreting, so that the weight will not act on the weak places directly and it will be transmitted to the rock faces on the sides.

Dams should not be founded on skin rock, i.e., weathered rock on the surface. All the skin stuff will be removed and foundation will go at least 3 or 4 feet into rock strata. The foundation bed should not slope away from the water face. In figure (1) the natural rock strata (shown in dotted line) is sloping this way. This should not be allowed, as water pressure is also acting this way, the structure will have a tendency to slide towards this slope. Hence, it is better that the slope is made to be the other way from rear side to water side, so that the sloping rock will act as a support to the masonry.

The general principle that rock should support the masonry and masonry should never support rock is always followed. Hence, all over-hanging rock projections at the flank ends of foundation should be removed completely. In steep slopes of foundation and vertical faces on either flanks steel rods are fixed and masonry built. These rods provide proper grip between masonry and foundation and are called 'grip rods'.

Foundation treatment is equally important as dam construction. But this does not catch the eyes of the visiting public because this work is not so showy as the construction part. Further, most of us don't visit a project area at such an early stage when vast portion of these works is done. Projects are visited only after these initial and important works are over and masonry work started in several places. We must see what is (being done) at the bottom of the huge structures which stand as national monuments and on which our nation relies for its prosperity and betterment.

State Transport

The fleet strength of the Department for the month of May 1960 was 491. An average of 322 buses were operated daily and they brought in a total collection of Rs. 17,96,478 after covering 1,282,151 miles. 13,404,734 persons travelled by these buses in that month.

Kanyakumari Branch

The fleet strength was 88 and an average number of 62 buses were operated daily. 1,177,792 passengers were carried by these buses.

Specials brought in a revenue of Rs. 1,082.55 covering 1,047.3 miles.

Development of Cattle Wealth

There are to-day in the State of Madras, as per the 1956 census, 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 of other species of animals making a total of 23.16 million livestock. The poultry population is 10.4 millions. Though this state possesses 7.5 per cent of the total livestock of the Indian Union, yet the national wealth derived from the livestock of this State is far below the standards of most of other States. This can mainly be attributed to a large number of useless and unproductive cattle of non-descript type in this State. Moreover, there is no definite descript breed except the Kangayam, which is purely a draught type. At present the milk yield of a cow in this State ranges from 2 to 3 lbs. of milk per day and the per capita consumption of milk is only 2.44 ozs. This indicates the poor productive capacity of our cattle and the real need to improve the quality especially of the milch type, so that the people can have enough milk to make good the deficit of animal protein.

About 95 per cent of cattle in Madras are of non-descript variety and hence the problem is to grade up the vast number of non-descript cattle with pure descript breeds of Sindhi, Gir, Jersey and Murrah buffaloes for milch type and with pure breeds of Kangayam, Hallikar, Umbalachery for the draught type. For this purpose a large number of pure breed bulls of various breeds mentioned above are necessary. Hence the livestock development schemes have in view mainly the arrangements for the production of good quality of seed bulls for grading up rural cattle and the elimination of inferior and unapproved bulls of non-descript type by compulsory castration in desired areas.

Livestock Farms

The Madras State maintains at present four livestock farms at Hosur, Orathanad, Pudukkottai and Chettinad where pure breeds of Sindhi, Kangayam, Gir, Tharparker, Hallikar, Alambadi, Umbalachery and Murrah buffaloes are bred. The main object of maintaining these farms is to maintain the purity of the above breeds and to further improve them and also supply pedigree bulls to the districts in order to grade up the local cattle. The distribution of these breeding bulls is according to an approved plan for each district to grade up the local cattle for the desired type.

Artificial Insemination Scheme

With a view to bridge the gap between the availability and demand for breeding bulls, artificial insemination scheme was introduced as early as 1948. The utility of

the available breeding bulls is increased by 5 to 10 times, by resorting to artificial insemination. In order to improve the milch quality of the local non-descript cattle in the urban areas of the State, two artificial insemination centres were started at Madras and Coimbatore in 1948. Gradually the scheme was extended to other urban areas and at the end of the First Five-Year Plan, 6 such artificial insemination centres were functioning in the State. Under the Second Five Year-Plan, seventeen more artificial insemination centres have so far been established bringing the total artificial insemination centres in the urban areas to 23. At present 13 artificial insemination centres are also functioning in the community development areas in the whole there are 36 artificial insemination centres in the State both in urban areas and Community Development Blocks.

Intensive Livestock Improvement

The Key Village Scheme aims at intensive livestock improvement in a compact area wherein all aspects of Animal Husbandry are covered, namely, controlled breeding, proper feeding, rearing of young stock, use of fodder crops, silage making, pasture management, dairying, marketing, record keeping, etc., and producing seed bulls which are essentially required now. The Key Village Block is a compact area consisting of a group of contiguous villages containing a population of 5,000 cows of breedable age. All scrub bulls in the area are castrated and only pedigree bulls are allowed to propagate by natural service and by artificial insemination.



Kangayam Cow

Present there are 37 Key Village Centres with 222 sub-centres dealing with 185,000 cows and buffaloes or breedable age and these Key Villages are located mostly in the breeding tracts and the area covered by each block is roughly or to 10 miles radius. Approved bulls of Kangayam, Malhar, Sindhi, Sahiwal, Murrah buffaloes breeds are being used for breeding in these blocks. Both natural services and artificial inseminations are done free in all the blocks and full breeding control is practised by systematic castration of all scrub bulls. Milk recording is also undertaken. All the animals in the blocks are protected against the contagious diseases and first aid centres are being run for the treatment of non-contagious diseases. Selected calves in the area are subsidised at Rs. 10 per mensem per calf. It is proposed to subsidise 7,000 calves in all, under the Second Five-Year Plan. Key Village Livestock Improvement Associations comprising prominent cattle breeders have been formed. There already been taken to include sheep and goats and poultry in the programme of the Key Village Scheme, though it is not included in the Second Five-Year Plan. Distribution of stud rams and deworming of sheep are being done now in many blocks. Distribution of cockerels of exotic breeds of poultry for grading up the desi hens and elimination of desi cocks are also being undertaken in selected Key Village Blocks.

Key Village Extension Centres have so far been started in this State with 50 bulls at each of these centres. These bulls are distributed to selected custodians within a compact area and a sum of Rs. 30 per mensem is paid as subsidy to each of the custodians. Full breeding control is enforced at these centres by systematic elimination of scrub bulls and all the programmes envisaged in the Key Village Centres are being followed up at these Extension Centres.

Cross Breeding Schemes

A 'Cross Breeding Scheme' with the object of improving the local non-descript cattle in the hilly and heavy rainfall areas by the introduction of foreign jersey blood through Artificial Insemination is also functioning with headquarters at Ooty and the scheme was sponsored by the Indian Council of Agricultural Research in 1953. As per the scheme, Jersey semen is flown from the Southern Regional Artificial Insemination State, Bangalore and local cows at Ootacamund and its surroundings are inseminated. The scheme contemplates house-to-house survey of cattle in the area, milk recording at random at monthly intervals, follow-up of inseminations done, castration of scrub bulls with the enforcement of Livestock Improvement Act, investigation into fodder and feed resources, formation of livestock improvement committee at village level and all other matter relating to livestock improvement.

The Madras City milkmen are finding it difficult to maintain their cows during the dry period and for want of proper facilities in the city and round about, some of them resort to the sale of very valuable cows for slaughter. In order to avoid such depletion of milch animals, a salvage order to avoid such depletion of milch animals, a salvage farm otherwise known as 'Dry Stock Farm' is located at Alamadi in Chingleput district. The main object of this farm is to provide home for the dry cows of the Madras City during the dry period at a nominal fee of Rs. 10 per mensem and to return them after calving to the owners. The expenditure over and above the salvage fees on the scheme is being borne by Government.

Development of Sheep

It has been estimated that the sheep and goats which number 7.0 and 3.8 millions respectively as per the livestock census of 1956, contribute about 1.75 crores of rupees both annually by way of meat, wool, manure and export of these animals. The development of sheep is carried out through the sheep breeding farm, Ootacamund, Sheep section of the Livestock Research Station, Hosur Cattle Farm, Sheep Farm at Chinnasalem, Sheep Farm at Kattupakkam and the sheep shearing units in the districts.

Sheep Breeding Farm at Ootacamund was started with the main object of standardising the present woolly sheep in Nilgiris for its wool qualities to improve the carcass weights, to supply good stud rams to the public to grade up the local sheep and to study the disease problems under farm conditions. This farm has also undertaken investigation to establish suitable grasses that will stand the weather conditions of the area. For the purpose of improving the wool of local stock, both in quality and quantity by cross-breeding, ten Romney Marsh rams from Australia are stationed. This farm has been selected as sub-centre in the southern region by the Indian Council of Agricultural Research for conducting experiments with foreign rams to improve the wool yield and carcass weight.

Research Station

The Sheep Breeding Research Station is located at Kattupakkam Reserve Forest in Chingleput district with an area of 515 acres. This farm has been established to examine the possibilities of increasing the body weight of the sheep by systematic breeding with the use of superior rams of good breed suitable to the locality and also by better feeding, management and disease control. The farm was opened on 5th October 1958, with a total number of 300 sheep in different breeds.

The Sheep Shearing Units are established in various places of the districts. Intensive propaganda and visual demonstration on better production of clean harvesting of wool, using improved shears, grading of wool, deworming, and deticking of sheep and goats are undertaken periodically.

The scheme was started on 11th January 1958 and 8 centres were opened with 27 villages attached to them in the State. In addition 8 more centres are sanctioned by the Government to be opened. The object of this scheme is to organise an intensive sheep improvement programme in the selected centres with a sheep population of about 2,000 to 2,500 cows of breedable age in each centre for evolving superior breeding stock which will contribute to the increase of better and greater quantity of wool and mutton production.

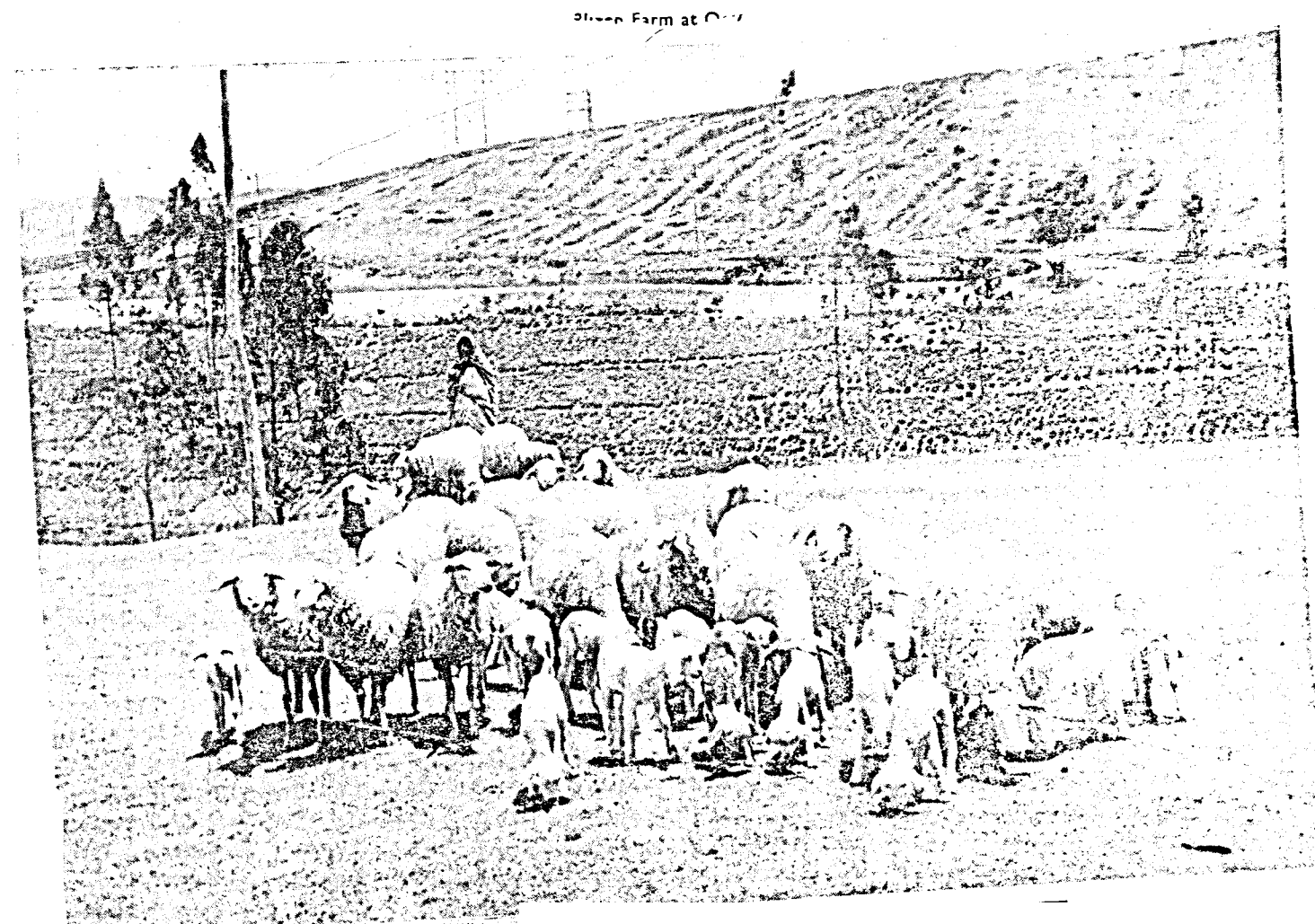
Poultry Development

There are three State Poultry Farms and 43 poultry demonstration units attached to the Veterinary Institutions. In addition, there are a number of private poultry farms also. Two big schemes under the grant from the Indian Council of Agricultural Research for production and distribution of 20,000 chickens annually at Kattupakkam and Marthandam are in operation.

Special attention has been paid under Second Five-Year Plan for poultry development. Twenty-five poultry extension centres have been established which cater for the needs of the National Extension Service Blocks in

which they are situated. These Extension Centres started with 10 laying birds are being expanded to become 500 layer flocks each. To increase egg production at village level, upgrading the village indigenous birds has been taken up as a State Scheme under the Second Five-Year Plan. Twenty Poultry Grading Centres have been established. Exotic cockerels are distributed in exchange for desi ones. This scheme envisages grading up to the seventh generation, when the indigenous population is expected to become almost equal to that of the exotic varieties. The scheme is in operation in all the areas where intensive poultry development work is undertaken. The cost of the scheme is about Rs. 3.3 lakhs.

To encourage private poultry breeders, subsidy is granted to improve their poultry farms. The present costs annually Rs. 8,500. Grading of indigenous poultry is also undertaken by the Co-operative Department. In all the Community Development and National Extension Service Blocks a sum of Rs. 5,000 per block is marked out for the establishment of poultry units and distribution of exotic cockerels for upgrading. Practical training to farmers in poultry keeping with stipends is also given annually to improve their knowledge in poultry keeping.



For the expeditious and effective control of contagious as well as non-contagious and parasitic diseases, an efficient veterinary organisation, both at headquarters and the field, has been set up in the State. The field staff consist of District Veterinary Officer, one or two in each district under the direct control of the Director of Animal Husbandry. The district veterinary hospitals, veterinary dispensaries, ~~for~~ veterinary dispensaries, touring billets and first aid centres manned by qualified veterinary assistant surgeons, veterinary and livestock inspectors and stockmen who render aid to livestock owners.

Touring Staff

There are 115 veterinary institutions consisting of hospitals and dispensaries at present in this State. In addition to these veterinary institutions, veterinary aid at village level through a team of touring staff consisting of

veterinary assistant surgeons, veterinary and livestock inspectors and stockmen, compounders are also provided. The headquarters for each of these touring billets consist of a taluk or even less. There are at present 14 such touring billets.

The general health of milch animals belonging to Co-operative Milk Supply Unions is periodically examined by the staff of this department. The milking yards in the Government Human Hospitals are also being inspected by veterinary staff periodically. These veterinary health activities together with the inspection of slaughter houses by the veterinary assistant surgeons, in the State provide the important safeguards for the maintenance of human health in the State. Apart from the above treatment of common ailments of livestock and castration of scrub animals, the staff are also concentrating their might to combat the common contagious diseases prevalent in this State.

Sinking of Sub-Artesian wells in Ramanathapuram District

The Government have sanctioned a loan-cum-subsidy scheme for the sinking of 50 sub-artesian wells in Karaikudi and Rajapalayam areas of Ramanathapuram district at a cost of Rs. 2,64,000 during 1960-61. Of this amount, assistance from the Government of India is forthcoming to the tune of Rs. 2,37,500 in the form of subsidies and loans.

Each ryot will be granted a loan of Rs. 4,500 to be recovered in five equal annual instalments with interest at 5½ per cent per annum. Centage charges at the rate of 3 per cent over the initial cost of machinery and pipes supplied will also be levied. On satisfactory completion of the well a subsidy of Rs. 500 will be allowed. If a sub-artesian well proves a failure, no loan will be granted nor will there arise the question of subsidy. A single ryot will be supplied with pipes and machinery required for more than one well provided more than one sub-artesian well is sunk in his fields and he is sufficiently solvent.

The loan will not be given in cash but will be disbursed by way of supply of lining pipes and pumping machinery required for the wells, treating the loan as on hire-purchase.

Book Review

Talisman for World's Conflicts

Mahatma Gandhi has been hailed as the apostle of non-violence. It does not however mean that the concept of non-violence was born with him. It has been there for more than three thousand years. But Gandhi it was who made non-violence a philosophy of life, a weapon of resistance.

Mr. Richard B. Gregg who knew Gandhi well has an excellent background of Indian thought and the Hindu way of life. He had been in India for a time. He has written books which shed a flood of light on Gandhi's teachings. He has won renown as one of the authentic interpreters of Gandhian economics. In *the power of non-violence* Mr. Richard B. Gregg examines the nature of the force of non-violence and explores the possibilities of its success in life, individual, national and international.

History of Non-violence

In the first chapter, the author sketches the history of the growth of the idea of non-violence. The history of the movement of ideas makes really a fascinating study. Ideas do not move fast, usually. They take time, incredibly long time, to fructify into action. "Centuries, sometimes thousands of years," says A. N. Whitehead, "have to elapse before thought can capture action." One such idea is that of non-violence. It originated three thousand years ago among the *rishis* in the forest of India. It was recorded in the *Upanishads*. The Buddha and the Jain Tirthankars developed it further about 500 B.C. Nearly at the time Lao Tzu in China and Socrates in Greece preached and practised non-violence in some form. Later Christ preached it. But it lay dormant for hundreds of years to come. In the last century, Henry David Thoreau read the *Upanishads* and the *Bhagavad Gita* and wrote his *Essay On the Virtue of Civil Disobedience*. In 1910 a copy of that essay was sent by someone to Tolstoy who made Gandhiji acquainted with it. It caught fire in Gandhiji's mind, and the result of it was seen in his action first in South Africa and later in India. Action is definitely eloquence, as Shakespeare writes.

Modern Examples

Modern examples of non-violent resistance are not also lacking. Apart from South Africa and India which witnessed the power of non-violence in all its splendour and glory due to the unparalleled activities of Mahatma Gandhi, there were other countries which demonstrated the power of non-violence. In Hungary, when the Emperor

Franz Josef tried in mid-nineteenth century to subordinate Hungary to the Austrian power; in Denmark when the Nazis invaded it in 1940; in Norway, when a pro-German Norwegian, Vidkun Quisling was made its dictator; and in the United States where the Negro has served as a weapon of resistance, non-violence has served as a weapon of resistance.

Despite the success of this doctrine of non-violence, people are still doubtful about its efficacy. But the author cannot see eye to eye with them. He examines how it works and why it works. In individual cases, it works like a moral jiu-jitsu, he says. If an attacker is paid in his own coin, he becomes sure of his own *savoir-faire*, of his choice of methods, of his knowledge of human nature and hence of his opponent. But if his victim opposes violence with non-violent resistance, he is surprised. At first he may think that his victim is a coward. But his steady resistance reveals no subservience and it gives the lie to his first opinion. And his feelings of scorn and contempt of the victim tend to exclude repugnance, disgust and contempt in relation to its object. The author gives a psychological explanation to the force of non-violence and describes lucidly the subtle interplay of forces operating during the struggle.

The author says that the hypothesis of non-violent resisters is that the strongest factor in human beings, in the long run is their unity—that they have more in common as a human family than as separate individuals. The basic assumption of these creative men of peace is that their opponents, no matter how externally forbidding and no matter what their past history, are at bottom decent and have in their hearts at least a spark of good spirit which can eventually be aroused and strengthened into action.

What applies to individuals can easily apply to groups and nations. But sceptics might say that the advent of hydrogen and atom bombs and rocket missiles, the idea of non-violent resistance completely non-sensical. This is not so, for the vast sufferings of the modern world have made the conscience of all men more sensitive. There is also strong recognition on the part of the holders of power of the importance of public opinion. Moral laws are still strong and firm and persuasive.

Substitute for War

Non-violence is also an effective substitute for war, says the author. Despite the carnage and waste and barbarity involved in war, there are nevertheless certain virtues and truths associated with it which humanity cannot afford to lose. In any discussion, therefore, of new ways of settling conflicts, these military virtues cannot safely be disregarded. The most outstanding virtue of violence is that of courage. Another virtue is energy. The sincerity of many fighters and warriors is admirable. Discipline is still another virtue. All these virtues and truths of war are given full scope and exercise in the non-violent method of settling disputes. But it is more efficient than war because it costs far less money as well as in lives and suffering and because it achieves the legitimate object of war, i.e., peace, quickly, probably quicker than war. Non-violent resistance is therefore not only an effective substitute for war but it is definitely a better one, one that becomes mankind.

The author has also attempted to show why persuasion of this sort is more powerful and more permanently advantageous than physical coercion. If we want a better world, we should be prepared to do bit of a careful thinking which leads but to the adoption of the doctrine of non-violence not only in individual life but in the national as well as inter-national affairs. It is the amulet for world's conflicts. The author writes lucidly and persuasively. There is as much realism in this book as there is idealism as the great Quaker leader Rufus Jones has said.

S.T.K.

THE POWER OF NON-VIOLENCE: By Richard B. Gregg
Newman Publishing House, Ahmedabad-14. pp. 228
Price Rs. 2-00.



Sri C. Subramaniam, Finance Minister, gave a party to Dr. B. V. Keskar, Union Minister for Information and Broadcasting, at the Children's Theatre on the 22nd June 1960.

Harijan Welfare in Madras State

The total population of the State of Madras is 357 lakhs out of which 56 lakhs are Harijans. The betterment of this down-trodden community has long been a problem in the country. The Father of the Nation, Mahatma Gandhi, took up the cause of the Harijans as his sole mission in life and the problem of the Harijans assumed national importance as a result of his championship. Efforts were made in this State from 1920 to advance the cause of Harijans but not much headway was made. It was after the advent of Mahatma Gandhi that the work for the removal of untouchability was seriously tackled on a nation-wide basis. He declared that "without the removal of the taint of untouchability, 'Swaraj' was a meaningless term" and under his leadership, very many things were done for improving the lot of the Scheduled castes whom he called by the collective name 'Harijans'.

Following in the foot steps of the Mahatma, the Madras Government have enacted 'The Removal of Civil Disabilities Act, 1938', 'The Removal of Civil Disabilities (Amendment) Act, 1947' and 'The Madras Temple Entry Authorization Act, 1947' which have legally abolished untouchability in all its forms. These Acts helped a good deal for the removal of social disability among the backward communities. But the evil of untouchability cannot altogether be blotted out by legislation alone—for it has taken deep root through the ages. It is really the economic want and the educational backwardness of the Harijans that lead to other disabilities. With a view to lift them out of their present position, the State of Madras have from 1946 taken up a constructive programme of amelioration of the Harijans.

✓ Separate Department

A separate department, namely, Harijan Welfare Department was constituted in 1949 to look after the ameliorative measures of the backward classes. Since then large amounts have been spent year after year and the allotment is also being increased year after year. During the First Five-Year Plan period, some schemes were also introduced for the betterment of the backward classes, especially for the scheduled castes over and above the State funds. During the year 1951-52 alone, a sum of Rs. 123.51 lakhs was spent for the composite Madras State. During the Second Plan period more effective steps have been taken to ameliorate them. A sum of Rs. 624.09 lakhs have been set apart for the Second Five-Year Plan,

over and above the State funds towards the betterment of the lot of the Harijans in the fields of education, housing, public health, agriculture, Cottage industries and publicity.

All the above ameliorative measures are being extended not only to the Scheduled Castes but also to the Scheduled Tribes and Denotified Tribes. Educational concessions are alone being extended to other Backward Classes

In the field of education the following facilities have been provided :—

1. Maintenance of schools run by the department,
2. provision of scholarships, boarding grants, purchase of books and clothing and payment of examination fees,
- (3) maintenance of free hostels by Government at important centres all over the State and (4) grant of financial assistance to private bodies engaged in the maintenance of hostels, schools, etc., for the benefit of eligible communities.

Award of Scholarships

The provision for 1959-60 is Rs. 142 lakhs and for 1960-61 is Rs. 177 lakhs. The Government are giving to the students of eligible communities, non-recurring grants and residential and non-residential scholarships from elementary classes to M.A. in the arts courses. Both residential and non-residential scholarships are also being granted to them for different professional courses such as Law, Medicine, Engineering, Agriculture, B.T. Courses, Commercial Training, Midwifery, Nursing, D. Pharmacy, B. Pharmacy, etc. Both degree and diploma courses are covered in subjects such as Engineering. Ten scholarships have been granted to students in Law Courses and three scholarships for these in Post-Graduate course in Arts colleges. Scholarships are also being granted to these students undergoing industrial training courses in institutions recognized by the Government.

Special scholarships have been instituted from 1956-57 onwards for the students of eligible communities for undergoing Civil Aviation Course in the Madras Flying Club and training in Sainik Course, Dehra Dun. The Government have recognized the B.D.S. (Bachelor of Dental surgery) Course conducted by the Madras Medical College, the M.O.L. Course of Annamalai University and the Madras Institute of Technology for sanction of scholarships. In 1957-58, the Government have recognized the Institute of Rural Higher Education at Gandhigram,

Madurai district and 1958-59 the College of Rural Higher Education, Perianaickenpalayam, Coimbatore, was also recognized for purposes of granting scholarships from the Harijan Welfare Department.

State Government Supplements

For all the above scholarships for eligible communities, the revised budget provision for 1959-60 was Rs. 15.00 lakhs. An additional sum of Rs. 3 lakhs was sanctioned during the course of the year. For 1960-61 a provision of Rs. 15.30 lakhs has been made.

From 1956-57 the Government of India have undertaken to give scholarships to all post-matric students belonging to the Scheduled Castes and Scheduled Tribes. As regards the other Backward Classes, the Government of India grant scholarships on merit basis. In some cases the scholarships granted by the Government of India have been found to be inadequate to meet the actual requirements of the students. In such cases, the Government of Madras have undertaken to supplement the difference between the actual expenditure incurred by the students and the scholarships granted by the Government of India.

The amount spent by the Union Government for award of scholarships have now been entrusted to the Director of Harijan Welfare, Madras, in our State and a sum of Rs. 23.56 lakhs has been sanctioned during the current year for award of scholarships. A sum of Rs. 23.87 lakhs has been provided for 1960-61 for this purpose.

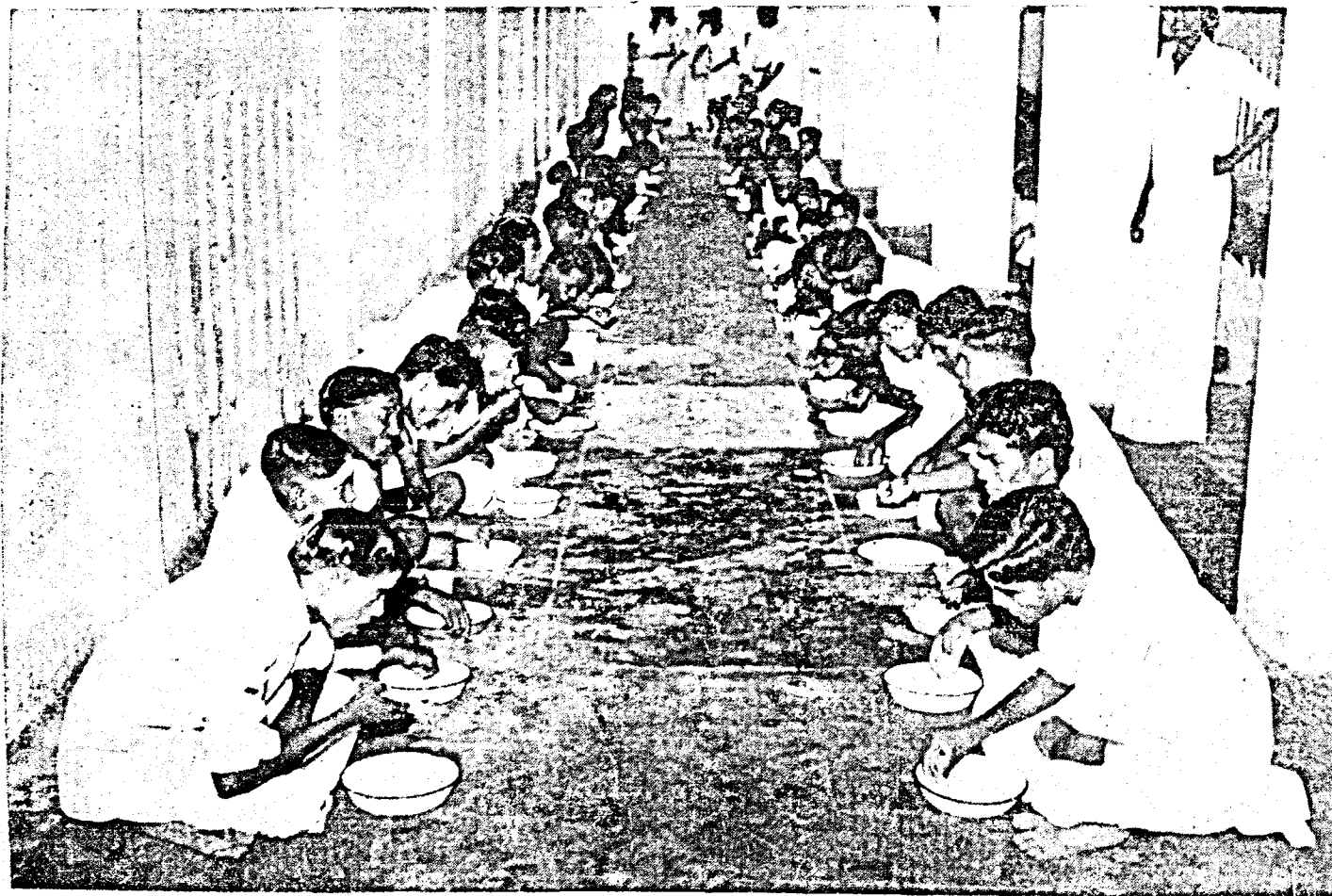
Further, as some delay occurs in the actual grant of scholarships which causes inconvenience to the students, the Director of Harijan Welfare has been authorized to grant to eligible community students advance not exceeding Rs. 200 per student to be adjusted later when the scholarships are sanctioned.

No more Segregation

The Government have, for a long time, been maintaining separate schools for the education of the eligible communities.

To avoid segregation of the Harijan students from the students of other communities, the Government have decided not to open new Harijan Welfare schools. Where there is no common school in which the Harijans could

Harijan Students being served meals



also be admitted, the Government will persuade the district board or local bodies who are primarily responsible for elementary education, to open new schools. But in exceptional cases when either the district board or local body concerned is not in a position to open a school, the Government will consider the opening of a new Harijan Welfare school.

There are nearly 1,000 elementary schools, three High schools and 72 basic schools under the control of the Harijan Welfare Department. This costs the Government Rs. 20 lakhs. There are no Harijan Welfare schools in Kanyakumari district, but there are 20 night schools and one P. School under the control of the Harijan Welfare Department. Midday meals are supplied to all pupils in Harijan Welfare schools. The scheme is proposed to be continued for 1960-61 also.

Hostels for Students

The Government are also affording accommodation for boarding and lodging by opening hostels for boys and girls. At the beginning of the year 1959-60 there were 90 Government Harijan hostels in the State including Madras city and they were run at a cost of Rs. 11 lakhs. During the current year 23 subsidized hostels were taken over by the Government. Twenty hostels were also opened during the current year. Thus the total number of hostels comes to 133 at present. It is proposed to take over 32 subsidized hostels during the next financial year (1960-61).

The sums of Rs. 9.1 lakhs and Rs. 3.51 lakhs have been sanctioned for 1959-60 for the maintenance of these hostels under State and Grant-in aid schemes respectively. One building at a cost of Rs. 1.34 lakhs has been purchased in Madras city and a hostel has been housed there. A sum of Rs. 11.29 lakhs from State funds and Rs. 4 lakhs from Grant-in-aid funds have been provided for 1960-61 for the maintenance of the hostels. During the current year a site has been purchased in Saidapet for the construction of a hostel building and the work will be completed during 1960-61.

Boarding Grants

There were 155 subsidized hostels in the state receiving boarding grants at the rate of Rs. 15 per mensem per boarder. The Government have decided to take over these hostels in batches and run them as Government hostels. Pupils belonging to forward communities are also given Rs. 10 per mensem as boarding grants for ten months with a view to attract them to join the hostels. With a view to eradicate the untouchability and to end the segregation, the Government have ordered the admission of pupils belonging to the forward and backward



A Harijan Colony

communities also in the Government Harijan hostels. The following proportion is generally followed in regard to the admission of students in the Government hostels :—

	PER CENT.
Scheduled Castes	75
Backward Classes	15
Advanced Communities	10

The Government have recently ordered that the students belonging to Forward Communities should be admitted in the Government Harijan hostels as free boarders up to 10 per cent of the sanctioned strength.

With a view to encourage the Harijan boys and girls to study well, the Government have sanctioned the award of two gold medals and two silver medals in each district to the best and next best Harijan boys and girls who pass the S.S.L.C. examination with the highest marks among the Harijans.

Midday meals are being supplied to both Harijan and non-Harijan students in the Harijan Welfare schools and to the Harijan students alone studying in non-Harijan Welfare schools. During 1960-61 onwards the Government have decided to supply midday meals in Kallar schools in Madurai district.

Housing Schemes for Harijans

From 1956-57 onwards houses are also constructed for the Harijans, Scheduled Tribes and De-notified tribes under Grant-in-aid Schemes and Centrally Sponsored Schemes. During 1958-59, 2,054 houses for Harijans, 342

for Scheduled Tribes and 653 for De-notified Tribes were constructed. One thousand one hundred and eighty eight houses were partially constructed and repaired for Harijans and De-notified tribes in the riot-affected area of Ramana-thapuram district during 1958-59.

Generally, the Government subsidy consists of Rs. 550 per house. The beneficiaries are expected to contribute a sum of Rs. 200 either by way of labour or in cash. An interest-free loan of Rs. 200 is granted per house wherever the beneficiaries are not in a position to afford their contributions. These loans are recoverable in 80 equal monthly instalments.

Provision of house-sites to Harijans is an important item in the Harijan uplift programme. Since 1949, house-sites are given free of cost to all Harijans who do not own houses and who cannot afford to pay the cost of acquisition. Under the scheme, each Harijan family is ordinarily assigned three cents in wet areas and 5 cents in dry areas. This extent is exclusive of the land required for the provision of common places like streets, pathways, etc. In cases where Harijans already own house-sites which are less than the minimum extent prescribed, or where the existing house-sites are very congested, the minimum extent required is given free of cost in the new sites to those Harijans who relinquish their old sites unconditionally. Wherever necessary, wholesale shifting of colonies is also sanctioned. The scheme for the acquisition of house-sites is in operation in all the districts except in the Madras city. Till July 1956, the scheme was confined to only rural areas. Subsequently it is being extended to Class I Panchayat and Municipal areas.

Poramboke lands occupied by the Harijans are usually assigned to them if there is no objection. Even when the occupation is objectionable, eviction of the Harijan occupation is deferred till alternative sites are found for them.

Amounts as shown below have been spent on the acquisition and assignment of house-sites to Harijans :—

Year.	Amount spent.
1952-53	4,60,294
1953-54	2,56,487
1954-55	1,55,588
1955-56	4,33,668
1956-57	5,48,959
1957-58	4,69,403
1958-59	6,23,151

In 1959-60 a sum of Rs. 4 lakhs has been provided under Budget Estimate under State funds for the purpose. A sum of Rs. 6.85 lakhs in the Budget Estimate for 1959-60

has also been provided for the purpose of provision of house-sites and sanitary amenities, viz., construction and repair of drinking-water wells, pathways, burial grounds, etc., and electrification of Harijan colonies under Grant-in-aid funds. Similar allotments are also made for 1960-61.

Electrification of Harijan colonies

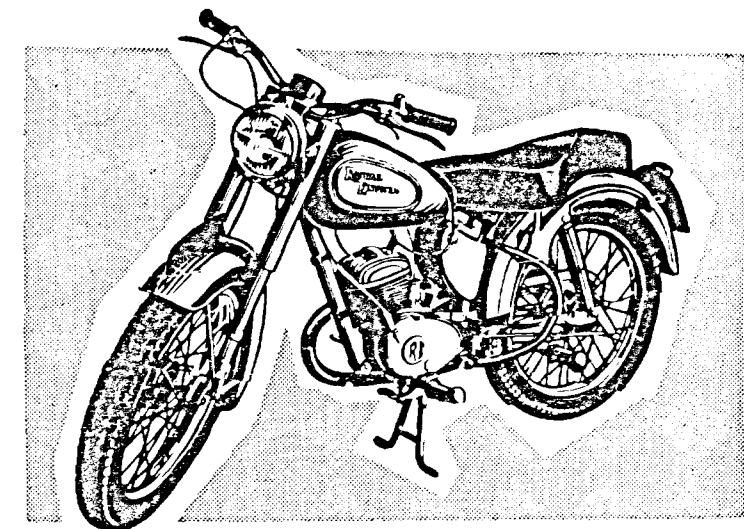
In order to achieve the progressive electrification of the Harijan colonies, the Government have undertaken the subsidies from the Harijan Welfare budget a sum not less than Rs. 1.5 lakhs each year from 1957-58 towards the shortfall in revenue accruing from extension of electricity to Harijan colonies in panchayat areas covered by electricity, so that it may prove an incentive to the Electricity Board to take up such expansion programme. Instructions have also been issued that in evolving schemes in future for the electrification of panchayats, comprehensive scheme should be prepared including the adjoining Harijan colonies. During 1958-59 a sum of Rs. 2 lakhs has been spent. For 1959-60 a sum of Rs. 1½ lakhs has been set apart. For the year 1960-61 a similar provision has been made.

A sum of Rs. 3.5 lakhs has been provided under the Budget Estimate for 1959-60 for construction and repair of drinking-water wells, pathways and burial grounds, etc., under State funds. A sum of Rs. 6.85 lakhs has been set apart under Grant-in-aid Schemes for the current year for sanitary amenities, acquisition of house-sites and electrification of Harijan colonies. During the year 1958-59, 175 wells have been repaired at a cost of Rs. 2.51 lakhs.

Subsidy for Agriculture

Agriculture subsidy at the rate of Rs. 285 each for the purchase of a pair of bulls, seeds and agriculture implements is being granted to the Harijans in all the districts except Madras and Nilgiris. The total number of grants intended for the year 1959-60 is 1,752 covering a sum of Rs. 5 lakhs. Another sum of Rs. 4 lakhs has been set apart for sinking of 267 irrigation wells at the rate of Rs. 1,500 each in the above districts. The above grants are under the Grant-in-aid Schemes and Centrally-Sponsored Schemes. A sum of Rs. 6.16 lakhs has been set apart during 1959-60 for the purchase and supply of 2,156 pairs of bulls in all the districts except Madras. Thus it will be seen that a sum of Rs. 15.16 lakhs has been provided for the purchase of bulls, etc. The District Welfare Officers have been instructed to purchase the bulls themselves with the help of the District Veterinary Officers wherever possible or with the Veterinary Assistant Surgeons. They have also been instructed to brand the letters "H.W." on the bulls before they are delivered to the beneficiaries.

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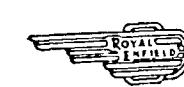


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Dr. P. Subbarayan, Union Minister for Transport and Communications, who declared open the new Administrative Office building of the Perambalur District on 20-6-1960 and Sri C. Subramaniam who presided over the function, are seen in the picture inspecting the map.

The Secretariat Officers' Association arranged a party to meet the Chief Minister and the Finance Minister on 24-6-60 at the Woodlands Hotel.



33 132

Another important measure in the direction of the economic uplift of the Harijans is the starting of land colonization societies for the Harijans. A Special Deputy Collector has been appointed with jurisdiction over the State and he is attached to the Office of the Director of Harijan Welfare, Madras. He tours the whole State, contacts the District Welfare Officers, District Agricultural Officers, Deputy Registrar of Co-operative Societies, Tahsildars, leading Harijans, etc., locates compact waste blocks of Government lands fit for assignment and then takes steps to form land colonization societies. Work in this direction has been started in Mangalamedu, Mandaiyet and Nargunam in Tiruchirappalli district during 1958-59. In Mangalamedu of Perambalur taluk nearly 200 acres of dry lands have been assigned to the Harijans who have formed themselves into a co-operative society and are carrying on agricultural operation jointly. Five irrigation and one drinking water wells have been sunk at Government cost during 1958-59. They have also been supplied with 10 pairs of plough bulls free of cost and agricultural implements and seeds.

Ten Land Colonization Societies for the reclamation of waste lands involving tractor ploughing, etc., has been registered during the current year. There are six such societies in the Salem district, three in South Arcot district and one in Madurai district.

Development of Cottage Industries

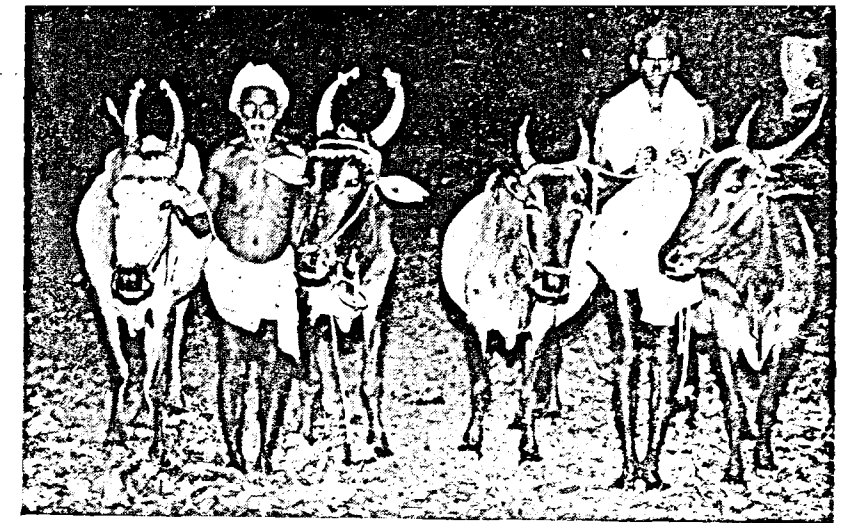
Under the grant-in-aid schemes a sum of Rs. 60,000 has been sanctioned for 1959-60 for giving training to six Harijan students, each in eleven industrial workshops in the State.

During 1960-61 a sum of Rs. 1,00,000 has been proposed for the above purpose.

A sum of Rs. 3.70 lakhs has been sanctioned during 1959-60 under the Centrally sponsored scheme for Scheduled Castes towards the Cottage Industries Scheme for starting nine Industrial Co-operative Societies in the districts of North Arcot, Salem, Kanyakumari, Tirunelveli, Thanjavur, the Nilgiris and Madurai and also for the continuance of old societies. During 1960-61 provision of Rs. 4.50 lakhs has been provided for this purpose.

Eradication of Untouchability

Mahatma Gandhi started the Harijan Welfare Work as he found the evil of untouchability among Indians was a sore to the nation impeding its advancement in all walks of life. He had done many things to eradicate the disease. But unfortunately before the completion of the work he had passed away and the Government are now carrying on the work started by the Mahatma.



Ploughing bulls presented to Harijans

Under the Untouchability (Offences) Act, 1955, any one can be punished if he or she obstructs a Harijan in entering into a hotel or likewise places, run by a caste-Hindu or so-called high class peoples. Similarly no obstruction should be made for drawing water from common wells in villages.

Medals are awarded for the meritorious service rendered by the village headmen and social workers in removing the evil of untouchability. All taluk headquarters are now having a Deputy Sevak who is doing intensive propaganda against the evil of untouchability among the public. Eighteen community centres were also constructed in all the districts.

Propaganda in Villages

Each centre is having a male and female social worker, and women attendant. They are doing the intensive propaganda work in the villages lying within a radius of three to five miles from their headquarters. In the centre, play-materials, bajanai materials and first-aid equipments are also available. Harijan children are given regular bathings and taught to be clean and neat. Multi-vitamin tablets, etc., are also supplied. In the evenings elders from the Harijan community and from other communities gather and conduct bajans. These centres are functioning to enable the caste-Hindus and Harijans to mingle with each other at the time of bajans, dramas, and meetings. These centres are also "the guides" to the poor Harijans for imparting better knowledge and creating better hygienic conditions in the villages. The Government have also ordered that "Harijan Week" should be conducted once in a year on State-wide basis in the month of January, to coincide with the Pongal Festival. A sum of Rs. 1,000 has been sanctioned for each district for this purpose. The programme of the activities consists of holding meetings, common dinner, distribution of sweets, street cleaning campaigns, etc. This scheme has been introduced during the year 1959.

Lump sum payments are being given to Harijan Sevak Sangh, Madras, Depressed Classes League, Madras, and Sath Guru Serva Samarasa Sangam, to issue and exhibit posters and pamphlets to carry on the propaganda against the evils of untouchability and also to carry on such activities as deemed fit to the speedy eradication of untouchability. A stall for Harijan Welfare was in the All-India Khadi Exhibition at Madras in December 1959. The public appreciated the exhibits and charts displayed at the stall.

Technical Training

Many persons belonging to the Scheduled Castes having undergone training in several technical courses find it difficult to settle down in trade or business for want of funds to purchase necessary tools or equipments. Therefore subsidies are being granted to the Scheduled Caste persons who have been trained in the following trades in the shape of tools and implements at a cost of not exceeding Rs. 500 per member :—

1 Blacksmithy	7 Plumbing
2 Carpentry	8 Gas welding
3 Fitting	9 Sewing and embroidery
4 Light metal	10 Tailoring (Leather)
5 Book binding	11 Other miscellaneous trades
6 Electrical wiring	

During the first four years (1956-60) 3,190 persons (Harijans) have been benefited by this scheme. Charkas were also supplied to deserving Harijans under this scheme.

The scheme of granting subsidy to the Scheduled Castes agriculturists at the rate of Rs. 285 per member to enable

them to purchase plough bulls, agricultural implements and seeds as detailed below is being implemented :—

	Rs.
For purchasing a pair of bulls ..	250
For purchasing agricultural implements.	25
For purchasing seeds	10
Total ..	285

Nine thousand nine hundred and ninety-three persons have been benefited by this scheme, during the last four years (1956-60) in the districts of Chingleput, North Arcot, Thanjavur, Salem, Coimbatore, Ramanathapuram, Kanyakumari, Tiruchirappalli, Tirunelveli and Madurai.

Supply of Drinking Water

Two hundred and forty-five wells have been sunk during the last four years in the districts of Chingleput, South Arcot, Tiruchirappalli, Kanyakumari, Salem, Coimbatore, Ramanathapuram, Tirunelveli, Thanjavur and North Arcot.

Harijan Welfare Schools

The Harijan Welfare work in the City of Madras is in charge of one of the two Personal Assistants to the Director of Harijan Welfare. There are three Lower Elementary Schools and two Higher Elementary Schools in the City run by the Harijan Welfare Department. The total strength of the schools is 2,187.

There are four hostels run by the Harijan Welfare Department in the City, two for girls and two for boys, with a sanctioned strength of 590 boarders.

Midday meals are also being supplied to Harijan students studying in the City Harijan Welfare Schools and non-Harijan Welfare Schools.

BLACKSMITHY AND CARPENTRY TRAINING CENTRE

The Government have sanctioned the establishment of a Training-cum-Service Centre in Blacksmithy and Carpentry at Tiruvizhimazhalai in the Kodavasal Block, Thanjavur district. The object of the scheme is to provide training in the operation of improved types of modern machinery and tools to eight artisans in each industry (blacksmithy and carpentry) and to render servicing facilities to artisans and others in times of need. The trainees will be paid stipends at Rs. 25 per mensem each. The Unit will be converted into an Industrial Co-operative Society after the training is completed. The Government have sanctioned an expenditure not exceeding Rs. 23,910 non-recurring and Rs. 6,780 recurring for both the sections.

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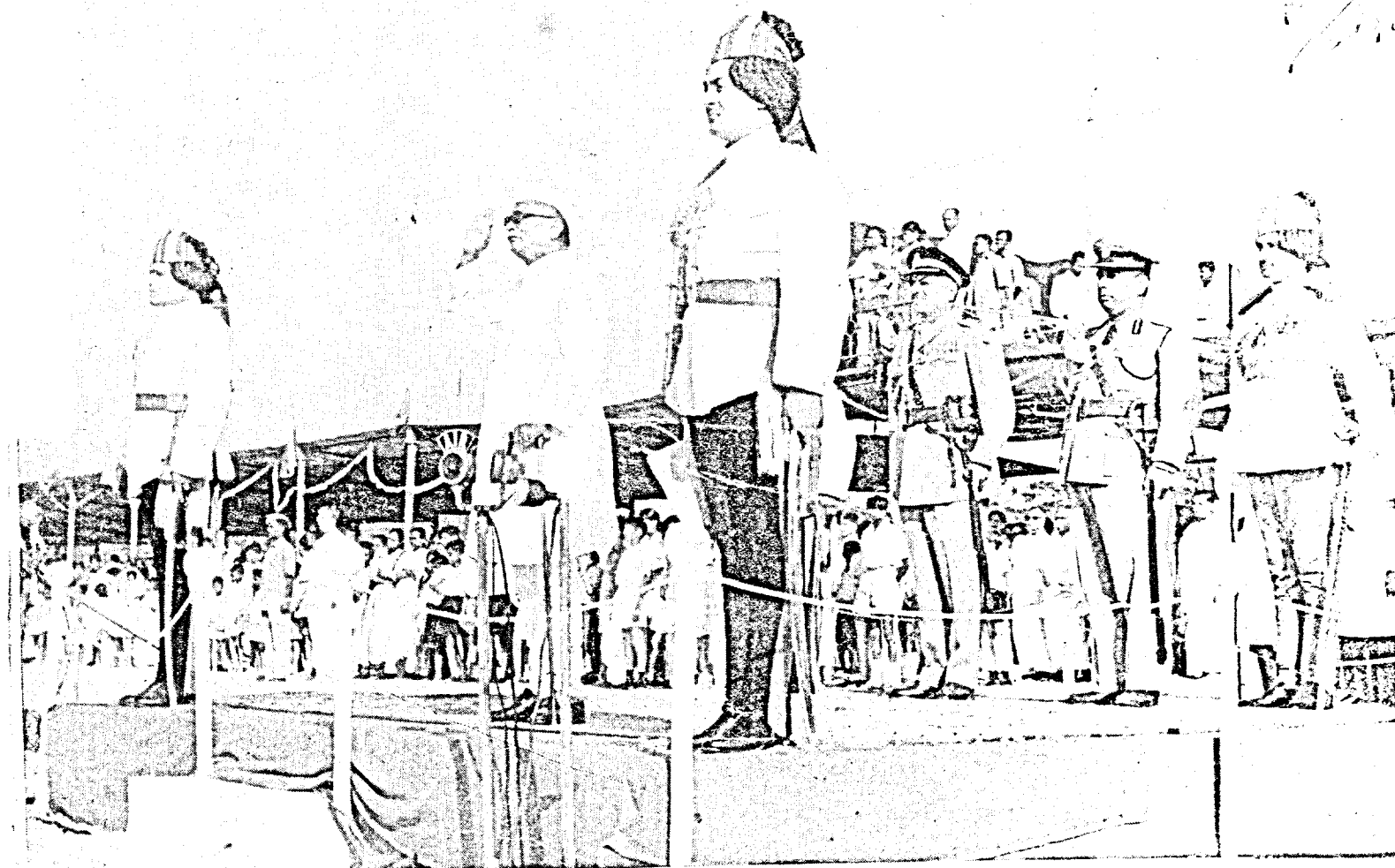
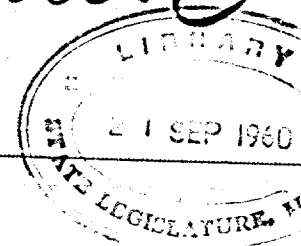
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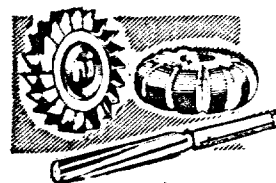
This month's cover

Dr. Rajendra Prasad, President of India, who celebrated the Independence Day at Madras this year, took the salute at the Island grounds.

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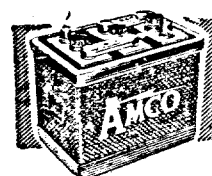
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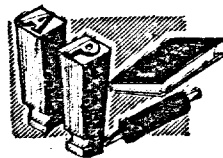
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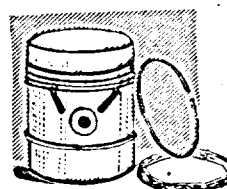
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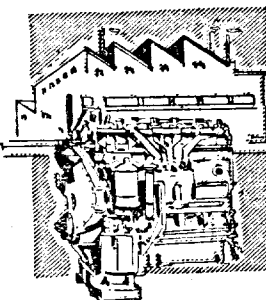


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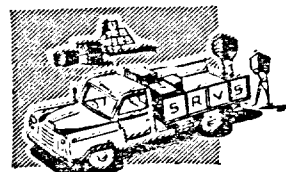
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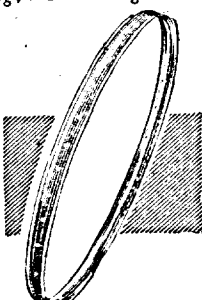
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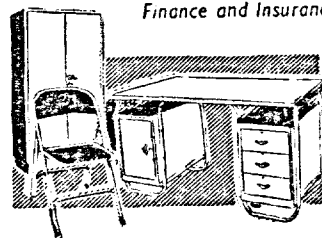


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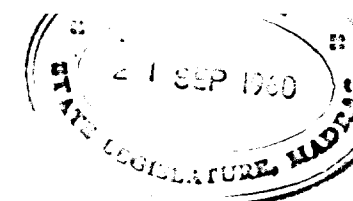
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Let us plant more trees

By SRI C. A. R. BHADRAN, I.F.S., Chief Conservator of Forests, Government of Madras.

Vanamahotsava was first celebrated in 1950. We have so far had ten such annual celebrations. The 11th Vanamahotsava was celebrated in the first week of July this year. But the actual tree-planting continues till the end of October 1960 and the week commencing from 2nd October 1960 will be celebrated as a Special Week for planting in areas where seasonal conditions are favourable for such work.

The celebration of Vanamahotsava is not an inevitable ritual but a purposeful national endeavour to remedy the situation of serious deterioration brought about by a general lack of appreciation of the vital and salutary role that trees and forests play in the human environment.

The article on this page enumerates the various cases to which trees are put in our life.

To say that trees are useful to man, would be but stating the obvious: but man's primary dependence on trees and their products may require to be explained. In many ways the trees serve us, and for our daily needs, for our progress, and for our prosperity, they are useful.

Of course, the first product that we associate trees with is timber. A few versatile timbers (like teak) are good almost for any use; but they are not plentiful and the high costs would preclude them from being used except selectively. Then there are numerous other hard-woods particularly suitable for specific uses like heavy constructional work, railway track sleepers, bridging and whar-piles, furniture, and so on. Again, soft-woods obtained from pines and similar species furnish the bulk of the world's pulp for newsprint, paper and rayon. Recent advances in wood utilization have opened up vast possibilities for wood pulp to be processed also into boards of various kinds, for a variety of uses. Some woods are also much in demand for making matches, for packaging, etc. Wood poles from suitable species, serve as supports for telegraph, telephone and electric transmission lines. In all means of transport, ancient and modern for movements over land, across the seas or in the air, timber plays an important, often vital part. Not so readily noticed, just because it is so common, is timber used in small sections, for (say) tool-handles, agricultural implements and simple furniture.

Essentiality of Timber

Thus timber is an essential requirement for man, in his dwellings, for his home comforts, in food production, for transport, in industries—in short, for his very existence. It would be only a truism to say that timber is inseparably associated with man, from cradle to coffin.

Trees afford so many other valuable or useful products too. Firewood is still the most commonly used fuel. Almost all edible fruits are grown on trees of one kind or another. Many trees yield fodder, others tan-barks and tan-fruits and still others fibres, flosses, gums, essential oils, drugs, etc. Trees of the pine group are our main source of resins and turpentine. There is also the significant fact that the products of trees are the only naturally renewable resource, as amongst all raw materials.

For public weal

Besides yielding useful products, trees contribute in no small measure to our general well-being. No protection from the sun can be more satisfying than tree-shade on a hot day. No engineering works can arrest soil erosion more effectively than tree roots spreading over and penetrating deep into the soil. Nothing else can help conserve

The Banyan Tree at Adyar



moisture and regulate stream-flow better than tree crops. No artificial effort can influence and ameliorate local climate as tree forests can. The protective role of trees and tree crops in nature conservation has come to be fully recognized only in recent times; and, at least now, it would behoove us to ensure that nothing that we do will detract from these invaluable functions of trees.

And trees are important to us not merely for these physical attributes. Particularly in our land, there is the hoary tradition that trees and forests are the sole resort of all those seeking inspiration, mental peace and spiritual advancement. The classic instance may be quoted of the Enlightenment that came to the Buddha under the Bodhi tree. To this day, the worship of trees is a common practice in many parts of the world. Trees and their variegated foliage, flowers and fruits are inseparable from any well-developed sense of the aesthetic, too.

A Teak Tree



No grant edifice, no well-laid out colony, no towering temple can be pleasing to the eye unless they are set amidst trees and shrubs.

Helping Generations

There are great trees that outlive many generations of human lives; for instance, the giant sequoias that stand astride the national highway in Western United States of America, the gnarled old oaks of Britain, and the majestic deodar in the temple groves of the Western Himalayas. The spreading banyan trees such as in the Botanical garden in Calcutta or the Theosophical Society in Adyar, can literally afford shelter and shade for a king and his entire retinue, as a Tamil poet sings. Thus, trees are venerable and worthy of every consideration from us even because of their very longevity if not for their capacity to give without restraint. Let us not overlook the fact either that trees serve us, alive or dead, standing or fallen, today, and for ever.

Is it necessary then to restate the obvious—that trees are synonymous with man's prosperity? I am afraid the answer to this question has to be 'yes'—since all of us unconsciously take trees for granted, avail ourselves freely of every variety of service and benefit that trees render us, but rarely take any steps to ensure that trees will always be there, even if only to continue to serve future generations equally.

Time was when human population on earth was small, localised and simple in its ways and needs; and the forests were extensive and trees plentiful. But man's activities have expanded enormously and his social organization has become increasingly complex; and all this has led to heavy inroads into the World's resources of trees and timber. Man has to be reminded constantly that especially in the face of the rapid multiplication of his own kind, there will be trees (at any rate, in adequate numbers) for a subsequent generation only if the people of today will plant trees in plenty, here and now, and look after them.

Specialist organization

Admittedly, the management of tree crops in regular forests (which serve mainly to protect the factors of the locality and to produce timber, firewood and minor forest products), has to remain the concern of a specialist organization, the Forest Department. But even that Department cannot effectively safeguard this national asset without the co-operation of the people in such matters as preventing excessive grazing (which can be so inimical to good tree-growth), protecting forests against fires (which cause immense damage to trees of all ages) and desisting from all other acts that would be opposed to good forest conservation.

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But regular forest crops in areas set apart for the purpose cannot alone contribute in full measure to our prosperity. Trees raised on all possible sites by personal or private effort can also count for so much. It is common knowledge in South India that a coconut tree standing in an odd corner of a small homestead will keep the household supplied with coconuts, roof-thatching, etc. A mango tree in one's small compound will afford the luxury of good fruit which one probably cannot afford to buy. A few bamboo clumps in its backyard will not only make a village home self-sufficient in the matter of material for fencing, roof-frames, house posts and walling, but may also help supplement the family income. Fast growing exotics like casuarina and eucalyptus can yield good returns and also serve usefully, especially for alternation with field crops on marginal lands. While timber trees may take longer periods to grow, they too can, on reaching maturity, prove very valuable: a single well-formed, full-grown teak tree can almost mean wealth to its owner, in return for nothing more than a minimum of care bestowed on it years previously, by a fore-father! Tree plantations can be so developed by village communities as to make the latter self-sufficient in firewood, fodder and small timber. The idea of forest industries raising their own raw materials has yet to take root in our country. That all this is intensely practical should however be apparent from the fact that in the United States of America and other advanced countries, a large part of industrial supplies besides most of the domestic needs for forest products, is derived from private holdings.

It should be abundantly clear that the prosperity of our ever-increasing population is inextricably linked with their growing trees, even as with their growing food crops, etc. Let us realize that the trees we use to-day are an inheritance from our predecessors and it is our bounden duty to pass it on, in an equally productive state, for our

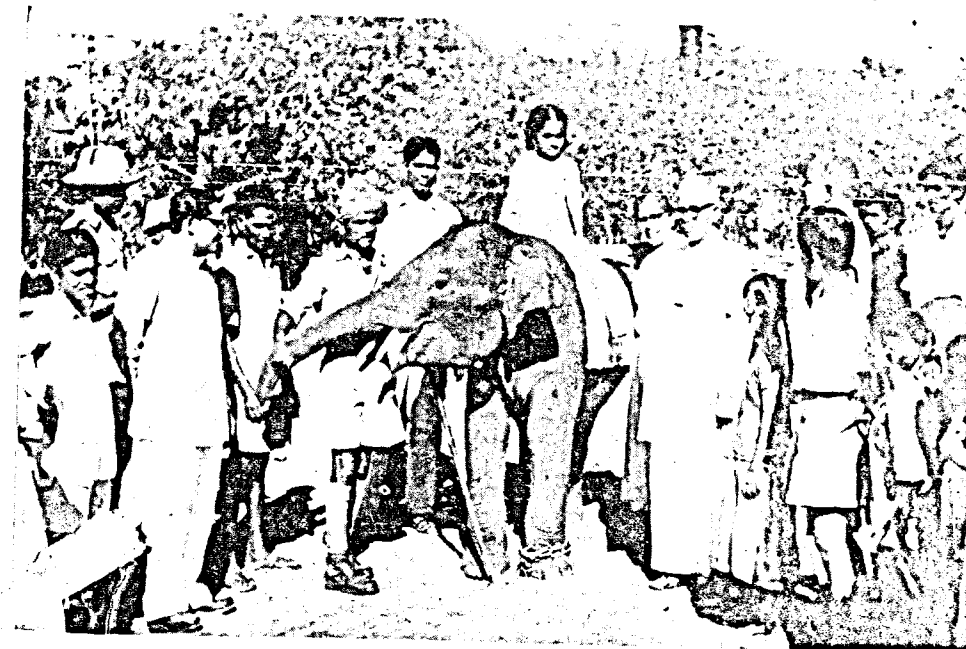


The view of a Forest

successors to benefit by. How best can this be assured? Firstly, by planning for the future; secondly, by taking no tree out, unless its replacement has been effected; thirdly, by husbanding carefully the available resources so as to last our time; and lastly, by extending tree-planting to the fullest extent possible.

The concept of 'Vana mahotsava' or Festival of Trees seeks but to emphasize the urgent need for attention to this aspect of human well-being. 'Vanamahotsava' cannot succeed in its mission if it is to be merely an annual festival. The trees most required and yet best suited to the locality have to be decided upon. They have to be raised initially in nurseries, planted out in the right season and cared for, at least for the first few years. It is amazing, however, how little work all this means in practice. A small effort to plant the tree and a little after-care will result in the tree rendering ten-fold, if not hundred-fold returns, in due course.

So, let us plant and rear trees, more trees and trees of all kinds—in order that we may prosper—individually, collectively and as a nation.



Sri M. Bakthavatsalam, Minister for Home, inspecting the elephant 'Sairam' gifted away to Ghana by the Madras Government at the Children's Park, Guindy, on 16th July 1960.

Khariff Campaign

Our country experienced acute shortage of foodgrains even after the termination of the second world war. It is with the primary object of attaining self-sufficiency in foodgrains and getting released from the dependence on other countries for their supplies, that the Central and State Governments not only decided to continue the special incentives offered to the agriculturists under the "Grow More Food Scheme" but also initiated numerous other schemes under the Five-Year Plans for this purpose. Though foodgrains production increased appreciably in the country, it merely helped to tide over the acute food shortage. Since the requirements of foodgrains were found to increase at a fast rate with the rise in the standard of living and rapid growth of the population, it was felt that the rate of increase in their production envisaged in the Second Plan would not meet the actual needs. Therefore, special efforts were required to be made to secure a much larger increase in production. To achieve this objective, the Prime Minister of India decided early in 1958-59 that a special 'Rabi Campaign' should be carried out in the Northern States for the purpose of stepping up production of certain rabi food crops like wheat, jowar, bajra and bengalgram. Under this campaign it was proposed that all available resources in the private and public sectors should be mobilized and the active participation of the farming community should be ensured in order that the campaign may bring in the desired results. Encouraged by the success achieved in respect of the rabi crops in the Northern States, it was decided that other States in the country should also launch similar campaigns during the Khariff and Rabi seasons of 1959. Realizing the urgency and importance of such an effort, the Madras Government too decided to launch such a campaign in this State.

Campaign for increased production

There are no clear cut Khariff and Rabi seasons in this State. Hence the campaign was designated as a "special campaign for increased production of food crops". As the main agricultural season in this State commences in June-July and reaches a peak by October-November, it was felt necessary to keep the campaign alive throughout the fasli year. Under this campaign, it was proposed to confine attention to the principal food crops, viz., paddy, cholam, ragi and cumbu and concentrate work mainly on those measures which are capable of yielding quick and tangible results.

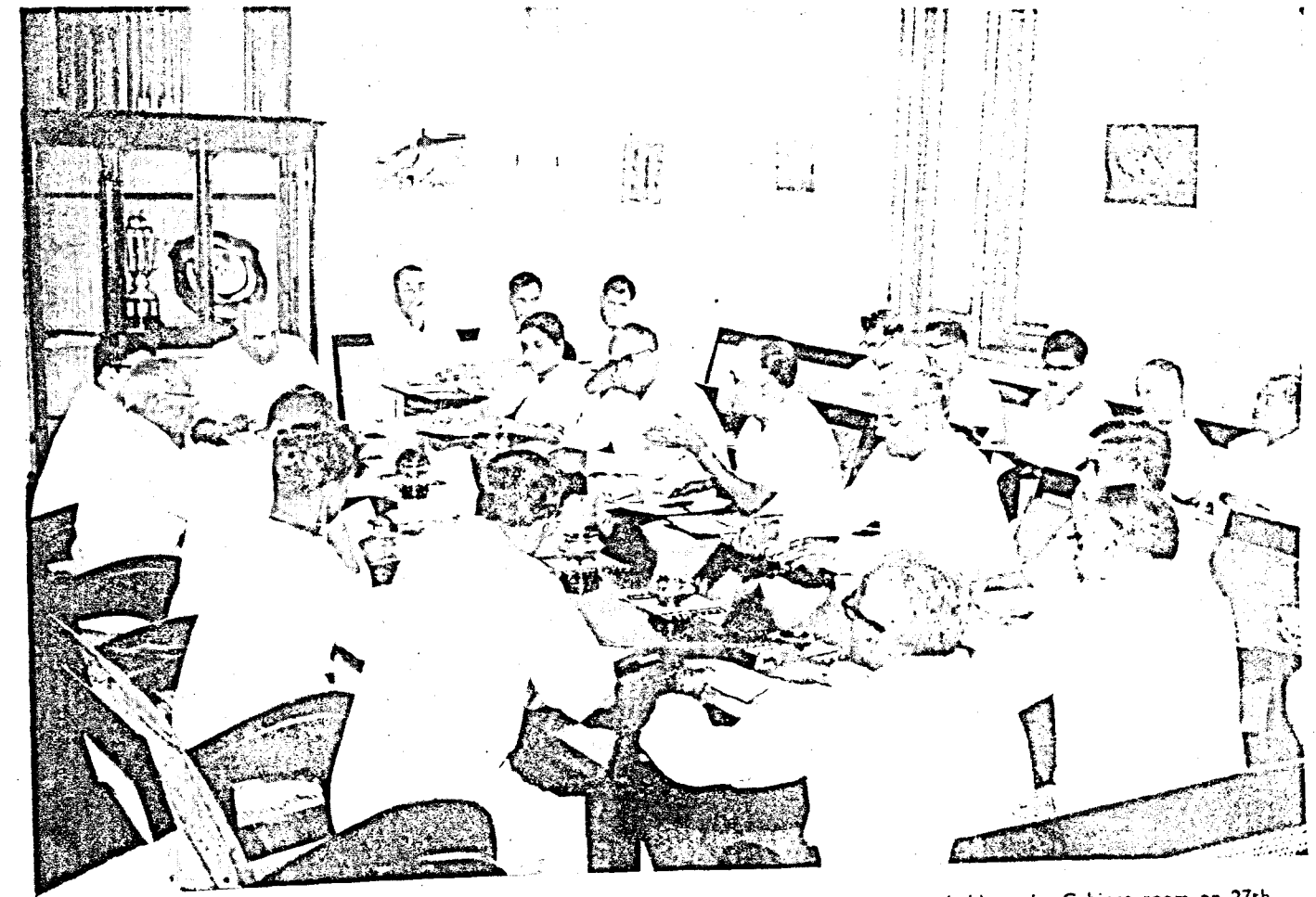
As it was rather late in the Rabi of 1958 to do anything the preliminaries connected with the launching of the campaign were taken up early in 1959. To give effect to the objective of the campaign and to plan and guide the work under it, a State level committee was constituted with the Commissioner for Food Production as the Chairman and the concerned Heads of Departments and members of the State Agricultural Production Committee as its members. Instructions for formation of similar committees at the district, taluk and block levels were issued to the District Collectors including within them Members of Parliament and State Legislature, presidents of panchayats and other progressive farmers of the region. Since the success of a campaign of this nature would largely depend on the active participation of the farming community, the need for enlisting its co-operation was stressed at all levels.

Distribution of improved seeds

As a result of the deliberations of the State Committee, it was decided to intensify work in respect of distribution of improved seeds, production and application of green manures and compost, extension of Japanese method of cultivation and adoption of large-scale plant protection measures. Under its directive, information material required for proper and effective implementation of the campaign was prepared. This consisted of a 'Guide Book' containing exhaustive information on all aspects of intensive cultivation of the four selected food crops and was meant for use by the Extension Workers and other Gram Sahayaks who associate themselves with the campaign work. Leaflets on improved methods of cultivation of these crops were also printed for wide distribution among the agriculturists. Other leaflets and articles relating to production of green manures, use of improved seeds and adoption of plant protection measures were also published in the dailies on the eve of launching the campaign. A special Campaign Officer was appointed in the Agricultural Department to concentrate on the campaign work, visit areas which are likely to lag behind, find out difficulties and arrange to rectify them by bringing them to the notice of the concerned officers. For the purpose of this campaign, the State was divided into different regions and each was allotted to an officer at the State headquarters to watch and supervise the progress of the campaign work.

The campaign was inaugurated on the Tamil New Year's Day (i.e., 14th April 1959) by the Minister for Agriculture near the Madras city and by the District Collectors within their respective jurisdictions. Simultaneously, resolutions were issued by the Chief Minister, the Minister for Home and Agriculture, the Finance Minister and the Minister for Local Boards to the panchayats and agriculturists of the State seeking their active co-operation and sustained interest in the campaign work. A special appeal was also made by the Director of Agriculture to the numerous panchayats explaining the objective of the campaign, the part they could play in furtherance of that objective and the manner in which this can be done. Other information material prepared in connection with the campaign was also supplied to the extension staff for distribution among the farmers.

District Committees were formed in all districts with the Collector as Chairman and the District Agricultural Officer, Deputy Director of Co-operative Societies and a member of the State Farmers' Forum as its members. Its main function was to co-ordinate the campaign work at the lower levels and to review the progress from time to time. Group teams were formed for implementing the village production plans drawn up by the panchayats and village Committees. These group teams comprised Gramasavaks, functional village leaders and progressive farmers of the area. Over one thousand such village production plans were prepared and a similar number of group teams were constituted to implement and watch the progress of those plans. Thus under the campaign, not only steps for drawing up suitable production plans for the food crops were taken but also arrangements for their proper execution were made.



Meeting of the State Informal Consultative Committee on Community Development was held at the Cabinet room on 27th July 1960 in which views were exchanged on the Panchayat Development Schematic budget and the role of village officials in the new panchayat set-up. Sri K. Kamaraj, Chief Minister, Presided.

As a result of the intensive drive launched by the Officers of the Agricultural Department with the co-operation and support of other sister Departments and local committees, a marked urge on the part of agriculturists to take to improved methods of agricultural production was in evidence. In the wake of this campaign work, there was increased demand for green manure and improved seeds, fertilizers, pesticides and improved implements. Every endeavour was made by the Agricultural Department to meet this increased demand. Hence as a consequence of the campaign activity relating to agricultural development in this State received a special fillip.

Additional acres

During the year 1959-60, a total quantity of 27,900 tons of improved seeds of paddy and millets were distributed as against 18,723 tons distributed during the previous year. As a result, an additional 10 lakh acres are estimated to have been covered by the improved paddy and millet seeds. The work of procurement and distribution of green manure seeds was also intensified and an additional quantity of nearly 350 tons over that of the previous years was supplied to the agriculturists. Planting of green leaf-yielding shrubs and trees was also organized on an extensive scale. The numerous agricultural depots were also adequately stocked with chemicals and equipment to take up large scale plant protection measures. Special campaigns for control of pests and diseases were conducted wherever their large scale infestation was observed. Thus more than 10 lakh acres of food crops were protected

against pests and diseases during the year. With the launching of this campaign, the production of rural and urban compost showed considerable increase. An additional quantity of nearly 7.5 lakh tons of compost was made available to the agriculturists for application to food crops. The Japanese method of cultivation of food crops was also popularised among a larger section of the farming public under this campaign. The chief handicap to its wider adoption by agriculturists was the inadequacy of fertilizers. However, it was found that the coverage under these improved methods exceeded the area covered in the previous year. As a result of the special drive launched under this campaign, improvements in irrigation facilities and soil conservation measures were also brought about.

Encouraging results

From the above account, it is clear that the campaign for increased production of food grains has yielded encouraging results. Since this State is in deficit in supply of food grains by about 5 to 7 lakh tons during unfavourable years, it should be our supreme endeavour to see that even in such lean years foodgrains are not in deficit. Hence without being complacent over our past achievement, we should strive towards self-sufficiency. If only the agriculturists of this State continue to extend the same co-operation and sustained interest in increasing production as during the special campaign year, there is every hope that this State would reach self-sufficiency even ahead of the termination of the Third Plan.

Institute of Film Technology for Madras

The Government have decided to start an Institute of Film Technology under the control of the Director of Technical Education, Madras. This institute will offer courses in cinematography, Sound Engineering and Film Processing.

The first meeting of the Advisory Council of this institute set up by the Government met recently, and it was decided that the first session of the institute should start in September 1960. Applications for admission to this institute will be received till 31st August 1960. Application forms can be had from the Director of Technical Education, Madras-5. Scholarships at the rate of Rs. 40 per mensem per student will be paid to 50 per cent of the students on merit basis.

The State Films Division will be attached to this institute for affording necessary facilities to the students for practical training. Preference will be given to candidates working in the film industry.

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absolute necessity as it links the cluster of villages centering round Dharapuram and Alangiyam on either side of Amaravathi river and also provides a shorter route between the two districts, namely, Coimbatore and Madurai and provides an easy route to go to Palni, the famous pilgrim centre. The existing crossing of about 300 feet length along the deep sandy-bed is not only hazardous for both the fast and slow moving vehicles but also there is complete interruption of traffic on account of floods in this river for over three months in a year. Construction of a submersible bridge or causeway at this site will not serve the purpose all round the year in view of the interruptions for over three months in a year by heavy floods.

Need for another Bridge

The road from Dharapuram to Alangiyam is an ordinary district road maintained by the Coimbatore District Board. The road is bound to gain in importance on completion of this bridge work and it may be found necessary to upgrade the road to major district road standards in the near future. Hence the proposed bridge is to be a major district road structure. Due to the high cost, the district board could not undertake construction of this work. The Government have, therefore, allotted a sum of Rs. 3.6 lakhs towards its cost from their funds.

The final outlay on roads other than national highways of this district is Rs. 51.44 lakhs out of which Rs. 35.62 lakhs have already been spent. The balance will be spent during the year 1960-61 and the physical achievements will include 40 miles of superior surfacing, 207 miles of new metalling 38 minor bridges, 8 major bridges and new formation of 181 miles.

Completed Plan Works

The following plan works have been completed in nearby areas: Upgrading Muthur-Vellakoil Road; upgrading Udamalpet-Chinnadharapuram Road, 5 miles—6 furlongs; upgrading Muthur-Mulanur Road in Vellakoil town limits; upgrading Dharapuram-Pollachi Road; construction of three causeways on Dharapuram-Poolavady Road and upgrading the Road from Uthukuli-Kangayam Road up to district limits (via) Uthukuli.

Constructing a bridge across Cauvery between the Erode and Pallipalayam at a cost of Rs. 11.00 lakhs; upgrading Dharapuram-Poolavady Road and constructing a causeway on Goundachipudur-Poolavady Road are in progress.

The Government are aware that seepage water of Lower Bhavani Project Canals crossing most of the roads in Gobichettipalayam, Bhavani, Erode and Dharapuram taluks is causing certain amount of inconvenience to road users. Recently the Government have sanctioned a sum of Rs. 12.5 lakhs for the construction of cross-drainage works on both Government and district board roads across



Sri Bishnuram Medhi, Governor of Madras, planting a sapling at Raj Bhavan on 3rd July 1960

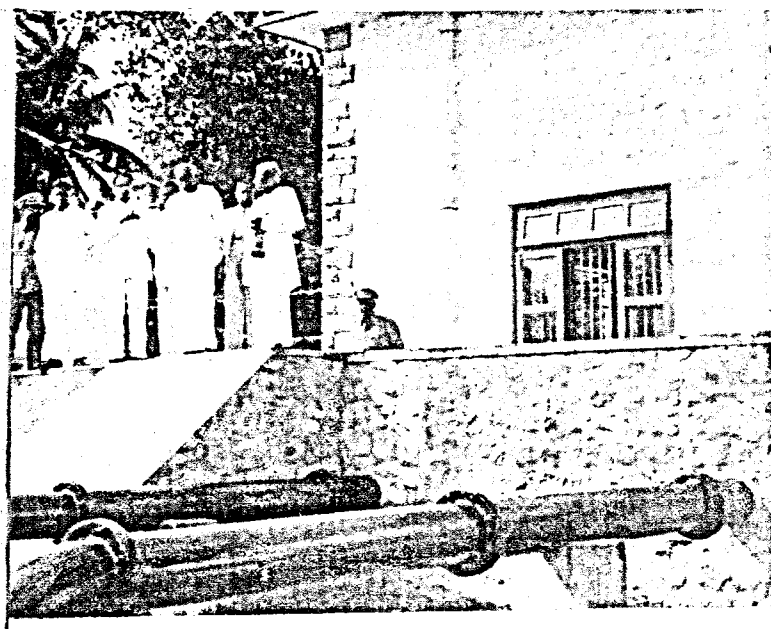
these crossings which totals up to 477 structures. The works are in progress under the supervision of necessary special staff appointed for the purpose and with their completion, this area will have a fairly well-maintained communication system to meet the immediate requirements.

Details about the Bridge

Some details regarding the bridge in particular may be also given. Due to the existence of Rajan Channel close to the river, it is proposed to have skew crossing instead of a straight one at this site. The bridge will consist of 13 spans of 25 feet clear. As hard rock is met with at shallow depths, open foundations are proposed and the foundations will rest on hard rock. The piers abutments and wings will be of coursed rubble masonry. The decking of the bridge will consist of R.C.C. slabs of 1:2:4 mix and 25 inches thick. Over this, a wearing coat of cement concrete 1:1½:3 mix to a thickness of 3 inches will be provided. The clear width of roadway over the bridge will be 24 feet. The bridge is designed to carry 170-ton army tank which is the heaviest class of loading adopted for our bridges. About 204 tons of cement and 72 tons of steel are expected to go into this work.

The construction of this bridge will open up the interior locality, thereby stimulating the trade and commerce of the district and thus will provide relief to this famine-affected area by quick movements of the foodgrains, etc.

In the Second Plan it was suggested that tenants of non-resumable lands should be enabled to become full owners on payment of compensation. A variety of measures have been adopted by different States for this



Lift irrigation was inaugurated at Vilathurai in the Kanyakumari district on 3rd August 1960 by Chief Minister Sri K. Kamaraj.

purpose. In the former Bombay State, for example, on Tillers' Day, April 1, 1957, 13-lakh tenants are estimated to have acquired ownership of 24-lakh acres of land. The draft outline of the Third Five-Year Plan, however, emphasises that progress in this direction (enabling tenants to acquire ownership rights) has been inadequate. It also emphasises that all tenants of non-resumable lands should become owners within a specified period.

Ceiling on Holdings, Not Incomes

Legislation for putting a ceiling on future acquisition of land has been enacted or promoted in all States. For fixing a ceiling on existing land holdings, legislation has been enacted by some of the States and other State Governments have promoted Bills in their Legislatures.

The fixing of a ceiling on landholdings does not mean a ceiling on agricultural income. While the ceiling may be fixed in relation to a certain figure of annual income derived from the landholding, it is envisaged that once the ceiling has been determined, the owner will be free to raise his earnings from the holding. He will not be required to surrender any land if the value of income from the holding rises subsequently as a result of improvements made by him.

Scope for production

With the adoption of scientific techniques of farming, it is obvious, the production and earnings from the landholding can be stepped up to a great extent. The per acre output in India is low and, therefore, there is scope for higher production and higher income per acre.

In the programme of land reform, special attention is being given to the question of improving the lot of landless labour. One of the most important measures is the distribution of surplus or reclaimed land among agricultural workers. About three million acres of cultivable waste land have been distributed to this class of workers in recent years. Nearly a million acres of land given away in the Bhoodan and Gramdan Movement have also been distributed among landless labour.

With the implementation of the programme of land reform, peasant-proprietors would constitute the vast majority of cultivators in India. They have to be encouraged and assisted in organizing themselves in voluntary co-operative bodies for purposes of credit, marketing, processing and distribution and, with their consent, progressively also for production.

Dr. Rajendra Prasad, President of India, witnessing a dance recital at Raj Bhavan



Progress of Land Reform

The programme of land reform, on which great emphasis has been laid since the advent of Independence, has two related objects. The first is to remove impediments to agricultural production and create conditions for high levels of efficiency and productivity in agriculture. The second is to eliminate all elements of exploitation and social injustice and provide security to the tiller of the soil.

Briefly stated, these objects are: Increase in production and reduction in disparities. It has been recognized that the transition to this stage from the variety of systems of peasant exploitation which existed in India before Independence has to be achieved by stages.

Broadly, the stages are abolition of intermediaries tenancy reforms, including security of tenure to the tenants and regulation and reduction of rents, conferment of the right of ownership on tenants, ceilings on landholdings and co-operative organization of agriculture.

Improvement of the condition of agricultural labour has been considered an essential part of the programme of land reforms.

It is wellknown that the pressure on land in India is very high. In other words, far too many people are dependent on agriculture while the land available is not adequate. It is estimated that the *per capita* availability of land in India is about 16 acres or about 8 acres per family. This is the position according to the last Census figures. With the rate of growth of population that obtains in our country, this rate of availability can only go down.

It is clear, therefore, that rational management of land, based on the cultivator having a permanent interest in the land he cultivates, is a matter of vital importance for the development of Indian agriculture, apart from the needs of social and economic justice.

In most States legislation for the abolition of intermediaries (zamindaries, jagirs and inams) has been enacted and implemented. Over nearly half the country intermediary tenures were prevailing, the other half being covered by ryotwari holdings. The tenants of the former intermediaries have thus been brought in direct relationship with the State, have acquired real interest in their lands and have been freed from the variety of exploitation they were subject to earlier. In some States the law also provides for enabling the tenants to acquire ownership rights.

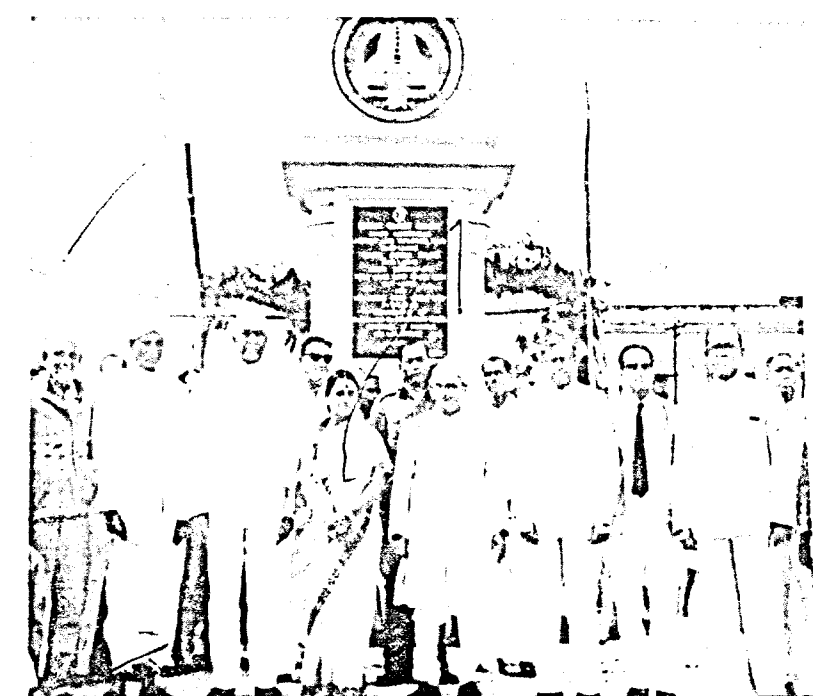
The intermediaries have been compensated. The magnitude of the task involved in the abolition of the intermediary system can be seen from the fact that the total compensation payable is of the order of Rs. 435 crores. By the end of 1958-59, already Rs. 129 crores had been paid off.

Rents Reduced

Legislation for regulation of rents has been adopted in many States while in others Bills have been promoted. Generally speaking, a tenant now has to pay not more than one-fourth of the gross produce as rent. In some States it is as small as one-sixth, although in a few, rents have yet to be brought down to one-fourth. The implementation of the law for the regulation of rent is also satisfactory. State Governments have been looking into the deficiencies that might exist.

Legislation providing for comprehensive measures for security of tenure has been enacted in most States. In others, Bills have been introduced in the State legislatures, but pending their enactment, ejection of tenants has been stayed. Action has also been taken in some States to protect the tenants against the so-called voluntary surrender of land by the tenant to the landlord.

Sri Bishnuram Medhi, Governor of Madras, inaugurated the Kilpauk Garden Road Improvement Scheme at Kilpauk on 1st August 1960. Sri R. Venkataraman, Minister for Industries, presided over the function



Book Review

When Gandhiji's Gujarati translation of the *Gita* was published on March 12, 1930, the day on which he marched to Dandi from Sabarmati, a member of the Ashram who read it complained to Gandhiji that he found it difficult to understand. Thereupon Gandhiji devoted one letter to each of the eighteen chapters of the *Gita* in which he tried to explain in easy terms the meaning of each chapter. These letters have now been translated into English by Sri Valji Govindji Desai.

Despite the profundity of thought and lucidity of expression found in the *Gita*, Gandhiji has, in his own inimitable way, explained in simple language, the ideas and ideals enshrined in it. He gives a summary of each chapter with his comments on it. The first letter deals with the twelfth chapter which speaks about devotion. We should commence the study of the *Gita* with a heart full of devotion. "Knowledge and action in the absence of devotion", says Gandhiji, "are dry as dust and are likely to make us confirmed bond-slaves". Devotion is not mere lip-worship, is no soft-hearted effusiveness. It certainly is not blind faith. It has the least to do with the externals. It demands from its votaries balance in every thought, word and deed and a perfect correspondence

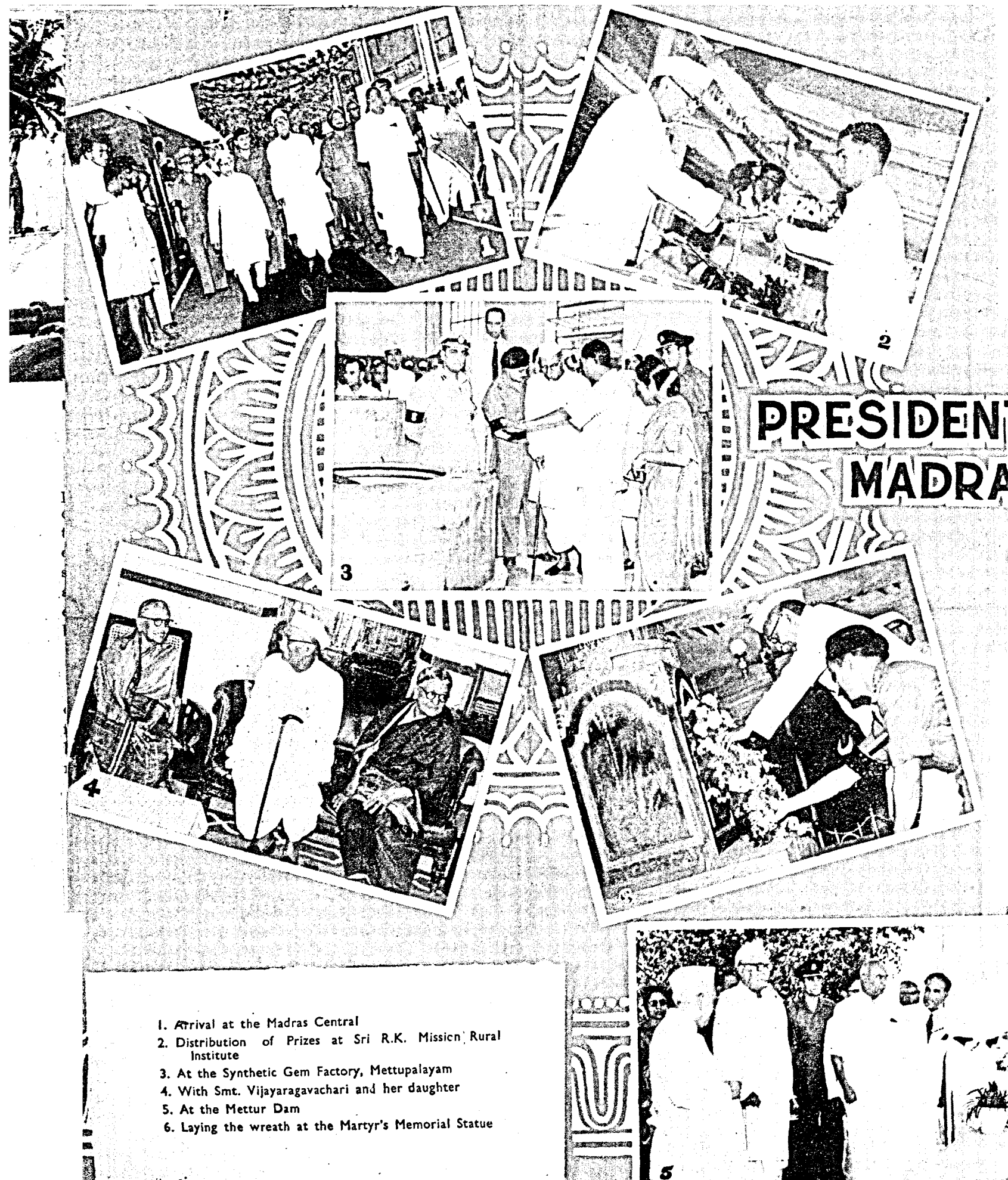
between the three. "He whose speech and action do not accord with his thoughts is a humbug or a hypocrite".

English friends made Gandhiji read the *Gita*. They placed before him Sir Edwin Arnold's magnificent rendering of the *Gita*. He devoured the contents from cover to cover and was entranced by it. "The last nineteen verses of the second chapter have since been inscribed on the tablet of my heart. They contain for me all knowledge. Those verses are key to the interpretation of the *Gita*", says Gandhiji.

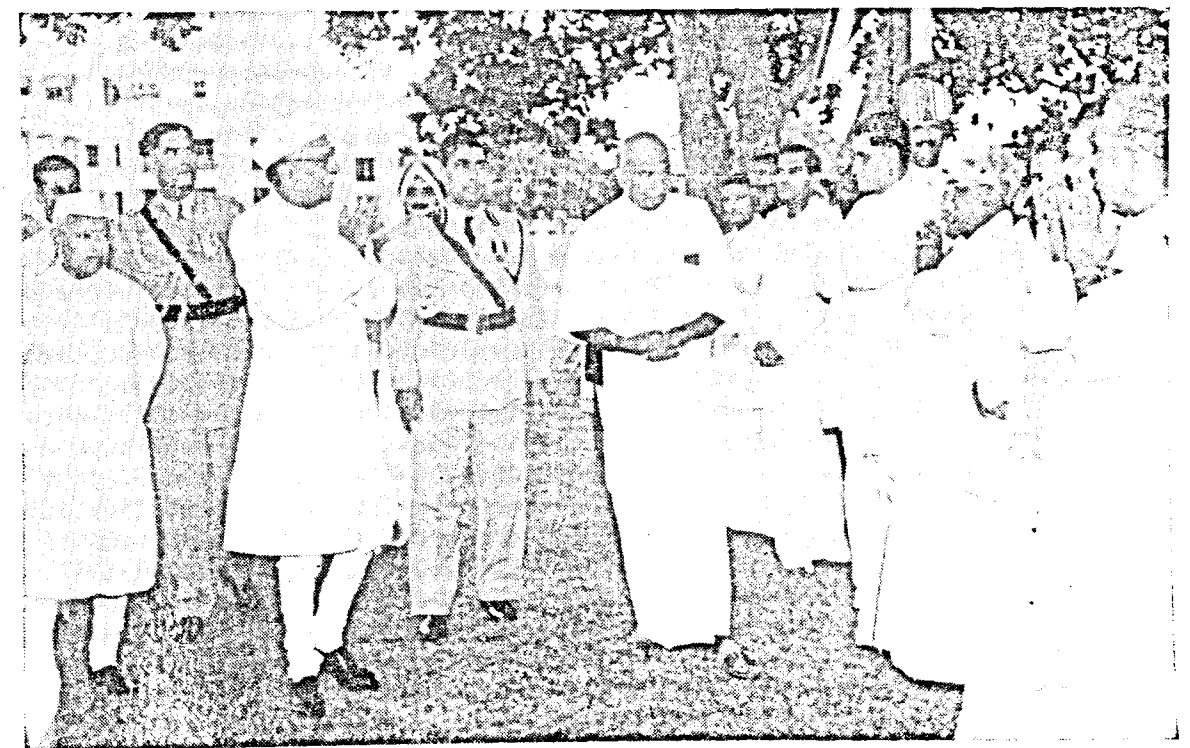
The book under notice is an excellent summary of the *Gita*, told in an effortlessly easy and clear style, designed to appeal to commonman. In spite of his deep learning, the load of scholarship is, as usual and as it should be, lighter in these pages, lest laymen should not be attracted to them. *Discourses on the Gita* is certainly a good aid to the contemplation and assimilation of the meaning and the message of the *Gita*.

S.T.K.

DISCOURSES ON THE GITA: By M. K. Gandhi, Navjivan Publishing House, Ahmedabad-14, pp 66, Price 50 nP.



1. Arrival at the Madras Central
2. Distribution of Prizes at Sri R.K. Mission Rural Institute
3. At the Synthetic Gem Factory, Mettupalayam
4. With Smt. Vijayaragavachari and her daughter
5. At the Mettur Dam
6. Laying the wreath at the Martyr's Memorial Statue



Sri K. Kamaraj, Chief Minister, introducing Members of the Legislature to Dr. Rajendra Prasad, President of India, at Raj Bhavan

Town-Planning

Town-Planning has been organised by the Madras State as a regular function from the year 1921. The function is carried out under the provisions of the Madras Town-Planning Act, 1920. The Act applied directly to the municipal towns in the State and to the City of Madras and is being extended year after year to several towns and village areas. The Act applies at present to 70 Municipal Towns and 85 Panchayats and also to 183 villages in Chingleput district.

Town-Planning function is carried out under two distinct categories, viz., the making of a General Town-Planning Scheme (Master Plan) for all land in and around the Town and the making of detailed Town-Planning Schemes for individual areas for intensive development.

Healthy Amenities

A scheme may provide for all amenities needed for healthy and comfortable living and may specify with reference to Town-Planning principles separate areas for housing, industry, commerce, recreational and other essential amenities.

Advantage is taken of these provisions to plan out and develop in the first instance all outlying and developing areas in towns. A scheme normally has an extent of 150 acres, but there are special schemes which have an extent of even 600 acres. There are in all 367 Detailed Town-Planning Schemes in operation all over the State which cover 52,000 acres of urban land which is almost 25 per cent of the entire urban area of the State.

The entire operation is carried out by the local bodies but they are guided, assisted and controlled in this work by the Directorate of Town-Planning established by Government.

Local Authorities

The Local Authorities, however, could not make such headway with Town-Planning and Town Development till recently due to want of finance and lack of technical personnel but still had been quite aware of the need for Planning and regulation of these areas on broad Town-Planning principles. It was not until 1945 that staffs were sanctioned for Local Bodies for Town-Planning and Building Regulation work. Since then there has been considerable improvement in the situation.

It was only with the commencement of the Second Five-Year Plan that Government could grant financial assistance for Town-Planning and Town Development and a provision

of Rs. 75.73 lakhs was made available for this in the Second Five-Year Plan. This assistance was intended to grant loans to the Local Bodies for the preparation of Town-Planning Schemes and for the execution of sanctioned Town-Planning Schemes.

At the beginning of the Plan there were 80 sanctioned schemes and 170 notified schemes for which preparatory work had been held up. The Plan target for the whole Plan proposed is for preparation of 257 Detailed Town-Planning Schemes and to complete the execution of 54 schemes pending execution at the beginning of Second-Five-Year Plan period.

New Schemes

By the end of the fourth year of the Five-Year Plan, 205 schemes had been prepared and the 54 schemes were under execution. An amount of Rs. 48.57 lakhs had also been granted as loans to the Local Bodies during the four years for preparation and execution of Town-Planning Schemes. Fifty-three Draft Schemes were furnished to Local Bodies during the year 1959-60 and loan of Rs. 15.2 lakhs was sanctioned during the year.

The benefits conferred by the programme are great. An area of 5,400 acres of land becomes developable. Fifty-two thousand acres of urban land have been brought under Planning control. About 6,000 acres of land are reserved and protected for housing poor class families only. About 1,000 acres of land are reserved for controlled industrial development and amenities are provided fully in these areas and also special amenities such as play and recreation fields, major marketing centres and educational centres, etc., are introduced.

Master Plan

Although the need for the preparation of Master Plans for all the towns in the State was recognised as early as in the year 1920 when the Madras Town-Planning Act was enacted, no appreciable headway could be made in this work so far. This is mainly due to the fact that the work is a highly complicated one requiring a considerable number of trained and experienced technical personnel. As persons with sound background of Town and Country Planning knowledge were not adequately available so far, no progress could be achieved. However, some of the major municipal towns in the State have collected the data required in connection with preparation of Master Plans. With the advent of the Second Five-Year Plan the department could secure a few persons trained in Town and Country

Planning and the Government have also recently sanctioned a special skeleton staff for taking up the works connected with the preparation of Master Plans for towns in this State. It is expected that the preparation of preliminary outline development plans for the more important towns in this State will now be commenced and it is expected that good progress made in the coming years.

Technical Advice

In the matter of Housing the Slum Clearance Schemes under the Second Five-Year Plan, the Town-Planning Department renders technical advice to the Local Bodies, various departments of Government and other housing authorities in matters connected with selection of sites, the proper laying out of the land, provision of amenities, house designs, etc. During the year 1959-60 the Town-Planning Department furnished layouts in respect of the following schemes :—

	Number of schemes.	Number of house-sites provided.	Total area in acres.
1 Low-income Group Housing.	19	1,137	96.98
2 Co-operative Housing ..	22	1,823	240.30
3 Subsidised Industrial Labour Housing.	5	1,090	62.80
4 Slum Clearance	34	3,888	103.00
5 Harijan Colonisation Scheme.	204	7,557	582.75

Under the Harijan Colonisation Schemes the Government provide for houseless and landless Harijan families developed house plots for constructing houses. In all these schemes the Development Plan for the land acquired for providing house-sites to the Harijans is prepared and furnished by the Director of Town-Planning. These Colonisation Schemes are planned according to Town-Planning principles.

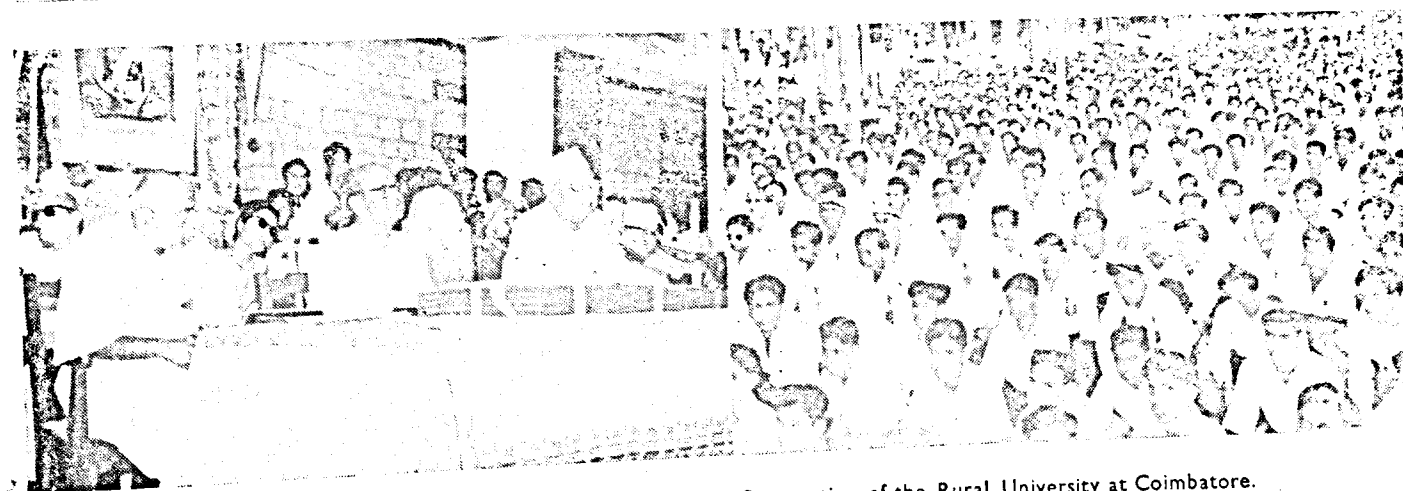
Zoning of land for residential and industrial uses are done under the Madras Public Health Act and Madras Municipalities Act, respectively. Zoning of land for various uses are done by the Local Authorities concerned with the advice of the Director of Town-Planning. The Town-Planning Department has secured proper zoning of land in urban centres so that residential amenity of these centres are not affected or encroached upon.

Land Utilisation

The zoning of residential areas prohibits development of industries within such areas and at the same time zoning of areas for industrial purposes secures for the industries suitable areas for industrial development in the towns. These regulations under the control of the Town-Planning Department have secured proper land utilisation in urban centres and have avoided haphazard growth of industries and residences to a great extent which would have resulted in unhealthy living conditions and wasteful land utilisation.

The department has been rendering technical advice to Local Authorities in their projects of civic buildings and remunerative enterprises by evolving suitable designs for such buildings and also advising them for the proper laying out of the land wherein such buildings are proposed to be built. During the year 1959-60, the department furnished to the Local Authorities designs for the following civic buildings and remunerative enterprises :

1 Road and designs	22
2 Schools	19
3 Office buildings	3
4 Hospital and dispensaries	2
5 Markets and shops	18



Dr. Rajendra Prasad, President of India, delivering the Convocation of the Rural University at Coimbatore.

The Mettur Tunnel Hydro Electric Scheme

The Mettur Tunnel Hydro Electric Scheme which was inaugurated on 30th August by Sri K. Kamaraj, Chief Minister, is to utilise the irrigation discharge at Mettur Dam in Salem district to develop power for about 800 months in the year. The Mettur Dam and reservoir are located at a distance of about 30 miles north-west of Salem town in Salem district (between longitude 77° 30 mts. east and 78° east and latitude 11° 30 mts. north and 12° north). The Dam built across the Cauvery river during 1925 to 1934, is 170 feet high above bed of the river and more than a mile long. The reservoir has a gross capacity of 93,500 m.cft. at full reservoir level and is mainly intended for irrigation purposes.

There are two sets of irrigation sluices in the Dam—the high level sluices and the low level sluices. The high level sluices have eight vents each 10' 6" wide and 16 feet high. The low level sluices have 5 vents each 7 feet wide and 10 feet high. Four Hydro Electric pipes each 8½ feet diameter (level-plus 640) and of capacity 4,000 cusecs are used for power purpose under existing arrangement to 160 feet. These four pipes feed four generators each of 10,000 K.W. capacity. At present the average irrigation discharge is about five times the average power discharge through these Hydro-Electric pipes. The irrigation requirements over 2,000 cusecs are therefore allowed to flow through the high and low-level sluices without generating any power. The present scheme is planned to utilise this irrigation discharge in full for generation of power.

Scheme Report

A scheme report for erection of a Power House with an installed capacity of 200 MW at an estimated cost of Rs. 1,248.83 lakhs raising to Rs. 1,332.13 lakhs at the end of four years was sent up for sanction during November 1957. This was subsequently revised in February 1959, as suggested by the Central Water and Power Commission and a revised scheme for the first stage of the scheme with an installed capacity of 100 MW at an estimated cost of Rs. 507.78 lakhs rising to Rs. 598.80 lakhs at the end of four years was sent up for sanction.

This revised scheme which is included in the Third Five-Year Plan has just been sanctioned and the preliminary works connected with the scheme were approved for being taken up during the Second Plan period itself.

The scheme comprises the following :—

(1) A leading channel of about 500 feet in length cut on the foreshore of the Mettur Reservoir terminating at the tunnel intake.

(2) A concrete-lined pressure tunnel of 45 feet diameter and about 1,350 feet long and a surge shaft about 200 feet deep.

(3) Penstock tunnels each to accumulate penstock pipes of 21 feet 6 inches internal diameter.

(4) A power station initially with two vertical Francis turbines each coupled to 50,000 KW generators with step-up transformers.

(5) A transmission system of 110 KV and 230 KV lines to link the new power house with the existing grid.

Leading Channel

The leading channel from the bed of the reservoir will have a bedwidth of 70 feet near the intake with concrete pavement for a distance of nearly 100 feet. It will be gradually widened towards the lake side and the bed width will be about 100 feet where the concrete pavement commences. Beyond this the channel will be cut up to a point where the ground-level is plus 670.00. A coarse screen will be provided at the junction of the channel and the commencement of the tunnel.

Tunnel

The tunnel will be located between the Dam and Ellis surplus saddle on the left flank and about 600 feet from the Dam and about 100 feet away from the right abutment of the Ellis saddle. The sill of the tunnel is fixed at + 645 and that of the leading channel at + 670. A slope of 25 feet is given in the leading channel within a distance of 500 feet. A coarse screen grill with heavy rolled steel joists spaced at about 3 feet and 6 feet centres will be provided at the mouth of the tunnel to avoid any huge floating materials getting into the tunnel and choking the water-way. Fine screens are however provided in the surge shaft in front of the penstock intake.

The tunnel which will be of circular will be cut in rock and the entire length will be lined with cement concrete with reinforcements wherever necessary.

The particulars of the tunnel are as follows :—

Length of the tunnel 1,350 feet.
Internal diameter of the tunnel .. 45 feet

Thickness of concrete lining ranging from 4 feet to 6 inches.

Sill level of the tunnel near intake + 645 feet.

Minimum draw down level in the .. + 720
laks.

Sill level of the leading channel at + 680
the tunnel entry.

Sill level of the tunnel near the + 638
surge shaft.

Maximum discharge 20,000 cusecs.

The tunnel ends in a surge shaft 200 feet deep cut in rock. It is of a semi-circular shape. The surge shaft is also a concrete-lined one. The details of the surge shaft are as follows :—

Depth of the surge shaft 200 feet
(about).

Top level of the surge shaft .. + 835

Maximum surge level + 831.25

Minimum surge level + 678

Bottom level of shaft + 628

Inside diameter (semi-circular) .. + 154

Penstocks

Four penstock tunnels to accommodate four penstock pipes will be provided in the first stage itself. Initially two penstock pipes are being laid. Each penstock pipe is designed for a discharge of 5,000 cusecs. Two more pipes will be added later on. The internal diameter of the

penstock will be 21 feet 6 inches. The penstocks are of 1 inch thick steel plates. Separate inspection galleries will also be provided over the penstocks along their lengths with an inter-connection near the surge shaft end. Each penstock will feed an individual turbine in the power house.

Power House and Transformer Yard

The power station is designed to accommodate two numbers of Francis turbines each of 83,500 horse power, each coupled to 50,000 KW generator initially and four numbers ultimately. Power will be generated at 11 KV 3 phase 50 cycles and stepped up to 110 KV for linking up with the existing Mettur Power House. There will also be a 230 KV step up transformer station for transmission at 230 KV to Salem. The transformer yard will have initially two numbers 55,000 KVA 11 KV/110 KV transformers and two numbers 55,000 KVA 110/230 KV auto transformers. Each of the generators will be directly connected to its power transformer and operated as a unit system. The transmission system will include a very short bit of 110 KV single circuit line from the tunnel scheme power house to the existing Mettur Dam Power House which is very closely situated and 25 miles of 230 KV single-circuit line from the tunnel scheme power house to the existing Salem 230 KV sub-station.

Estimated Cost

The estimated cost of the sanctioned scheme works out to Rs. 570.78 lakhs initially rising to Rs. 598.80 lakhs at the end of the four years. A net revenue return of 15.8 per cent is expected even from the fourth year of the operation of the scheme.

It is hoped that with the completion of this project the power position in Madras State will improve to a large extent and enable the department to extend power to the nooks and corners of the State.

Pension Scheme Extended to All Teachers

The Government have extended the Pension Scheme to all categories of trained teachers whether working in recognized Elementary, Secondary, Training or Special Schools with effect from 1st April 1955, subject to the condition that payment of pension to the categories of teachers to whom the scheme was originally extended from 1st April 1958 will commence only from 1st April 1958 without any claim for back pension. Instructions have accordingly been issued for amending the Madras Teachers' Contributory Provident Fund-Insurance-Pension Rules, 1958.

Ice-Cum-Cold Storage Plant

The Ice-cum-Cold Storage Plant set up by the Fisheries Department at Mettur under a scheme in the Second Five-Year Plan for the provision of Ice and Cold Storage Facilities at important Fishing Centres of our State was inaugurated by Sri K. Kamaraj, Chief Minister, on the 30th August. The first such Plant out of the six to be opened under the above scheme was put into commission on the first of this month at Tuticorin by our Chief Minister at a special function.

Systematic Programme

Along side with the development of marine fisheries, the Madras Fisheries Department had launched a systematic programme for the development of inland fisheries of our State. With the introduction of many irrigation and Hydel reservoirs there is a vast scope to develop fishery wealth in them and exploit the same judiciously. The Stanley Reservoir at Mettur Dam which is the first major reservoir to be built in this State impounds water to an extent of about 62 square miles and is a source of good production of fresh food fish. The development of this Reservoir Fishery was therefore taken up by the Department as early as in 1937 and the Fishery was thrown open for fishing by the licensees for a nominal monthly fee in the year 1939. The systematic stocking of Catla from Godavari, and other species of fresh fish like Rohu, Mrigal, etc., has enriched the fishery wealth of this reservoir considerably and at present about 280 tons of indigenous and introduced varieties are annually landed from the reservoir.

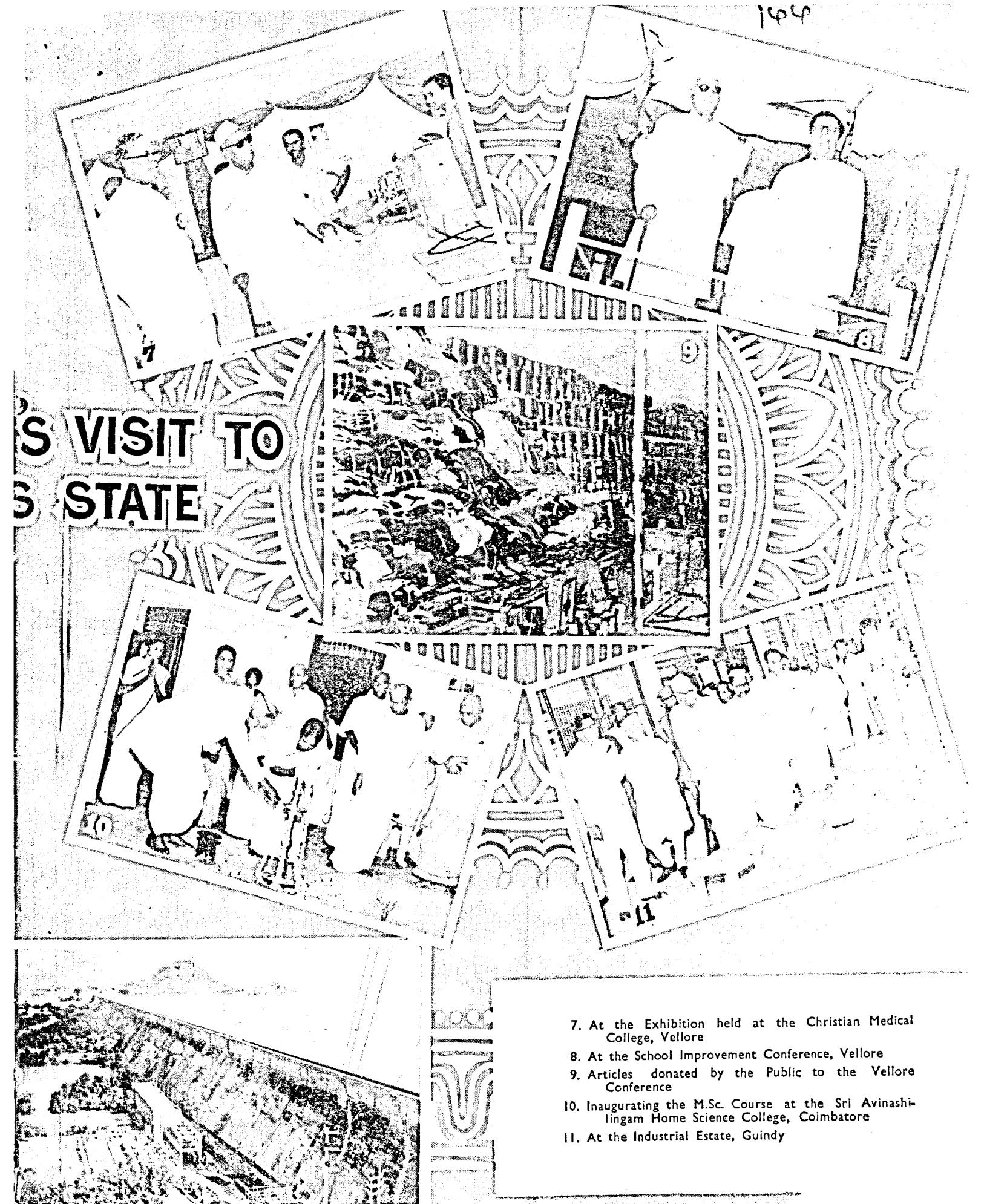
Model Reservoir

Thus the Mettur Reservoir is today a model Reservoir from the point of view of the inland fishery development. Intensive fish seed stocking operations of other major Reservoir like Bhavanisagar, Amaravathi, Manimuthar, Sathanur and Krishnagiri have also been taken up and the target for the current year is to stock about 27 lakhs of fingerlings in the various reservoirs. So far, during the last four years about 47 lakhs of economic varieties of fish seed are reported to have been stocked in these waters and when they grow well and establish themselves, it will be possible to undertake their commercial exploitation. During 1958-59 about 9,660 licences were issued for fishing in waters departmentally controlled and a sum of Rs. 30,224 was realised as licence fees. The revenue realised as fees for permission to fish in provincialised waters was Rs. 2,40,707. A total quantity of

119,289 lb. of fish was sold to the public for a sum of Rs. 42,166. The rural fishery demonstration units supplied 443,793 fingerlings to 2,318 private parties interested in pisciculture. A consignment of 85,000 fingerlings of Carps, Rohu and Mrigal were imported from Calcutta and stocked in selected reservoirs and rivers in order to propagate new species. The Government of India recently deputed Mr. S. V. Gulbadamev, Food and Agricultural Organisation Expert, on deep water fishing in inland waters, for carrying certain experiments and Research at the Mettur Reservoir. His work covered besides improving the existing methods and gears, testing new types of fishing gear, the most easy and simple methods of fishing in certain conditions with the use of such physical factors of influence of fish as light and electric current. An Assistant Director of Fisheries was deputed to be his understudy. The result of his investigations and his recommendations regarding the follow-up action to be taken by this Government are awaited.

The inland fish production during 1958-59 from the various waters of the State was about 40,850 tons, out of which a quantity of 40,368 tons was consumed in fresh and dried condition and the balance sent to other States. A total sum of Rs. 1,67,400 has been given as loan to the inland Fishermen Co-operative Societies during the Plan period to assist them in their developmental programmes.

The marketing of the fish caught to the best advantage of fishermen, however, poses a very big problem for the department. A recent survey of the fish marketing conditions in Madras State by the Food and Agricultural Organisation Expert, Dr. Carlos Gonzalez, shows that there is a general lack of knowledge of the importance of preservation of fish in ice as early as possible after it is caught and while it is marketed. When the trade is unable to sell the fish on the first or second day of displaying it, the fish is salted and sold at lesser price as cured fish. If big landing and marketing centres in fish are provided with cold storage facilities, spoilage can be avoided and will ensure higher returns for the fresh fish trade. With the exception of the Madras Corporation Moore Market Cold Storage Plant, and another private Ice-cum-cold plant and the plant recently opened at Tuticorin, it does not seem that there are at present any cold facilities in this State which could be availed of by the public for preserving fish. As the overall annual fish production (Marine and



7. At the Exhibition held at the Christian Medical College, Vellore
8. At the School Improvement Conference, Vellore
9. Articles donated by the Public to the Vellore Conference
10. Inaugurating the M.Sc. Course at the Sri Avinashilingam Home Science College, Coimbatore
11. At the Industrial Estate, Guindy

A Great Man's Wife

To be a great man's wife calls for courage and confidence. A touch of greatness should mark her life as well. There should be an overruling sense of adaptability in her. Otherwise she will make not only her life miserable but her husband's life too, as the wives of Socrates, Tolstoy and Abraham Lincoln did. This trio, of course, became great despite their notorious wives. But fortunately for Mahatma Gandhi, his wife, though thoroughly old-fashioned in her ways in the beginning, chiselled herself into shape and tried to follow in his footsteps to the best of her ability. Gandhiji was indeed fortunate in his wife as Disraeli and Gladstone were.

Kasturba Gandhi was a woman of profound common-sense. She did not, of course, know much about the intricacies of politics and the labyrinth of diplomacy. But she had unshakable faith in the stupendous ability of her husband and persuaded herself to follow him unquestioningly in these high affairs. The book under review gives a clear account of the life of Kasturba in jail in the later part of her life. The overall picture shows her as a woman possessing indomitable strength of character. The power of her will seems to be enormous. Often child-like, sometimes childish, she is an embodiment of Indian womanhood which seems to be becoming rarer and rarer because of the spread of education! Paradoxical as this may sound, it is nonetheless true.

Taught by Gandhiji

Kasturba was not learned but she was lettered. It is a pity that Gandhiji did not bestow sufficient attention on educating her. She had not been able to read fast in spite of her partnership with the greatest man of this century for more than sixty long years. When she read aloud, her way of reading was sing-song. This old woman was often taught by those around her, sometimes by Gandhiji.

Of course she had the avidity to learn and possessed the naivete and enthusiasm of a child but her mind was not young like Bapu's and she found it hard to learn new things at her age. Sometimes Bapu asked her questions about the previous day's lesson. As a general rule, she did not remember the answer and although Bapu never scolded her for it, she felt it keenly and worked hard to learn her lessons better. One day Bapu taught her the names

and location of the rivers of the Punjab. She went to the author and said, "Sushila, will you write out these names on a slip of paper for me?" The author did so and Kasturba carried the paper about with her throughout the day. Even when she sat down to spin, the paper lay spread out before her! But on the following day she could not repeat those names when Bapu asked her to do so!

Great Lady

Her writing was also immature. She wrote each letter of the alphabet separately and the spacing was irregular so that an unaccustomed reader found it hard to make out the words. Gandhiji tried to improve it and for that advised her to practise writing. The author and others around her had all sent for notebooks and Ba also asked for one. Gandhiji handed her a sheaf of loose sheet of paper and told her to practise on those. "I shall get you a notebook when you show some improvement", he said. Ba was cut to the quick. Gandhiji saw his mistake. He had not foreseen this. He had only tried to practise his ideal of minimum possession. He tried to rectify his mistake. But it was too late. The wound was difficult to heal. When she was given a notebook, she quietly put it away and replied with calm dignity, "What do I need a notebook for?" To the end, the notebook lay unused despite the persuasion of Bapu and others. She could not be imposed upon. She was obstinate where her self-respect was involved. She would not get services from anybody who came forward to help her because she was the wife of the Mahatma!

She was not only a Ba to her children but to India's millions. Her sacrifice at the altar of Indian independence cannot be surpassed. Sushila Nayar makes Kasturba live in these pages. She writes vividly. And the book makes fascinating reading. Many interesting incidents are beautifully narrated which throw clear light on the many lovable qualities of this matchless representative of Indian womanhood. This book should go very well indeed with the student of Kasturba.

S.T.K.

KASTURBA: By Sushila Nayar, Navjivan Publishing House, Ahmedabad-14, pp. 102, Price: Rs. 1-50.



for the
future

Under the furrowed brow, his aging eyes see
his child grow to manhood. He gives his all: care
and protection, knowledge culled from experience.
And prepares him to meet the future.

Soon the youth will learn from life.
Soon will come the struggle to achieve.
Soon he will be part of the striving...

The striving and effort for a better world.
A world that offers a little more—
a little less of the care, a little more of the joy.

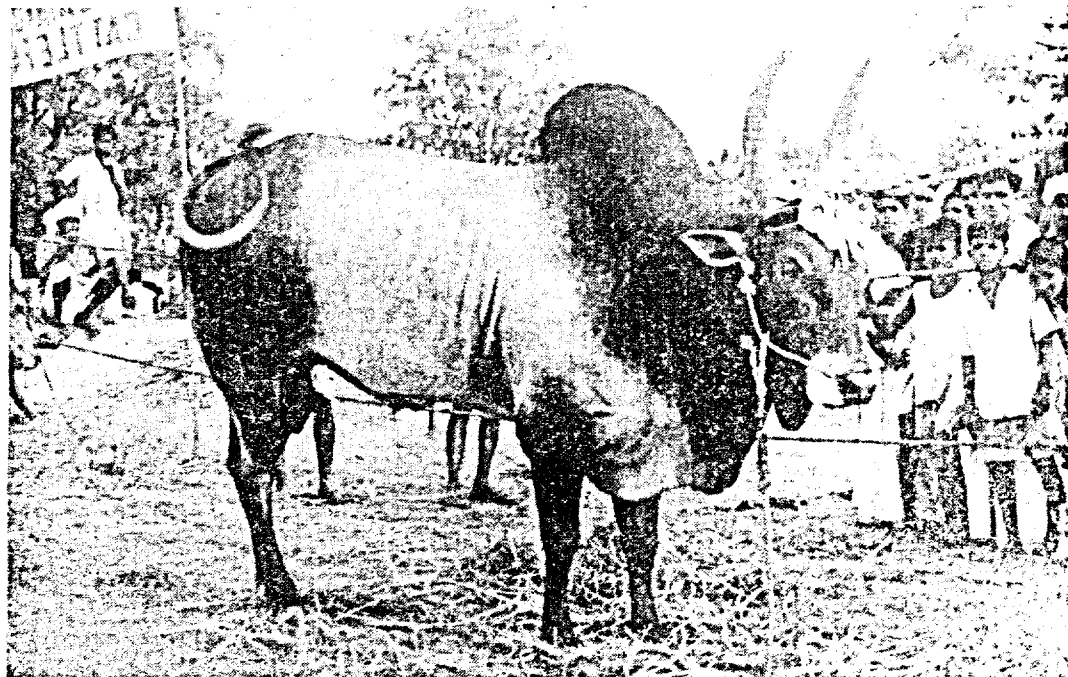
Today, as in the past, our products help to make homes
cleaner, healthier, happier. But today we are also working for...
Tomorrow, when the evergrowing urge for better living
will demand still greater efforts. And we shall be
ready with wider service, new ideas, new products...

Today and Tomorrow Hindustani Lever serves the home

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Prize distribution by Sri M. Bhaktavatsalam, Home Minister, at the 2nd Tamilnad Cattle Show held at Tiruchendur on 12th June 1960.



A bull that was exhibited at the Show



Dr. P. Subbarayan, Union Minister for Transport and Communications, declaring open the new building of the meteorological centre at Nungambakkam, Madras, on 18th June 1960.

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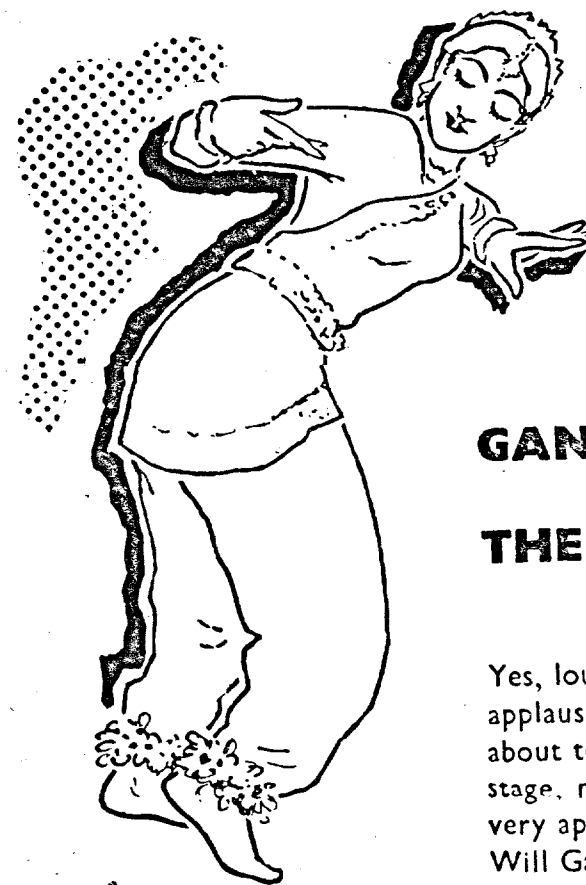
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MISS A TREAT IN YOUR LIFE**



GANGA GETS THE APPLAUSE...

Yes, loud & continuous
applause. When she was
about to enter the
stage, mother was however,
very apprehensive.
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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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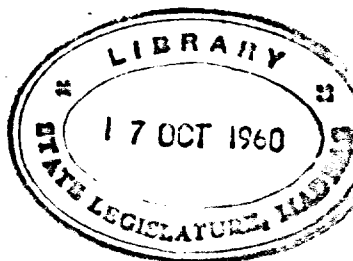
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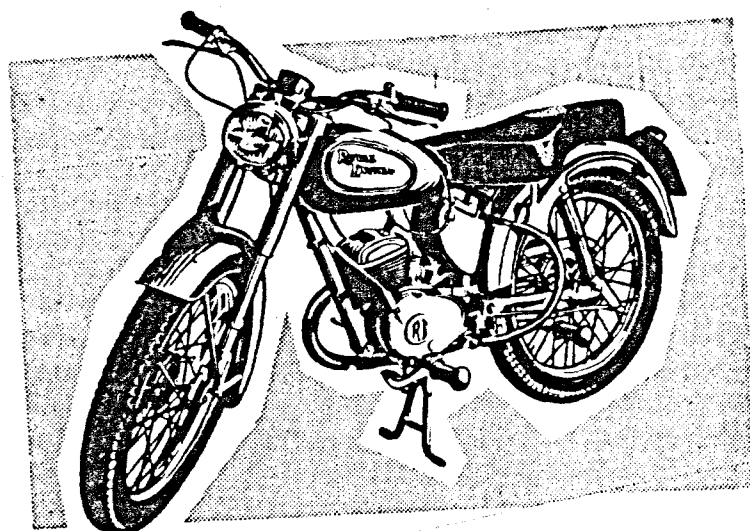
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This month's cover

The Gandhi jayanti has taken place with the jayantis of the prophets and saints who had enriched India's life and thought down the centuries. The people of India, grateful to Gandhiji for all that he had done to awaken them to their strength and march them to Independence, pay their homage to him on the 2nd of October every year. May he whose picture adorn the cover-page of this issue, continue to inspire us in our continuing struggle for economic betterment.

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Gandhiji on Panchayats

Panchayat has an ancient flavour; it is a good word. It literally means an assembly of five elected by villagers. It represents the system, by which the innumerable village republics of India were governed. But the British Government, by its ruthlessly thorough method of revenue collection, almost destroyed these ancient republics, which could not stand the shock of this revenue collection. Congressmen are now making an attempt to revive the system by giving village elders civil and criminal jurisdiction.

The disability to impose fines or social boycott is a necessity of the case in the initial stages; social boycott in villages has been found to be a dangerous weapon in the hands of ignorant or unscrupulous men. Imposition of fines too may lead to mischief and defeat the very end in view.

Independence must mean that of the people of India, not of those who are today ruling over them. The rulers should depend on the will of those who are under their heels. Thus, they have to be servants of the people, ready to do their will.

Independence must begin at the bottom

Thus, every village will be a republic or Panchayat having full powers. It follows, therefore, that every village has to be self-sustained and capable of managing its affairs even to the extent of defending itself against the whole world. It will be trained and prepared to perish in the attempt to defend itself against any onslaught from without. Thus, ultimately, it is the individual who is the unit. This does not exclude dependence on, and willing help from, neighbours or from the world. It will be free and voluntary play of mutual forces. Such a society is necessarily highly cultured in which every man and woman knows what he or she wants and, what is more, knows that no one should want anything that others cannot have with equal labour.

This society must naturally be based on truth and non-violence which, in my opinion, are not possible without a living belief in God meaning a self-existent, all-knowing living force which will live when all other forces may conceivably perish or cease to act. I am unable to account for my life without belief in this all-embracing living force.

In this structure composed of innumerable villages there will be ever-widening, never ascending circles. Life will not be a pyramid with the apex sustained by the bottom. But it will be an oceanic circle whose centre will be the individual always ready to perish for the village, the latter ready to perish for the circle of villages, till at last the whole becomes one life composed of individuals never aggressive in their arrogance but ever humble sharing the majesty of the oceanic circle of which they are integral units.

Not utopian

Therefore, the outermost circumference will not wield power to crush the inner circle but give strength to all within and derive its own from the centre. I may be taunted with the retort that this is all Utopian and therefore not worth a single thought. If Euclid's point, though incapable of being drawn by human agency, has an imperishable value, my picture has its own for mankind to live. Let India live for this true picture, though never realizable in its completeness. We must have a proper picture of what we want before we can have something approaching it. If there ever is to be a republic of every village in India, then I claim verity for my picture in which the last is equal to the first, or in other words, none is to be the first and none the last.

In this picture every religion has its full and equal place. We are all leaves of majestic tree whose trunk cannot be shaken off its roots which are deep down in the bowels of the earth. The mightiest of winds cannot move it.

Unique place

In this there is no room for machines that would displace human labour and that would concentrate power in a few hands. Labour has its unique place in a cultural human family. Every machine that helps every individual has a place. But I must confess that I have never sat down to think out what that machine can be. I have thought of Singer's Sewing Machine. But even that is perfunctory. I do not need it to fill in my picture.

When Panchayat Raj is established, public opinion will do what violence can never do. The present power of the zamindars, the capitalists and the rajas can hold sway so long as the common people do not realize their own strength. If the people non-co-operate with the evil of zamindari or capitalism, it must die of inanition. In Panchayat Raj only the Panchayat will be obeyed and the Panchayat can only work through the law of their making.

My idea of village Swaraj is that it is a complete republic, independent of its neighbours for its own vital wants, and yet interdependent for many others in which dependance is a necessity. Thus every village's first concern will be to grow its own food crops and cotton for its cloth. It should have a reserve for its cattle, recreation and playground for adults and children. Then if there is more land available, it will grow useful money crops, thus excluding ganja, tobacco, opium and the like. The village will maintain a village theatre, school and public hall. It will have its own waterworks ensuring water-supply. This can be done through controlled wells and tanks. Education will be compulsory up to the final basic course. As far as possible every activity will be conducted on the co-operative basis. There will be no castes such as we have today with their graded untouchability. Non-violence with its technique of Satyagraha and non-co-operation will be the sanction of the village community.

No punishment

The Government of the village will be conducted by the Panchayat of five persons, annually elected by the adult villagers, male and female, possessing minimum prescribed qualification. These will have all the authority and jurisdiction required. Since there will be no system of punishments in the accepted sense, this Panchayat will be the legislature, judiciary and executive combined to operate for its year of office. Any village can become such a republic today without much interference, even from the present Government whose sole effective connection with the villages is the exaction of the village revenue. I have not examined here the question of relations with the neighbouring villages and the centre, if any. My purpose is to present an outline of village government. Here there is perfect democracy based upon individual freedom. The individual is the architect of his own government. The law of non-violence rules him and his government. He and his village are able to defy the might of a world. For the law governing every villager is that he will suffer death in the defence of his village's honour.

There is nothing inherently impossible in the picture drawn here. To model a village may be the work of a lifetime. Any lover of true democracy and village life can take up a village, treat it as his world and sole work, and he will find good results. He begins by being the village scavenger,

spinner, watchman, medicine man and school-master, all at once. If nobody comes near him, he will be satisfied with scavenging and spinning.

Ideal village

An ideal Indian village will be so constructed as to lend itself to perfect sanitation. It will have cottages with sufficient light and ventilation built of a material obtainable within a radius of five miles of it. The cottages will have courtyards enabling house-holders to plant vegetables for domestic use and to house their cattle. The village lanes and streets will be free of all avoidable dust. It will have wells according to its needs and accessible to all. It will have houses of worship for all, also a common meeting place, a village common for grazing its cattle, a co-operative dairy, primary and secondary schools in which industrial education will be the central factor, and it will have Panchayats for settling disputes. It will produce its own grains, vegetables and fruit, and its own khadi. This is roughly my idea of a model village.

Given a good zamindar, where there is one, or co-operation among the people, almost the whole of the programmes other than model cottages can be worked out at an expenditure within means of the villagers including the zamindar or zamindars, without Government assistance. With that assistance there is no limit to the possibility of village reconstruction. But my task just now is to discover what the villagers can do to help themselves if they have mutual co-operation and contribute voluntary labour for the common good. I am convinced that they can, under intelligent guidance, double the village income as distinguished from individual income. There are in our villages inexhaustible resources, not for commercial purposes in every case. The greatest tragedy is the hopeless unwillingness of the villagers to better their lot.

The very first problem the village worker will solve, is its sanitation. It is the most neglected of all the problems that baffle workers and that undermine physical well-being and breed disease. If the worker became a voluntary bhangi, he could begin by collecting night soil and turning it into manure and sweeping village streets. He will tell people how and where they should perform daily functions and speak to them on the value of sanitation and the great injury caused by its neglect. The worker will continue to do the work whether the villagers listen to him or no.

Official Committee on Games of Skill

The Government have constituted an official committee to go into the question of definition of games of skill, to prepare a fresh list of all games which can be classified as games of chance and to make recommendations to the Government in the matter.

The Commissioner of Police, Madras, will be the Chairman of the Committee and the following are the members:

Sri R. Sadasivam, Chief Presidency Magistrate, Madras; Sri P. S. Kailasam, Public Prosecutor, Madras; Sri Md. Moheb Ali and Chief Assistant State Prosecutor, Madras; Sri N. Krishnaswamy, Deputy Commissioner of Police, (Crimes), will be Member-Secretary.

Chief Minister's Appeal

After the inauguration of our Republic in 1950, we assumed the task of planning a series of Five-Year Plans for the prosperity of our country. Planning on a gigantic scale embracing nearly 400 million people is not an easy task. Many of you, I am sure, will remember the first Census of Independent India held in 1951. It coincided with the beginning of the First Five-Year Plan. In fact the preparations for the first Five-Year Plan were started in 1950 along with those for the 1951 Census. By June 1951, essential data collected during the Census were made available to the Planning Commission for formulating plan schemes. Valuable information on the rate of growth of population, rural-urban migration, distribution of economically active population by age, sex, occupation and industry was furnished to the Commission helping them to fix minimum targets and set the pattern for future planning in India. In this year's census, an attempt is being made to gather more exhaustive and important data for the purposes of the Third Five-Year Plan.

Public Co-operation

We have always stressed on public co-operation for successful implementation of the Five-Year Plans. We now seek your co-operation in furnishing correct information to those Census officials who will approach you for particulars in connection with the 1961 census. These very particulars which you furnish, are compiled, tabulated and handed over to the Planning Commission by the Census Department. In turn the Planning Commission uses this data as the ground work on which to build up their Five-Year Plans. All planning is for your prosperity and you see now how important it is for you to furnish information readily and correctly.

Any plan to be realistic must take into account the expanding population. Census, by providing details on the rate of growth of population and the total population of the country, helps to set realistic targets and ensures success of the Plan. Census data on population as classified by age, literacy, occupation and industry are being used by the planners to formulate plans for developing cottage and small-scale industries, to provide more employment opportunities as well as alternate employment to those working in the agricultural sector. Census data on literacy and education are required by the Planning Commission for devising ways and means for the eradication of illiteracy, for the expansion of basic education, diversification of secondary education, improvements to collegiate education, extension of facilities for

technical education, etc. They also help in estimating the requirements of teachers, schools and colleges. Our health programmes are planned with the help of census statistics. Urban water-supply and drainage schemes, village sanitation schemes, anti-epidemic programmes, extension of medical facilities in rural and urban areas and family planning schemes—all these are based on census data. Food, clothing and shelter are the prime necessities of man and census, by providing valuable information on the extent of land cultivated, increase in population, increase in urban population, number of establishments where some form of manufacture, servicing, repairing is done, and the number of persons employed in industries, household, etc., helps to formulate plans for increasing our food production and giving an industrial bias to our economy. You will now realise how important census is from the point of view of planning and the imperative need for furnishing correct information.

National Endeavour

My object is to appeal to all of you living in this State to co-operate wholeheartedly in this national endeavour with the Census officials and make the 1961 Census a success. The 1961 Census has added importance as it coincides with the completion of the Second Five-Year Plan and the commencement of the Third Plan. The object of the Third Plan is more ambitious than the other two which preceded it and in order to help the setting up of realistic targets, the Census Department has also increased the number of questions to be asked of you. The data collected during this census is expected to provide a correct picture of the Indian economy and help us to provide the solutions to many of our problems.

Unlike the 1951 Census, the 1961 Census has two distinct phases. The first stage is the house-listing operations which commence on the 1st October. Its object is to list all the houses in the country and the uses to which they are put. The second stage is the actual census enumeration to be conducted from the 10th to the 28th February 1961. This means that Census officials will be approaching you more than once for valuable information. It is your duty to furnish such information, however confidential you might consider it, for your sake and for the sake of the country.

A housing survey will be conducted which will help us in evaluating the housing situation and congestion in urban areas. Lack of proper living accommodation constitutes one of the most serious deficiencies in the standard of living of the people and poses a challenge to social reformers and



Shivaji Ganesan, Cine Actor, addressing the gathering on the occasion of the celebration of "Muthamil Vila" by the Secretariat Association on 3rd August 1960.

planners. You are aware that we have a number of housing schemes in this State and are striving to provide decent homes to all. The data obtained from house-listing operation will be utilized to fill in the gaps now existing at present and help us to formulate more housing schemes.

Necessary Information

I will dwell but briefly on the actual questions you have to answer when the enumerators come to you for information. Information will be solicited about the type of wall and roof to find out the structural condition of the houses. Information is also collected regarding the number of living rooms in every house. This data correlated with the number of persons residing in the house provides a correct estimate of congestion in the house. As indicated by me, earlier, the uses to which houses are put, whether as purely residential dwellings or shops or factories or establishments are also found out. This information is useful when demarcating purely residential areas from industrial sectors. Information is gathered regarding the nature of products made or processed in factories and workshops and the nature of fuel used for production and manufacture. This information will enable us to find out the number of household industries, the areas of concentration of major and minor industries and the number of persons employed in these industries. So you can gauge for yourselves the importance of these questions and the need for furnishing correct answers.

To you, the people of this State, my appeal is to answer all the questions put to you correctly and conscientiously. Please treat the enumerator who will be approaching you for information as your friend and extend to him every courtesy and consideration, as you would do to a member of your household or a guest. Remember that these enumerators are a band of selfless men drawn from all walks of life, holding responsible public offices, who do voluntary service. They are there to help you and us—you, as the information

you furnish helps the formulation of plans, and all planning is for your benefit—and US, as the information you provide helps to formulate policies and plans and we are here only to help and serve you. Incorrect information is worse than no information. So please furnish correct answers to all the questions. Indifference towards the census can make it ineffective. As such, you must take lively interest in Census operations.

Appeal to Enumerators

To you, the enumerators in charge of this great national task, my appeal is to do your duty with a missionary zeal. Yours is a thankless job, but you will permit me to repeat the oft-quoted phrase, "Desert and Reward seldom keep company". Let the satisfaction of a work well done be your reward. I am aware that you have your normal duties to perform in addition to this task. But when you stop to consider, you will realize that you are partners in formulating national schemes and that we depend on your zeal for proper planning. Your main assets should be tact and patience. Not all householders will be prompt in replying and some may even be curt. You should always be tactful but firm and must put the householder at ease. During the training classes held for you, you must have had a fair idea of the best method of eliciting information. Use all the resources at your command in the best method possible to help make this great task pleasant for you and for the public.

Everyone of you must have heard of the saying, "It takes two to make a Census—you and the Enumerator". This contains the essence of a successful Census. Census, after all, is not a one-man show. It is a Co-operative endeavour of the people and Government, where both realize the need for and significance of a correct and complete Census. Madras State has always been in the vanguard of every progressive movement. It is up to you to live up to this high tradition now.

Panchayat Administration

Panchayats have for centuries past formed an integral part of village administration in our country. In South India the Panchayats had their roots in the hoary past and as evident from historical records, inscriptions and monuments, they played a vital role in the integration and development of village life. It is a matter of legitimate pride that in the days of the Chola Kings, i.e., as early as in 1014 A.D., the administration of the panchayats by the village representatives achieved a high degree of efficiency and integrity. The name "Panchayat" implied a group of "five" which functioned and administered the rural affairs as a representative body.

Historical background

There is historic evidence to show that in South India, the presidents and members who administered these institutions in those days were elected with strict standards as to their character, age (above 35 and below 70 years) capacity and reputation in the villages. The villagers had therefore implicit confidence in them and they were respected and feared. The mode of election then in vogue, though so crude, was yet simple and cheap. The village was divided into convenient blocks and the residents of every block had to write out each on a palmyra leaf the name of the candidate of his choice. All the leaves of the block were bundled up with an index leaf containing the number of the block. They were shuffled in a pot in the presence of the entire village folk and a youngster in teens was required to pick up one of them. The name of the candidate so picked up was noted down as elected for the ward or block. The term of office of the member was one year. They met under the shade of trees and in the village *mandapams* (halls) to transact business.

Annual Accounts

The account books of the panchayat were maintained by the *Karanathan*, which post was filled up with meticulous care. The person chosen for this job was of sterling character. When he read the annual accounts of the panchayat before the village assembly, he had to undergo the severe ordeal of holding in his hand a piece of hot iron on account of which if blisters were formed, it was considered an indication of his bad accounts which threw him out of job; otherwise, he was amply rewarded for his unimpeachable work. The panchayats thus proved efficient units of village administration attending to all the requirements of the villages and also dispensed justice—rough and ready and cheap.

Under the British rule, the panchayat lost its power and prestige. Administration and justice became centralized. As a result of the new system of land tenures, people got individually, rather than collectively, connected with the new ruler and his local representative. Rapid growth of communications and the impact of industrial revolution in the West hastened this process of the decay of panchayat.

Panchayat slowly became defunct and obsolete. For the time being there was a vacuum. But the spread of western education created a political consciousness among the urban people. There was a desire on their part to be associated with the government. Some sort of local self-government was introduced by the creation of local boards and municipalities. These naturally followed the British pattern—based on their concept of democracy. After some time this experiment of self-government was extended down below, to the rural areas, in the form of panchayat.

Panchayat, in this context, was supposed to carry out municipal functions only. Even the panchayat legislation drew inspiration from urban municipal legislation already enacted. It did not deal with the village life in its totality. It did not represent the wishes of the people, and as such lacked in inherent strength.

The Set-up not good

Moreover, people in this new set-up, depended too much on the Government. Self-help and self-reliance, which alone could make the panchayat effective, were sadly missing. People looked to the officials for patronage rather than coming forward and joining hands to tackle their own problems.

Another cause of failure was that the local self-government units—panchayat, local boards or district boards,—were not linked up with one another as an organic whole. There was no guidance and supervision from the higher bodies. Each one looked after its own field, quite unconcerned about the activities of others.

Our elected representatives of the Constituent Assembly framed the Constitution. The country was declared a Republic. Article 40 of the Constitution laid down: "The State shall take steps to organize village panchayats and endow them with such powers and activity as may be necessary to enable them to function as units of self-government."

In other words, the panchayat should be a decentralized unit of administration with adequate resources and sufficient powers to work out a progressive socio-economic programme for the community.

After independence, it became the lot of those few associated with the freedom movement at various social activities to man the parliament and the State Legislatures. Though we have given a good account of the working of democracy over the years, democratic consciousness, it must be admitted, has not percolated down to the huge masses of rural population. They remain to be awakened.

Democracy can flourish only when nurtured in indigenous soil. It must grow its roots firmly in the village. It can best be nourished by the people themselves who have to work it. They have to become the masters of their own destiny, conscious of their obligations and anxious to exert their rights. Only then will they infuse life into democratic institutions and bring the best out of themselves.

After the advent of Swaraj, however, the lost ground is being regained by paying special attention to the villages treating them as the primary units of a Welfare State. In supersession of the various panchayat Regulations and Acts, right from the Local Fund Act, 1871, down to the Local Boards Act XI of 1930, Madras Village Panchayats Act of 1950 (Act X of 1950) was brought into force. It conferred on the panchayat several additional powers and functions, besides making the levy of taxes mandatory so as to find funds for their growing needs. But still a good many of the panchayats could not function because of the lack of technical and trained personnel to assist and guide them and of the funds required to provide their growing civic needs, such as sanitation, water-supply, village roads, lighting, etc.

Mass enthusiasm

As in all other spheres, so in the sphere of village development there was great enthusiasm among the rural folk. The National Extension Service Scheme and Local Development works undertaken by the Government have given an impetus to the panchayats to avail in full the opportunity afforded to them to improve the villages in all directions. The success of the schemes is in no small measure due to the vital part played by the panchayats in implementing them.

Effective steps were taken under the Madras Village Panchayats Act, 1950, to cover the maximum number of villages in the State with panchayats according to a phased programme. Under this Act, a panchayat has to be formed for each village with a population of not less than 500, though however, to enable the panchayat to function

as a viable economic unit, if it is constituted for parts of villages, population of at least 1,000 is adopted as the basis. There are at present 269 Class I and 315 Class II panchayats in this State with 301 whole-time paid Executive Officers working in them. Class I panchayats are formed for semi-urban areas with a population of not less than 5,000 and annual income of not less than Rs. 10,000 while the remaining panchayats are known as Class II panchayats. Class I panchayats which gain in importance and become urban in character are eventually converted into municipalities, on their satisfying the conditions for such conversion.

Panchayat jurisdiction

The jurisdiction of a panchayat generally extends over a revenue village and in some cases over a group of contiguous villages or parts thereof.

The strength of members of panchayats (both Class I and Class II) ranges from 5 to 15 with reference to population, the maximum number of seats being allotted to panchayats with a population of 2,500 and above. The President and Vice-President are elected from among the members.

Every person included in the electoral roll of the Legislative Assembly constituency relating to the village or portion thereof within the panchayat, is entitled to be included in the electoral roll of the panchayat, to vote and stand for election to the panchayat. The election to both Class I and Class II panchayats is by secret ballot, to the former by the method of marking on the ballot paper and to the latter by the multiple box system. The system of secret ballot has been introduced for the first time in this State in respect of all Class II panchayats with effect from the recent ordinary elections held in April 1958. It is a happy augury that in these elections to about 5,000 village panchayats so far held, nearly 63 per cent of them were uncontested which is a healthy sign of unity among village people and eschewing party politics in local administration.

From 1st November 1953, the areas comprised in the Kanyakumari district and in the Shencottah taluk of the erstwhile Travancore-Cochin State have been merged in the Madras State. There are in this merged area 51 panchayats. They are not classified as Class I and Class II. The elections to these panchayats too are held by secret ballot.

Panchayat members

The affairs of the panchayats are carried on by the President and members, the former exercising the executive functions also when there is no Executive Officer for the panchayat. Adequate provision has been made in the Act to check and prevent the abuse of powers, if any, by the President or Vice-President or members of the panchayat.

There is also provision empowering the Inspector of Municipal Councils and Local Boards for dissolving or superseding a panchayat, if it is found that the panchayat has persistently defaulted or proved its incompetence to run the administration properly or for removing its President, Vice-President or any member in case of any default or abuse of powers by him. The panchayat is to meet at least once in a month to transact its business and the meetings are conducted in its own office with strict regard to the procedure prescribed therefor. In cases of urgency or for special reasons, the panchayat can also meet at shorter intervals. The panchayats carry out functions expressly provided for under the Act (subject to the rules framed thereunder) classified as obligatory and discretionary.

The following are the constituents of a panchayat, viz., (1) a President, (2) a Vice-President, (3) members, ranging from 5 to 15 based on the population of the panchayat and (4) an Executive Officer in the case of a notified panchayat functioning as executive authority.

Reservation of Seats

Provision has also been made for reservation of seats to the Scheduled Castes in the panchayats not exceeding one-fifth of the total strength, if their population is not more than half the total population of the panchayat. The panchayat is divided into wards for the purpose of electing its members. A Class I panchayat is divided into not less than five wards, and a Class II panchayat into not less than two and not more than five wards. The minimum and maximum number of members for a ward of a Class II panchayat is two and five respectively, while in a Class I panchayat the strength of a ward does not usually exceed two members. The term of members of a panchayat which was three years has been raised to five years as per the recent Amendment Act, 1957.

Election of Vice-President

The President shall make arrangements for the election of Vice-President; he shall convene and preside over the meetings of the panchayat and discharge all the duties and powers specifically imposed or conferred on the President by the Act. When the office of the President is vacant, the Vice-President shall exercise the functions of the President until a new president is declared elected and assumes office. He can also function as President if the President is incapacitated or in his absence, and exercise the powers delegated to him by the President. When the Offices of both the President and Vice-President are vacant or when both are incapacitated or absent, a temporary President appointed by the District Panchayat Officer from among the members, shall function as the

President during such period. The President, Vice-President and members shall not receive any remuneration. The members have got the right to move resolutions and (interpellate) put questions to the President on matters of administration subject to the rules prescribed.

A whole-time Executive Officer is appointed by the Inspector for such panchayats as are notified for the purpose by the Government. All the Class I panchayats have Executive Officers, besides a few Class II panchayats. When there is no Executive Officer, the President of the panchayat himself performs all the executive functions and this functions as Executive Authority. The Executive Officer is paid from the Panchayat Funds, his salary and allowances as fixed by Government. The Executive Authority shall carry into effect the resolutions of the panchayat.

New Act

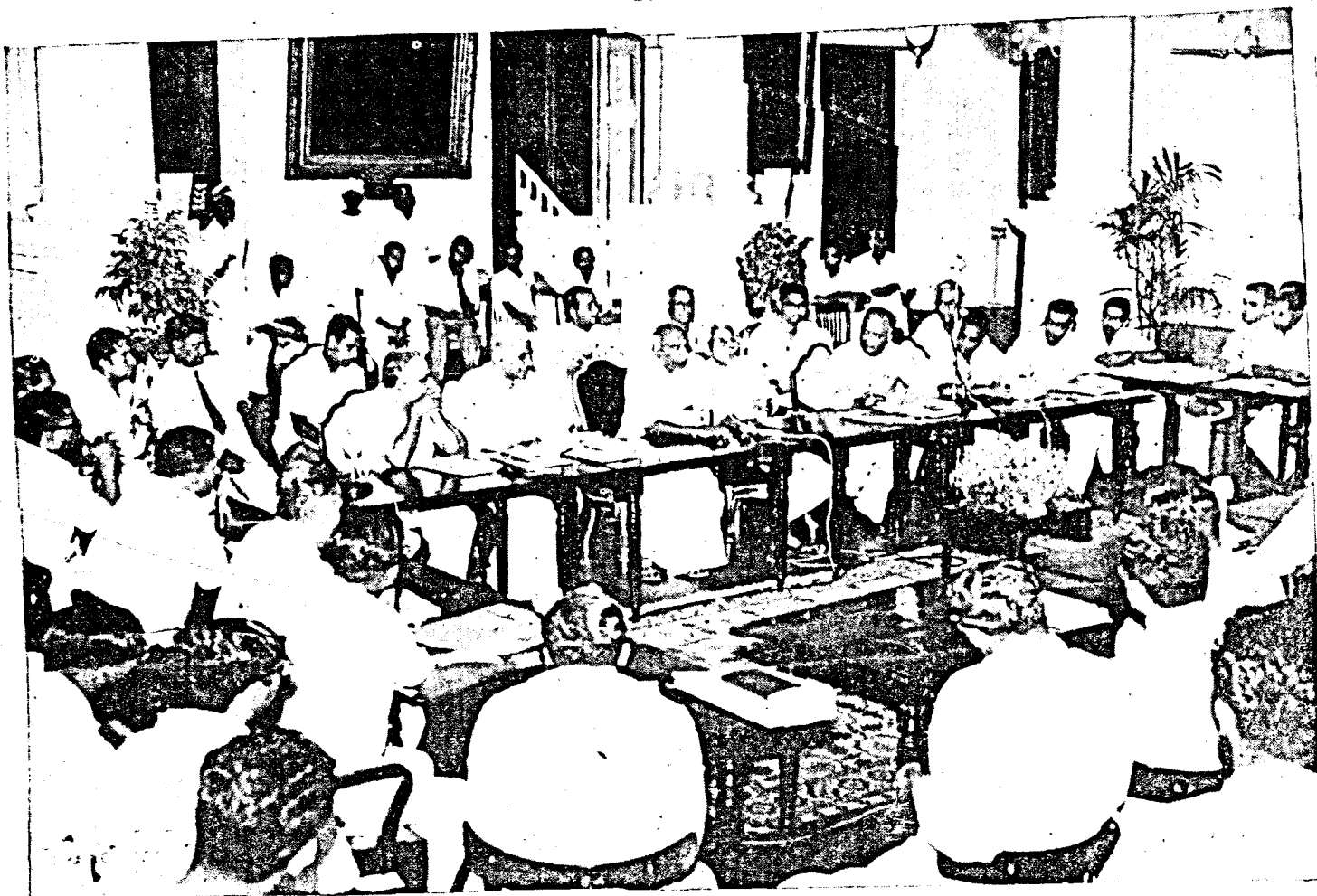
With the experience gained in the field of panchayat administration and to provide for more resources and scope for the panchayats to develop and administer their affairs more efficiently, the State Legislature has passed a new Act called the Madras Panchayats Act, 1958. The Government propose to introduce the provisions of this Act stage by stage in the entire State and at any rate before 2nd October 1961. The significant features of this new Act are the following :—

The district boards will be replaced by 374 Panchayat Unions which will be formed at the rate of one for each Development Block delimited under National Extension Service Scheme of Community Development. The entire State will be covered by panchayats within a stipulated time. In the new set-up, the panchayats will be classified as town and village panchayats instead of as Class I and Class II panchayats on the basis of their population and income, viz. :—

	Population.	Income.
Town panchayats ..	Not less than 5,000	Not less than Rs. 10,000
Village panchayats ..	Less than 5,000 and not less than 500	

Conversion of Panchayats

Specific provisions have been made for the conversion of panchayats into townships and municipalities. A Panchayat Union Council will be constituted for each Panchayat Union and the administration of the Panchayat Union will vest in that Council. Every Panchayat and every township Committee within the Panchayat Union will elect a person to the Union Council from among the members. If among the persons so elected there are no women or Scheduled Caste members or if this number is less than three, the Union Council will co-opt such number



Chief Minister Sri K. Kamaraj addressing a Conference of District Collectors at Rajaji Hall on 6th September 1960

of women or Scheduled Caste members as may be necessary to ensure that the council includes not less than three women and three Scheduled Caste members.

A member of the State Legislative Assembly representing a constituency comprising the whole or any part of the Panchayat Development Block and any member of the State Legislative Council residing in the Block area shall be entitled to take part in the proceedings of the council but shall not be entitled to vote or to be elected as chairman or vice-chairman of the Council.

Tenure of Panchayats

The tenure of the Panchayat Union Council as of the Panchayat will be five years. There will be a Chairman and a Vice-Chairman for every Panchayat Union Council to be elected from among its members. A Commissioner shall be appointed by the Government for each Panchayat Union Council (he being ordinarily the Block Development Officer concerned) to be paid exclusively from State Funds, to perform the executive functions of the Union. The

Union Council shall meet at least once in sixty days. A copy of the minutes of the proceedings at every meeting of the Panchayat Union Council as well as all minutes of dissent shall be submitted by the Chairman to the Inspector within three days of the date of the meeting.

Appointment Committee

There shall be an Appointment Committee for every Panchayat Union consisting of the Chairman, the Commissioner and one member elected annually by the Council. Appointments to all posts of the Union (paid from Union Funds) shall be made with the prior approval of the Committee. There shall be an Education Committee and a General Purposes Committee in every Panchayat Union. The Panchayat Union may, and if so required by the Government shall, appoint such other Committees, as may be necessary for the efficient performance of its duties and functions under this Act. Every panchayat shall submit to the Panchayat Union Council a report on its administration for each year before the prescribed date.

Every Panchayat Union Council shall submit to the Collector a consolidated report on its administration and on the administration of all panchayats within the Union for each year before the prescribed date and the Collector shall prepare a general report on the administration of the Panchayat Union Councils and Panchayats in the district, place it before the District Development Council and submit the same to the Government with the copy of the resolution of the District Development Council. A copy thereof shall also be sent to the Inspector. In respect of Panchayat Union Councils, the Government have the powers to fix or alter the number, designation, etc., of the staff. In respect of panchayats alone Inspector will exercise the said powers as at present.

Union Council

The following functions and powers hitherto exercised by the panchayats or the district boards shall be carried out exclusively by the Union Council :—

- (1) Construction, repair and maintenance of all public roads (classified as Panchayat Union roads) and of all bridges, culverts, road dams and causeways on such roads.
- (2) The establishment and maintenance of dispensaries, maternity and child-welfare centres, etc.
- (3) Opening and maintenance and expansion or improvement of elementary schools including payment of grants to private managements in respect of elementary schools.
- (4) Preventive and remedial measures connected with epidemics or with malaria.
- (5) Maintenance of statistics relating to births and deaths.
- (6) Maintenance of common institutions for a group of panchayats.
- (7) Opening of new public markets or closing of existing ones with the prior permission of the Inspector.
- (8) Control of fairs and festivals classified by the Panchayat

Union Council as those reserved for control by it. (9) Promotion and encouragement of cottage industries. (10) Control and maintenance of markets classified as Panchayat Union markets. (11) Improvement of agriculture, agricultural stock and the holding of agricultural shows. (12) Notifying with the approval of the prescribed authority that no places within the limits of any panchayat village or villages within the Union, shall be used for any dangerous and offensive trades specified by Government except with necessary licence. (13) Grant of permission for construction or factories, installation of machinery, etc., in panchayat villages.

Statutory entrustment

The Panchayat Union Councils will be statutorily entrusted with the execution of the National Extension Service Scheme of Community Development including in particular all matters relating to the development of agriculture, animal husbandry and village industries organized on an individual or co-operative basis subject to prescribed conditions and restrictions. There shall be levied in every Panchayat Development Block a local cess at 45 naye Paise on every rupee of land revenue payable to Government in respect of any land for every fasli.

Out of the above proceeds, four-ninths shall be credited to the Panchayat Union (Education) Fund. Out of the proceeds of the local cess collected in every panchayat town in the panchayat development block, a sum representing two-ninths shall be credited to the town panchayat funds.

Proceeds of local cess

Out of the balance of the proceeds of the local cess collected in every Panchayat Development Block, such percentage as the Union Council may fix, shall be credited to the Village Panchayat Fund subject to the limit that the



Sri K. Kamaraj, Chief Minister, inaugurating the Silver Jubilee celebrations of the Madras State Tamil Sangam at Rajaji Hall on 24th August 1960

total income derived by all village panchayats in the Panchayat Union shall not fall short of Re. 0.20 NP. for each individual of the village population in the Panchayat Union.

Balance, if any, collected in the Panchayat Development Block shall be credited to the funds of the Panchayat Union Council.

Every Panchayat Union Council may levy on every person liable to pay land revenue a local cess surcharge at such rate as may be considered suitable but subject to the maximum to be prescribed by the Government. The Government shall pay to each Panchayat Union Council a sum representing Re. 1 for each individual of the population of the Panchayat Development Block concerned, from out of the total land revenue collected in the State during that year. The proceeds of the surcharge on stamp duty collected in the panchayat villages in the entire block shall be pooled every year and disbursed among all the village panchayats in the block in proportion to the land revenue of the village and those derived in panchayat town shall be credited to town panchayat funds. Panchayats will continue to levy house tax, profession tax and vehicles tax.

Grants to Union Council

The following grants shall be paid to the Union Council by the Government—

- (1) Local Education Grant.
- (2) Local Cess Surcharge Matching Grant.
- (3) Local Boards Grant.

A village house-tax matching grant shall be paid on behalf of each village panchayat.

In the case of removal of President or Vice-President of a panchayat, the Inspector may issue a notice calling upon the President or Vice-President to offer within a specified date his explanation. If the Inspector considers that the explanation is not satisfactory, he shall forward to the Tahsildar of the taluk, a copy of the notice and explanation of the President or Vice-President for the consideration of the panchayat. The Tahsildar shall convene a meeting and place at that meeting and read to the panchayat the notice of the Inspector as well as the explanation. The decision of the panchayat accepting

or rejecting the proposal of the Inspector shall be recorded in the minutes of the meeting and copy thereof communicated to the Inspector. If the proposal has been accepted by the panchayat, the Inspector shall by notification remove the President.

Removal of Chairman

In the case of removal of Chairman or Vice-Chairman of a Panchayat Union Council, Government have to issue the notice to the persons concerned, obtain the explanation and if they deem removal to be necessary, the Government shall forward to the Revenue Divisional Officer a copy of the notice and the explanation and the rest of the procedure in the above item has to be followed and Government can notify removal of the Chairman or Vice-Chairman, as the case may be, only if the council accepts the proposal.

Thus the stage has been set for the unfettered progress of the panchayats so as to fulfil their obligation and to play their part well in all the developmental activities of the villages.

One of the main objects of the new Panchayat Act is to carry out the schemes framed for the villages under the National Extension Service and Community Development Programmes through the panchayats and the Panchayat Union Councils and to this end, to have the Developmental Blocks concerned completely by panchayats in the nearest future. Almost all the existing blocks have been covered by panchayats and in the few remaining ones this work is speeded up. The total number of villages in the State is 17,371 of which a majority of the villages both in the Block and non-block areas are covered by 9,582 panchayats. Speedy action is being taken to cover the remaining villages with panchayats.

So far 153 blocks have been formed in this State. Up to 28th February 1957, 8,225 villages in these blocks have been covered by panchayats while 329 villages are yet to be covered.

With the introduction of the new Act, it is expected that the panchayats will not only be the nurseries of Local Administration at the village level, but they will also serve as effective links for all the developmental activities of the State conferring the maximum benefits on the villagers.

Training-cum-Service Centre in Blacksmithy Sanctioned for Singanur

The Government have sanctioned a scheme for the establishment of a Training-cum-Service Centre in Blacksmithy at Singanur in Merkanam Block, South Arcot district. The object of the scheme is to train artisans in and near the locality in the use of improved tools and equipments for a period of one year and then convert it into an Industrial Co-operative. The Government have also sanctioned an expenditure of Rs. 9,110 non-recurring and Rs. 6,420 recurring towards this scheme.

Duties of Village Officers

The Madras Panchayats Act, 1958, is being implemented throughout the State. The Act provides for the creation of Panchayat Unions in addition to panchayats and lays down the responsibilities that are to be entrusted to these local bodies. The Act provides for the payment of certain statutory grants to the local bodies so as to match the collection of certain taxes leviable by these bodies. In addition, section 66 of the Act provides for the entrustment to the Panchayat Union of the National Extension Service Scheme of Community Development, including in particular all local schemes relating to the development of agriculture, animal husbandry and village industries.

In effecting such entrustment, Government intend to stipulate that the Panchayat Union constituted for every Panchayat Development Block should (in association with all the panchayats functioning in such block) actively participate in the execution of the Third Five-Year Plan. To this end, it will be necessary to secure that a block plan budget is settled for every block in respect of the Third Plan period; and Block Development Programmes are planned and executed within the frame work of the settled block plan budgets.

Planning Authority

As an essential feature of such participation in the Third Five-Year Plan, Government intend to stipulate that subject to general guidance and co-ordination by the Panchayat Union at block level, every panchayat should function as the planning authority for the area in its charge; annually frame an agricultural production programme with specific targets and take all steps within its power to ensure that the targets are attained with the area in its charge. In order to facilitate the working of panchayats and Panchayat Unions in securing the development of agricultural production, Government have issued orders transferring to panchayats the control and management of almost all poramboke and waste lands (other than certain limited categories). Panchayats have also been empowered to take over and discharge the liability of rights for the maintenance of Kudimaramat works. The maintenance of minor irrigation works will be vested in Panchayat Unions.

Trained Staff available

In order to help Panchayat Unions and panchayats to discharge all these important new responsibilities, it will be necessary to ensure that the services of trained staff

should be made available to them. So far as Panchayat Unions are concerned, there is little difficulty. Block Development Officers, Extension Officers, clerks and gramasevaks are available under the National Extension Service Scheme of Community Development and some additions to clerical staff will become available as a result of the forthcoming abolition of district boards. Orders will issue separately in the Rural Development and Local Administration Department specifying the scale of staff to be made available to Panchayat Unions. The cost of this staff will continue to be borne by Government and their services will be placed at the disposal of Panchayat Unions free of charge to Panchayat Union funds.

Such staff, however, will be unavailable for rendering service at village level. This is so because most of the staff will have jurisdiction over the entire block. Though the gramasevaks will have smaller charges, they will still have jurisdiction over a number of contiguous villages. They will have to concentrate mainly on agricultural work and will require to be relieved of part of the clerical work they are attending to at present. They should not be burdened with routine administrative duties relating to the panchayats.

Village Officers

There is need, therefore, for making adequate arrangements for the performance at village level of administrative duties relating to both panchayats and Panchayat Unions. This subject was discussed by the Development Commissioner with Collectors and Revenue Divisional Officers as well as members of the District Development Council who represent the 75 first batch of blocks where Panchayat Unions are to be established on the 2nd October next. In the light of such discussion, the Development Commissioner has proposed as the only satisfactory solution of the problem that definite duties should be assigned to village officers in relation to panchayat development and that in consideration of their duties extra-remuneration should be provided in the form of Panchayat Development Allowance.

The proposals have been examined by Government in the context of the general question relating to the organization of village revenue establishments. Village officers have been making representations in the past for increase in their emoluments, which are fixed and regulated

on the basis that they are only part-time employees of Government. It has been found difficult to provide for increase of establishments except as part of a general reorganization of village revenue establishments, entailing a substantial reduction in numbers. Such reduction of numbers, in its turn, will have to be based on extensive revision of the present delimitation of boundaries of revenue villages as well as a major change in the present hierarchical system of appointments. In view of the need for concentration on the more urgent administrative tasks relating to the implementation of the new Panchayats Act and the devolution of developmental responsibilities to Panchayat Unions and panchayats, Government consider it desirable for the present to defer reorganization proposals and to continue existing organization of village revenue establishments in their present form for some time longer. In the light of this decision, they agree in principle that some extra remuneration should be sanctioned, this being related to the additional work which the village officers will be required to perform on behalf of panchayats. The nature of these duties is described in the paragraphs which follow.

Village Development Planning

Terms of entrustment of development work to panchayat union under section 66 of the new Panchayats Act will require the setting up of a proper organization of planning at village and block level. Subject to the guidance and co-ordination of the appropriate panchayat union committee, the village panchayat will function as the planning authority at village level. The village officers should be required to assist the village panchayat in the performance of its duties as planning authority. The panchayat should be required to invite the karnam and headman concerned to attend the special meetings of the panchayat whenever it functions as planning authority. It should be declared to be part of the duties of these village officers to attend such meetings and contribute their personal knowledge and experience and otherwise assist the panchayat in the performance of its duties. They should participate in the discussion and should not participate in the voting. (This is limited to the meetings of panchayats specially convened for planning purposes; village officers should not be required to attend the ordinary meetings of the panchayats.)

Village Development Accounts

For the purpose of working the National Extension Service Scheme of Community Development, a number of new records and returns have been prescribed for maintenance by the gramasevak in respect of each group of villages in his charge. This system, in actual working, is not satisfactory and requires to be changed. The existing system of maintenance of village accounts should be reviewed and revised. The karnam

should be made responsible for maintaining all records and registers needed for development purposes at village level and submitting returns therefor.

Local Revenue Collection

It should be declared to be part of the normal duties of the village headman that he should collect all taxes and fees which may fall due from time to time to the panchayat and the panchayat union. It should also be declared to be the normal duties of the village karnam that he should maintain tax assessment registers and such other records as may be prescribed from time to time for facilitating the collection of taxes and fees due to the panchayat and the panchayat union. The foregoing should be applicable in full to all panchayat villages.

In respect, however, of panchayat towns, somewhat different consideration will apply, partly because there would be a whole-time executive officer, partly because of the existence of other paid staff and partly also because the house-tax collection work would be too heavy. Therefore, the nature of the duties to be performed by the village officers in respect of revenue collection within the limits of panchayat towns should be determined by the Revenue Divisional Officer concerned with reference to the circumstances of each case. This should be done so as to secure two results, viz.,

(i) He should be required to do such work as he can be expected to do without detriment to his Government duties and wherever this may help the panchayat to economize on its own staff, such economy should be secured.

(ii) He should not be required to undertake house-tax collection work in any panchayat town, if the work is appreciable and likely to interfere with efficient performance of Government duties.

Duties of Village Panchayat Secretary

The duties of the village panchayat secretary are the maintenance of the minutes of the meetings of the panchayat and of its prescribed cash accounts and the clerical work relating to its general administration.

So far as the town panchayats are concerned, these duties are attended to by whole-time paid staff and there will therefore be no need for the services of the village officer being utilized. The problem arises only in relation to village panchayats most of which are unable to afford the expense involved in employing a whole-time panchayat secretary. Even in respect of village panchayats, these duties should be on somewhat different footing from those detailed earlier. Whereas in the other cases, the karnam and headman are (by their experience gained from government work) specially suited for discharging the duties in

question efficiently, it is likely that, in many villages, literate persons would be available who can do the duties of the village panchayat secretaries equally well. In some of the larger villages, the balance of convenience may lie in employing such persons as panchayat secretaries. Moreover the relationship between the panchayat president and the village panchayat secretary has to be very much more intimate than that between the panchayat president and an officer performing any of the other duties earlier mentioned. For these reasons, it has been proposed that the duties of the village panchayat secretary should be entrusted to the karnam, if—and only if—the village panchayat has expressed a desire that this should be done. In other cases, the village panchayat should be free (as it is at present) to make such local arrangements for the performance of these duties as it may find to be appropriate, provided, however, that the cost of such arrangements should not be disproportionately higher in relation to the normal income of the panchayat and should not therefore exceed such limits as may be prescribed by statutory rules.

Duties of Village Talayari

It should be declared to be part of the normal duties of the talayari that he should assist the headman in the performance of all his duties in relation to tax collection for the panchayat or panchayat union. He should also be responsible for maintaining watch and ward in respect of panchayat union properties and panchayat properties in the village including all standing trees on public lands in the village. (If in any village there is more than one talayari, the duties should be specifically assigned by the Tahsildar concerned to one of them. Discretion may be given to the Tahsildars in suitable cases to divide the work and consequently also the remuneration between more than one talayari if the work is satisfactorily divisible on a territorial basis.)

Classification of Territorial charges

The territorial charges of village officers differ considerably in size with resulting difference in the volume of work to be done. It is, therefore, desirable for the purpose of fixing the scale and allowances to be sanctioned, that a distinction should be drawn between normal charges and light charges. Accordingly it has been proposed that a village should be deemed to be a 'normal' charge if either the total extent of patta land in such village exceeds one thousand acres; or the land revenue assessment on patta lands in the village exceeds two thousand rupees. Any village in which neither of these two conditions is fulfilled should be deemed to be a 'light' charge.

Panchayat Development Allowance

The panchayat development allowance shall be fixed in respect of the karnam of every village included in any panchayat development block at the rate of rupees 15

per month if he has a normal charge and if the duties which he is required to perform include those of a village panchayat secretary and at the rate of rupees 12 per month if he has a light charge and the duties which he is required to perform include those of a village panchayat secretary or if he has a normal charge, and the duties which he is required to perform do not include those of a village panchayat secretary and at the rate of rupees 10 per month, if he has a light charge and the duties he is required to perform do not include those of a village panchayat secretary.

The panchayat development allowance shall be fixed in respect of headman of every village included in any panchayat development block at the rate of rupees 7 per month, if he has a normal charge; and at the rate of rupees 5 per month if he has a light charge.

Talayari Allowance

The panchayat development allowance shall be fixed in respect of the talayari of every village included in any panchayat development block at the rate of rupees three per month if he has a normal charge; or at the rate of rupees two per month if he has a light charge.

Panchayat development allowances on the scales set out above should be paid to the village officers of every panchayat development block with effect from the first day of the month in which a panchayat union is constituted for the block, or the first day of January 1961, whichever is earlier. With effect from that date, the orders issued in G.O. Ms. No. 1125. L.A., dated the 22nd July 1958, will stand cancelled.

The allowances payable in accordance with this order will cease to be payable in the event of reorganisation of village revenue establishments.

Obligatory functions of Village Officers

The village officers are at present under obligation to perform duties in respect of various departments of the State Government. The same conditions will apply in respect of the performance by village officers of duties entrusted to them in terms of this order in relation to panchayats and panchayat unions. The Block Development Officer will be responsible for ensuring that these duties are performed satisfactorily. He will have power to issue such instructions to village officers as may be necessary and also to report to the Revenue Divisional Officer cases, if any, of neglect of duty calling for disciplinary action.

The successful implementation of the new Panchayat Act will depend, in no small measure, on the working of the new arrangements made now. Government are aware that the smooth working of these arrangements call for a reorientation of existing outlook as well as considerable amount of tact and goodwill on the part of all concerned. They trust that these conditions will be fulfilled.

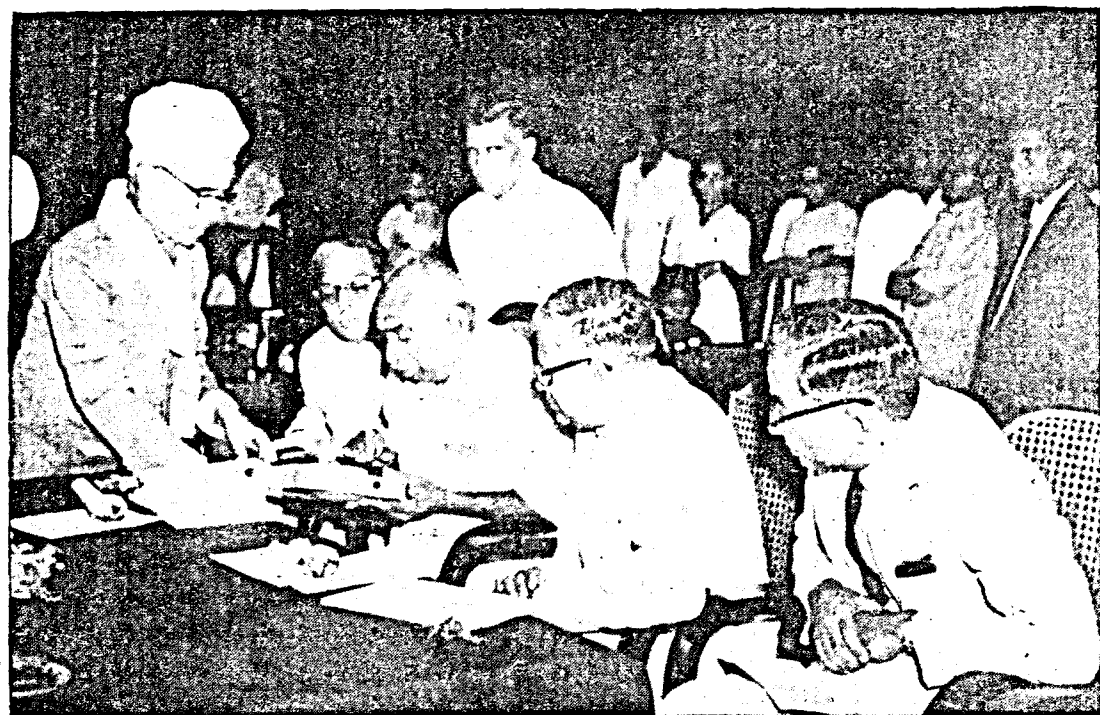
At present there is an arrangement by which a functionary called clerk-cum-bill collector is appointed by the Inspector in order to serve a group of contiguous village panchayats. In view of certain difficulties in these arrangements, Government have already directed that no new appointment of this nature should be made. Where this arrangement is already in force, it may, however, be continued, if all the panchayats concerned so desire, provided that their work is limited to that of panchayat secretary as defined above and the work relating to revenue collection is transferred to village officers, along with the new items of work relating to development.

Where there is no group clerk at present, it will be open to village panchayats if they so desire, to create the post of a part-time panchayat secretary for the particular

panchayat concerned and to appoint thereto some person other than the karnam, if this is considered preferable to the utilization of the services of the karnam.

In such cases, the authorized scale of permissible remuneration will be fixed by the Inspector (District Collector) with reference to the normal income of the panchayats concerned. The cost involved will be met from the panchayat funds.

If, as a result of giving effect to these orders, any post of bill collector group-clerk or similar functionary ceases to be necessary and is abolished, care should be taken to provide the incumbents of such posts with such alternative employment as attender or clerk (according to his qualifications) in the establishments of panchayat unions.



Sri K. Kamaraj, Chief Minister, who presided over the Fourth Anniversary of the Sangita Vadyalaya, held at Annamalai Manram, on 8th September 1960, and Sri R. Venkataraman, Minister for Industries, who delivered the Inaugural Address, are seen in the picture inspecting a violin.

The Wheel that Creates a Revolution

When Sri Rung (he had abbreviated his name from Rangaswamy for the sake of convenience in spelling out and to facilitate easier pronunciation when long back he was in England qualifying for the Civil Service under the old regime) was invited to preside over a function organized in connection with the Gandhi Jayanthi celebration in the district, he little imagined what he was letting himself in for being the highest official in the district, he was naturally obliged to agree to adorn the chair in that day's function. His background, foreign education and earlier official career had not actually given him any opportunity to either deeply study or understand the Gandhian philosophy or economics. But in recent times, radical changes having come about in the country, he had been obliged to bestow more thought on such things and though he had his mental reservations in many things he had to tune himself to the times and naturally his attitude and outlook had to undergo a change. So when the Gandhian "faddists" in the district were celebrating the Gandhi Jayanthi—during the last decade, such national celebrations had become even officially recognized and were being organized with more open enthusiasm than before—Sri Rung could not avoid taking a prominent part in it, being the official head of the district.

Pet Programme

He had his own reservation in mind since the function was mainly one for propagating Khadi which was one of Gandhiji's pet programmes. Sri Rung's hesitation arose out of two reasons. One was that he had no faith in such "anti-diluvian-shibboleths". His original contempt for such antiquated theories in a modern world had toned down to a kind of disinterested amusement at such "retrograde movement" like Khadi, which of course in these days he could not openly give vent to. The second reason was that, though many of his colleagues had moved with the times, changed their attire for at least "ceremonial occasions", Sri Rung had not kept pace with the times by going into "sack cloth" even for official functions. He thought this was a way of establishing his personal independence; but now the occasion was such that it would be obviously and glaringly incongruous if he had to preside over a function surcharged with the Khadi atmosphere. So with some reluctance, a lot of mental reservation and with an amused curiosity, he managed to get into a spotless white Khadi suit for the occasion.

It has not been recorded nor investigated whether this sartorial change had produced any electrical effect

on the person or had released any chain reaction. But Sri Rung's external change in attire seemed to have released some unknown forces which were beginning to effect some internal changes also. Surprisingly to himself, he realized that his mind was beginning to think in a different way now.

But what he experienced at the function itself was something more surprising for him. When he gave away the prizes in the spinning competition and when an octogenarian lady was led to the platform to receive the first prize for the finest spinner, Sri Rung's eyes were unaccountably dimmed with tears. There was a boy of 15 who had lost his eye sight and he had also won the prize in spinning; then there was the young woman who had become an expert spinner—a girl in her tens—on the Ambar Charkha and who had set up a record by spinning as many as 160 hanks a week. There were several other spinners of all ages who had earned special commendation, all of whom received their prizes from the hands of Sri Rung.

A Penitent

Sri Rung could not believe his eyes. At the end, his speech was surcharged with feeling and it was the tone of a penitent and a convert. From that day onwards Sri Rung began to take more lively interest in rural rehabilitation and wherever he went he took pains to find out how far the Charkha was beneficial to the villagers and at every village where the Charkha was plying he found that the families who had taken to it with enthusiasm and keen interest were not doing so merely out of sentiment or even for the sake of Gandhiji's name but merely because they had no other and better occupation which gave them work in their own homes and offered them the needed supplementary earnings by which they could make their living a little more comfortable.

Sri Rung is now one of the most enthusiastic votaries of Khadi and he even sports a khadi cap instead of a felt hat, and he is never tired of telling his own experience to his colleagues trying to convert them.

There are several others of the rank and type of Sri Rung who still harbour the same prejudices and trot out the same objections and excuses against Khadi which are familiar for over three decades now, but even they would be convinced, not with mere arguments or even statistics, but if only they agree to see things for themselves in the villages, and with an open mind.

Neither the octogenarian who received a prize from Sri Rung nor the disabled boy nor the expert Ambar spinner are mere figments of imagination. They are live characters and there are thousands like them in our villages. Those who have still the familiar doubts about Khadi can take a trip to any of our villages and find out for themselves if all that is said about Khadi is true. For instance, if they could go to Kanmalayampatti, a hamlet in Dharapuram taluk in Coimbatore district, they could see with their own eyes what is happening there. This is a village with about 200 families. This is one of the worst drought-affected places and for years the people did not see a drop of rain but the 1,000 and odd of the village population, have not cared to migrate to the towns in search of other occupations but have optimistically and faithfully clung to their soil for they are all agriculturists and the moment a drop of rain falls in their area they will be busy with their ploughs. The Charkha has taken root in this village. There are about 20 Ambar Charkhas and 250 traditional Charkhas plying in the village. On an average 36,000 hanks are produced on the Ambar Charkha and 45,000 hanks on the traditional Charkha monthly and the wages earned by spinning in the village averages to about Rs. 12,000 a month. This is no mean addition to the resources of the village. There are several other villages like Kanmalayampatti in our State where the music of the wheel is heard and there is the hum of new life, in the cottages.

* * * *

Nearly 5 lakhs of people are benefited by the Khadi programme in the State, out of which the Government centres alone have hitherto afforded occupation to nearly 2 lakhs of people. The Ambar Charkha which was introduced four years back in the State is also becoming popular and there are nearly 20,000 trained spinners on the Ambar Charkha. While a steady and industrious spinner can earn about 10 annas per day on the traditional Charkha, an Ambar Charkha can give an earning as much as Rs. 2 to Rs. 3 a day. This is not an exaggeration. Here is a typical instance of how a family in Appiopalayam near Tiruppur in Coimbatore district has created a remarkable record on the Ambar Charkha. Sri Palaniswamy Gounder is a typical agriculturist of the village. His family consists of six people including his wife, four daughters and a son. His wife Srimathi Ponnathal was a traditional expert spinner but due to her old age she prefers to have light work like winding, ginning and helps her daughters in spinning. There are three Ambar Charkhas in their house and the whole family engages itself in a co-operative effort in spinning on the Ambar Charkha. Between them they earn about Rs. 125 per month as wages.

Considering the fact that the annual income of Sri Palaniswamy Gounder is about Rs. 2,000 per annum, the addition of another Rs. 1,500 is nearly 75 per cent over the family's normal income. Sri Palaniswamy Gounder has some lands and he has cows and goats also, the acquisition and maintenance of which would not have been possible with his meagre agricultural income but for the Charkha.

* * * *

The Madras Government Khadi Schemes, which have very recently been transferred to the State Khadi and Village Industries Board, have shown remarkable progress in the past few years. In 1948-49 when the Government had just taken up the schemes there were only about 18,000 spinners earning over Rs. 2,00,000 as wages. In 1958-59 there were over 2 lakhs of spinners on the rolls earning nearly Rs. 35 lakhs as wages. In 1959-60 the number of spinners was over 255,000 and wages earned by them was nearly Rs. 52 lakhs. The number of weavers has also increased from 700 in 1948-49 to nearly 6,000 in 1959-60, and the wages paid have risen from Rs. 2,67,000 in 1948-49 to Rs. 23,37,000 in 1959-60. The production of khadi which stood at 581,000 yards in 1948-49 of the value of Rs. 11,70,308 has phenomenally increased to 4,266,000 yards valued at Rs. 1,10,00,000 in 1959-60. Khadi has become popular in the course of the past 10 years as the sales figures would show. The Khadi sales which stood at Rs. 5,37,000 in 1948-49 have risen to over Rs. 84,00,000 in 1959-60 and it is expected to reach one crore of rupees this year.

Madras State has stood in the fore-front in Khadi production and progress. Out of nearly Rs. 13 crores worth of Khadi produced in the whole of India over Rs. 2½ crores worth of khadi has been produced in this State alone. Out of nearly 1,500,000 people who are engaged in the industry nearly 5 lakhs are in Madras State. The pace of production as in very recent months has gone far ahead of consumption; there is a certain glut in stocks now but this need not be a frightening factor, for such gluts, which are periodical, have occurred in the other sections of the textile industry as in the handloom and mill cloth. The present production should be wholly consumed and further expansion would be made possible if a wider market is facilitated. As it is, there is not much of an organized market for Khadi as for the handloom or mill cloth. If people's support and enthusiasm are available in larger measure, the future of Khadi can be assuredly more optimistic.

So long as India's economy is predominantly rural, the charkha will have a pride of place. It has to be the central axis round which other village industries have to revolve.

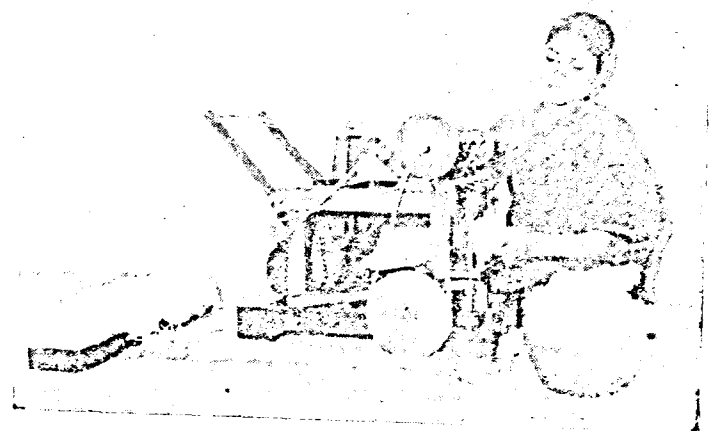
Khadi Helps Families

(Deivathal of Thithangavalasu)

One of the villages attached to the Kanmalampatti Sub-Centre is Thithangavalasu which is also as barren and unfertile as Kanmalampatti itself. It is here Deivathal (aged 19), the daughter of an agriculturist lives.

Deivathal was not given spinning-training in any Parishramalaya, but was trained at home by one of the qualified instructors under "500 Spinners Training Scheme."

She was given an Ambar Charkha only on the 18th March of this year, and within three months she progressed so fast in her spinning that she is able to spin not less than 160 hanks a week. She is one of the members of a family consisting of five including herself and her parents. Everyone in the family knows spinning, but only allow her to spin while they assist her by doing the odd works such as carding, slivering, etc. For several years the family derived no income from land because of the failure of rain in the Dharapuram taluk in which Thithangavalasu is one of the villages, and it is only Deivathal who makes a living for the entire family by spinning. Under normal conditions the land income of the family would be only Rs. 500 a year. But, Deivathal is able to earn about Rs. 1,000 at the rate of Rs. 80 a month, an income which is by far better than the earning of several crores of people in India whose average monthly income is not even Rs. 30.



This is Deivathal (aged 19) of Perumanallur Sub-Centre, who spins more than 160 hanks a day. Of course, she works more than 8 hours a day, too.

Khadi should be the Co-operative Effort of A Family

Appiopalayam (Chettithotam) about two miles from Perumanallur Sub-Centre surrounded by green fields and orchids is a pleasant and prosperous village. Unlike many villages, each of the dwellings of the peasant folk here is true and quite far apart from one another encircled



The mother and her fourth daughter are preparing cotton ready for spinning.



The three sisters Subbathal, Govindathal and Ananthathal who after having completed their household work, carrying on spinning as their pastime.



The Charkha is my sole companion and consolation, says Alagiri (aged 19) the blind spinner of Kanmaliampatti.

by fields, orchids, coconut groves and gardens of its own. Spinning either on Ambar or on Traditional Wheel is carried on in many of the families to supplement their income.

In fact, the annual income of Palanisamy Gounder, one of the typical inhabitants of this village is Rs. 3,500 out of which Rs. 1,500 is derived from Ambar yarn spinning. He possesses some acres of land, water being provided from a well with the help of a pump set. He has cows and goats too.

Palanisamy is fully engaged in field work while the rest of the members in his family spin when they are free.

Spinning as well as agriculture are carried on solely by the members of the family as a co-operative effort.

Palanisamy's wife, Ponnathal, once a good spinner now prefers some light work as winding or ginning to spinning because of her old age. Four of her daughters and a son—Subbathal (25), Govindathal (17), Angathal (14), Ramathal (13) and Natarajan (11)—are good spinners. There are three Ambar Charkhas in the family and when there is no household work, spinning is the only pastime which helps to earn money too! The whole family sits together carrying on spinning and other allied activities in a co-operative way. Natarajan is schooling, but helps his sisters at their spinning work.

On the whole about 220 hanks of yarn are produced in a week thereby earning as wages about Rs. 125 a month excluding the cost of cotton. Is it not a very high income?

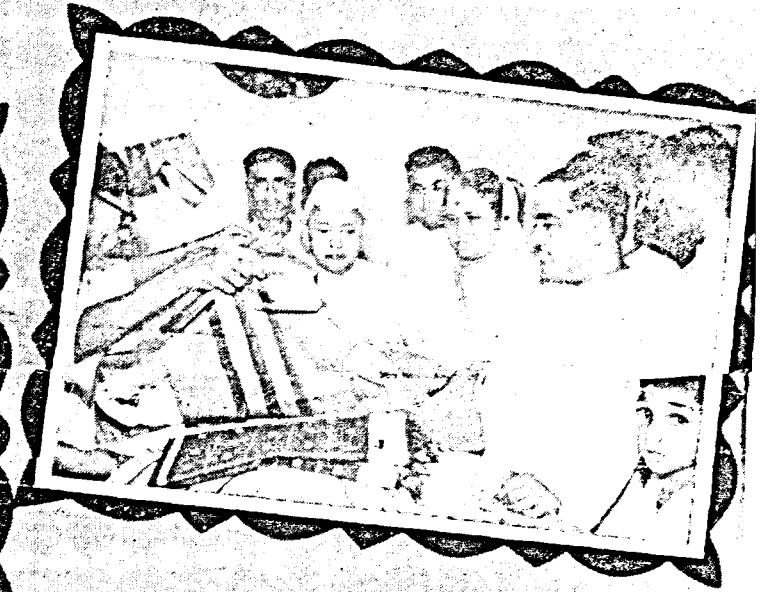
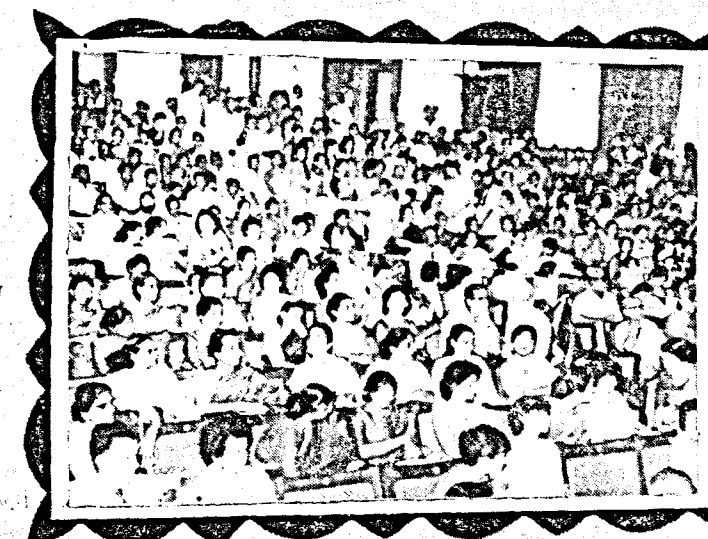
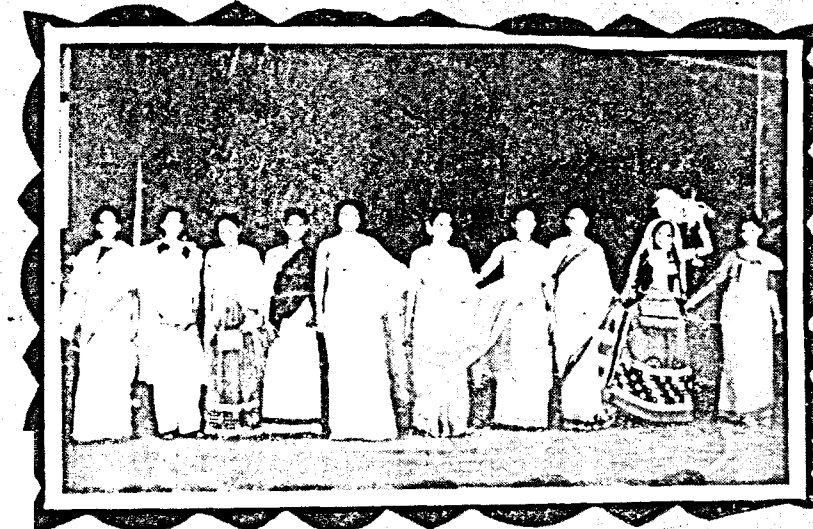
Alagiri, the blind spinner of Kanmaliampatti, took to spinning only two years ago although he had been blind for about ten years. He spins about 15 hanks and earns Rs. 3 a week. Asked what he thought of Charkha and spinning, Alagiri replied with a ray of smile flashing on his lips, "Charkha is my sole companion, bread-winner and a consolation. Spinning is my full-time vocation. Ever since I took to spinning, I have no sorrows since I am fully engaged having no time to waste on brooding over my unhappy lot.")

New Addition to the Museum

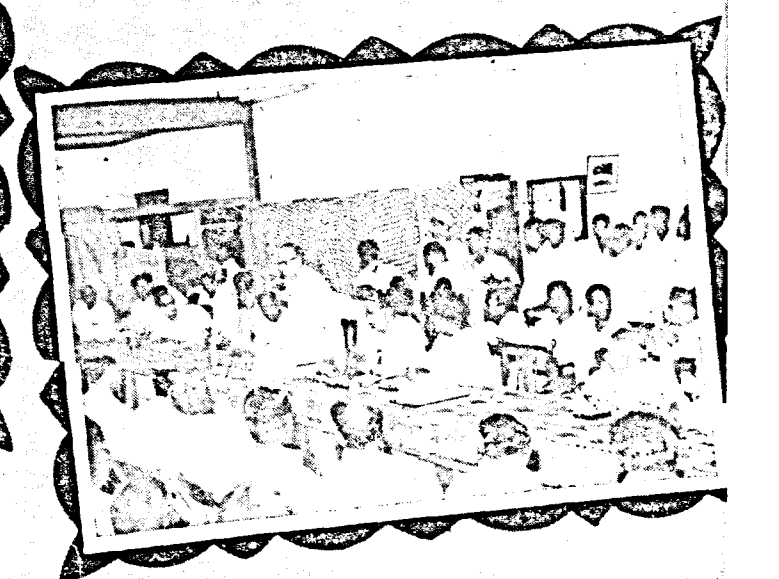
A new addition to the Zoological Gallery of the Madras Government Museum is a mounted specimen of the Charming Panda, commonly known as "The Cat-Bear". It is a mammal belonging to the order Carnivora and it possesses a rounded head, large, erect and pointed ears, short, hair-soled legs and a bright chestnut coloured ringed tail.

The Panda lives in the temperate forests of the Himalayas at altitudes above 5,000 feet. It spends the day resting in trees with the bushy tail wrapped over the head. The strong semi-retractile claws give a firm grip while climbing on trees. In the evening it descends down for food which may consist of roots, succulent grasses, fallen fruits, eggs, insects and their larvae, but it relishes any food sweetened with sugar.

Usually two young ones are born in spring and they are sheltered in the hollow of a tree or in the crevice of a rock. They remain with the mother or with both parents till about a year old and well able to fend for themselves.



Silver Jubilee Celebration of the Madras Weavers' Co-operative Society conducted in the last week of August 1960.



Madras in the month of August

The first day of the month of August dawned on a city braced in preparing to welcome the President during his sojourn in the State from the 6th August to 16th August. The atmosphere of expectancy and enthusiasm was marred a little when it was announced by a certain party that it would stage a black flag demonstration as a protest against the President's order on the Official language of India. Sri C. Subramaniam, the Finance Minister of the State, at a Press Conference held at the Secretariat on the 2nd of August explained at length the purport of the President's order and assured that Hindi will not be introduced without the consent of the people. Sri G. B. Pant, the Union Home Minister gave assurance in the Parliament that the Government of India will not go back on the words of the Prime Minister. The President also, in one of his speeches at Hyderabad reassured the people of non-Hindi-speaking areas that Hindi will never be imposed on an unwilling people. In the meantime a M.P. from this State had written a letter to the Prime Minister expressing the fears and doubt entertained in certain quarters that Hindi will be made the only official language of the country and that there was reason to believe that the Prime Minister's assurance to the non-Hindi-speaking people will not be honoured. The Prime Minister in his reply to the M.P., stated that there had been no decision for the Centre to go back in any way on the assurances given in the Lok Sabha in regard to the language question and that the Centre was fully by the assurances given. Following this, that party called off the demonstration and it was in a calm and peaceful atmosphere that the President arrived in the City on August 6.

Union President

On arrival, the President was accorded the usual ceremonial reception at the Central Station but the enthusiasm and cheer were dampened a little when it was made known that the President was indisposed after a strenuous tour in the Andhra Pradesh and that the first part of his tour in the Tirunelveli and Kanyakumari districts had to be cancelled. The President, however, recovered quick enough to fulfil his engagements in the districts of Coimbatore, Salem and North Arcot. The tour was a success and everywhere he went, he was greeted with great enthusiasm and good cheer. He participated in the Independence Day celebrations in the City on the evening of 15th August. He addressed a large public gathering at the Marina. In the afternoon, he left Madras for New Delhi.

With the rapid industrialisation of the country, there is a growing demand for trained technical personnel. On the other hand the unemployment of the educated is also posing a major problem. With a view to provide trained personnel to the industries and at the same time train the educated unemployed in some craft so that they may find some job Industrial Training Institutes are run in this State. The products of these schools are craftsmen, fitters, welders, etc., and they are readily absorbed in the numerous factories and workshops that have sprung up in the State.

Industrial Training Institutes

There are at present ten Industrial Training Institutes and Centres run by this Government providing craftsmen training facilities for 2,492 persons in Technical Trades and for 176 in Vocational Trades. Of these 2,668 seats, 1,212 were sanctioned during the Second Plan period. Besides these, two Work and Orientation centres for the educated unemployed are also functioning at Madurai and Coimbatore from November 1959 providing training facilities for a 100 in each Centre.

The State Council for Training in Vocational Trades set up by the Government to co-ordinate the training facilities in the State recommended that the seating capacity in the Industrial Training Institutes and centres may be increased by 500 in popular trades during 1960-61. It was decided that with effect from 1st August 1960, 300 seats may be provided in the Industrial Training Institutes at Guindy, Madurai and Coimbatore utilizing the facilities available at the Work and Orientation Centres for the educated unemployed and that 200 seats may be provided at the Industrial Training Institutes at Cuddalore, Nagapattinam, Pettai (Tirunelveli) and Virudhunagar where double shift was not being conducted. Another Work and Orientation Centre with facilities for training 100 educated unemployed was also started at Madras in August.

Repatriates from Ceylon

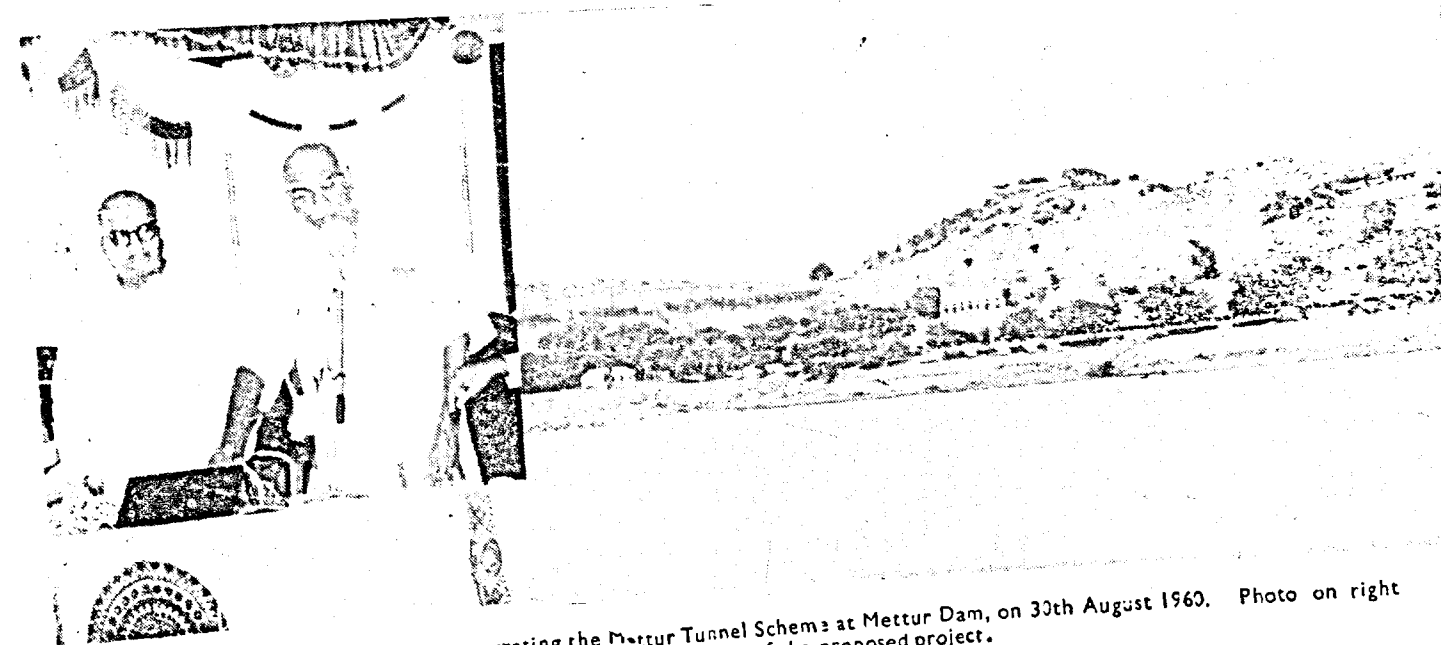
Another problem which is demanding the attention of this Government is the question of rehabilitating the repatriates from Ceylon. Coupled with this is also the problem of preventing illicit emigration. It had been suggested at a Conference of Central and State Government Officials that the Government of India should provide financial assistance to this Government towards reclamation

and development of land in the southern districts of Madras for the settlement of the unemployed agricultural labourers. It was considered that the waste lands of the extent of 1,000-2,000 acres in the districts of Ramanathapuram and Tirunelveli from where the illicit emigrants go to Ceylon in large numbers might be usefully utilized for the settlement of landless agricultural labourers as well as the repatriates from Ceylon. It was also proposed that Joint Co-operative Farming Societies may be set up on the available waste lands.

While considering these proposals, it was pointed out that it could not be guaranteed that these would prove a success and substantially help in reducing the number of illicit emigrants. In view of the limited extent of land likely to be allotted to each family, the poor nature of the soil, and the inadequacy of irrigation facilities this was not likely to be profitable and sufficient for maintaining their families. The earnings from agriculture through land colonization societies are not likely to be equal to or greater than the earnings expected from employment in Ceylon.

Land Colonisation

The Government examined all these points and ordered that Land Colonisation and Joint Co-operative Societies be formed in the southern coastal districts of Ramanathapuram and Tirunelveli to bring waste lands under the plough to increase food production, to provide employment opportunities to the landless poor and repatriates from Ceylon and to check to the extent possible the illicit emigration to Ceylon.



Sri K. Kamaraj, Chief Minister inaugurating the Mettur Tunnel Scheme at Mettur Dam, on 30th August 1960. Photo on right shows the tunnel face of the proposed project.

The importance of the use of green manure in agriculture has been emphasized more and more and the Government are doing everything to encourage the cultivation of green manure extensively. In order to propagate this, the Government propose to produce initially 2,000 tons of *Sesbania Speciosa* seeds, 500 tons sunhemp seeds and 500 tons of Daincha seeds, in forest areas for wide distribution. The Chief Conservator of Forests reported that large-scale cultivation of green manure crops in forest areas could be undertaken only after acquiring necessary experience and forwarded a pilot scheme for the cultivation of green manure crops over an area of ten acres in each of the 10 forest ranges in the districts of Salem, Coimbatore and Madurai. The Government accepted the proposals but have restricted the area to 50 acres at the rate of 10 acres in each of the five ranges to be selected in representative areas. For the present the experiment is restricted to *Sesbania Speciosa* only. The cost of cultivation per acre is estimated at Rs. 65 per acre.

Post-Graduate Research Institute

Madras State can boast with legitimate pride that it has paid a lot of attention to the development of Agricultural Education. The Agricultural College at Coimbatore celebrated its Golden Jubilee in 1958. The Indo American team on Agricultural Research and Education set up by the Government of India in 1955 had recommended Coimbatore as one of the four regional post-graduate training centres

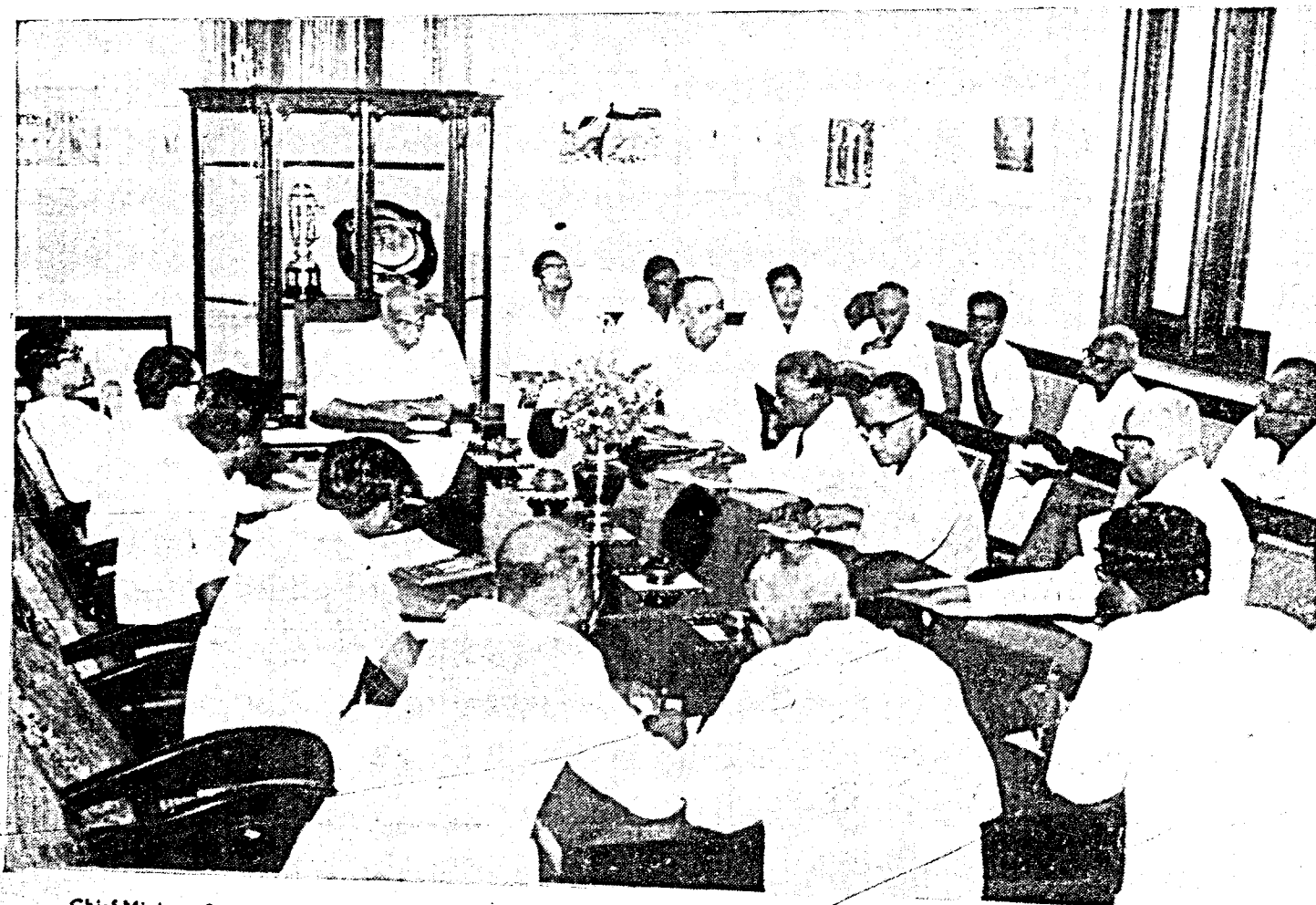
in India. Madras was the first to implement recommendations to establish this Centre at Coimbatore even earlier than the Indian Council of Agricultural Research at New Delhi. The overall total expenditure on this scheme during the Second Plan period will be about Rs. 20-80 lakhs. Facilities are available at this Centre for admitting 31 students for M.Sc. (Ag.) degree and 9 for Ph.D. S. S. V. Patil, Union Minister for Food and Agriculture, declared open the new buildings for the Centre on 19th August.

Cold Storage Plant

With the development of fisheries, both inland and marine, marketing of the fish caught poses a very big problem to the Government. A recent survey of the fish-marketing conditions in this State by the Food and Agricultural Organization Expert, Dr. Carlos Gonzalez, shows that there is a general lack of knowledge of the importance of preservation of fish in ice as early as possible

after it is caught and while it is marketed. When it has not been possible to sell the fish on the first or second day, it is sold and sold at a lesser price as cured fish. As the overall annual fish production is expected to be increased by about 20 per cent at the end of the Second Plan period, the problem of disposal may become acute with the increase in production.

With the exception of the Madras Corporation Moore Market cold storage plant and another private plant and the plant at Tuticorin inaugurated at the end of July 1960, there are not enough cold storage facilities in this State which could be availed of by the public for preserving fish. On the 30th of August, another cold storage plant with a production capacity of five tons of ice and cold storage capacity of 15 tons was inaugurated at Mettur Dam by the Chief Minister of Madras. This plant valued at 23,898 dollars was received as a gift from the United States



Chief Minister Sri K. Kamaraj, addressed a Press Conference in the Cabinet Room of the Secretariat on Panchayat's Participation in the Third Plan on 25th August 1960.

of America under the Technical Co-operative Mission aid. The cost of buildings and expenditure on installation of machinery total Rs. 1.63 lakhs. Four more such plants will be set up in the State in important fishing centres.

The Mettur Tunnel Hydel Scheme

Of the six Hydro-electric projects in this State, Periyar, Papamam and Mettur projects are linked with irrigation projects and therefore the bulk of power generated is seasonal. During summer, the production of power at Mettur has to be limited to a maximum of 17,000 K.Ws. depending on the permitted irrigation discharges. Papamam and the Periyar projects are also severely handicapped because large areas of land are under irrigation in these river valleys and when seasonal conditions are adverse the storage has to be depleted to save crops. As a result the full installed capacity cannot be utilised during the summer months. In order to make up for this, the storages of the Pykara and Moyar projects are conserved in the irrigation season and released to meet the requirements of the power grid when the level in the irrigation reservoir is low. And so, the effective firm capacity of the Madras grid is much less than the installed capacity. The dependable power in summer is only about 60 per cent of the installed capacity of 571,000 K.Ws. The seasonal power cuts imposed on the industry in this State in recent years was largely due to this deficiency.

And therefore, the State has to find new ways and means to better its power position. New possibilities for the production of power are being explored and in the Third

Five-Year Plan of this State six new schemes have been included. One among them is the Mettur Tunnel Hydro-electric Scheme, which was inaugurated on the 30th August by the Chief Minister of Madras.

Irrigation Discharge

The purpose of this Hydro electric scheme is to utilize the irrigation discharges at Mettur Dam in State. There is develop power for about seven months in the year. There is already a power house here with four generators each of 10,000 K.W. capacity on the unit system. At present the average irrigation discharge is about five times the average power discharge through these hydro-electric pipes. The irrigation requirements over 4,000 cusecs are therefore allowed to flow through the high and low level sluices without generating any power. The present scheme is to utilize this irrigation discharge in full for generation of power. The first stage of the scheme will have an installed capacity of 100,000 K.W. and is estimated to cost Rs. 599 lakhs. Though this scheme is included only in the Third Five-Year Plan, the Planning Commission has, as a special case, agreed for taking up the preliminary work not involving foreign exchange during the Second Plan period itself.

Even though power can be generated only during the irrigation period of seven months, by a careful integrated operation of the grid, the full energy potential of 385 million units will be utilized. During this period the storages in the Kundah and Pykara basins will be conserved to the extent necessary for irrigation in summer months for making up the Mettur Power.

S. C. Subramaniam, Minister for Finance, leaving Madras by air for Bombay enroute to the United Kingdom, and other European Countries on 8th August 1960. Photo shows the Minister and others at the Airport.



With the democratic decentralisation of power fast approaching, a Press Conference was held towards the end of August by Sri K. Kamaraj, Chief Minister, at which the schematic budget for Panchayat Development was explained at length. The conception of preparing Block Plan Budgets for the Third Plan period within the framework of an overall estimate of resources available for all Panchayat Development Blocks of the State as a whole was explained by the Development Commissioner with the Collectors as well as the elected representatives of the village people of 75 first batch blocks in the Panchayat Unions will be constituted on 2nd October 1960.

Financial Provision

The details of financial provision were subsequently discussed with the departments concerned. The Development Commissioner submitted an estimate of Rs. 142 crores as the aggregate of financial resources anticipated to become available during the Third Plan period. This estimate includes not only the resources available for development, that is, for new works and new services but also the resources necessary for continued maintenance of existing works and services at the level reached at the end of the Second Plan period.

As there will be 374 Panchayat Development Blocks in the State, this estimate implies the availability of approximately Rs. 38 lakhs on an average in each block.

amount is exclusive of the cost of National Extension Service establishments and all expenditure on loans.

Five-year Plan Budget

The Government have, after careful study of the proposal directed that it should be a condition of entrustment of the execution of the National Extension Service Scheme of Community Development to the Panchayat Union constituted for any Panchayat Development Block, that the Panchayat Union should in association with all the Panchayats of the Block prepare a Five-Year Plan budget, which will be referred to as the Block Plan Budget for the Third Plan period. This budget should be discussed and adopted by the Panchayat Union and the panchayats concerned in respect of the parts relating to them. It is made clear that the purpose of the Block Plan Budget will be as in the case of the Plan Budget of the State Government at State level to serve as a guide to planning at block level. It will be the financial framework within which individual development schemes may be framed and implemented during the Third Plan period. It will furnish the basis for the settlement of annual budgets required by law. It has been made clear that the settlement of a Block Plan Budget for any block in conformity with the Panchayat Development Schematic Budget of the State will not, in itself, operate as financial sanction for payment of any Government grant. The issue of such sanction will continue to be based on provision made therefor in the annual Budget of the State Government and the vote of the State Legislature.

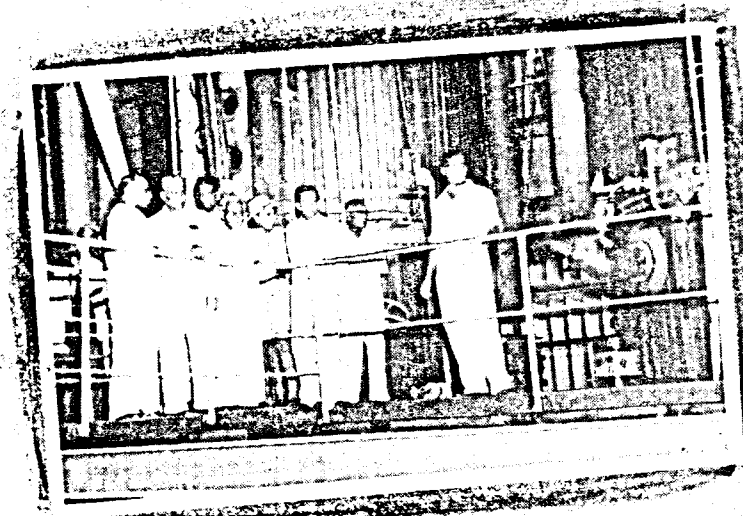
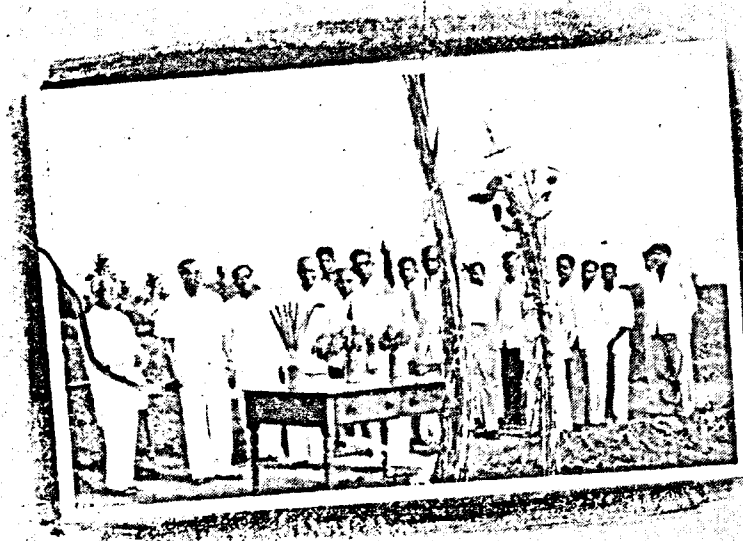
State Labour Advisory Board's Decisions

The State Labour Advisory Board which met recently decided to refer to a Tripartite Committee, the question of prohibiting employers from running the factory when workers are on strike. It was also decided the Committee should consist of 5 representatives each of the employers and employees and the Commissioner of Labour should be the Chairman. The main job of the Committee will be to evolve a code for the conduct of parties during periods of strike.

The Board also decided that in industrial undertakings where there is no provision for granting casual leave with wages to the workers, they will be required to avail of not less than 7 days of their earned leave in a year in one stretch as recuperative leave and permitted to avail of the balance without any restrictions.

It was agreed that a separate conference might be convened during September 1960 to discuss retrenchment of women workers in the textile industry.

The Board also decided to recommend the Government grant of legal assistance to trade unions in special cases in which any question of law was involved or where there was likely to be undue harassment of the industry as a whole.



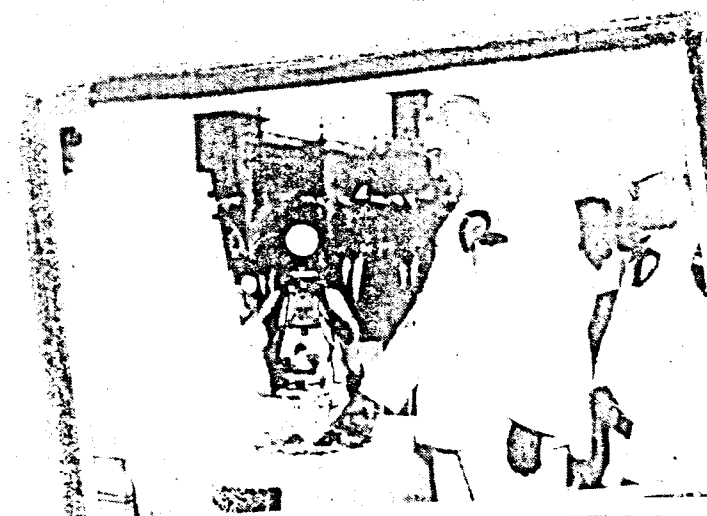
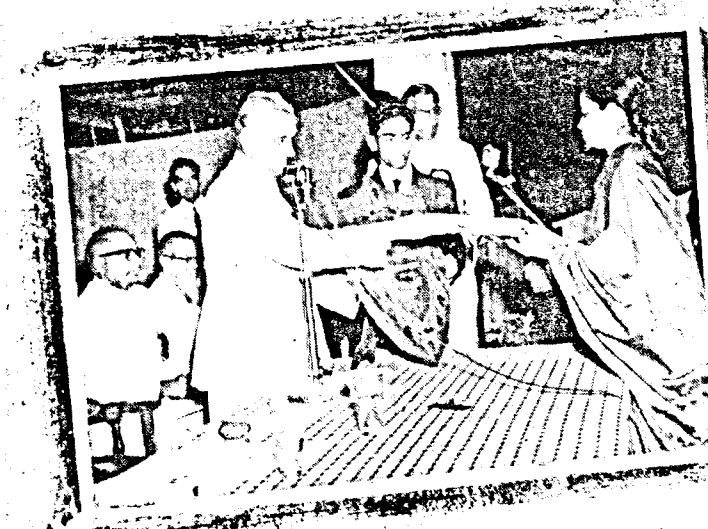
Top Left: Sri K. Patil, Union Minister for Food and Agriculture inspecting sugarcane at Amaravathi Sugar Factory.

Top Right: The Union Minister with a hand refractometer at the Sugar Factory on 19th August 1960.

Centre: The Union Minister at the Thiruvannamalai Sugar Factory.

Bottom Left: Union Minister awarding Golden Jubilee Shield at Agricultural College, Coimbatore.

Bottom Right: Inaugurating Post-Graduate Block at Agricultural College.



Industries in Private Sector—4

The Standard Motors

Every passing day witnesses the production of 15 cars at Vandalur, and yet the demand for the "Standard Ten" always far exceeds the production. If you apply for a car to-day, you may have to wait for more than a year to have it. The story of this factory is a story of hard work coupled with enterprising skill.

The Standard Motor Products of India, Limited, who are the manufacturers of the "Standard" cars in India started functioning in the year 1948 with an authorized capital of Rupees one crore. With the joint collaboration of the Standard Motor Company of Coventry, United Kingdom, the firm was established, taking advantage of the Union Government's favourable policy of allowing such joint ventures as a means to conserve the country's depleting foreign exchange reserves as well as to cope with the increasing demand for passenger cars, as India's National income rose.

Early Beginning

The Company started working first in an Aero-hanger at Chromepet, belonging to the Government of Madras and the first 'Vanguard' came off the lines in July 1950. By the end of that year, assembly of "Ferguson" tractors was also taken up. Later on, an ideal site for the factor with an area of 59 acres, was acquired at Vandalur, about 18 miles from the City of Madras on the Grand Southern Trunk Road, and the foundation for the present Standard Motor factory was laid in January 1951, by Shri Harekrishna Mahatab, who was then the Union Minister for Industries and Commerce. Production commenced in the new factory in January 1952.

An idea of the progress which the company has made since its inception can be got from the fact that the firm had a fixed capital worth Rs. 99 lakhs in 1958 as compared to Rs. 4 lakhs in 1950 and that the total number of its employees has increased sixfold. The total number of employees in 1950 was 200 which rose to 1,200 in 1959.

Ten Horse Power Saloon

Although production was, at first, restricted to Passenger cars of "Standard Eight" and Vanguard models and assembly of "Ferguson" tractor, a new ten-horse power saloon version was introduced in 1954 and, as it was considered the best-suited model to the Indian conditions,

Government's sanction was obtained for the change-over from "Standard Eight" to "Standard Ten". Since then, this new model has found favour with a great majority of the consuming public for its efficiency and economy.

In order to achieve in India the high reputation that the "Standard" cars enjoy in U. K., a very close scrutiny is being maintained on the quality of the indigenously manufactured components, and samples of each component made here are sent to Coventry to pass the metallurgical and dimensional tests.

Plan for Replacement

Plans are also under active implementation for the gradual yet complete replacement of the imported components with the indigenous ones, consistent, at the same time, with their quality.

The indigenous content, in terms of equated value, is 50 per cent in the case of "Standard Ten". This achievement is quite appreciable when the fact is taken note of that a large percentage of the total value of a car is formed by the cost of the body and that there are no facilities at present in India for pressing of these bodies and other pressing involving much technical and metallurgical intricacies, as also a huge outlay of fixed capital.

Major Programme

It may be reassuring, in this connexion, to point out that this firm itself is engaged currently in a major development programme, involving an outlay of over one million pounds sterling to be incurred over a period of two years with the object of attaining near self-sufficiency with regard to engine, gear box, rear axle and body panels.

The Standard Motor Products of India, Limited, contribute their mite to the furtherance of technological education in India by offering opportunities for practical training and, on an average, 200 young men are taken as apprentices in the factory each year and are trained in the various sectors of automobile engineering. Most of them, after completion of their training, are absorbed in the factory itself in suitable posts.

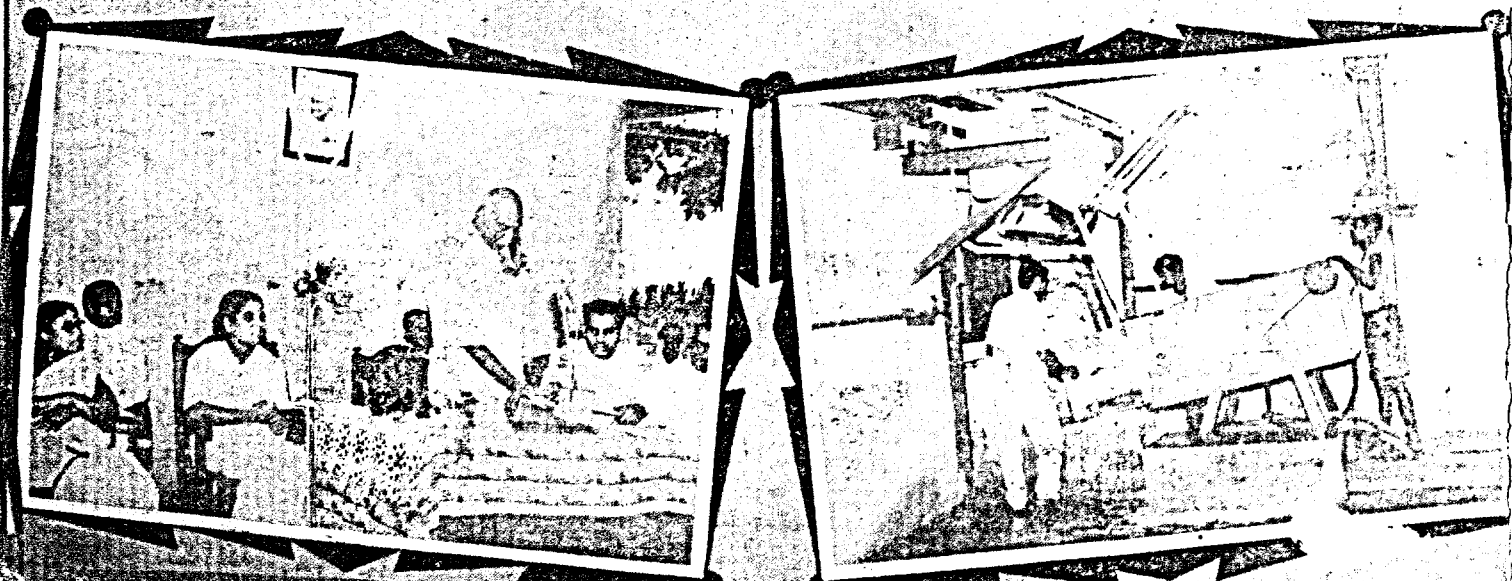


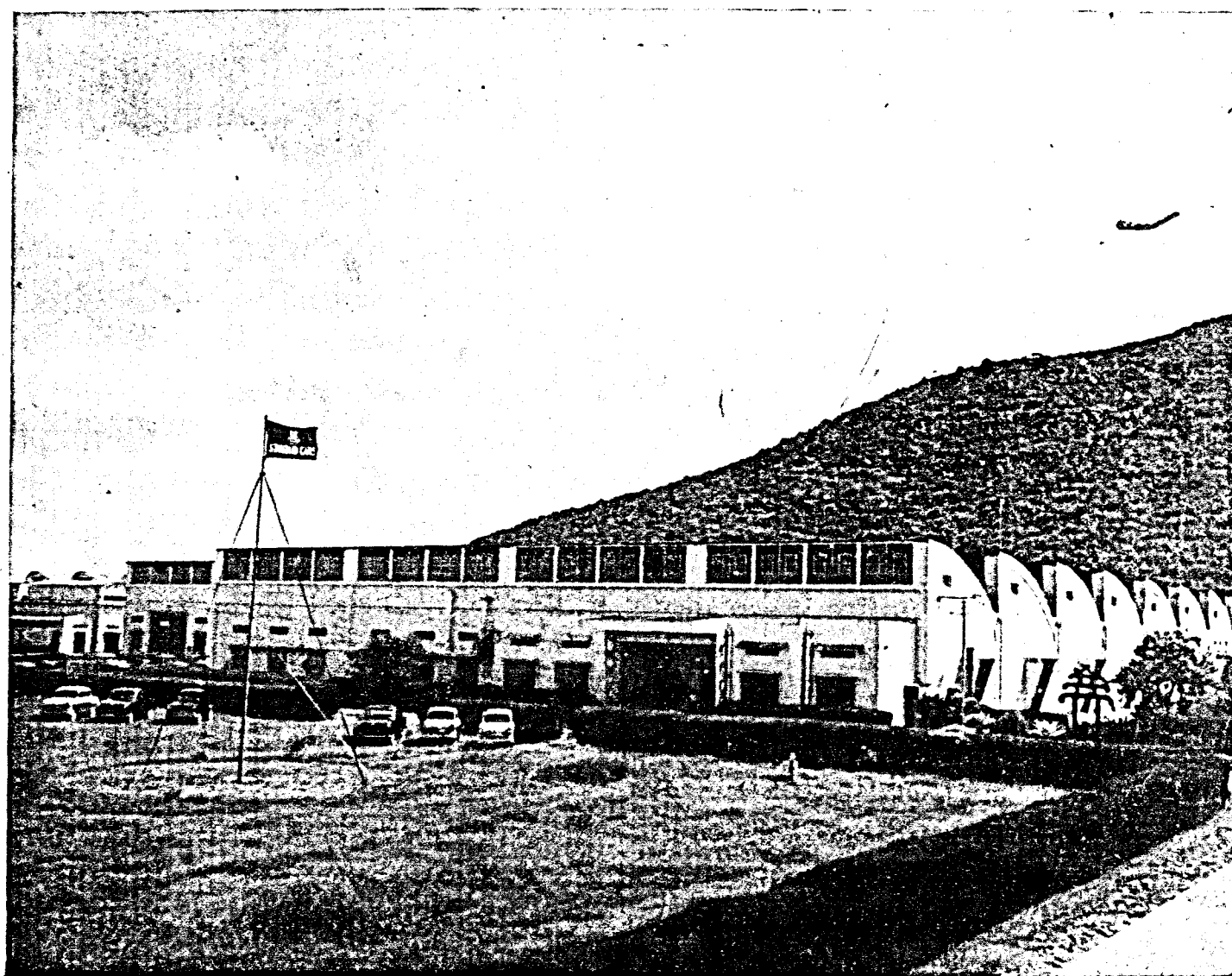
Top Left: Sri K. Kamaraj, Chief Minister giving away the prize to a student for securing the highest mark at Mathagiri, Hosur taluk.

Top Right: Inaugurating the Potassium Chlorate Plant at Mettur Dam on 31st August 1960.

Bottom Left: Inaugurating Ice-cum-cold Storage Plant at Mettur Dam.

Bottom Right: Interior view of the Plant.





Front view of "The Standard Motors" at Vandalur.

Increase in Units

The Government of India have now permitted them to increase the production of their ten horse power cars, from 3,000 units as at present to 6,000 units by 1963. The Government have also granted permission to manufacture a one ton truck, making use of Vanguard Engine, Gear box and Differential. They expect to start production of one ton truck from the middle of 1961.

The Company's application for import of capital goods to implement the higher rate of production is before the Government of India, awaiting formal sanction. The cost of extra capital equipment, etc., is estimated at Rs. 1,25,00,000; it is proposed to raise a loan to meet this extra expenditure or alternatively issue a debenture.

The workers are also provided with recreation facilities, and the canteen there, which is well-equipped, offers goods at subsidised prices.

A THEATRE FOR CHILDREN

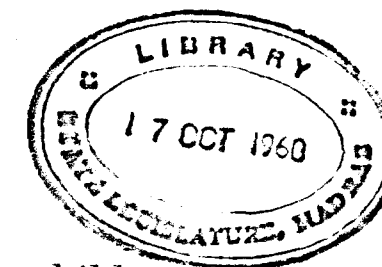
Films that educate and entertain children are being exhibited during every week-end at the well-furnished Children's Theatre in the Government Estate, Mount Road. Hundreds of children troop into this Theatre every week to enjoy these films.

HAVE YOU TAKEN YOUR CHILDREN TO THESE SHOWS?

Patrons of the Children's Theatre, be they little ones or their proud parents, are all praise for this amenity. Srimathi Indira Gandhi said :

"Madras has stolen a march over Delhi which is still struggling with plans for a Children's Theatre".

MADRAS LEADS IN THIS AS IN OTHER SPHERES.



Labour saving devices in a Poultry Farm

By SRI S. RAJAN, G.M.V.C., B.V.Sc. Instructor in Animal Husbandry, Rural Extension Training Centre, Bhavanisagar.

Poultry farming has come to be recognized as a subsidiary cottage industry to agriculture. An agriculturist who toils all day long in the field is really in need of some enterprise which will help to augment his income. For this, poultry keeping comes handy. But he cannot afford to spend much of his useful time in feeding and rearing poultry. He has got to find out some devices which will save his labour without affecting efficiency and, at the same time, give him increased returns. Here are a few tips which may be of some help to the ryot to save labour without detriment to efficiency.

Housing

A cheaper adult poultry house which will cost him only about Rs. 20 to lodge 20-25 adult birds and which has provisions for feed and water may be constructed.

For a ryot, who has a well-constructed costly house with asbestos roofing, the undermentioned suggestion may be useful. Instead of wire-netting on the base of the house beneath the perches, bamboo trellys may be placed. Cleaning of the poultry faecal matter is a much dreaded job for any individual. By adopting the bamboo trellys frame work, daily cleaning of the house is not considered necessary. The natural instinct of the bird to scratch out any matter strewn on the floor is taken advantage of. The voidings of birds, when dried, are scratched by the birds and the powdered mass falls in the pit dug underneath the house, to conserve this good nitrogenous manure.

But, for adopting the above procedure, one should take care to see that he makes a fixed day in a month for deworming the birds with Phenovis or any deworm pills. For this purpose, the multipurpose village level worker of a development block or any Animal Husbandry agency will readily render all necessary help to the ryot.

Feeding

Giving birds grain and mash coupled with additional feeding practices involve much attention and consume

more useful time of a ryot. The poultry being a biological machine requires efficient feeding so that maximum return by way of eggs for hatch and table and fattened birds for food purposes are obtained. To achieve this object efficiently, dry mash system of feeding of poultry may be practised. On any shandy day, the ingredients necessary for mixing feed may be purchased and the mixture made and kept in a dry container, to last for a week or ten days depending on the number of birds one possesses. Spending about half an hour for mixing feed to last for a week really saves labour and time. Even children can feed poultry with a balanced ration for poultry daily from the prepared mixture. The concern of the elders is only to mix the feed on a fixed day and leave the rest to children.

Feed Hoppers

For the ryots who rear birds in a semi-intensive system with wire-netting, etc., the suggestions under this head may be useful. The present day feed hoppers are of a liner type and they can hold only small quantities of mash. Further there is a possibility of their being toppled down by the birds in their desire to eat more food. Further the feed in such hoppers are exposed to sun and rain. As already said, very frequently in a day the feed hopper has got to be filled and this requires much time. A box to contain 20-30 lb. of feed may be designed with a lid. As the birds go on eating from the sides the food at the centre slides and the birds get their full quota. Thus a box once filled need not be filled for another two or three days or even longer, depending on the number of birds.

There may be some more labour-saving devices but the ones mentioned above have been tried in the poultry unit attached to the Rural Extension Training Centre, Bhavanisagar, and found successful. By adopting such device it will be possible for a boy of 10 to 14 years to manage 200-300 birds at a time without much difficulty.)

Social Workers to be Appointed in Family Planning Clinics

The Government have decided to appoint qualified social workers to the Family Planning Clinics where nurses are not available for the purpose, provided they satisfy the following conditions.

Candidates selected should be married having atleast one child and have attained the age of 25 years. The candidates should have passed the S.S.L.C. examination, but preference will be given to graduates and those who possess a diploma in social service.

The Social Workers will also be required to go home visiting for three hours or for the time that is required to cover six houses a day and for three days in a week.

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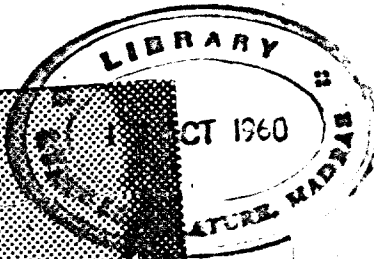
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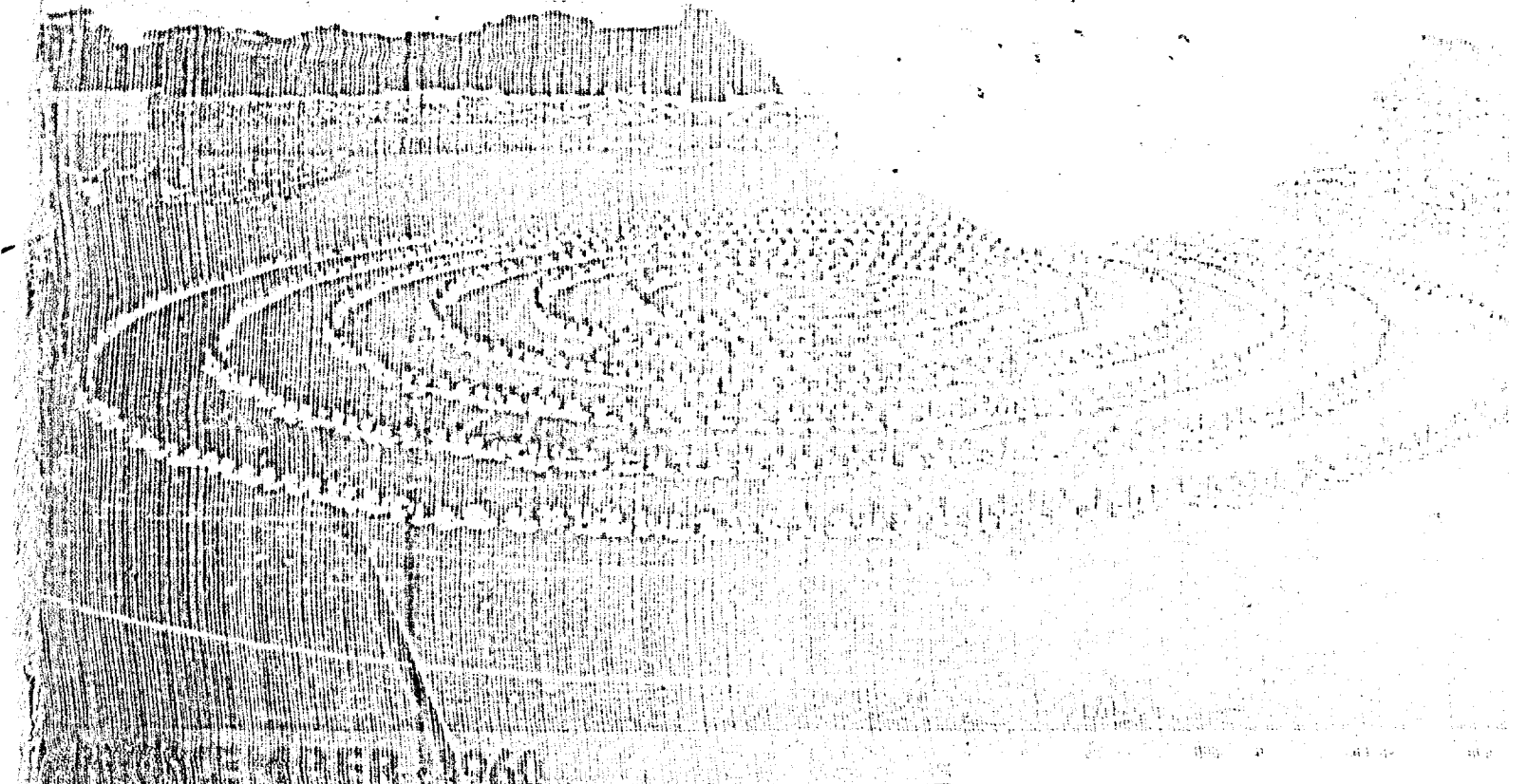


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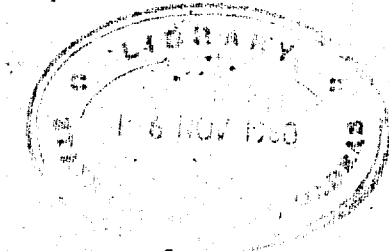
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MADRAS INFORMATION

NOVEMBER 1960



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This month's cover

The fourteenth of November which is the birthday of our Prime Minister is celebrated all over the country as the Children's Day. This day will focus attention on the need to provide our children with all the facilities for making them blossom into citizens with discipline, courage and patriotism, for the harmony of tomorrow's world depends on the mental and physical health of to-day's children. This month's cover, carried a sketch of the Prime Minister and a photograph of a children's rally.

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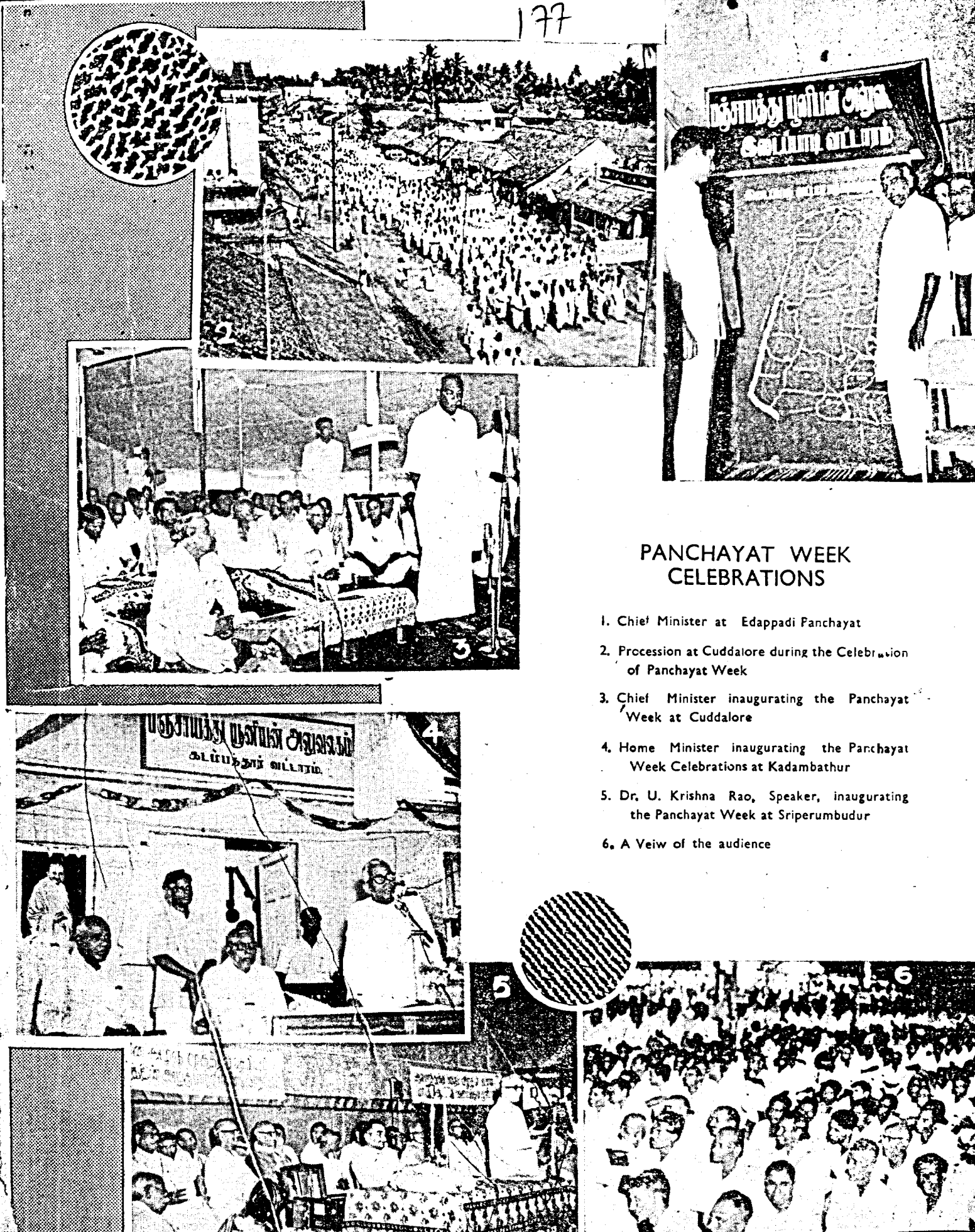
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PANCHAYAT WEEK CELEBRATIONS

1. Chief Minister at Edappadi Panchayat
2. Procession at Cuddalore during the Celebration of Panchayat Week
3. Chief Minister inaugurating the Panchayat Week at Cuddalore
4. Home Minister inaugurating the Panchayat Week Celebrations at Kadambathur
5. Dr. U. Krishna Rao, Speaker, inaugurating the Panchayat Week at Sriperumbudur
6. A View of the audience

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New Bridge Across the Cauvery

The Cauvery is the most important, sacred and life-giving river of our State. The river runs as a boundary between the districts of Coimbatore and Salem. On the upstream side, there is a bridge across the Cauvery at Bhavani, and there is a bridge at Pugalur 40 miles downstream. As there is no bridge to cross the river in its course for a length of about 50 miles, a bridge between Erode and Pallipalayam was felt quite essential. At present, the communication between Erode in Coimbatore district and Sankari and Tiruchengodu towns in Salem district, is through a ferry service only, which is inadequate, and unsafe during floods. The ferry was fetching a revenue of Rs. 30,000 per year and from this, the volume of traffic can well be imagined. Hence the idea of constructing a bridge at that place was mooted quite a long time back.

During 1951, this scheme was actively sponsored by the Coimbatore and Salem District Boards but due to the paucity of funds the scheme was deferred. Again in 1955, the proposal of constructing a submersible bridge at a cost of about Rs. 3 or 4 lakhs was initiated by the Community Project authorities. It was suggested to them that such a submersible bridge will not serve the purpose well, as it will be under water for several months, and that only a high level bridge is the solution. Hence finding the required finances for a high level bridge posed a big problem and after two years this scheme was sanctioned under the Central Road Fund grant and the remaining amount was shared by the District Boards of Coimbatore and Salem, and Erode Municipality.

Foundation laid by Chief Minister

The foundation stone for this bridge was laid on 20th January 1957 by Chief Minister Sri K. Kamaraj and the work was commenced in November 1957. Difficulties were experienced in tackling the well foundations and erection of centering for deep-bed spans. The actual cost of construction of the bridge is about Rs. 13.2 lakhs, and the increase in cost is mainly due to increase in the costs of cement and steel, etc.

This bridge provided for the easy flow of traffic between the two districts and will promote expansion of trade and commerce of the two districts. The distance between Erode and places like Tiruchengodu and Salem is also considerably reduced.

Finance for Bridge

This bridge has been financed by the Central Road Funds. In this connection, it may be mentioned that the

accruals of State allocations to Madras State have been fully and fruitfully utilised year after year, as may be seen from the fact, that as against a plan target of Rs. 213.55 lakhs for the Second Plan period, the total anticipated expenditure will go to Rs. 240.89 lakhs. The outlay for the Third Plan period has been fixed at Rs. 2.5 crores out of which about Rs. 1.5 crores goes for incomplete and unsanctioned works of the Second Plan, and only Rs. 1 crore is available for new works under which only 19 new schemes have been proposed for the whole State.

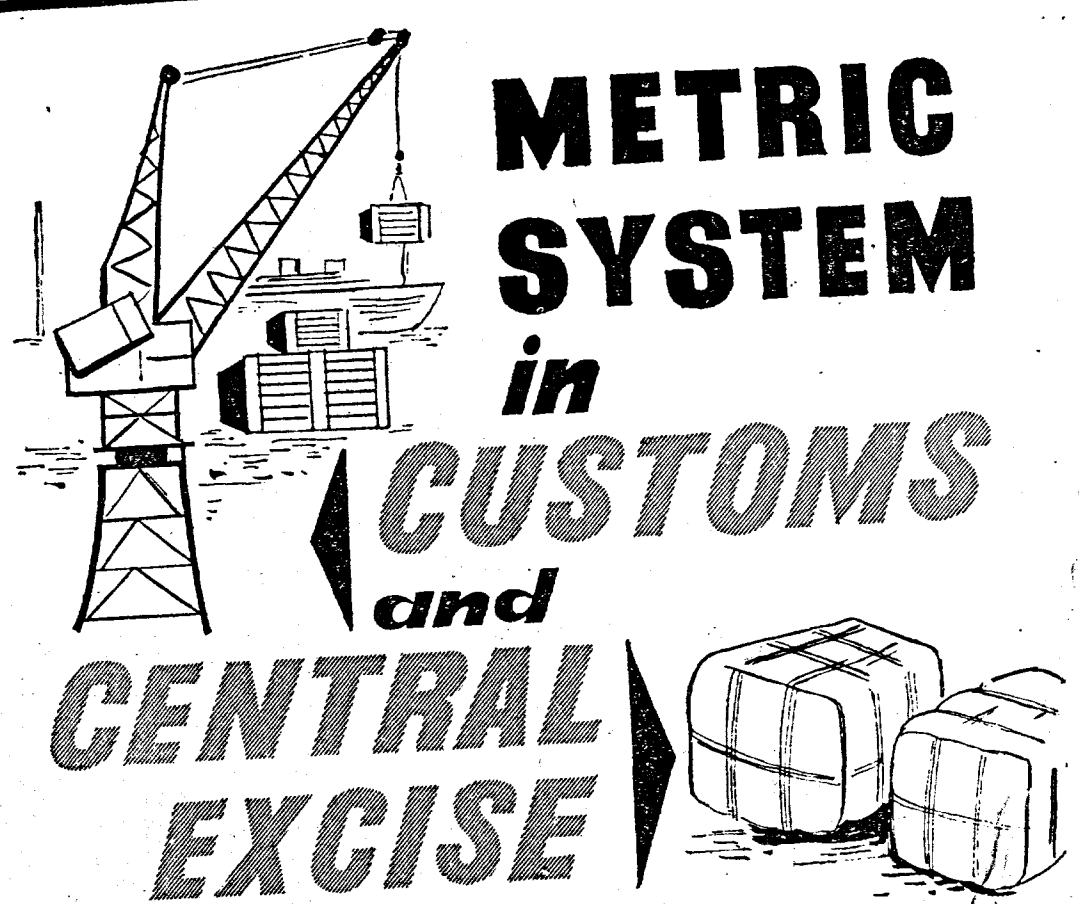
The people of this locality are anxious to have the works of constructing culverts in Edappady-Komarapalayam road, Sankari-Pallipalayam road and Pallipalayam-Komarapalayam road, as well as the bridges at 11/6 of Perundurair-Kangayam road and at mile 25/1 of Gobi-Dharapuram road, taken up for execution. Due to curtailment in the provisions of the Third Five-Year Plan, these works could not be taken up but these works will be given priority when more funds become available. We may also hope that the Government of India will consider the possibility of allotting more funds to this State under the Central Road Fund reserve and economic and Inter-State importance schemes and help in bridging the innumerable unbridged crossings that remain as obstacles for the development of such backward areas as this.

Technical Features

A few technical features of this bridge may also be given. The bridge consists of 33 spans of 40 feet each. The length of the bridge is 1,448 feet between abutment, i.e., about 2 1/2 furlongs. The superstructure of the bridge consists of 3 T. Beams and with a R.C. slab.

A wearing coat of cement concrete has been provided for 3" thickness. The clear roadway between the kerbs is 24 feet. The piers and abutments are of cement concrete. Since hard rock was met with at shallow depths, open foundation was adopted for all piers and abutment except five piers in the deep bed for which well foundation was adopted. The bridge has been designed to carry the heaviest class of loading namely, the 70-ton army tank. About 1,606 tons of cement and 360 tons of steel were used in this bridge work. Electrical lamp posts have been fixed to facilitate the provision of electric lights on a later date.

The successful completion of this bridge with the co-operation of not only of Central and State Governments but also of the three local bodies augurs well for the beneficial result of the experiment that we are taking.



The Metric System of Weights and Measures comes into force in Customs and Central Excise on Rates of duties will then be expressed in terms of metric units.

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A Children's Gallery for the Madras Museum

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

The public of Madras, and especially its juvenile population, will be happy to receive the news that the Madras Government Museum is to have a new gallery—the Children's Gallery. It will be thrown open to the public quite appropriately on the 14th of November 1960, which is celebrated all over India as the Children's Day, and which is also the birthday of our Prime Minister, Sri Jawaharlal Nehru, who is a great lover of children. The opening of this gallery will prove an important landmark in the history of the development of this museum, and will be an achievement of which very few museums in India can boast.

Needs of Children

One of the recent developments in the sphere of museum activity, especially in western countries, is the organization of special museums and galleries, catering exclusively for the needs of children. In the United States, such "Children's Museum" have become increasingly popular in recent years, and a large number of them have sprung up all over the country. They serve as lively centres of educational activity for children of all age groups, apart

from being show places for housing selected exhibits planned specially for children. Opportunities for handling the actual objects and for creative activities such as painting, model-making, and other hobbies, are provided, and the whole panorama of life is made more real to the children through special displays, film shows, lantern lectures, demonstrations, dramatic performances and other cultural activities.

Definition

It is difficult to define a children's museum precisely. No hard and fast rules can be laid down as regards the nature of its buildings, organization, exhibits, activities, management, budget, etc., which would distinguish them from adult museums. One of its great assets is its remarkable flexibility and its property of being easily adaptable anywhere and under all circumstances. A children's museum could function in any building or part of a building, it could be administered independently or jointly with, a parent institution and it could house practically any exhibit and conduct almost any activity.

Enviably Record

In India, unfortunately, very little progress has been made in this direction so far, but it is gratifying to record that the Madras Museum, which has already to its credit an enviable record of educational services, has taken the lead in this novel sphere of museum activity. The Madras Museum had been planning to set up a Children's Section for the past few years, and during the International Museum Week in October 1956, the foundation stone was laid for a separate block for the Children's Museum in the Museum compound by His Excellency Shri Sri Prakasa, who was then the Governor of Madras. However, owing to financial stringency, the implementation of the scheme had to be deferred indefinitely, but a beginning had been made in collecting a number of specimens, models and other exhibits of special interest to children, so as to form a nucleus for the proposed Children's Museum.

Life-like Models

At present the collection includes, among others, a series of life-like models (reduced to scale) of a selection of sixteen extinct animals that dominated this earth in the past geological ages. These have been displayed in the form of



Yugoslav Dolls showing National Costumes

suitable dioramas, so as to present them, as far as possible, in their natural settings, with the contemporary vegetation painted in the background. A series of attractive enlarged models illustrating the internal structure of the earthworm, frog, pigeon and rabbit, a working model illustrating the circulation of blood in the human body, models of the human digestive and respiratory systems and enlarged, dissectable models of the human brain, heart, eye, ear and other sense organs have been displayed so as to make some of the basic lessons in animal and human biology vivid to the children.

Interesting Dolls

Another group of exhibits which is expected to arouse the interest of children, especially of the lower age groups, in peoples of foreign lands, is a set of twenty-nine dolls of different sizes dressed in the national costumes of Yugoslavia. These were presented by the Yugoslav cultural mission which visited the Museum in 1953. A number of interesting objects of everyday use belonging to American Indians, including a pair of beautiful moccasins of exquisite workmanship and a two-piece dress worn by the American Indian children also form part of the materials collected from foreign countries especially for exhibition in the Children's Section.

A set of about a dozen dolls dressed in costumes characteristic of the different parts of India have been displayed attractively against the background of a large cut-out map of India so as to present the child with an exhibit that will vividly illustrate the sartorial habits of the people of the different States in the country.

Scientific Exhibits

A science section, equipped with working models, is an indispensable part of a modern children's gallery, but only a beginning has been made in this direction. With a view to fulfilling this need, a number of scientific exhibits

have been acquired to start with. These include a series of specimens and photographs illustrating the story of glass in its various forms, its manufacture and multifarious uses, the Spitz Junior Planetarium, capable of projecting a realistic image of the starry skies in a dark room, a working model of an internal combustion engine and two globes, worked by electricity, one illuminated by an internal electric bulb and the other a rotating one with a model of a man-made satellite revolving round the globe, the relative speeds of the motions of the earth and the satellite being accurately depicted in this working model. A series of models of well-known foreign ships and native craft of India, and of locomotives, aeroplanes and other means of transport, both primitive and modern, are also displayed in cases with suggestive backgrounds to illustrate the evolution of human transport on land, water and in the air.

Separate Building

As the construction of a separate building for housing the children's section was being deferred year after year owing to financial limitations, it was felt necessary at least to make a start of a children's gallery in the existing buildings. Pending the construction of a building for the purpose, the exhibits that have been collected for this section along with a few specially made ones have now been arranged on one side of the mezzanine floor above the Geology gallery. By suitable arrangement, a certain amount of continuity has been achieved in the sequence of the



Dolls illustrating Costumes of India

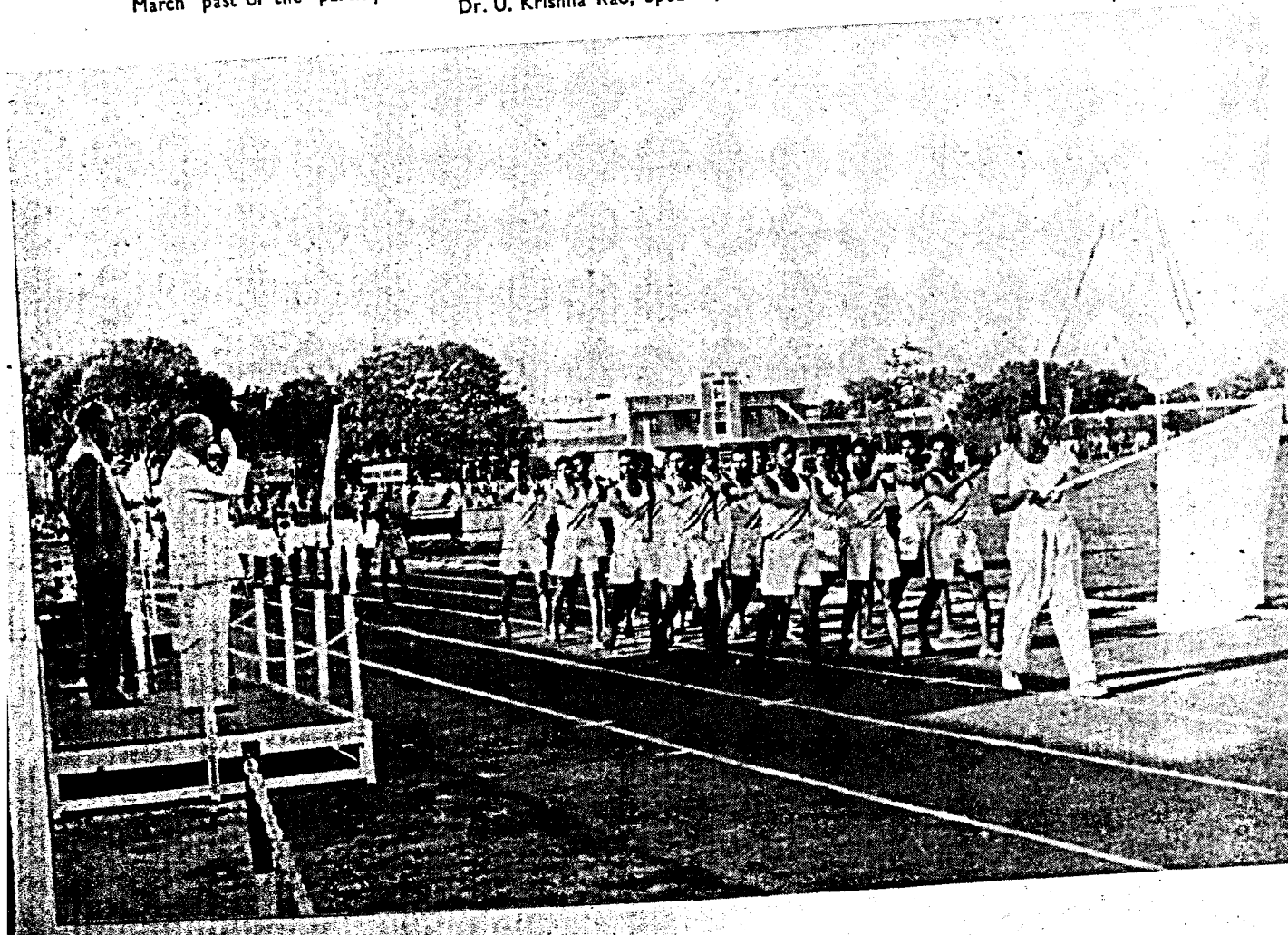


Miniature model of the extinct woolly mammoth

hibits. The exhibits on display now begin with an attractive portrayal of the story of the origin of the earth, historic animals in miniature set amidst their natural habitats, primitive man and his tools, and the variety of animal life on this earth. The internal structure of presentative types of animal life as well as the anatomy and physiology of man are next fully explained by means of a series of adequately labelled, enlarged dissection models. This is followed by an exhibit of dressed up Indian dolls illustrating some typical costumes of women belonging to different regions of India. Finally, the story of the development of transport is unfolded in a series of models set against suggestive case backgrounds. It is expected that the whole show will arouse and hold the interest of youngsters, while at the same time proving to be of real educative value to the children.

It must, however, be remembered that the present gallery is only a nucleus. It will be enlarged and more completely organized during the Third Five-Year Plan period, when the building is expected to be constructed. Although this small collection of exhibits, as it stands at present, may appear to be a somewhat random assortment of miscellaneous objects, it would in course of time, be possible to fit them into a well-planned and intelligible series, so as to tell connected stories illustrating specific themes in History, Ethnology, Biology and the Physical Sciences, which would appeal to the children, as further material is gradually added. The Children's Section is a new venture, and is still only in its formative stage, but it holds out a great promise for the future, and it is hoped that in course of time this will form one of the liveliest and most attractive sections of this Museum.

March past of the participants in the Police sports held at the Rajaratnam Stadium on 24th September 1960. Dr. U. Krishna Rao, Speaker, took the salute.



Milk supply to Madras City

Madras City, which is the third largest city in India, covers an area of 50 square miles. The population of the City which remained almost stationary at about 5 lakhs for the first 30 years of this century increased to 6 lakhs in 1931, to 8 lakhs in 1941 and shot up to 14.5 lakhs in 1951. The present population of the city is estimated at nearly 19 lakhs.

The City draws its milk supplies from two sources, namely, (1) from the very large number of milch animals kept within the City limits and which accounts for nearly 70 per cent of the total supply and (2) from the import of milk from the villages immediately surrounding the city. Chingleput district, which is immediately surrounding the city, is subject to periodical droughts and does not provide any favourable condition for the production of milk. Due to poor communication and want of proper organisation, rural milk from distant areas could not be adequately tapped to meet the demands of the city. With the increase in population of the city, the demand for milk increased with the consequent increase in the number of milch animals imported and housed in the city for milk production.

Milch animals

According to the City Corporation there are over 2,200 registered milkmen who together maintain over 15,000 milch animals. This figure is, however, considered low. From the figures available at the quarantine station at Tiruvottiyur where there is a cattle market for the city, the number of milch animals imported into the city annually is over 25,000. Hence for practical purposes the number of city cattle can be safely taken as 25,000. The concentration of cattle in the city varies from ward to ward with the maximum in areas like Georgetown, Mint, Washermanpet and Triplicane which alone account for 35 per cent of the city cattle population. This concentration of cattle has created serious problems of public health and sanitation. The valuable manure, these animals provide, is, instead of being used for agricultural purpose, often allowed to go down the sewage and check it from its free flow. The cattle stalls provide excellent breeding conditions for flies which spread many diseases in the city. The milk produced under such insanitary conditions cannot also be wholesome.

Breeds of dairy cattle

Such a system of cattle-keeping within the city has very serious effect on the cattle wealth of the nation. The breeds of dairy cattle in this State are neither extensive nor important, and Madras City has to depend upon milch cattle

from States like Andhra, Madhya Pradesh and Punjab. Freshly-calved animals from these areas are imported in the city and huddled up in insanitary stalls in the crowded localities of the city. The filthy surroundings, in which these animals are kept, want of any moving space for the animals in the stalls, complete lack of green fodder for the cattle, etc., affect their health and the animals are rendered unfit for further breeding. A milch animal kept for milk supply is really worth her udder to the milkmen. Many of these animals, because of the insanitary conditions under which they are kept, develop mastitis, which makes them uneconomical producers of milk and are thus completely lost to the dairy industry.

Premature Loss

The City cattlemen have only a temporary interest in their cattle as casual producers of milk. They are neither interested in improving the quality of their cattle nor have the means to do that. The calves are generally neglected, and they do not survive beyond a few weeks of their arrival. There is thus a gradual depletion in the cattle wealth of the nation. These animals with their progeny represent the pick of the lot from the breeding tracts and constitute the most valuable breeding material and the essential basic stock needed for improving the country's cattle wealth. Their premature loss robs the country of this material and therefore constitutes a serious impediment to further development.

Milk Distribution

There are two types of milk distribution in the City. One is by taking the milch animals house to house and milking the animals in the presence of the customers, and the other is by milking the cattle in the stalls and taking the pooled milk for house delivery or sale through depots. Milking of animals at the door steps is peculiar in the urban areas in the south and a few cities in the north. Due to the widely prevalent practice of adding water to milk at several stages before it reaches the consumers, most of the housewives insist on the cattle being milked in their presence to ensure the purity of milk. A common method of adulterating milk is by adding water or reconstituted milk to buffalo milk and selling it as cow milk. The report of the Public Analyst, Corporation of Madras, shows that over 65 per cent of the samples of cow milk and over 60 per cent of the samples of buffalo milk analysed were found adulterated, the percentage of added water varying up to 80 per cent. These results were in spite of the fact that the legal standards maintained for cow milk and buffalo milk are low, namely,

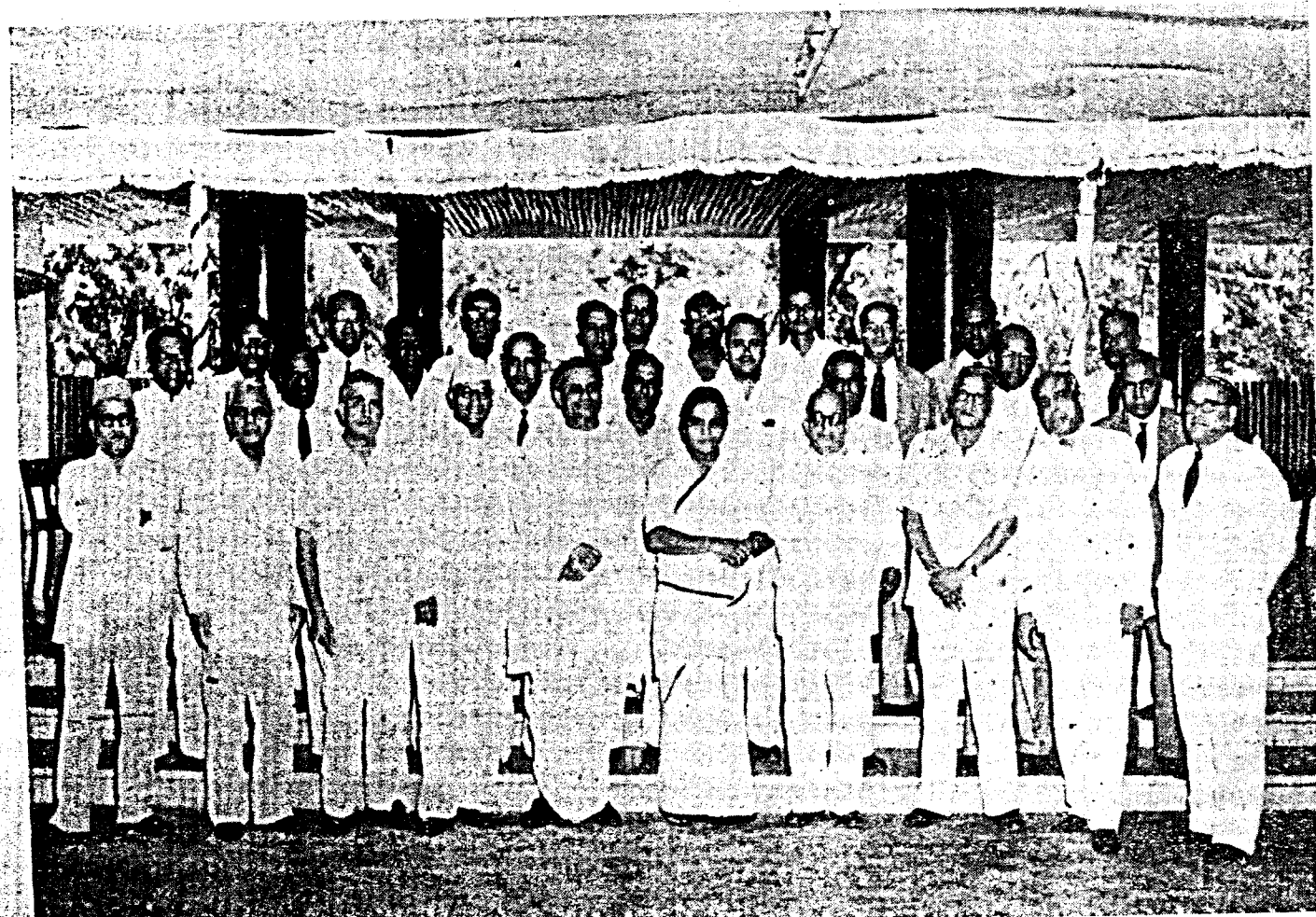
for cow milk the legal standard is only 3.5 per cent butter-fat and 8.5 per cent solids-not-fat and for buffalo milk the 5 per cent butter-fat and 9 per cent solids-not-fat. The enforcement of the Food Adulteration Act also leaves much to be desired. Only very few milk samples are daily collected and analysed by the Corporation. In fact with thousands of persons engaged in the milk trade from the production source to the distribution end and milk being sold at all times of the day and night it will be practically impossible for any agency to control the quality of the market milk. For proved cases of adulteration by milk vendors deterrent punishments are also awarded by Courts to prevent them from resorting to such malpractices.

It is estimated that out of the total quantity of over two lakh pounds of milk consumed in the city, more than half is consumed by the hotels, restaurants and canteens. In addition to the whole milk, most of the hotels and restaurants make use of imported skim milk powder to supplement

their milk requirements. In recent times due to the import restrictions, the milk powder is in short supply with the result that more of the whole milk is purchased by the hotels by offering higher rates leaving less quantity for domestic consumption. The price of milk which used to be about 6 annas per Madras Measure in 1939 has now soared up to Rs. 1-50 nP. per Madras Measure of cow milk and Rs. 1-60 to Rs. 1-75 per Madras Measure of buffalo milk.

No Huge Profit

Though the adulteration of milk is widely practised by milkmen and the price of milk has soared high, it does not necessarily follow that the milkmen make huge profits from the milk trade. In fact many of the milkmen lead desperate life and are unable to carry on their profession. The high cost of the milch animals, the expensive conditions under which the cattle have to be maintained in the city, the risk involved in the maintenance of milch animals, the difficulty in replacing the dry animals with freshly-calved animals are



Members of the National Water Supply and Sanitation Assessment Committee snapped at a Party arranged held by the Government of Madras at the Woodland's Hotel on 19th September 1960.



Sri Lal Bahadur Shastri, Union Minister for Industries and Commerce, paid a visit to Neyveli Lignite Corporations on 19th September 1960.

some of the reasons leading to this unhappy position of the milkmen. In fact many of these milkmen are indebted to money-lenders whom they approach for loans for the purchase of milch animals, cattlefeed, etc. According to a survey conducted on the economics of milk production in the city, it is estimated that the income derived from the dairy trade is so meagre due to the expensive conditions of cattle-keeping within the city that they have necessarily to add water to milk to make a living.

Unsatisfactory Position

It is thus seen from the foregoing that the milk-supply position in Madras City is not at all satisfactory. The consumers have completely lost faith in the quality of market milk, and many of the lower income group are forced to go without it due to the high prevailing price of milk. As long as cattle remain within the city and milk is produced under such unhygienic conditions, nothing tangible can be done to improve the milk supply. As a first step, milk production from within the city has to be shifted to the rural parts and all the milk received in the city should be canalised through one source where a proper quality test could be done and then the processed milk could be made available to the public through authorised agencies.

Reorganization of Milk Supply

For the reorganization of the City's milk supply, the Government of Madras have taken up a scheme under the Second Five-Year Plan with a capital outlay of Rs. 124

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lakhs. The scheme envisages the evacuation of the city cattle from the congested localities of the city by stages and colonizing 4,000 of the good quality cattle with their followers in a cattle colony at Madhavaram which is located just at the outskirts of the city. At the same time potential areas for milk production will be tapped in the adjoining districts by organizing milk collection centres and the surplus milk from those areas will be transported in safe condition to the city. Both the milk produced at the colony and that obtained from the rural milk collection centres will be pooled and processed in a Central Dairy and made available to the public through Government-controlled depots and through house-delivery system.

New Colony

An area of 700 acres of land which has been lying waste in Madhavaram village has been acquired for the establishment of a cattle colony for settling 4,000 milch cattle with their followers. These animals are planned to be housed in self-contained cattle units of 500 animals, each providing also residential accommodation for the owner milkmen adjacent to their cattle. Veterinary aid and cattle breeding facilities are made at the colony free of cost. Cattle feed required for the cattle is stocked in the colony in advance and issued to the milkmen at cost price. The green fodder requirement of the cattle is now obtained in abundance from the grass farm owned by the City Corporation at Kodungaiyur which is adjacent to the Colony. It is believed that an adequate supply of green fodder of good quality will not only increase the milk yield of cattle but will also

considerably cheapen the cost of milk production. For the accommodation provided for the cattle, the milkmen are charged a nominal rent.

Milkmen freed

These milkmen who have been leading a desparate life under the expensive conditions in the City, taking animals house to house for finding a market for the milk, are now left free to concentrate more and more on the production of milk by resorting to scientific methods of breeding and feeding practices. All the milk produced by them is taken over by the Government by paying a reasonable rate and marketed in the City on their behalf. The first of those cattle units was inaugurated on 15th October 1959 by Shri S. K. Patil, Union Minister for Food and Agriculture, and is now occupied by the city milkmen who have voluntarily moved into the colony with their cattle. The second unit was inaugurated on 27th September 1960 by Chief Minister Sri K. Kamaraj. The third and fourth cattle units are now ready for occupation. It is thus seen that the cattle colonization scheme merely aims at giving proper assistance to the milkmen to enable them to do their business on properly regulated basis. It also aims at separating the milk production from the milk processing and marketing and directs that milk distribution is done only through authorized distributors.

Rural collection of milk

The production of milk from the colony out of 4,000 milch animals will be hardly sufficient to meet the growing demands of a large city like Madras. In all advanced countries the milk supply in urban areas is completely met by the collection and transport of milk from farms located in rural areas. It is only under such conditions that animals could be maintained under natural condition where they could move about with ease and graze in the pastures. The quality of such milk is bound to be good.

With the same view it has been proposed to organize several milk collection centres in the surrounding districts of Madras where proper facilities and encouragement could be given to the farmers to take up dairying as a subsidiary occupation. At present due to the want of communication facilities and due to an unsteady market, milk production for commercial purposes has not been taken kindly by the farmers. Experience shows that a steady and lucrative market for the milk will contribute much towards the breed improvement and increase the economic status of the farmers. Considerable progress has been made in this direction in the Anand area in Saurashtra. With small beginnings, the Co-operative Union in Anand is able to collect from its affiliated feeder societies over 14 lakh pounds of milk a day, part of which is supplied to the Bombay Milk Colony, and the rest converted into milk products. The Government in turn have helped these farmers by offering grants for the construction of milk sheds, arranging water facilities, composting of cattle manure and growing of fodder grass. Cattle breeding and veterinary aid are also made available to them.

In the United Kingdom

In the abovementioned connection, it is worth mentioning the Government aid given to the farmers in the United Kingdom for increasing milk production. The Government have introduced an Assistance Scheme for farmers who own between 20 to 100 acres of farm land and the aid is given on a 3 to 5 year working basis. The object of the aid is to help the farmers, who want to improve their farm land for milk production, by offering an outright grant for milk production by offering an outright grant of a maximum of 1,000. The items included in the land operations are (1) ploughing the land and reseeded to grass, (2) renovation, i.e., applying to the land suitable dressing of lime or fertilizer, (3) ditching for any cleansing



Music competition of the Madras Secretariat Association held on 24th September 1960 at the Secretariat



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or improvement of farm ditches that is necessary to make effective any grassland improvement, (4) reclamation, i.e., removal of hedges, spinneys, boulders or other obstacles to cultivation, filling in small ponds or ditches and (5) purchase of cattle and equipment. On a requisition made by a farmer who intends to take advantage of the subsidy, an Agricultural officer of the Ministry visits his farm and prepares a programme of improvement work, spread out over a period of five years. On approval of the proposal by the Government, the farmer executes the work and claims the subsidy. Many farmers in the United Kingdom have taken advantage of this scheme and are improving their farm land for milk production. A similar plan if introduced in the areas where the Madras Milk Project intends to organize milk collection centres will help considerably to increase the rural milk production.

Milk Processing Dairy

The Madras Milk Project has planned to set up a Central Dairy with up-to-date machinery with a capacity of handling 14 lakh pounds of milk. At present both the milk received from the colony as well as that collected from the rural areas is handled by the Government Milk Factory at Teynampet and distributed to the public through a few Government-owned depots and house delivery boys. Towards the purchase of the dairy machineries and plants which require foreign exchange, the Government of New Zealand have given a generous gift of £ 215,000 (Rs. 28 lakhs).

The problem of supplying milk to a large population in a growing City like Madras is certainly a complicated

issue, and it is felt that a powerful and competent authority is needed to deal with it. The Planning Commission has also recommended that for urban milk supplies, milk should be collected from rural areas and distributed through appropriate authorities like the Milk Marketing Board. It is also the experience of foreign countries advanced in dairying that the milk production and distribution under proper agencies have ensured a high standard throughout the industry. The State parliaments in those countries have passed legislation to ensure the supply of pure milk to the citizens and also subsidize many welfare schemes such as free milk to school children and nursing and expectant mothers.

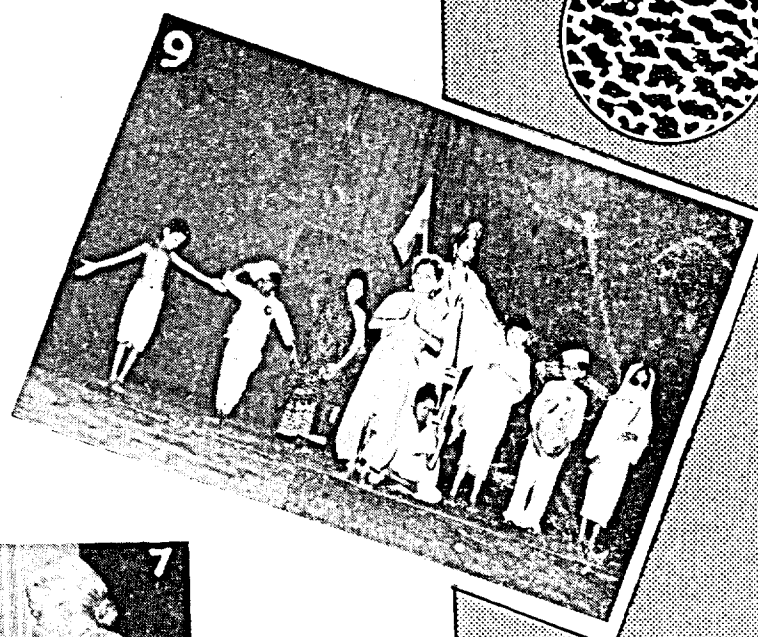
Welfare Goods Order

In Britain under the Welfare Goods Order issued by Government in 1954 milk is supplied to all school children, pregnant and nursing mothers and children up to five years of age, and the cost is met fully or partly out of public funds. On production of a certificate from a doctor to the effect that the woman is pregnant, the county council issues tokens to her to purchase milk and fruit juice at concessional rates and codliver oil and vitamins free of cost. This benefit is extended up to her confinement, and the same benefit is transferred to the child till five years of age. Thereafter the child when admitted in the school gets free milk up to fifteen years of age. The value of a protective food like milk is well understood by the nation and the State aids in building up the young generation strong and healthy. The example set in such advanced countries in building up the nation is also worth emulating in this country.)



Sri K. Kamaraj, Chief Minister, lighting the sacred lamp before Sri Lal Bahadur Shastri, Union Minister for Industries and Commerce, who laid the foundation stone for the Rs. 6 crore pulp and paper plant of the Seshasayee Paper and Boards, Ltd., at Pallipalayam village in Salem district on 18th September 1960.

Khadi Week



1. Home Minister inaugurating the Khadi Week Celebrations.
2. Dress Competition at Lady Willingdon College
3. Oratorial contest held in connection with Khadi Week.
4. A view of audience at Lady Willingdon College
5. Sri P. Kakkan, Minister for Public Works, distributing a prize to Sivaji Ganesan Group.

6. Spinning at Rajaji Hall
7. Smt. Medhi distributing prize to winner in the oratorial contest.
8. V.O.C. drama by T.K.S Brothers]
- 9 and 10. Drama by students
11. Labour Day inaugurated by Sri R. Venkataraman, Industries Minister.



A Song for the Child

By S. R. VENKATARAMAN, P.A., B.L., Secretary, Servants of India Society, Madras.

You must run and play, my child,
You must not be idle, my child,
Mix and play with all, my child,
Never abuse any child, my child.

Like the tiniest little sparrow,
You must roam and fly, my child,
Seeing the many coloured fowls, my child,
Be happy in your mind, my child.

Befriend the roaming cock that pecks,
And play with it, my child,
The cunning crow that robs,
Needs your pity, my child.

The cow that gives us creamy milk, my child,
That cow is a very nice cow, my child,
The dog, that woos with its wagging tail,
Is surely man's most loyal friend, my child.

The sturdy horse that pulls the cart,
The bull that ploughs our paddy fields,
The goat that lives with us,
Treat these with love and care, my child.

Rise at dawn and read your lessons,
Then sing a nice soul filling song,
All evening is for games and play,
This you must practise daily, my child.

Never tell a lie, my child,
Say nothing behind another's back, my child,
God is our guide, my child,
Therefore no harm will come to us, my child.

When we see people doing wrong,
We must not fear them, my child,
Trample and crush them, my child,
And spit on their face, my child.

When woes and sorrows assail us
We should not lose hope, my child,
There is God who is full of love,
He will drive away all our worries, my child.

To be idle is the greatest curse, my child,
Never disobey Mamma's words, my child,
That child is lame which sobs and weeps,
You must stand up and fight with courage, my child.

Salute, my child, Salute our Mother dear,
Who gave birth to this Golden Tamilnad, my child,
Sweeter than the divine nectar, my child,
This land of our great ones, my child.

Among the languages all, Tamil is great,
Learn it with full devotion, my child,
Hindustan is full of wealth,
Sing her glory every day, my child.

The Himalayas are in the North, my child,
Virgin Kumari at the Cape in the South,
The great sea that sleeps, you see,
On the East and West, my child.

This is the land of the Vedas,
The land where great heroes were born,
This Hindustan is one whole,
Salute her as God, my child,

Castes there are none, my child,
To speak of castes as high and low is a sin,
Only the just, the wise, the learned,
And those with abundant love, are great.

You must love all living creatures,
You must know that God is Truth,
Yet you must have a heart hard as a diamond,
This in brief is the way of life, my child.

NOTE.—No attempt is made in this translation to imitate poet Bharati in English except to clothe in English words of one syllable as far as possible Bharati's ideas about children's education.

The main emphasis in the Third Plan is on continuing the lines of development initiated in the Second Plan. Against the achievement of 16 Key Village Centres started in the First Plan and 21 in the Second Plan, 20 Key Village Blocks will be established in the remaining areas of the breeding tracts during the Third Plan. The existing 17 Centres will be expanded to have a coverage of 10 villages each as against 6 per Centre. Three Central Semen Collection Centres will also be opened. In Urban areas, as against 6 Artificial Insemination Centres started in the First Plan and 17 in the Second Plan, 30 are proposed to be started in the Third Plan. A hundred more Supplemental Extension Centres will be started in addition to the 44 Centres started in the Second Plan. One thousand bulls will be distributed in the areas not covered by these programmes. It is expected that nearly 43 per cent of the cows and she-buffaloes of breedable population would thus be covered by natural service and artificial insemination from approved stock by the end of the Third Plan.

In addition to the expansion of the 4 existing livestock farms, 4 cattle farms including one buffalo farm and a separate farm for Jersey animals will be started during the Third Plan. A salvage farm will also be opened.

Sheep development

Sheep development finds an important place in the Third Plan. As against the anticipated expenditure of Rs. 5-20 lakhs in the Second Plan, an outlay of Rs. 19 lakhs has been provided for these schemes in the Third Plan. In addition to the opening of 12 Sheep and Wool Extension Centres and one Sheep Farm over and above the 8 Centres and one farm started during the Second Plan, one important schemes proposed in the Third Plan are the opening of one Sheep and Wool Development Research Institute and the starting of sheep breeding through ten Co-operative Societies.

Fifty Poultry Development Extension Centres will be established in the Block areas and 50 Co-operative Societies will be started for the development of poultry during the Third Plan. Four thousand baby-chicks will be raised in the two State farms and farmers will be given training in improved methods of poultry development.

A second Veterinary College will be established to meet the shortage of Veterinary Graduates. The Ranipet Institute will be strengthened and a foot and mouth disease laboratory will be established. It is also proposed to open 150 Veterinary Dispensaries.

Dairying and Milk Supply

An outlay of Rs. 3.81 crores has been proposed in the Third Plan as against Rs. 1.6 crores in the Second Plan. The Madhavaram Milk Colony will be completed so as to

house 4,000 heads of milch cows. Besides these, it is proposed to take up transport of milk from areas like Erode and set in train refrigerated railway tankers for the purpose.

Under the Co-operative sector, 150 Milk Supply Co-operative Societies will be organized and 5 more pasteurization plants started. Five additional fodder farms, 10 cattle feed manufacturing centres and a butter-cum-milk powder factory are also proposed to be started.

Fisheries

The main new scheme proposed in the Fisheries programme is a Deep-sea Fishing Scheme based at Tuticorin for which details are being worked out. This would involve the purchase of a few deep-sea going vessels, trawlers and the establishment of a shore-organization for their maintenance. Apart from this, it is proposed to have 400 pablo boats distributed with nylon nets and other accessories.

The Third Plan also includes provision of Rs. 50 lakhs for the establishment of fishing harbours at Nagapattinam, Cuddalore and Rayapuram as well as improvements in places like Colachel, Tuticorin, Rameswaram, Puthukuda, Pulicat and Kilakarai. Twelve additional ice plants are also proposed. A provision of Rs. 40 lakhs has also been made for loans to Fishermen's Co-operative Societies. A new aquarium is proposed to be constructed at Madras at a cost of Rs. 10 lakhs.

Forests

Madras is comparatively poor in forest resources. In the first two Plans, a total outlay of Rs. 180 lakhs would be incurred on the forest programme. The forest programme has been on establishing new commercial plantations. In the Third Plan, economic plantations, viz., cashew, soft wood, casuarina, wattle, rubber and bamboos will be established at a cost of Rs. 65 lakhs. Ten thousand acres of cashew, 5,500 acres of valuable commercial timber, 5,000 acres of soft-wood, 3,000 acres of casuarina, 20,000 acres of wattle, 2,000 acres of rubber and 5,000 acres of bamboos are proposed. A major programme under forestry for which a sum of Rs. 1 crore has been provided is that of farm forestry, viz., raising plantations in available waste lands in 100 acres annually in every Community Development and National Extension Service blocks.

Two additional sanctuaries are proposed to be set up one in Ulandi Valley and the other in Mundanthorai. Two new zoos are also proposed, one in Madurai and the other in Coimbatore.

A sum of Rs. 26 crores has been allocated for Community Development. The entire State will be covered by the Community Development Blocks by 1962-63. Perhaps the more important aspect of this programme is the establishment of the Panchayat Unions which will implement the Community Development Schemes. Suitable revenues and responsibilities have been devolved to them. Besides the Community Development Programme, the Local Development Programme also will be continued to be implemented in order to ensure the following minimum amenities: (1) link roads from every village to the nearest main road, (2) rural water-supply, and (3) buildings for elementary schools. It has been calculated that the resources which the Panchayat Unions and the Panchayats together will obtain during the Third Plan will be roughly Rs. 140 to Rs. 145 crores.

Co-operation

In the Second Plan, a total outlay of Rs. 182 lakhs was incurred on various schemes for assisting the co-operative movement. The number of members has increased from 11.40 lakhs to 22.50 lakhs. The coverage of rural population would also have increased to nearly 50 per cent and the volume of rural agricultural credit dispensed from Rs. 6 crores to roughly Rs. 25 crores by the end of 1960-61.

The target for the Third Plan is to distribute a total credit of Rs. 60 crores and to bring 85 per cent of the rural population under the co-operative movement. It is also expected that we would have nearly 10,000 village societies by the end of the Third Plan.

The guarantee against losses incurred on sub-marginal and marginal lendings which we extended in the First and Second Plans will cover the entire State by the end of the Third Plan. Other schemes in the Third Plan for co-operation include the organization of 244 supervising units, the appointment of 100 additional supervisors and the establishment of 16 new Land Mortgage Banks. The Land Mortgage Banks are expected to disburse credit of the order of Rs. 2 crores by the end of the Third Plan.

A total provision of Rs. 5 crores has been made for various schemes under co-operation in the Third Plan. Attention has been paid for the development of co-operative marketing in the State. Fifty more marketing societies are proposed to be established bringing the total number of marketing societies to 150 in districts outside Thanjavur. In Thanjavur itself, a special marketing scheme will be undertaken in order to market the surplus produce of the district.

Emphasis is being placed on the construction of 892 godowns in the next Plan. Eighty-four processing plants will also be established by various co-operative societies.

Another significant scheme under co-operation is the proposal to start a higher Co-operative Institute at Madras.

A start will be made on assisting Consumers' Co-operative Societies.

Irrigation

Under Irrigation, the Third Plan proposes an outlay of Rs. 40 crores. The main schemes under Irrigation is the Parambikulam-Aliyar Project on which there is expected to be a spill-over of roughly Rs. 22 crores. There are very few major irrigation schemes possible besides this. However, it is proposed to undertake the modernization of the existing Vaigai channels and the channels in the Thanjavur district at a cost of Rs. 125 lakhs and Rs. 100 lakhs respectively. Other important irrigation schemes are given below:—

PRIORITY 'A'

Name of the Scheme.	Estimated cost. (Rs. lakhs)
1 Modernizing existing Vaigai channels in Ramnathapuram district.	125-00
2 Modernizing existing channels in Thanjavur district.	100-00
3 Improvements to Palar Anicut and Channels (North Arcot district).	48-10
4 Chittar Pattanamkal Scheme (Kanyakumari district).	178-00
5 Upper Kalligovayan channel (Coimbatore district)	262-00
6 Marudayar Scheme (Tirunelveli district)	188-00
7 Cheyyar Anicut Scheme (North Arcot district)	77-00
8 Sathanur Project Second Stage (North Arcot district).	55-00
9 Palar Porandalar Scheme (Madurai district)	178-00
10 Noyyal Reservoir Scheme (Tiruchirappalli district).	124-00
11 Diversion of west-flowing rivers—Lump sum provision.	500-00
12 Gopurath Nadhi Reservoir Scheme (South Arcot district).	87-00
13 Manimukthanadhi Scheme (South Arcot district)	88-00
14 Manjalar Scheme (Madurai district)	86-00
Total ..	2,096-10

PRIORITY 'B'

1 Mambazhathurai Scheme (Kanyakumari district) ..	60-00
2 Gatana Reservoir Scheme (Tirunelveli district) ..	89-00
3 Ramanadhi Scheme (Tirunelveli district) ..	18-00
4 Kalligovayan Scheme (Salem district) ..	40-50
5 Thoppiar Scheme (Salem district) ..	85-00
6 Reservoir across Vellar (Tiruchirappalli district) ..	100-00
7 Reservoir across Ayyar in Kolli Hills (Tiruchirappalli district).	442-00
8 Kodaganar Scheme (Tiruchirappalli district) ..	20-00
Total ..	854-50

Priority 'B' schemes will be taken up in the event of additional resources being available.

Proposed Schemes

It will be seen that in addition to the Parambikulam-Aliyar Project, schemes worth Rs. 29 crores have been proposed. These schemes would bring an additional 0.76 lakh acres under irrigation and stabilize the existing ayacuts in 0.92 lakh acres.

The total additional ayacut which would be brought under irrigation during the Second Plan is roughly 1.7 lakh acres new ayacut and 1.2 lakh acres of old ayacut, i.e., 2.9 lakh acres in all. Compared to this, the Third Plan proposal will amount to increasing ayacut by 1.5 lakh acres under Parambikulam-Aliyar Project and 0.76 lakh acres under the other projects besides stabilizing 0.92 lakh acres.

Power

In the First Plan, the installed capacity of the Madras grid was increased from 1.46 lakh K.Ws. to 2.56 lakh K.Ws. Works undertaken in the Second Plan would increase the capacity further to 5.71 lakh K.Ws.

The outlay on power in the Second Plan was nearly Rs. 77 crores as against the original target of Rs. 53.25 crores. Similarly, a high order of emphasis is required in the Third Plan also in view of the shortage of power. Besides the shortage of power, we have a problem of seasonal imbalance of power. The bulk of the power generated is seasonal as its supply is linked with irrigation projects. Therefore though our installed capacity at the end of the Second Plan will be 5.71 lakh K.Ws. our dependable supply of power is only about 60 per cent of this. It has become therefore necessary to firm up the power by having a larger supply of thermal power. With this in view, it has been proposed to have a thermal plant at Neyveli which will have an installed capacity of 400 M.W. by the end of the Third Plan. Just at present there is a Thermal Plant under construction at Neyveli with a capacity of 250 mega watts.

Neyveli Corporation

The present proposal of the Neyveli Lignite Corporation is to add another 150 mega watts in the Third Plan.*

* This Government feel that the additional plant should have a capacity of 200 mega watts.



A collection of 78 books dealing with various aspects of Police work was presented by Mr. M. E. Allen, Deputy High Commissioner for the United Kingdom, in India, to the Madras Police on 8th October 1960. Sri M. Baktavatsalam, Home Minister, received them on behalf of the Madras Police.

Including this plant, the State has under consideration nine generation schemes which include three schemes spilling over from the Second Plan. The six new generation schemes are as given below :—

Name of the scheme.	Estimated cost in Rs. lakhs.	Benefits.
1 Mettur Tunnel Scheme (I Stage).	599	100 M.W. installed capacity.
2 Kundah Hydro-Electric Scheme (III Stage).	2,306	240 M.W. installed capacity.
3 Periyar Hydro-Electric Scheme (II Stage).	94	35 M.W. installed capacity.
4 Periyar Pumping Scheme ..	62	44 million units per annum
5 Anamalai Hydro-Electric Scheme.	559	95 M.W. installed capacity.
6 New Thermal Station (Preferably at Neyveli).	(Central Sector of the Plan)	200 M.W. installed capacity.

The load forecast of the Madras grid reveals that the total energy required in 1965-66 will be 9,513 million units as against the supply of 7,280 million units. There will be a deficit of nearly 2,200 million units, i.e., nearly 25 per cent.

It will therefore be necessary to have a nuclear power station in the Madras State.

One of the important proposals in the Plan is to inter-connect the grids of Mysore, Kerala and Madras. This will be mutually advantageous for all the Southern States as it will be possible to share the power available in excess of immediate requirements in any particular State.

By the end of the Second Plan, we would have covered 10,000 villages out of the total 18,000 villages in the State. By the end of the Third Plan, it is hoped that the remaining villages will also be covered.

Industries

The Working Group under Industries set up by the State Government have gone into the possibilities of establishing new large-scale and medium industries. The establishment of new industries primarily depends on the Central Government and the private sector. The State Government can only act as a catalyst. The State Government therefore press the leading industrialists to establish new industries as indicated in the Working Group's report. The Working Group has proposed the establishment of 48 industries, out of which 14 may be in the public and the

balance in the private sector. The major projects are indicated below :—

PUBLIC SECTOR PROJECTS

	(Total Cost) Rs. lakhs.
1 Coke Oven Plant	250
2 Oil Refinery	(Not estimated)
3 Pilot Iron and Steel Plant	300
4 Hydraulic Machinery and Laboratory Unit.	70
5 Machine Tools	800
6 Power Drill Tools	(Not estimated)
7 Copper	(Not estimated)
8 Heavy Electricals Project	2,500
9 Electrical Steel Sheets	500
10 Surgical Instruments (Central Government Undertaking through National Development Corporation).	(Not estimated)
11 Raw Film Project (Central Government Undertaking through National Industrial Development Corporation).	(Not estimated)
12 Infant and Invalid Food	19
13 Boat Building Industry	4
14 Mineral Survey of Madras State	(Not estimated)

PRIVATE SECTOR PROJECTS

- Engineering Industries
- Automobiles and accessories
- Scooters, auto-cycles, auto-rickshaws and the three wheelers industries
- Internal combustion engines
- Industrial blowers, compressors, fans, air-conditioning equipments
- Cotton textile machinery
- Printing machinery
- Carbide tips plant
- Aluminium industry
- Electrical motors and pumps
- Fractional power motors
- Transformers and switch-gears
- P.V.C. cables and materials
- H.T. and L.T. insulators
- Fertilizers—Superphosphate and ammonium sulphate
- Caustic soda
- Hydrochloric acid
- Calcium carbide
- P.V.C. manufacturing plant
- Power alcohol
- Dye stuffs
- Pharmaceuticals
- Refractories
- Ceramics and sanitaryware
- Glass
- Paper

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- Rayon and staple fibre plant
- Rubber and rubber products
- Sugar
- Cement
- Cotton seed oil
- Cotton textiles
- Rice bran oil extraction
- Jute mills

The entire industrial future of the State turns on the Neyveli Lignite Project and the possibility of starting an Iron and Steel Plant with Salem iron ore. The Neyveli Lignite Project is making good progress. It is expected that the lignite seam will be struck by the middle of next year. The Thermal Plant and the Fertilizer Plant are also coming up. The East Germans have given an encouraging report about the prospects of setting up an Iron and Steel Plant with the help of Salem ores and the Neyveli Lignite.

The Working Group has proposed the establishment of an Oil Refinery. There is also a proposal for undertaking an intensive survey for the possibility of striking oil in this State. Another major project the State places considerable hope on is that of the Heavy Electricals Project for which the State has offered substantial facilities to the Government of India.

In respect of sugar, it is proposed to recommend the starting of eight new factories, four in the private sector and four in the co-operative sector. The likely locations are given below :—

Private Sector

- Kothari Sugars, Limited .. Lalgudi taluk
- Aruna Sugars, Limited .. Pennadam
- South India Sugars, Limited Mundiambakkam
- Sangameswar Sugars, Limited Kavundapadi, Gobichettipalayam

Co-operative Sector

- Namakkal Co-operative Sugar Namakkal Mills
- Kallakurichi Co-operative Sugar Kallakurichi Mills
- National Co-operative Sugar Madurai Mills
- Tiruvannamalai Co-operative Tiruvannamalai Sugar Mills

In respect of textiles, the Working Group has taken the view that it is necessary to have a larger share of looms in order to make our industry more composite. At present, we have a predominantly spinning textile industry. In order to make it more balanced, it is necessary that at least 10,000 more looms are allocated to our State. Out of the

total two-million additional spindles to be installed, the State should be given at least five lakhs more of additional spindles. It is also proposed to start 2,500 power-looms in the handloom sector.

Handlooms

The emphasis in the handloom schemes in the Second Plan was on bringing more handloom weavers in the co-operative fold and assisting handloom industries by measures such as rebates and publicity. The Third Plan schemes cost in all Rs. 11 crores. The outlay for rebate provides Rs. 4 crores. Two-power sizing plants, 100 small dye-houses and six processing centres are proposed in the Third Plan. A substantial step-up of marketing and publicity will enable opening of 10 inter-State depots and six silk depots. Four centres for the sale of ready-made garments will be established. Four more co-operative spinning mills are also proposed. A sum of Rs. 2 crores is proposed for building 5,000 new houses and for repairing 2,500 houses. A new scheme proposed is for Government to make a contribution of one anna in every rupee of wages towards the thrift fund of weavers. Whether the scheme would be accepted side by side with the scheme for rebates is a matter to be decided separately.

A Handloom Finance Corporation is also proposed to be established to finance master weavers. Mention should also be made of the scheme for providing loans to relieve indebtedness of weavers who are entering the co-operative fold.

Small-Scale Industries

The Second Plan witnessed a very high step-up in the setting up of small-scale industries in the State. An outlay of Rs. 404 lakhs was incurred on small-scale industries, besides a sum of Rs. 131 lakhs spent on industrial estates and colonies. Two industrial estates and five industrial colonies have commenced working. Forty-seven new schemes have been started in small-scale industries.

The Third Plan proposes an outlay of Rs. 15 crores including Rs. 3.75 crores on industrial estates. Twenty common lease shops are proposed to be set up in industrial estates and colonies to enable various private entrepreneurs to make better use of industrial assistance. Besides, the Service Centre at Waltax Road, the Leather Finishing Centre at Ambur, the Precision Instrument Shop at Guindy and the Forging and Heat Treatment Shop in Guindy Estate are proposed to be expanded. A new specialized Metal Finishing Shop in Madras City is also proposed to be set up.

One important scheme in the industries programme is to set up 20 General Purpose Workshops in semi-urban and urban areas. These workshops will consist of a foundry, a smithy and a machine shop in each. Besides, a sum of Rs. 2.5 crores is proposed to be spent on the setting up of 16 pilot production centres including a coil-spring making shop, a pilot production centre for making components of radio receivers and tape recorders, etc. The Structural Workshop at Madras is expected to cater to the need for structurals which is expected to go up during the Third Plan.

The pattern of new industrial estates will be to have large industrial estates at district headquarters and small estates at each taluk headquarters. One hundred workshops are proposed to be set up in rural areas at a cost of Rs. 10 lakhs. There will be four estates costing Rs. 5 lakhs each at places with a population of 20,000; eight estates costing Rs. 7.5 lakhs each at places with a population of 50,000; ten estates costing 12 lakhs each at places with a population of 1 lakh; and four estates costing Rs. 20 lakhs each at places with a population of over 1 lakh. Besides, it is proposed to have an industrial development corporation.

The Third Plan also provides for an outlay of Rs. 80 lakhs on 22 handicrafts schemes, an outlay of Rs. 20 lakhs roughly on 10 sericulture schemes and Rs. 29 lakhs on development of coir schemes.

Khadi

The outlay on Khadi is not a part of the State Plan. It is met by the Khadi and Village Industries Commission. It is proposed to increase the production of Khadi from Rs. 1 crore worth to Rs. 2 crores worth of Khadi by the end of the Third Plan. It is proposed to enlist 45,000 new spinners, to open 40 sub-centres and to produce four crores of hanks of yarn during the last year of the Third Plan.

Thirty thousand weavers are expected to be given training; 150 depots for sales are to be opened and six mobile vans purchased. Two new designs centres will be started; eight small dyeing and bleaching units are also proposed.

Communications

The State's Third Plan under communications mainly deals with the improvement of roads. The Plan contemplates an outlay of Rs. 13.77 crores as against the Second Plan outlay of Rs. 6 crores. This sum of Rs. 13.77 crores includes a sum of Rs. 1 crore for meeting the road authority's share of cost of the construction of over/under bridges

at road/rail crossings in important towns. The break-up of the remaining plan is as follows :—

	(RUPEES IN CRORES)
State Highways	6.27
Roads other than State Highways ..	4.23
Security roads in Ramanathapuram district	0.27
Tools and Plant	2.00
Total ..	12.77

Besides this, under the Central Plan, Rs. 2.5 crores have been provided for Central Road Fund Schemes and Rs. 1 crore for roads of economic and inter-State importance.

Roads are to be selected giving the highest priority to areas of prospective industrial development. The roads in Neyveli-Salem belt will be upgraded. Similarly, priority will be accorded to the improvement of roads linking Tuticorin to the main highways. The targets to be borne in mind are the same as that of the Second All-India Road Development Plan, viz., to bring every village (a) in a developed and agricultural area, within 4 miles of a metalled road and 1.5 miles of any road, (b) in a semi-developed area, within eight miles of a metalled road and 3 miles of any road and (c) in an under-developed area within 12 miles of a metalled road and five miles of any road.

In respect of National Highways, this Government are pressing on the Government of India that an express-way may be laid from Madras to Bangalore. Besides, the east coast road will be formed as a National Highways running from Madras along the east coast to Cape Comorin. The Cuddalore-Salem road via Neyveli and Tuticorin-Koilpatti road are being pressed for being upgraded as National Highways.

The Roads Plan also includes provision for upgrading the roads which have been and are being built under the Local Development Works Programme. Proposals have also been included for expending Rs. 181 lakhs on the improvement of roads in the Madras Corporation.

Minor Ports

In respect of Minor Ports, our main emphasis has been on the upgrading of Tuticorin Port into a major harbour. Regarding Sethusamudram Project, there has been a difference of opinion on costs between various experts. The expansion of the Tuticorin Port is pursued on its own merits on the basis of the recommendation of the

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A sum of Rs. 15.85 crores has been proposed for Harijan Welfare Programme. This will be over and above roughly Rs. 10 crores which will be spent by the State as non-Plan expenditure. For Scheduled Castes, it is proposed to spend nearly Rs. 13.2 crores. The 840 Harijan Welfare Schools will be expanded and Rs. 50 lakhs have been provided for the building. For additional midday meals, Rs. 100 lakhs have been set apart. All the 300 Harijan Hostels of which 91 are already Government hostels will be taken over. Twenty-five more hostels will be built at a cost of Rs. 50 lakhs. For expansion of scholarships, a sum of Rs. 50 lakhs has been provided. Another major scheme is the provision of a pair of clothes to each Harijan girl studying in elementary and higher grade schools at a cost of Rs. 3.1 crores.

In respect of housing, about 19,000 houses have been built in the Second Plan at a cost of Rs. 103 lakhs. For the Third Plan, it is proposed to give well-developed plots with construction completed only up to basement level. In addition to these well-developed plots, building materials worth Rs. 125 and a cash grant of Rs. 25 will be given to each of the beneficiaries. A sum of Rs. 6 crores is provided for this scheme.

For Scheduled Tribes, a total sum of Rs. 50 lakhs has been set apart. A sum of Rs. 105 lakhs has been provided for the welfare of Denotified Tribes and Rs. 100 lakhs for other Backward Classes.

Social Welfare

Care, After-care and Vigilance Programmes.—A sum of Rs. 29 lakhs has been allotted for this programme.

Labour Welfare.—The present programmes will be continued in an intensified manner. Eight Industrial Training Centres and five Apprenticeships Training Centres and Industrial Orientation Centres will be started which will increase the seating capacity by 4,060. The total cost is expected to be roughly Rs. 286 lakhs.

Housing

Loans and grants to various housing agencies found a place in the Plan. During the Third Plan, it is proposed to spend Rs. 10 to Rs. 12 crores for the following housing schemes :—

Scheme.	Size of the (RUPEES IN LAKHS)
Bulk Acquisition and Land Development ..	300
Subsidized Industrial Housing Scheme ..	200
Low-Income Group Housing Scheme ..	400
Plantation Labour Housing Scheme ..	5
Slum Clearance Improvement Scheme ..	300
Village Housing Projects Scheme ..	25
Total ..	1,230

2. Bulk Acquisition and Land Development is a new scheme intended to reduce the congestion in cities and towns by acquiring and developing large extent of land in the suburbs. The proposal is to have two "Neighbourhoods", development each of 1,000 acres around Madras.

3. Under Subsidized Industrial Housing Scheme, houses are built for industrial workers by Government, by workers' co-operatives or by employers. The private employer's projects are part of the Central Plan. We confine ourselves here to the Government and Co-operatives Schemes. The allocation is Rs. 200 lakhs for the two agencies as shown below :—

	(RUPEES IN LAKHS)
Co-operatives	50
Government	150

as against the anticipated expenditure of Rs. 100 lakhs under the Second Plan. While 3,248 tenements were constructed under the scheme during the Second Plan, the physical target proposed for the Third Plan is 4,000 tenements.

4. Under Low-Income Group Housing Scheme long-term loans up to 80 per cent of the cost including the value of site subject to a maximum of Rs. 8,000 per house will be given. These loans will be given only to persons (a) who do not already own houses; and (b) who have annual income less than Rs. 6,000. As against the anticipated expenditure of Rs. 279 lakhs on this scheme during the Second Plan period, the outlay proposed for the Third Plan is Rs. 400 lakhs. The proposal is to acquire about 4,000 grounds at an average cost of Rs. 2,000 per ground and build about 5,000 houses as against the physical achievement of 2,890 houses and 1,611 developed house sites during the Second Plan.

5. Under the Slum Clearance Improvement Scheme about 4,630 plots will be developed and 2,000 houses built by the City Improvement Trust and the Corporation during the Second Plan at an estimated expenditure of Rs. 169 lakhs. Under the Third Plan, it is proposed to develop 9,000 plots and construct 4,000 tenements and the provision for the purpose is Rs. 300 lakhs. This provision includes Rs. 20 lakhs for transient camps for dwellers coming from villages to Madras City.

6. The Village Housing Projects Scheme contemplates reconstruction of a whole village by building new houses on approved designs, in place of old ones. The scheme is quite popular as only 50 per cent or Rs. 1,500 per house whichever is higher, is given as loan. However, the Third,

Plan provides for a sum of Rs. 25 lakhs for this scheme. This will be placed at the disposal of Rural Co-operative Housing Societies.

7. *The other Housing Schemes are.*—(1) State Urban Housing Scheme; (2) housing for Government employees and (3) providing hostel accommodation for bachelor Government servants. For the first two schemes, it is expected that loans will be forthcoming from the Life Insurance Corporation. A sum of Rs. 50 lakhs will be given as loans to organizations like Y.M.C.A. and Ramakrishna Mission to help them build hostels for bachelor Government servants.

Miscellaneous

Town-Planning Schemes.—Financial assistance is given in the form of loans to the Local Bodies including the Corporation of Madras to enable them to complete the preparation and expedite the execution of Town and Country Planning Schemes undertaken by them.

2. With a view to cope up with the increased urbanization expected, five schemes under Town Planning have been included in the Third Plan with a provision of Rs. 125 lakhs. This includes a sum of Rs. 20 lakhs intended for the Corporation of Madras for execution of its sanctioned schemes.

2. *Loans to Local Bodies for Productive Enterprises.*—In order to augment the resources of Local Bodies, an outlay of Rs. 100 lakhs has been made for the following in the Third Plan:—

Construction of or improvement to about

- (i) 300 markets;
- (ii) 320 Bus-stands;
- (iii) 50 stands; and
- (iv) 100 Slaughter-houses.

Besides, a scheme for the modernization of the slaughter-houses in Madras city at a cost of Rs. 20 lakhs has also been proposed.

Publicity Schemes.—Publicity forms an integral part of developmental activity. The schemes under this head have been formulated with a view to bring to the people the achievements under the Plan and to make them more plan-minded. They cover in general, the production of publicity materials like pamphlets, leaflets, booklets and posters and publicity through field publicity units, information centres and district headquarters, production of documentary films, organization of peripatetic exhibition of songs and dramas on the Plan.

While the expenditure under this head during the Second Plan is expected to come to Rs. 8 lakhs, a larger allocation, viz., Rs. 50 lakhs has been proposed under the Third Plan. During the Third Plan period, Integrated Field Publicity Schemes will be extended and Information Centres opened in all districts.

Rural Broadcasting.—Under the Second Plan, 2,631 Community Radio Receiver sets were installed in the villages for dissemination of broadcasts to people in rural areas and the anticipated expenditure is expected to come to Rs. 8.28 lakhs. It is proposed to spend Rs. 6.25 lakhs in the Third Plan for the installation of 5,000 sets in the Panchayat areas. The maintenance of these sets will be left to the Panchayats themselves. By the end of the Third Plan, it is expected that all the 9,000 Panchayats, which will be in existence, will be provided with sets.

Statistics.—Accurate and reliable statistics and their analysis and interpretation on scientific lines are essential for the formulation of correct policies and planning agricultural and industrial production. In the Second Plan, steps were taken to strengthen the statistical machinery and thereby develop a sound statistical system. The anticipated expenditure in the Second Plan is Rs. 11.85 lakhs.

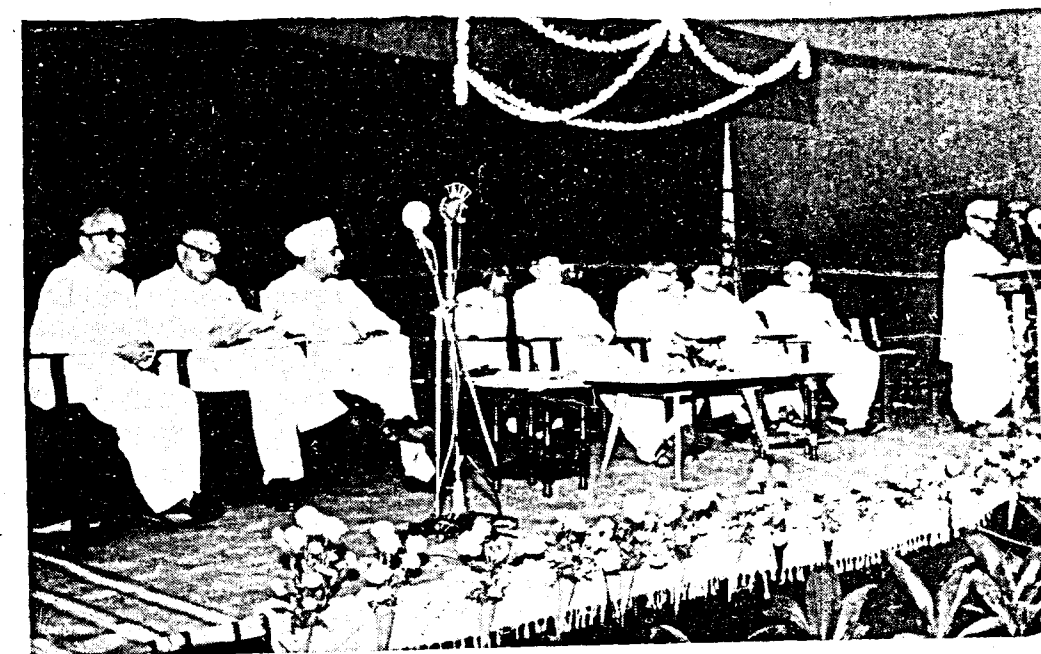
In the Third Plan, it is proposed to further strengthen the existing machinery at a cost of Rs. 30 lakhs.

LOK SHAYAK SENA TRAINING CAMP.

With a view to get people interested in National Service and to inculcate in them a sense of discipline and self-reliance, the Government of India have constituted the Lok Sahayak Sena which is a National Volunteer Force to provide training in camps conducted throughout India annually. The first Lok Sahayak Sena Camp for the Madras City is proposed to be held at Fort St. George. Able-bodied persons between the ages of 18 and 40 years except ex-servicemen and ex-N.C.C. Cadets will be eligible to join the camp. 525 trainees will be accommodated in the camp and will be given training in subjects like firing of service rifles, field engineering, education, first aid, hygiene, drill without arms, physical training, tent pitching, etc., Trainees will have no clothing, free rations, tented accommodation and medical treatment. They will also be entitled to draw a sum of rupees fifteen as out-of-pocket expenses, when they complete the 30 days training. Intending trainees should apply to the nearest Tahsildar, or Sub-divisional Officer of the nearest recruiting office for enrolment in the camp.



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Sri K. Kamaraj, Chief Minister, purchasing the first sheet of 42 stamps issued in commemoration of Subramania Bharathi, 11th September 1960 from Dr. P. Subbarayan, Union Minister for Communications.

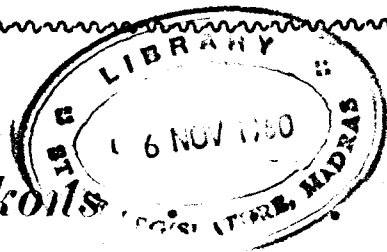


Sri Lal Bahadur Shastri, Union Minister for Industries and Commerce, inaugurating the All-India Seminar on Industrial Estate on 20th September 1960 at the Industrial Estate, Guindy.



State dinner held at the Raj Bhavan on 26th September 1960 in honour of the Poland Premier Mr. Jezef Cyrankiewicz.

Madras Beckons



* * * The temples of Madras, nestling against swaying palms, their tall towers standing as sentinels of an ancient civilisation which is very much alive and their huge halls and corridors proclaiming the deftness and dexterity of the sculptor, constitute the centre and source of a cultural and religious tradition which, though it has fitted itself into the changing pattern of modern life and living, yet remains picturesquely distinct.

* * * The hill stations of Ooty and Kodaikanal, with their invigorating climate and scenic splendours are ideal for rest and recreation. Their wooded slopes and majestic peaks, their grand waterfalls and picturesque lakes hold the visitors in thrall.

* * * Lovers of wild life may get endless thrills through a visit to Mudumalai situated in the Nilgiris. Here they can see elephants and bears, tigers and bisons, etc., in their natural home. Facilities for seeing wild animals are provided to visitors. Vedanthangal near Madras is a bird sanctuary where a visitor can see a variety of birds.

* * * Besides these, Madras provides the tourist a variegated fare. All the year round there are fairs and festivals which bring to life stories and traditions, arts and rituals of a long past age which have an allure all their own. They delight, educate and also entertain.

A VISIT TO MADRAS WILL BE REWARDING

Weavers' Housing Schemes in Madras State

SRI K. J. SOMASUNDARAM, I.A.S., Director of Handlooms

In the year 1952-53 the Government of India decided to constitute a cess fund by collecting an additional excise duty on mill cloth and to finance on a large scale, the development of the handloom industry from that fund. It was also decided that all developmental expenditure should be canalized through the weavers' co-operative societies so that the weavers might get the maximum benefit out of their toil. In the Madras State, a large number of schemes for the development of the handloom industry is executed with assistance from the cess fund.

These schemes benefit more than two lakhs of handloom weavers within the co-operative fold.

Weavers' Housing Schemes

One of the measures necessary for the amelioration of the socio-economic condition of the handloom weavers relates to housing. The handloom weaver plies his profession in his own house, that is to say, his house is his workspot. A large number of handloom weavers are living in houses or huts under conditions which are not hygienic. Nor do they satisfy health standards. The weaver should therefore be assured of proper housing-cum-workspot facilities, if he is to improve his socio-economic condition. The Government have, therefore, given a proper place in the scheme of development of the handloom industry for the provision of housing and working facilities.

Pattern of State assistance

According to the general principles framed by the All-India Handloom Board for the sanction of loans and grants for constructing weavers' housing colonies, financial assistance up to Rs. 3,600 per house including cost of site is available. Thirty-three and one-third per cent of this cost is met by grant and 66½ per cent can be met by a loan repayable in 25 years and carrying interest at 4½ per cent per annum. The cost of amenities can also be met by a loan carrying the same rate of interest. Government have also offered assistance for the repair of houses of weavers. According to the latest general principles, a loan of Rs. 500 per house will be given for the purposes of renovation and enlargement of existing houses of weavers, especially to accommodate the installation of frame looms. The assistance from the cess fund is available for the construction of houses or repairs of houses only to weavers who are members of weavers' co-operative societies.

The Procedure for Sponsoring Housing Schemes

The layout and the type design of the houses suitable for the members of the society are prepared by the societies in consultation with the P.W.D. Supervisor and the Assistant Engineer (Weavers' Housing Scheme) functioning for Registrar's office. Amenities required are also decided with reference to the layout on the site, the type of amenities required, the facilities already available in the locality, etc. The layout will normally provide for amenities like provision of water, street lighting, park, radio, school, market, etc. The house will be so designed as to suit an average weavers' family and will provide for a work room for installing two or three looms. The amenities and the houses should conform to the town-planning rules and hygienic standards. The layout plan is therefore sent to the Director of Town-Planning for his approval. After his approval, the scheme for the construction of the colony is prepared and sent to Government together with the total estimate of cost, type design of the house and the layout approved by the Director of Town-Planning. A copy of the scheme, plans and estimates is also sent to the Chief Engineer, P.W.D. for his approval and intimation to the Government.

Schemes costing up to Rs. 40,000 may be scrutinized by the Executive Engineer; schemes costing between Rs. 40,000 and Rs. 2 lakhs may be scrutinized by the Superintending Engineer; and those costing above Rs. 2 lakhs by the Chief Engineer. One-third of the loan required for the construction of the houses and full cost of amenities are sanctioned with the approval of the scheme. Another one-third of the cost of the houses is sanctioned, as soon as the houses reach plinth level and the balance one-third of the cost on reaching the roof level. One-third of the subsidy is sanctioned, as soon as the houses are completed and the balance of the subsidy as soon as the audited statements of the construction of the houses are received.

Progress in implementing schemes

To assist the societies in attending to the technical and the administrative aspects of the execution of the housing schemes, Government are sanctioning the services of a P.W.D. Supervisor and a Co-operative Sub-Registrar or Senior Inspector as the case may be on a sliding scale of

subsidy to each society. The Director of Industries and Commerce allots the cement, iron and steel, etc., to the extent necessary on a requisition from the Director of Handlooms. Several Handloom Weavers' societies have come forward to take advantage of the assistance given by the Government to sponsor housing schemes for the benefit of their members. Under the Second Five-Year Plan, it has been proposed to construct 1,600 houses for the benefit of weavers. According to the progress so far achieved it is expected that before the close of the Second Five-Year Plan period more than 1,600 houses would be under various stages of construction. Already 16 weavers' housing schemes for the construction of 1,580 houses have been submitted to Government. Government have sanctioned 12 schemes for the construction of 1,460 houses at an estimated cost of Rs. 63.57 lakhs. The schemes are implemented in place like Ammapet, Dharmapuri and Tiruchengode in Salem district; Tirunelveli, Chennimalai, Tiruppur and Coimbatore in Coimbatore district; Aruppukkottai and Srivilliputhur in Ramanathapuram district; Madurai and Krishnapuram in Madurai district; Saidapet in Madras district; Woriyur in Tiruchirapalli district;

Kallidaikurichi in Tirunelveli district and Kilkodungalur in North Arcot district. Ten schemes have already been completed.

Two schemes for the repair and renovation of existing houses of handloom weavers have been sanctioned by the Government of India. Under these schemes 46 houses will be repaired in Ammapet in the Salem district and Melpalayam in the Tirunelveli district. Repairs in respect of 37 houses have so far been completed.

Housing facilities are given to weavers to enable them to own houses in healthy surroundings. They can instal their looms and work in conditions of freedom and convenience. The provision of a large number of houses in close proximity will enable the weavers to lead a corporate life along with other weavers and help to create a spirit of harmony and comradeship among persons with a common economic and social goal. The weavers' housing schemes are therefore welcomed by the weavers and it is hoped that in years to come more and more weavers' societies will sponsor housing schemes for the benefit of their members.

PROCEEDINGS OF THE STATE OILSEEDS COMMITTEE MEETING

The inaugural session of the State Oilseeds Committee was held recently at the Committee Room of the Madras Secretariat with Shri A. Venkatesan, I.A.S., Director of Agriculture and Chairman of the Committee, presiding. In his introductory remarks the Chairman stressed the need to step up the average acre yields of oilseed crops grown under rainfed conditions and suggested the launching of a programme of soil conservation in the important groundnut growing areas of the State. The subjects included in the agenda of the meeting were then discussed and the following recommendations were made.

As a first step in the production of nucleus seeds from the breeding stations directly to ryots would seriously affect the programme of multiplication and spread of improved strains of groundnut, it was recommended that the produce of Zonal Nucleus Seed Farms might be made available to them after meeting the requirements of the State Seed Farms.

As a first step in preventing the decline in yield of groundnuts, it was felt necessary to popularise rotation and mixed cropping practices among the growers. Secondly, analysis of soils were suggested to be undertaken in the areas where the programme of manurial trials on the crop are being implemented so that appropriate manurial schedules based on the availability of plant nutrients in the soil might be prescribed.

Since plant protection measures are required to be carried out repeatedly in the case of certain pests and diseases affecting oilseed crops involving heavy cost, the Committee considered it very necessary to supply pesticides and fungicides to growers at half cost.

As an incentive for extending the area under groundnuts the issue of short-term loans for purchase of seeds in addition to manure loans was strongly recommended by the Committee.

Since the present decortating machines and practices are not conducive to production of quality groundnut kernels, the Indian Central Oilseeds Committee was requested to take necessary steps to improve them by encouraging the use of improved machinery by the decortating establishments.

The State Committee also desired that the Central Committee should immediately initiate measures for setting up a large number of Solvent extraction units and thus augment production of vegetable oils in the country.

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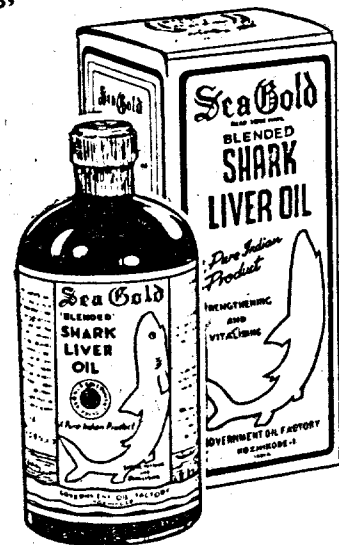
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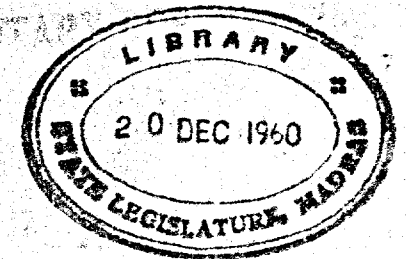


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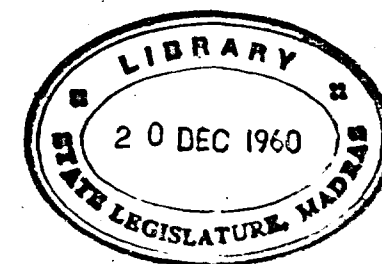
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MADRAS INFORMATION

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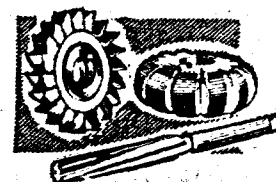
This month's cover

The seventh of December is celebrated every year as the Flag Day when the country pays its tribute to its brave men who have served in the Defence Forces. It is an occasion when the people express their appreciation of the services of these brave sons and contribute their mite for the welfare of ex-servicemen. This month's cover pictures our army men defending our borders in the Himalayan region braving the fury of wind and snow.

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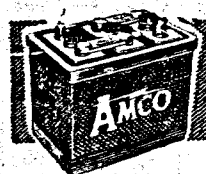


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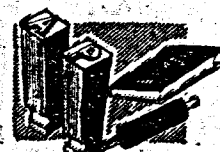
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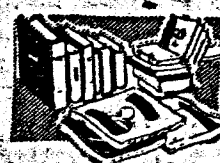
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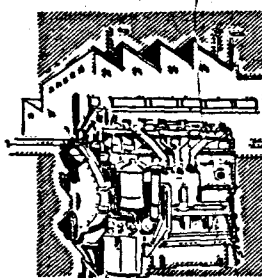


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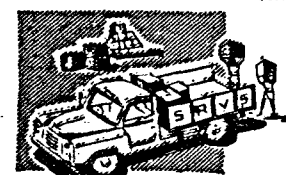
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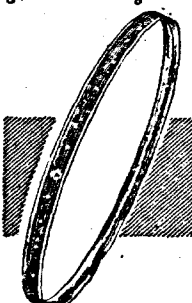
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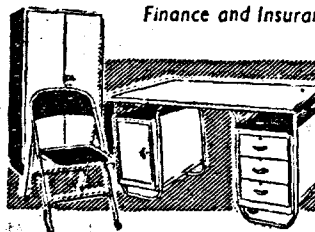
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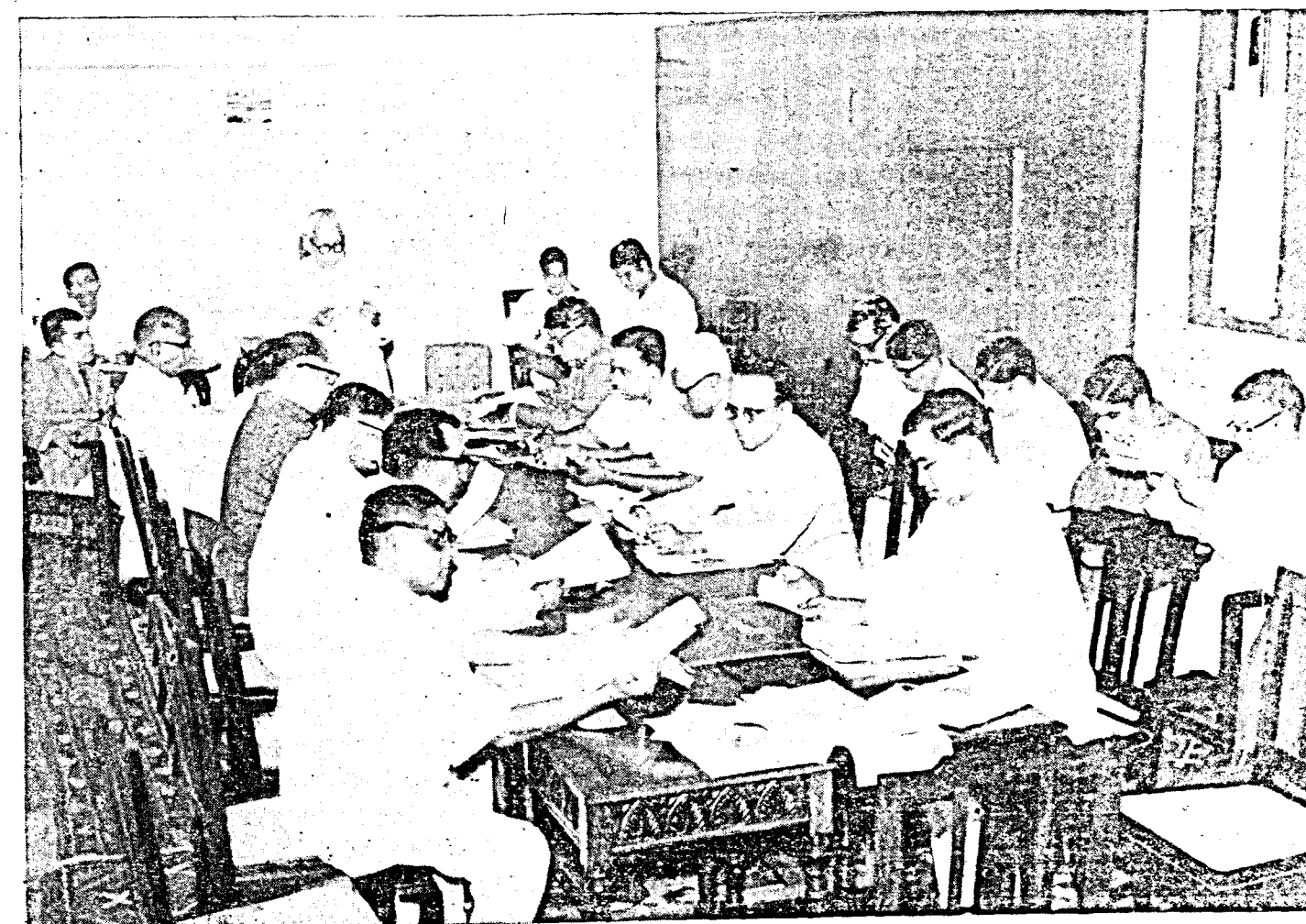
CONSERVATION PROGRAMME

From a lay man's point of view, the problem of conser-
vation of soil might not be a serious one, but, for those
engaged in the nation building activities and food pro-
duction, the problem of conservation of soil and water is
of paramount importance.

Soil conservation can be considered in a broader sense
to cover the reclamation of waste land, saline and alkaline
lands, provision of drainage, land use classification and
dry farming practices, in addition to the execution of
erosion control measures. All the above measures are
necessary to both cultivable and uncultivable lands. The
schemes in the State have so far covered only agricultural
lands. It is equally important to protect the uncultivable

lands too, as they form the potential spots for the origin
of soil erosion in many instances. Soil conservation schemes
are also in operation in forest lands where there is hardly
any vegetative growth to take care of the soil, and thus to
prevent erosion. There are several such spots in forest
areas where there is vast scope for the development of
vegetative growth not only to prevent soil erosion but also
to derive substantial revenue from the incoming forest
produce, after cultivation.

The soil conservation programme is now in the last year
of its phase of the Second Five-Year Plan. The Planning
Commission allotted a sum of Rs. 100-20 lakhs for the soil
conservation programme in this State for the Second Plan



Sri M. Bhaktavatsalam, Minister for Home, addressing the meeting of the State Soil Conservation Board at the Committee Room at the Secretariat on 7th November 1960.

period, and it is proposed to cover about 100,900 acres during this period with a view to achieving additional food production to the extent of 10,820 tons. Against this, a sum of about Rs. 66 lakhs has been spent up to the 30th June 1960 covering an area of about 94,300 acres, and an additional food production of about 9,500 tons has been achieved. It is expected that the targetted acreage will be covered by the end of the Second Five-Year Plan period.

Dry Farming Scheme

It has been found that dry farming measures combined with contour bunding operations raise the yield by about 50 per cent. Accordingly dry farming schemes have since been commenced in Coimbatore and Madurai districts, for demonstrating the improved methods of agriculture suited to low rainfall areas combined with suitable soil conservation methods for successful agriculture. The scheme for conducting trials of biological measures in soil conservation works has also since been started. The results expected to be achieved in this research work will go a long way to help the ryots in the choice of grasses and legumes for protecting the land bunds and terraces. The Government have also sanctioned the post of one Assistant Agricultural Engineer in the Agronomy section of the Agricultural College and Research Institute, Coimbatore, to conduct research on Agronomical aspects pertaining to soil conservation.

Training Centre

With a view to accelerating the pace of progress, the Government have established a training centre at Coimbatore to impart both theoretical and practical training to the Sub-Assistants in Soil Conservation for a period of six months.

Two batches of 24 Sub-Assistants each have already completed their training, and the response to admission is something unexpected, and there are nearly 500 applicants for the selection of only 24 candidates.

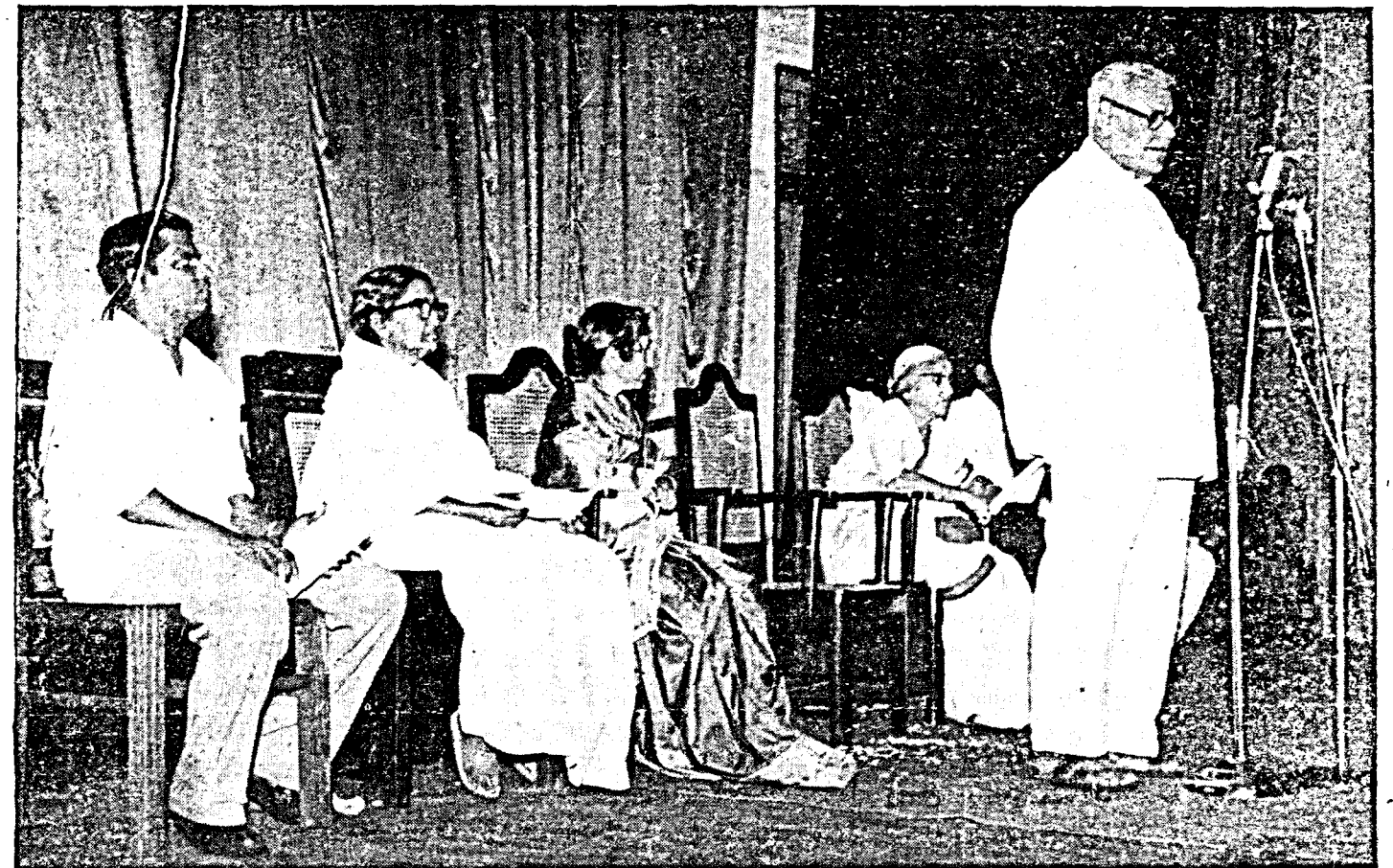
The Government of India are anxious to attach maximum importance to the Soil Conservation Programme during the Third Plan period. Provision to the extent of Rs. 300 lakhs in order to cover about 21 lakhs acres has been proposed to be included in the Plan. The Third Five-Year Plan programmes will also bring into picture not only the terracing and bunding work now prevalent in (almost) eight out of the thirteen districts in the State but also several other aspects of the programme, like the river valley projects, reclamation of ravine lands, construction of percolation tanks, soil and land use survey, etc., which are novel projects. Soil conservation work in river valley projects will play a vital part of the programme, as without such measures the usefulness of the several reservoirs and electricity projects already formulated at high costs is likely to dwindle down due to soil erosion. The other new projects proposed are to be implemented with a view to bringing in as much of cultivable waste land as possible under cultivation and thus increase the food production in the State.

Basic Material

Soil is the basic material which has to be preserved for years to come as it provides us all our wants, and it forms the fundamental basis for all our Five-Year Plans, formulated to achieve prosperity of our nation. The Madras Land Improvement Schemes Act, 1959, which contemplates a good deal of development under the Soil Conservation Programme is being effectively brought into force and the rules thereon are being formulated. Notwithstanding this, the success of the Soil Conservation Programme will depend much on the whole-hearted and willing co-operation of the officials as well as the ryots in general, and no stone should be left unturned by all concerned to see that this programme is achieved in full during the years to come.

LONG-TERM LOANS TO TEMPLE LANDS.

The Government have directed that long-term loan facilities offered under the scheme for the development of fruit production in this State to individual ryots, panchayats and co-operative societies, be extended to the lands belonging to the Hindu Public Religious Institutions which are under the supervision and administrative control of the Commissioner for Hindu Religious and Charitable Endowments.



Dr. P. Subbarayan, Union Minister for Transport and Communications, inaugurated on 9th November 1960, the Children's Film Festival at the Children's Theatre, Madras.





The Edwin Mountbatten Memorial Fund Committee of the Southern Region was inaugurated on 9th November 1960, by Sri K. Kamaraj, Chief Minister. Photo shows Sri T. T. Krishnamachari, Chairman of the Southern Regional Committee, speaking on the occasion.



Expansion of Co-operative Credit

The co-operative movement, which is already popular in our country, has now acquired a new significance in the development of our national economy. The Planning Commission has expressed itself in favour of the building up of the co-operative sector as part of the programme of national development, and the Central and State Governments are providing liberal assistance for the development of the movement. Accordingly, the co-operatives have been given an important role in the Second Five-Year Plan.

A major programme of the co-operative development under the Second Five-Year Plan is the expansion of co-operative credit in the agricultural sector. This programme was formulated largely on the basis of the recommendations made by the Rural Credit Survey Committee appointed by the Reserve Bank of India which has pointed attention to the inadequacy of agricultural credit provided by the co-operatives and suggested the re-organization of the co-operative credit structure based on the fundamental principles of State participation at different levels, co-ordination of the credit and economic activities, especially processing and marketing and administration through adequately trained personnel.

Second Plan Targets

Before the Second Five-Year Plan, the co-operatives in the Madras State had covered 49 per cent of the villages in the State and were serving 21 per cent of the rural population (in terms of families) providing about Rs. 6 crores annually by way of credit, representing about 10 per cent of the total credit requirements of the cultivators. The plan drawn up was that the co-operatives should, within a period of five years, extend their activities to over 75 per cent of the villages, serve 50 per cent of the rural population and provide annually three times the credit that was being given, so as to meet 30 per cent of the credit requirements of the farmers. These targets were subsequently revised, and according to the revised targets, all the villages in the State should be brought within the co-operative fold, and the co-operatives should provide credit to the extent of Rs. 22.50 crores in the last year of the Plan period.

The expansion of credit on the lines indicated above was proposed to be achieved through the agency of large-sized societies to be formed under the Plan and the development of the activities of the existing rural credit societies and land mortgage banks. The plan envisaged the formation of 300 large sized societies (known as agricultural banks in the Madras State), 1,000 small-

sized societies, and 24 land mortgage banks. The Plan also provided for State participation in the share capital of the large-sized societies at Rs. 10,000 in each society, and for subsidizing the large-sized societies for the employment of trained managerial staff for a period of three years. With a view to enabling the Central Banks to employ additional staff for supervision of primary credit societies so as to expand their activities by absorbing more agriculturists into their fold and meeting their credit needs in a greater measure, provision was made for subsidizing the Central Banks to meet the cost of staff.

Large-sized societies

The 300 large-sized societies planned for the first three years of the Plan were formed. In fact the target was exceeded by 30, and there are 330 large-sized societies in the State. One thousand seven hundred and forty-seven small-sized societies have been formed so far during the Plan period, and there are 9,107 societies now. Two thousand societies whose loan transactions were low were selected for revitalization. All these societies are given financial assistance on a graded scale to meet the cost of the managerial staff employed by them. New small-sized societies registered during 1959-60 and 1960-61 are also given financial assistance on a graded scale to meet the cost of the managerial staff employed by them. New land mortgage banks established as a result of the one transferred from the Andhra State.

People's movement

In November 1958, the National Development Council considered the role of the co-operative movement in intensifying agricultural production, in mobilising local man power and other resources and generally in rebuilding the rural economy. It considered that for the development of co-operation as a people's movement, it was essential that co-operatives should be organised on the basis of the village community as the primary unit and that the responsibility and initiative for social and economic development at the village level should be placed fully on the village co-operative and the village panchayat. Consequent on this resolution, the formation of large-sized societies covering a wide area of operation was given up. The Government of India, however, recognized the need for the formation of societies with a wider area of operation in areas which are economically backward and are sparsely populated, and recommended the formation of credit unions in such areas. The credit

union is intended to serve a compact group of villages. All the individual farmers as well as the village societies themselves will be members of the credit unions. The function of providing credit to individual farmers and others will be undertaken by the credit union and the village society will undertake all other functions that can be taken up by a village multipurpose co-operative society, such as supply of seeds, fertilizers and other agricultural requisites. So far, 150 such credit unions with 507 multipurpose societies affiliated to them have been formed in this State.

Full Finance Scheme

While the general credit expansion programme was implemented on a State wide basis, an intensive scheme known as the Full Finance Scheme was introduced in the sole suppliers of the production and marketing finance to the cultivators, to the exclusion ultimately, of all other agencies providing agricultural credit including the Government. The scheme was introduced in 1956-57 as an experimental measure in the Erode and Srivilliputhur firkas and produced encouraging results. It was therefore extended to more areas during each year of the Plan period and was in operation in 16 blocks on the 30th June 1960. In these blocks, Government have stopped the issue of *takkavi* loans with a view to helping the co-operatives in becoming the sole suppliers of agricultural credit in these areas. In order to enable the co-operatives to provide credit for production to the medium and small cultivators as also tenants, Government have agreed to guarantee up to 10 per cent of the total loan sustained by them, the losses in individual cases being met by Government up to two-thirds of the amount, the remaining one-third being met by the co-operatives themselves.

Since the close of June 1960, the scheme has been extended to all the blocks in the Thanjavur district in connection with the implementation of the Intensive District Agricultural Programme aided by the Ford Foundation and to six more blocks in the other districts. Under the Intensive District Agricultural Programme

inaugurated in the Thanjavur district, one-fifth of the area covered by the Development blocks has been selected and the objective is that a farm production plan should be drawn up for each cultivator in this area and that he should be provided with all his requirements of credit, fertilizers, pesticides, etc., through the co-operatives, so that he might maximise production and contribute to a total increase in the production in the entire area.

Government have constituted a Committee with the Registrar of Co-operative Societies as Chairman and four other officers as members to examine the progress of the scheme and to make recommendations on various aspects connected with its working and future extension.

Impressive Record

As a result of the various measures taken, nearly ninety-nine per cent of the villages in the State have been brought within the co-operative fold now. Only about seven villages in some districts remain to be covered. All these villages will also be covered by co-operatives shortly. 51.7 per cent of the rural population has been enrolled as members of the co-operatives. It is expected that by the end of the Second Plan period, the percentage will go up to 55. The co-operatives provided credit to the extent of Rs. 22.79 crores even during the fourth year of the Plan period. The target for the last year of the Plan period is Rs. 22.50 crores. During the period from 1st April 1960 to 30th September 1960, the co-operatives provided credit to the extent of Rs. 12.13 crores. Based on the performance of the co-operatives so far, it can be safely assumed that the target for supply of credit will be exceeded and the total amount of credit provided will be of the order of Rs. 25 crores before the close of the year. With the increasing realization on the part of the financing banks and the co-operatives, of the need for the development of co-operative credit for aiding agricultural production, there has been, during the last four and a half years, a remarkable increase in the volume of credit provided by the co-operatives, and by the end of the Third Plan period, the annual supply of agricultural credit is expected to increase to about Rs. 60 crores.

Avenue Trees on Road Sides.

The Government have ordered that a committee in each taluk headquarters be formed to deal with the planting and maintenance of avenue trees on roads. The Committee will consist of the following official and non-official members:—
 Assistant Engineer (Highways) — Convenor; Thasildar, Inspector of Police; Agricultural Demonstrator; all M.L.As. and M.L.Cs. in the area; Chairman of the Union Panchayat Boards (if there is one) or a leading agriculturist of the taluk; and All Block Development Officers in the taluk will be the members of the Committee. The Committee will function only as an advisory body and all important decisions and implementation of its recommendations will be looked into by the District Engineer (Highways) concerned, with the co-operation of the concerned District Officer. The meeting of the Committee will be convened once in four months and only when the Legislature is not in session.

FAMILY PLANNING

By SRI R. A. GOPALASWAMI, I.C.S., Chief Secretary to Government.

(Extracts from a paper presented at the Conference on Family Planning Research at New York recently.)

The immediate objective of every State Government in India is to propagate the practice of Family Planning among all the married couples living in that State. The role of the Government of India is to provide financial assistance and co-ordination of the activities of all State Governments within the framework of the Five-Year Plan of National Development. The ultimate objective to be secured thereby, is to bring about a reduction of the birth-rate in every State, and thereby for the Nation as a whole. No particular target has been specified for the amount of reduction to be effected in the birth rate, nor of the time within which this reduction is to be secured.

In terms of long-term objective it can be stated at once that India has not achieved any reduction of its birth-rate. A definite statement to this effect cannot be proved or disproved because our vital statistics continue to be incomplete and defective. There is, as yet, no satisfactory means of determining from year to year what the actual birth-rate is. There is nevertheless, no real reason for doubt on the point. All the indications are that no down-turn in the birth-rate has actually occurred and there is no sign that a down-turn will occur in the next few years.

No Surprise

This should not, of course, cause much surprise. It is easy enough to see that it is too soon to secure a visible reduction of the birth-rate of a Nation numbering one-seventh of the entire human race. The progress of Government action has to be judged immediately, and in the first instance, by the numbers of people who have received advice on family planning and assistance to practise it. The next test would be the actual number of people, in so far as this can be ascertained, who have started making serious effort actually to practise family planning and the success attending such effort. These are, at present, the only valid criteria by which to assess progress.

According to the latest returns compiled by the Government of India, the total number of family planning clinics in India had increased during four years from 147 (in July 1956) to 1,349 (in July 1960). Three

thousand and one hundred persons had been trained in sixty centres and made available for providing contraceptive advice. They had contacted 7.0 million persons and given contraceptive advice to 1.4 million persons.

Slow Progress

How is one to assess this progress? The total number of families in India at the present moment must be somewhere between 75 and 80 millions. If, after three years effort, only 7 millions were contacted, and among them only 1½ million were advised, how long would it take before all the families get contacted and advised? And, it should be remembered that even when every family has been advised, the work would not end; it would only have just begun. For, we do not know what proportion of those to whom advice is given would take it seriously, choose one method or another and practice it with care. And then again, we do not know what proportion out of those who begin to practice family planning would keep on at it throughout their child-bearing life. It is evident that the pace of progress is slow.

Why should this be so? Why has it not been possible to develop our organisation more rapidly so as at least to establish complete advisory coverage within a relatively short period? One plausible reason is easy to suggest. Actual expenditure over a period of three years was only of the order of six hundred thousand dollars. This is certainly a small amount and some eminent observers have already referred to it as evidence that the allocation of funds does not match the serious spirit in which policy has been framed. I may say at once that this is an erroneous line of comment. Though it is true that the amount of allocation was small, and the amount of actual expenditure still smaller, there was and is no real difficulty about money. The State Governments and the Central Government were at all times ready to provide more money, if it could have been usefully spent. The fact is that more money could not have been usefully spent.

Hurdles in the way

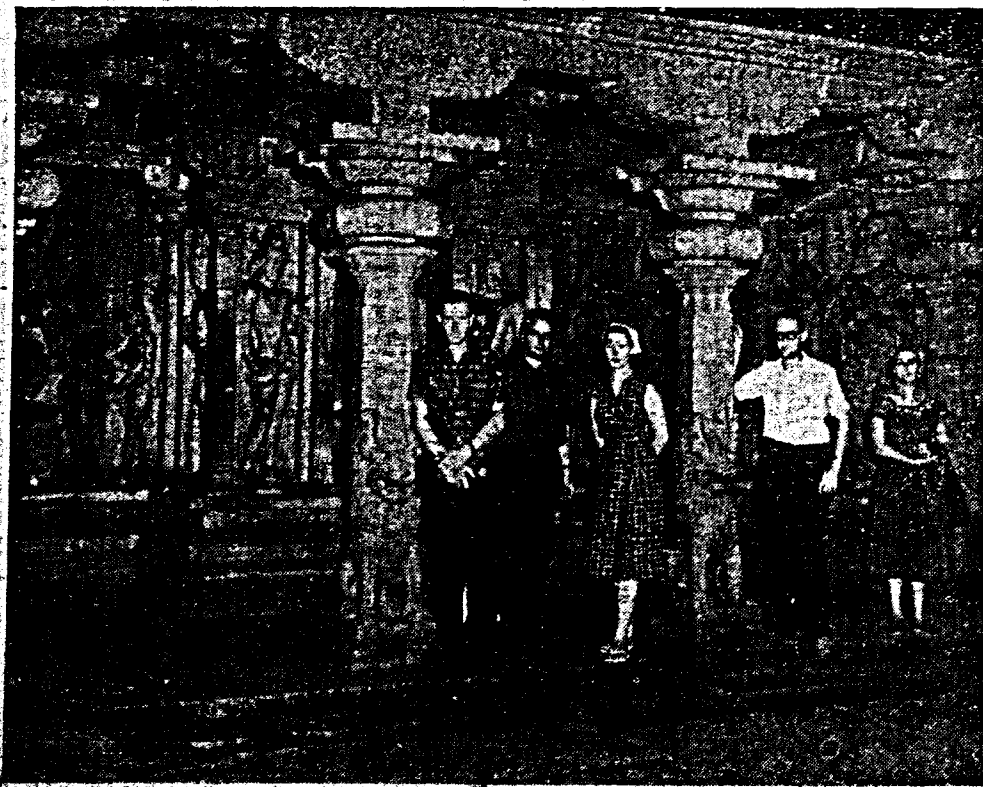
What was, then, the difficulty? Shortage of trained personnel? Yes. That was a difficulty to some extent. When we started the programme of opening clinics, the

idea was that there should be one qualified woman doctor assisted by a nurse, both in whole-time charge; and, in addition, it was stipulated that the part-time services of a male doctor should also be made available. The clinic, staffed on this basis, was supposed to serve a local community of between 10 and 12 thousand families. It was found soon that it would be impossible to establish complete coverage on that basis in a country where doctors and nurses are extremely scarce; and where among the few who were available, most of them had a pronounced tendency to cluster in the cities and avoid working in villages. The general problem presented by this state of affairs affects the entire Health Development Programme, of which the opening of Family-Planning clinics is only a part. This general problem is being tackled; but progress can be expected to come about only gradually. If the development of organisation needed for provision of instruction in family planning methods really depended on the provision of whole-time doctors and nurses on the scale originally contemplated, even such progress as did take place would have been impracticable. Actually, it was found that doctors and nurses on the scale proposed were really not needed. Separate and self-contained clinics could not function because they did not have enough work to do. This was so because people would not come to them in sufficient numbers and at a steady rate. The

doctors in charge of the first few clinics became thoroughly discontented, as they were forced to remain idle and denied the opportunity to exercise their professional skill. The organisation of clinics had to be changed; they had to function as integral parts of the organisation of hospitals and child-welfare centres. Once this decision was taken, it was found that the requirements of doctor-time could be greatly reduced. It was also found that the services of nurses in short supply could be supplemented by social workers recruited and trained on an ad hoc basis. In the result the problem of trained personnel could be and was reduced to readily manageable dimensions.

Slow Progress

The true explanation for slow progress must be found, not in money (of which there was no shortage); nor in trained personnel (of which the shortage could be managed). It is to be found in the fact that the work which we had undertaken was unprecedented. We had to find out by trial and error exactly what was the right thing to do, and what was the right way of doing it. We had, therefore, to limit the number of places at which active work was started, allow time for trying out our provisional ideas regarding the organisational set-up and methods of work. We had to keep a close watch on the responses; and learn



Members of the U.S. Travel Trade who had been to Madras recently visited Mahabalipuram also.

the lessons therefrom, before attempting to extend the coverage. The correct explanation of the slow progress recorded so far is that we have been engaged only on what must be regarded as Pilot Experimentation.

Questions to be answered

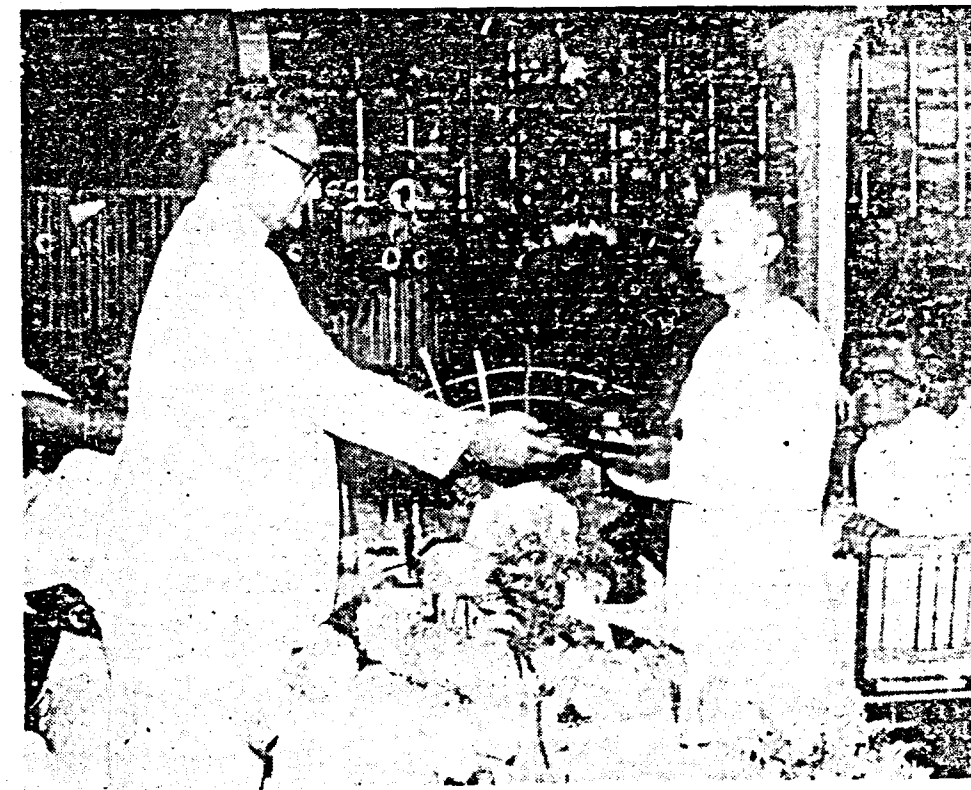
The validity of the explanation for slow progress which I have just now given will be disputed even in India. It will be disputed by persons whom I shall refer to hereafter as the "Orthodox School" of family planners. They include eminent social workers whose mind has been moulded by participation in the International Family Planning movement of the nineteen thirties. To them, it is obvious that the use of contraceptive appliances is the only possible way of practising family planning. They recognize no other method. They know how the use of contraceptive appliances has been propagated in England and the United States. They see no reason why the Governments in India should find any difficulty in doing the same.

The difficulty, nevertheless, exists and is very real because India is not England or the United States. It is likely that we shall succeed in persuading our people systematically to buy and use contraceptive appliances with that degree of persistence and care which is necessary

for success in each individual case and which is necessary, collectively, for bringing about the needed reduction of the birth-rate? First, there is the question of cost which may prove prohibitive for a majority of the population. Then, there is the question of availability of adequate privacy and running water facilities. In the homes of a majority of the population, they do not exist. These are very strong a priori grounds for believing that a nationwide drive to instruct people exclusively in the use of appliance methods may peter out as a futility; and thereby cause a grave set-back to the implementation of National policy. No Government can afford to court a spectacular failure.

Orthodox school

The answer of the orthodox school to this contention is that Government should supply contraceptive appliances free of charge to poor people. It is, perhaps, a logical demand to make, given the position that the reduction of the birth-rate is accepted as a National necessity. But the proposal is, *prima facie*, too costly for a poor country. Even assuming that Government are prepared to accept an expenditure commitment of this order, is it certain that free supplies will be used with such persistence and care as to secure the result intended? Is it also certain that there are no other methods by which effective



Sri R. Arumugam Chettiar, of Messrs. R. K. Ganapathi Chettiar, Gangayam, receiving the First Prize from the Marketing Adviser to the Government of India for 'Agmark' ghee grading at the Inaugural function of the Agmark Ghee Packers' Association held at the Woodlands on 23rd October 1960.

results can be secured with greater certainty at less cost? These are the questions to which definite answers have to be found by Pilot Experimentation.

Though the orthodox school declines to recognise anything except, the use of contraceptive appliances as a family-planning method, it is well-known that even in Western countries a great many people succeeded in limiting their families through the ancient practice of "coitus interruptus." Is there a chance that large sections of our people can be induced to practise it? If there was a possibility, it was the duty of the Government to explore it, for then there would be no expenditure at all. The fact that, in this case, one man's food is another man's poison cannot count for much. Similarly, it was known that there was such a thing as the "Safe Period" and even His Holiness the Pope approved of it. Did it work? If so, could it be made to work in India? Even if it was not completely reliable it might be of some use; and, in that case, in view of its costlessness, effort must be spent on it.

"Surgical" methods

In addition to appliance methods and natural methods, there are the "surgical" methods—the operations known as "Vasectomy and Salpingectomy". True, the orthodox school protested vehemently that sterilization was a thing to be thought of only in relation to the "unfit"; and made no secret of its aversion to the mere thought of the possibility of normal healthy mothers and fathers being asked to get themselves sterilized. But the Government could not afford to think in those terms. Were the operations harmless? And were they effective for the purpose of limiting the size of the family? All the experts including the Indian Medical Association assured the Government that they were. In that case, the only remaining question was whether the people would take to them. The possibilities must be explored.

State Propagation

These, briefly, are the reasons why it was unavoidably necessary that State propagation of Family Planning should be carried on, during the first few years, as Pilot Experimentation. In selected areas we set up as good an organisation as we could assemble in order to provide instruction in all three categories of Family Planning methods, appliance methods, natural methods and surgical methods. Our aim was to ascertain whether any and if so which of these methods would "catch"; in the sense that a favourable response can be relied upon from sufficiently large sections of the people, when we passed beyond the stage of pilot experiment and undertook a large-scale campaign. In that same process of experimentation we sought to ascertain how best instruction could be organised and needed services provided.

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In organising the work as a pilot experiment, we suffered from a handicap which should be mentioned here. We were precluded from employing anything in the nature of aggressive publicity. In particular, the powerful aid of cinematograph pictures could not be invoked. The climate of public opinion (though increasingly favourable) could at any time be disturbed by any offence given to the public sense of propriety. The possibility of a chance mishap in sterilization operations had to be jealously guarded against. This was all the more necessary because the orthodox school was opposed to the experiment; and, in deference to that sentiment, the Government of India remained neutral. They allowed the State Governments freedom to experiment, but withheld their official sponsorship of sterilization as a recognised method of family limitation. In the result it has been uphill work all the time during the last few years.

Pilot Experiment

We had expected that it would be easy to get Family Planning accepted in principle; and that the real difficulties would arise in getting any very sizable proportion to practise it. The pilot experiment has confirmed that this is sober truth. This may be illustrated by an analysis of detailed data relating to the City of Madras for the first seven months of 1959. During this period, intensive instruction was provided for women who came to any one of three large maternity hospitals maintained by the State Government or anyone of 44 Mother's Information Centres located in Child Welfare Centres maintained by the Madras City Corporation. Altogether, 38,829 mothers were given instruction during the seven-month period. Out of the number, only 2,888 mothers (or 8 out of 100) disclaimed interest in family planning. All others (that is 92 out of 100) were interested. They indicated their desire to do something to limit their families, and received instruction willingly. Subsequently, when a follow-up was made, it was found that only 1,578 women (or only 4 out of 100) had acted on the advice. Four hundred and seven women got themselves sterilized. Eight hundred and ninety-eight had started using foam tablets. One hundred and thirty-two had started using jelly. Fifty-one had started trying the Diaphragm and jelly. Eighty had succeeded in influencing their husbands—74 to be careful, and six to use sheaths.

It is somewhat depressing, but not exactly surprising, to find that though 92 out of 100 women were definitely desirous of limiting their families, 88 out of the 92 did nothing about it. The desire to limit families is there. But it is not keen enough to move the people to change their accustomed conjugal habits. We are not, of course, giving up the instructional effort for this reason. Arrangements for providing instruction in Family Planning will

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hereafter remain a normal feature of the routine working of hospitals and child-welfare centres. The pressure will be kept up month after month and year after year. Publicity and propaganda will be intensified. Under these conditions the percentage of active practitioners is bound to increase. But it is obvious going to be a slow process of gradual change in the conjugal habits of the people.

Systematic Instruction

It has been found very difficult to organise systematic instruction for fathers. Mothers assemble in large numbers in institutions where conditions are especially suitable for their instruction. Fathers, on the other hand, assemble only in work places, where instruction is not possible. The only satisfactory way of reaching large numbers seems to be through documentary pictures; which, however, we have intentionally refrained from attempting, at the present stage of pilot experimentation. In the absence of something better, 32 Fathers' Information Centres are being run in the premises used for registration of births and deaths. Instruction is provided by part-time social workers in evening classes. Altogether 18,031 fathers were instructed during the same seven-month period in which 38,829 mothers received instruction. It is known that, among those instructed, 240 fathers got themselves sterilized. What the others do at home is not known; for there has been no follow-up.

When we started work, it was hoped that the "natural methods" which cost nothing and required no assistance (apart from instruction) would "catch". The results are not very encouraging. Though there are no figures to go upon, the impression so far gained is that "natural methods" are already being practised in very limited numbers among a section of the intelligentsia, and are now spreading to larger numbers among them. But their appeal seems to be limited by social class. The practice of natural methods demands the same degree of sustained determination and care, as the practice of appliance methods. Therefore, it does not seem likely that they will ever become as widespread as they are believed to have been in England about thirty years ago.

Encouraging Response

The only encouraging conclusion which has emerged from the experience gained so far is that surgical methods are likely to "catch". While the orthodox school was opposing and the Government of India remained neutral, the State Governments went ahead. As a result, the idea that sterilization can be resorted to as a method of family limitation has become known and has begun to gain ground in almost every State. According to returns collected by the Government of India, the number of sterilization operations performed during the two years 1956 and 1957

was twenty thousand. In the year 1958, the number rose to twenty-four thousand. Incomplete figures available for the year 1959 added up to 31 thousand. These figures are limited to reporting institutions. A considerable number of operations are being performed without being reported. It is unlikely, however, that, in the country as a whole, the 1959 output of sterilisation reached as much as 60 thousand.

The population of Madras State is roughly one-twelfth of that of India. The number of operations in this State was 695 in 1956, 1,804 in 1957, 2,850 in 1958 and 3,343 in 1959. During the first six months of the current year 1960, the number has risen to 2,145 indicating that the figures for 1960 would exceed 4,000 substantially. These figures are limited to Government hospitals. They do not include operations performed by private medical practitioners. It is unlikely, however, even taking them into account that the annual output of sterilization in Madras State has reached as much as ten thousand. There are at least two other States in India, where sterilization is making quicker progress than in Madras; and many other States which are not far behind.

Special feature

There is one feature about the progress of sterilization to which attention should be drawn. To begin with, sterilization was confined almost entirely to women. But men are getting attracted increasingly. The number of vasectomy operations in Government hospitals of Madras State has increased from 25 in 1956 to 231 in 1957, 986 in 1958 and 1,330 in 1959. During the first six months of the current year 1960, the number has risen to 1,015. Vasectomy operation represents only 3 per cent of all operations performed in 1956; and 13 per cent in 1957. They have risen to 45 per cent during the latest half-year. Private medical practitioners are known to perform far more vasectomies than salpingectomies. This is a particularly encouraging development because the sterilization of fathers is a far more easy process than that of mothers.

Sterilizations effected in Government hospitals are governed by clear-cut rules. The operation (whether of vasectomy or salpingectomy) should be performed only after both the husband and the wife have jointly made a written statement in a prescribed form, declaring that they realize that the operation is irrevocable* and they are content to have no more children. The operation should not be performed unless the couple have at least two living children. Salpingectomy is not to be performed if the mother has not completed 25 years of age.

* [NOTE — It is known that the operations are not entirely irrevocable. Nevertheless, it is considered expedient not to hold out hopes.]

The question of giving a little monetary inducement for sterilization had been considered, from time to time. There were divided views to begin with, and a decision was postponed for sometime. Then a cautious beginning was made with the offer of a small cash payment limited to employees of Government and the Corporation. This did not seem to have much effect on them. At the same time, however, the news reached the poorer classes of people who were visiting the Information Centres. Requests were received for the extension of the scheme to the general public in Madras City. Last year, after a great deal of hesitation, it was decided that a cash grant of 30 rupees (about six dollars) should be paid to every poor person who got himself/herself sterilized in a Government hospital for Madras City. This grant was justified as necessary in order thereby to meet the cost of transport to the hospital and back and partly to cover loss of earnings. Whereas, the existence of two living children was sufficient for the performance of the operation, the existence of three living children was stipulated as a condition for payment of cash grant.

Good investment

This offer of a small cash grant to cover transport expenses and loss of earnings turned out to be a good investment. Visitors to the hospitals in Madras City increased in number, rapidly enough to lead to the demand for few building accommodation, and the setting up of whole-time surgeries. The news spread to other districts and created a demand for extension to rural areas. We were initially hesitant because of our anxiety to limit the work to highly skilled surgeons and to keep the pilot experiment under close observation. But the demand was insistent. The benefit of the scheme, with some slight modifications, was extended to 2,000 selected villages—out of a total of some 15,000. It was found that the demand could not be limited even to the selected villages. A few days ago, Government felt compelled to issue orders extending the scheme to all villages and towns in the State. This experience has led us to believe that sterilization, as a method of family limitation is beginning to “catch”.

Japanese experience

Just as we were completing the third year of our Pilot Experiment, the news came that Japan had halved her birth-rate in ten years. How was this done? This was explained in detail in a paper which Professor Kitaoka presented to the International Conference on Planned Parenthood held in New Delhi early last year. A close study of this document showed conclusively that we in India were on the right track in our pursuit of sterilization as a method of family limitation. Let me explain how this conclusion emerged from the facts of Japanese experience, as narrated by Professor Kitaoka.

The Japanese Birth Rate (number of births per thousand per annum) fell from 34 in 1947 to 33 in 1949, and then sharply to 25 in 1951, 22 in 1953, 19 in 1955 and 17 in 1957. This fall of the birth-rate by 17 points in 10 years has been accounted for as due to two causes, viz., the growing use of contraceptive appliances and surgical abortions carried out in the public hospitals. Can the contribution made by each of these two causative factors be separately assessed and thus their relative importance in the process of halving the birth-rate be determined? It seems possible to do this first by computing the “Surgical abortion”—Rates then adding it to the birth-rate to arrive at the “Pregnancy Rate”. When that is done it is found that 34 pregnancies occurred among every 1,000 people in Japan during the year 1949. In that year, only one out of the 34 pregnancies ended in surgical abortion; there were 33 child-births. During the year 1957, the number of pregnancies had fallen to 29, as against 34 in 1949. This drop of five points is clearly attributable to the growing use of contraceptive appliances. In the same year (1957) 12 out of the 29 pregnancies were terminated by surgical abortion—thereby reducing the number of child-births to 17. Thus a drop of 12 points had occurred as a result of surgical abortion.

The relative importance on the one hand of the use of contraceptive appliances and on the other hand of surgical abortion may thus be expressed in the ratio of 5 to 12.

Great advances

It is clear from the account given by Professor Kitaoka that great advances had been made in bringing contraceptive appliances to the very door of the people of Japan and instructing them in their use. It will take a long time before India can reach that stage. And yet it appears that for every five Japanese mothers who chose to avail themselves of these facilities, 12 did not; even though the latter disliked child-bearing to the point of resorting to surgical abortion. Here is conclusive corroboration of the lesson of Indian experience that the reluctance to change over from normal care-free conjugal habits is stronger than the desire to avoid unwanted pregnancy. Where this psychology prevails, the use of contraceptive appliances can be expected to spread only very slowly.

Ever since Japanese experience became known, voices have been raised in India from responsible medical quarters for similar provision of facilities for surgical abortion. It cannot be denied that there is a good deal of illegal abortion going on in a crude and dangerous manner. If reliance is placed exclusively on contraceptive appliances, it is certain (having regard to the limited scope for the development of such use) that the evil of illegal abortion will increase. Legalised surgical abortion will be certainly preferable to such increase. But how much better would

sterilization be as compared with surgical abortion? Induced abortions are unlikely to be desired by young mothers, except in case of illegitimacy (which can be ignored). In other cases it should be possible to induce the mothers to complete their pregnancy and accept sterilization as preferable to abortion. The correct course, therefore, is seen to be the continuance of the existing law in respect of abortions; and the rapid expansion of facilities for sterilization on the lines already started.

Induced abortion

The effect of every induced abortion, so far as the birth-rate is concerned, is only the diminution of the number of child-births by one. On the other hand, a sterilization effected after three children are born and before the fourth is conceived will diminish the total number of child-births by at least three. In other words, the result produced in Japan by a surgical abortion rate of 12 per thousand per annum can be produced in India if the sterilization rate is stepped up to 4 per thousand per annum. A sterilization rate of 5 per thousand per annum should be ample, even allowing for a less rapid growth in India than in Japan of the use of contraceptive appliances.

This indicates the rule by which a sterilization target may be set for every village, every Development Block, every Municipal Town as well as every district and every State in India. For India as a whole, an annual output of about 2 million sterilizations, is thus indicated.

That number, obviously, is very far away. Our present annual output is an exceedingly small fraction of the needed annual output. But then we are only in the stage of pilot experiment. If, as we believe the method has begun to “Catch”, the annual output can be stepped up rapidly.

Important question

That brings me to the important question of relative costs. The orthodox school of family planners in India maintain that the use of contraceptive appliances can be rapidly accelerated and made practically universal, if only the Government would supply them free of charge to the poor. Assuming (in the face of Japanese experience) that this is correct, we may try to ascertain what this proposal would cost and compare with it the cost involved in the provision of sterilization facilities at the rate of 5 per thousand per annum. On any fair test of poverty, it has been found that at least two-thirds of the population qualify. A fairly simple calculation shows that, at present prices, the free supply of Diaphragms to all poor people will cost at least a dollar per head of the total population, every year. Free supply of cheaper (and less effective) contraceptive appliances to all poor people will cost not less than 50 cents

per head of the total population every year. On the other hand, the cost of maintaining one surgery for performing 2,000 vasectomies in the course of one year would be 4,000 dollars or 2 dollars for each operation. Even if we added 8 dollars as cash grant for covering transport expenses and loss of earnings in each case, the cost would be only 10 dollars for every operation. Every community of 1,000 people will need only five operations a year. The cost would be only 50 dollars per 1,000 people, or 5 cents per head per annum. For the country as a whole, it may be estimated that Government expenditure needed for performing sterilizations of the order of two million every year will be only 20 million dollars per annum. It will cost from 200 to 400 million dollars every year to provide a free supply of contraceptive appliances to all poor people.

Which to prefer?

From the point of view of relative costs, there can be no doubt, as to which is preferable; whether to provide free surgical services, and cash grant *once in their life-time* for every married couple seeking such services, or to provide a free supply of contraceptive appliances to every poor married couple, *throughout their child-bearing period*. Any responsible Government, especially of a poor country is bound to prefer the former to the latter, if only for the reason that the latter is ten to twenty times more costly. It looks as if the preference of the poor people will be also the same as that of the Government. Even if a free supply of contraceptive appliances can be drawn regularly from a Government clinic, there is the trouble of storing them and using them with care and persistence week after week, month after month and year after year during the entire child-bearing period. All the evidence points to the conclusion that such sustained determination is too much to expect, in respect of a large proportion of the population. How much simpler for them to have an operation once for all and live a care-free life thereafter!

Next five years

India's Third Five-Year Plan is now being made. It is likely to be settled during the next few months. It will be in operation during the five-year period from the next fiscal year 1961-62 to 1965-66. In every State, the experience of the last five years is being reviewed in every field of development and programmes are being resettled for intensification of effort during the next five years. This will naturally include intensification of the effort to propagate the practice of Family Planning.

In Madras (as in many other States) two important developments are scheduled to take place. The first involves the process of what has been described as “Democratic Decentralization”. A new type of local administration of rural areas by elected representatives of the

village people is to be set up in every Development Block. The responsibility for planned development is to be devolved on them together with the necessary statutory authority and financial resources. It is expressly stipulated in the statute under which these new local authorities are to be incorporated, that they should exert themselves to secure two major national purposes. The first of these two purposes is to stimulate the production of food so that it may keep pace with the growing needs of the population as long as it continues to grow. The other major national purpose is set out expressly in the statute as the effort to bring the growth of population under control. The statute further specifies the provision of advice on Family Planning among the services for which provision should be made. As far as can be now foreseen, there is every indication that the leaders of the village people who will assume responsibility in the near future will take these duties seriously.

Second Plan period

Steps have been taken during the Second Plan period for increasing the training facilities for Health Service personnel who will become available for service in the next few years. The programme by which a Primary Health Centre is set up in every Block is going forward and will be intensified during the Third Plan period. In the context of more active interest which is expected to be taken by the local leaders of the village people there is reason to believe that the activities of Primary Health Centres can be developed so as to achieve complete coverage in respect of the provision of instruction in Family Planning methods. Thus knowledge about the use of contraceptive appliances can be imparted to everybody, as also knowledge about other methods, surgical and non-surgical. Though it is not

proposed provide a free supply of contraceptive appliances to all poor people for all time more funds are being allocated for free supply of contraceptive appliances as a measure of initial popularisation not only of such appliances but of the entire Family Planning programme.

Sterilization

Last year, the Government of India came out openly in favour of sterilization as one of the recognized methods of family limitation. As already explained, public opinion in the State has been gradually cultivated to the point at which it should be possible, in the near future, to undertake a fully published campaign throughout the State in favour not only of Family Planning in general but specifically in favour of resort to sterilization as a method of family limitation. Provision of facilities for sterilization can be continually enlarged so as to keep pace with a growing demand thus stimulated. The next few years should suffice to show whether or not the response of the people will be as gratifying as it is now believed it would be.

To sum up : The visible results of Government action in India during the last few years are very small. But this should not cause discouragement, because we have been so far engaged on activities which had to be and were intentionally limited to the scale of pilot experimentation. The pilot experiments have served their purpose. Lessons have been learnt which are to be used as the basis for extending the coverage and intensifying the effort during the next few years. The success of Government action in the next few years will turn almost entirely on the rapidity with which the people can be persuaded to resort to sterilization as a method of family limitation. In this respect, the outlook for Government action in India is, to the moment, promising.

EDUCATIONAL CONCESSIONS TO CHILDREN OF N.G.G.Os.

The Government have modified the orders issued earlier and have directed that the children of N.G.G.Os. who are detained in the same standard in any one of the Standards VI to VIII of Elementary schools and the same class or form in any one of the classes or forms upto Form VI of Secondary Schools will continue to enjoy the concession during the second year also. The concession will be withdrawn only if the pupil fails to secure a pass even at the end of the second year.

This concession was not available to students who were detained in any one of the forms from Forms IV to VI.

Book-Review

Glances at Islam

Knowledge is a great solvent of prejudice and suspicion. If ignorance is dissolved and bigotry renounced, the kernel of truth found in various religious books will be the same. If a Hindu tries to understand Islam with a reverent spirit, he will find the same truth found in his own spiritual books embedded in Quran. This the pages of this booklet exemplify.

Islam is a religion of peace. In fact the Prophet did not countenance conversion by force. He was himself a man of great gentleness and humanity. Indulgent to his inferiors, he would never allow even his page to be scolded whatever he did.

The Prophet sanctified poverty by declaring that it was his pride and by praying to Allah to keep him alive a poor man and let him die poor, and raise him amongst the poor. A man said to the Prophet, "By God! I love you", and the Prophet replied, "If you are sincere, then prepare armour for poverty, for poverty reacheth him who loveth me quicker than a torrent the sea". And he said, "let the poor approach you, because on this account Allah will let you approach Him".

Poverty embraced

When a guest arrived at the Prophet's house, he had to borrow flour from neighbours in order to feed him. In order to identify himself with the poor he hardly ever knew what it was to have a full meal. The only things he left behind him were some weapons, a mule and a plot of land, and these also he ordered to be given in charity. His armour was lying in pledge with a money-lender but there was no money to take it out. Hazrat Fatima, the Prophet's daughter, had to grind flour herself and her hand was full of painful blisters. She asked her father for a slave, but the Prophet said, "Repetition of the name of Allah is better for you than a servant".

The Prophet once went to his daughter's house but came back without seeing Fatima who told her husband Ali about this unexpected incident. When Ali went to the Prophet and asked him, he replied, "I saw a silk curtain hanging on her door and so came away." When Fatima was told the reason for the Prophet's displeasure, she asked him what he then expected her to do. "Send the curtain away," he said "to so-and-so who is in need."

Beauty of meekness

The Prophet, like Jesus Christ, was never tired of dwelling upon the beauty of meekness. "God is mild, and is fond of mildness and he giveth to the mild what he withholds from the harsh," said he. "There is no accomplishment like an amiable disposition".

A man once asked the Prophet for religious instruction. He replied "Do not give way to anger." The man repeated his question several times; and each time the Prophet said, "Do not give way to anger".

Many interesting incidents are beautifully narrated which throw a flood of light not only on the Prophet but on Islam itself. The Prophet indeed claimed to be the last and the greatest of the Prophets, but he was too modest a man to insist that people should believe in him in order to be saved. The sole thing he insisted upon was the unity of God.

The author writes with understanding and with the authority of a scholar. The book will go a long way to help bring the Hindus and the Muslims closer.

S.T.K.

GLANCES AT ISLAM: By Valji Govindji Desai, published by Navajivan Publishing House, Ahmedabad pp. 72, Price 60 nP.

EDUCATIONAL CONCESSION EXTENDED

The Government have directed that the educational concessions admissible to the children of Non-gazetted Officers be extended to the children of Copy Examiners in the Criminal Judicial Department.

When

The



Floods

Primo



Continuous rains, often, brought on floods which caused heavy loss in the low-lying areas in the city and rendered hundreds of people homeless. Under the personal direction of the Chief Minister, all steps were taken to help the people affected.

1 and 2. Flooded area and Otteri.

3 and 4. Chief Minister, who visited all the flood-affected areas, is seen in the pictures inspecting the situation.

5 to 10. The Police play a friendly role with the people by preparing and distributing food to the homeless.



Madras Beckons

- * * * *The temples of Madras, nestling against swaying palms, their tall towers standing as sentinels of an ancient civilisation which is very much alive and their huge halls and corridors proclaiming the deftness and dexterity of the sculptor, constitute the centre and source of a cultural and religious tradition which, though it has fitted itself into the changing pattern of modern life and living, yet remains picturesquely distinct.*
- * * * *The hill stations of Ooty and Kodaikanal, with their invigorating climate and scenic splendours are ideal for rest and recreation. Their wooded slopes and majestic peaks, their grand waterfalls and picturesque lakes hold the visitors in thrall.*
- * * * *Lovers of wild life may get endless thrills through a visit to Mudumalai situated in the Nilgiris. Here they can see elephants and bears, tigers and bisons, etc., in their natural home. Facilities for seeing wild animals are provided to visitors. Vedanthangal near Madras is a bird sanctuary where a visitor can see a variety of birds.*
- * * * *Besides these, Madras provides the tourist a variegated fare. All the year round there are fairs and festivals which bring to life stories and traditions, arts and rituals of a long past age which have an allure all their own. They delight, educate and also entertain.*

A VISIT TO MADRAS WILL BE REWARDING

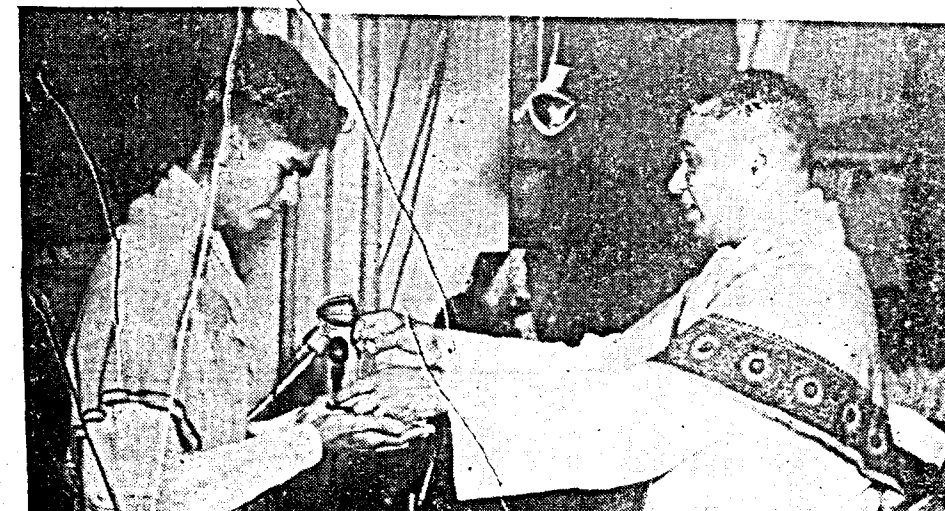


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Sri P. V. Rajamannar, Chief Justice of the High Court of Madras, seeing the exhibits shown during the celebrations of the Wild Life Week at the Museum Theatre on 16th October 1960.



Srinathi Sarojini Varadappan giving the first prize of a sum of Rs. 100 to the winner for a fine exhibit shown during the celebrations of the Wild Life Week at the Museum Theatre on 16th October 1960.



Sri P. Gopala Reddi, Union Minister of State for Revenue and Civil Expenditure, awarding the first prize to Sri Rajan for having stood first in the Visharad Examination of the Dakshina Bharat Hindi Prachar Sabha at the 25th Annual Convocation on 6th November 1960.

CATTLE FARMS

The Hosur Cattle Farm has been the fountain source for supply of nucleus pedigree stock to all the other newly opened farms at Orathanad, Pudukkottai and Chettinad. Besides the Sindhi, Gir and Halikkar breed of cattle, we have since introduced in this farm, the Murrah buffalo calves obtained by this Government from the Aarey Milk Colony, Bombay, free of cost. Pig-breeding units have also been established in this farm which contain New-Zealand strains of Yorkshire variety obtained from Harringbatta farm at Calcutta. With a view to upgrading the Mecheri variety of sheep, certain Russian sheep of superior variety exhibited at the World Agriculture Fair at New Delhi have also been added to the stock of this farm.

Quarters for the Staff

This farm has now been electrified. The Government have also sanctioned more than Rs. 2 lakhs for providing quarters for the staff working in this farm. Due to the introduction of the new scheme for the development of feeds and fodder resources under the Key Village Scheme, pasture plots have been established on sound lines in this farm. It is now self-sufficient in its fodder requirements. The preparation of silage and hay-making are being practised in this farm. To increase fodder production, steps have been taken to sink six bore-wells and this will increase irrigation facilities even during the summer months. Silt clearance of Jeegur tank has been taken up this year. Cultivation of ragi, soya beans and cluster beans, cholam, etc., is being done successfully. Soil conservation measures have been taken up and contour-bunding is being done to retain moisture in the soil.

Achievement

The progress achieved by the Animal Husbandry Department in other Livestock farms is also equally good by way of construction of additional buildings and bringing into cultivation more and more areas. The Tharparkar breed is introduced in this State to serve the purpose of dual breed, viz., both for milk and for draught. The scheme for purchasing 1,000 Murrah buffalo bull calves is being implemented and an officer has now been deputed to look after the purchase of the calves. The calves will be reared in the farms up to the breeding age and then distributed to the districts for grading up local buffaloes.

All the plan schemes under the Second Five-Year Plan have been successfully implemented. Over and above the physical targets fixed for the Second Plan period, five

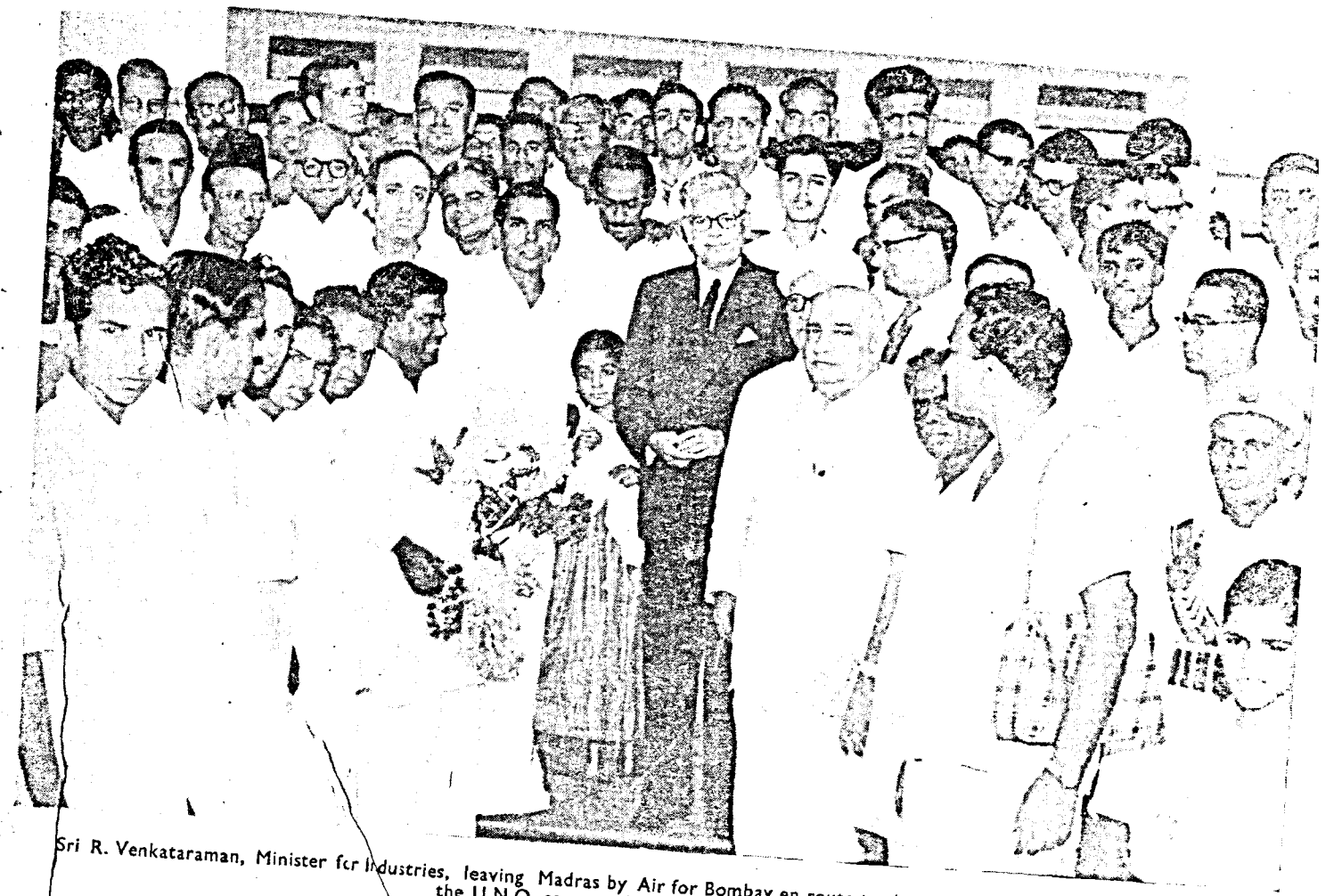
Key Village Blocks have been started this year making the total number of Key Village Blocks as 37 against the target of 34 for the First and Second Plan periods. Seventeen Artificial Insemination Centres have been established as against the target of only 10 centres. Forty-four Supplementary Extension Centres are now functioning in this State against a target of 41 centres. Under the Calf-Subsidy Scheme, 7,735 calves have been subsidized up to 30th June 1960 as against the target of 7,000 up to the end of 1960-61.

Feeds and Fodder

The question of the provision of feeds and fodder for the proper upkeep of cattle has been taken up especially in all the 10 Key Village Centres which have ten-acre pasture demonstration plots and 100 acre pasture demonstration plots in the State farms. The ryots who maintain pasture in good condition are helped to bestow better attention towards the maintenance of pastures, by awarding prizes for which a sum of Rs. 6,000 has been set apart this year also. The scheme for cross-breeding of cattle at Ootacamund is progressing satisfactorily with an addition of new sub-centres and on the whole eight sub-centres besides the main centre are functioning. The Jersey semen from Bangalore is being flown to Coimbatore and then by bus to Ootacamund and it is being used in the whole of Nilgiris district. Sheep development work is being continued through the establishment of Sheep farms and Sheep demonstration centres. Under the Sheep and Wool Development Schemes, eight Sheep and Wool Extension Centres with emphasis on wool have already been established and are working in various parts of the State. For the development of sheep for putton, particularly the famous Mecheri breed in Salem district, eight new centres have been opened this year.

Romney Marsh Breed

In the Nilgiris farm, Romney Marsh breed of sheep which were imported from Australia have been introduced. In order to produce more stud stock of the same variety, we have also imported ewes of that breed. Poultry development work is being done through the establishment of Poultry Extension Centres. Twenty-five Poultry extension Centres and 20 Grading centres have been established so far during the Plan period. The poultry breeders are also being encouraged to bestow proper attention to raise pedigree stock. Seventy-six breeders and associations have so far been subsidized in cash and ind.



Sri R. Venkataraman, Minister for Industries, leaving Madras by Air for Bombay en route to the U.S.A. on 24th October to attend the U.N.O. as a member of Indian Delegation.

Heads of institutions of the department are held to discuss problems that beset them in their day-to-day correctional administration.

Board of Visitors

The Board of Visitors is an advisory committee, consisting of seven members, with the Superintendent of the institutions as its secretary. Meetings are convened and held once a quarter. The members also pay periodical visits to the institutions, interview the new girls and suggest various measures to improve the living conditions and treatment programmes offered in the institutions and keep themselves in close touch with the activities and progress of the institutions.

The whole setting in the homes and the institutional routine and programme, planned with the co-operation of the inmates, are conducted on a voluntary basis, under the immediate supervision of the custodial staff of the institutions, in such a way that the inmates do not feel the institutional life a monotony, their volition repressed, their freedom restricted or movements circumscribed. The training imparted aims at a balanced development;

of the inmates' bodies, minds and character, to enable them to come up to a right understanding of the material, moral and spiritual values of life, and to inculcate a sense of self-help and self-reliance in them. As they are engaged throughout the day with well-graded activities, they have no time to recall their past or waste time in brooding. A reasonable amount of freedom is also given to them. Their relatives and friends are permitted to visit them in the institutions; and they are also permitted to write to their people monthly and go home to their near relatives, when they are ill, and on festive or religious ceremonies at home.

Religious freedom

The inmates have full freedom to pursue their respective religions and they are provided with the necessary facilities for the same. They have been regularly sent to their respective houses of worship and are allowed to observe their communal festivals. Fortnightly talks on moral topics are continued to be given by Swami Venkateswara-nanda, Head of the Arogya Asramam, Adyar. The daily congregational community prayers, which are a regular

and unique feature of the institutions, serve as a unifying factor among the diversified elements, inasmuch as the discordant tendencies of inmates of different creeds and castes are well cemented by the idea of *one God*. In community prayer assemblies and school assemblies, the life and teachings of all great national and religious leaders are held up before them and stories of great epics, histories and mythology, with moral background, are narrated to them.

Prefect system

The prefect system and the Court of Honour instil in them self-governing and leadership abilities, and awaken a sense of duty, justice and honour.

The institutions are provided with a well-equipped dispensary attached to them, the staff of which comprises a part-time lady Doctor, a Pharmacist and two nursing orderlies, one for each Home. The Doctor is a specialist in venereal diseases. All the inmates are medically examined on admission, their maladies correctly diagnosed and prompt treatment given. All ordinary cases of ailments are attended to in the dispensary, attached to the institution. Cases requiring special treatment through hospitalization are sent to the Government hospitals in the City. The institutions have continued to play the subsidiary role of venereal clinics as well.

Prevalence of venereal diseases is more common among the new admissions in the Vigilance Home than among those admitted in Stri Sadana. This year among the new admission in Vigilance Home 19 cases were found suffering from the diseases and 2 in Stri Sadana. All of them have been undergoing treatment.

Extra-nourishing diet of milk, eggs, etc., are given to weak girls, and to those who are found to be losing weight. Periodical check-up is being done in both the Homes by the Medical Officer.

Food and clothing

The inmates get good nutritive food, and careful attention is paid towards the planning of their diet, within the sanctioned scale, with wholesome and varied menu. The "Meals for Millions Association in India", New Delhi, are

Minimum Qualification for admission to Polytechnics

Several instances of students, having passed the S.S.L.C. with General Mathematics, seeking admission to the Polytechnics have been brought to the notice of the Directorate of Technical Education, Madras. Apparently they seem to be not aware of the minimum qualifications required for admission to the Polytechnics. To avoid any likely disappointments to the prospective candidates, desirous of joining the Polytechnics after passing their S.S.L.C. the Board of Technical Education and Training have notified that the minimum qualification required for admission to Polytechnics in this State is a pass in S.S.L.C. having selected the pre-academic course or the pre-technological course with Engineering under the Scheme of Bifurcated Courses with a minimum of 40 per cent in *Composite Mathematics* and 40 per cent in Science and with eligibility for University Course of Study.

supplying the inmates with nutro-biscuits and multi-purpose food. The nutro-biscuits have been distributed to the inmates who are sickly and convalescent, as extra food, so as to enable them to recoup their health quickly. The Government have also sanctioned the two institutions to enrol themselves as members of the Association by paying a membership fee of Rs. 25 per annum each. The biscuits also help a good deal in fighting against malnutrition, noticed especially among the newly admitted inmates and protective cases and inmates' children.

Adequate and complete sets of Khadi clothing are given to the girls. They are also permitted to wear clothes of their own, in addition, if the parents or relatives of certain voluntary cases come forward to give them occasionally. They serve as extra-clothing to those girls. The Government have granted an extra set of clothing to the girls attending outside schools.

Admirable work

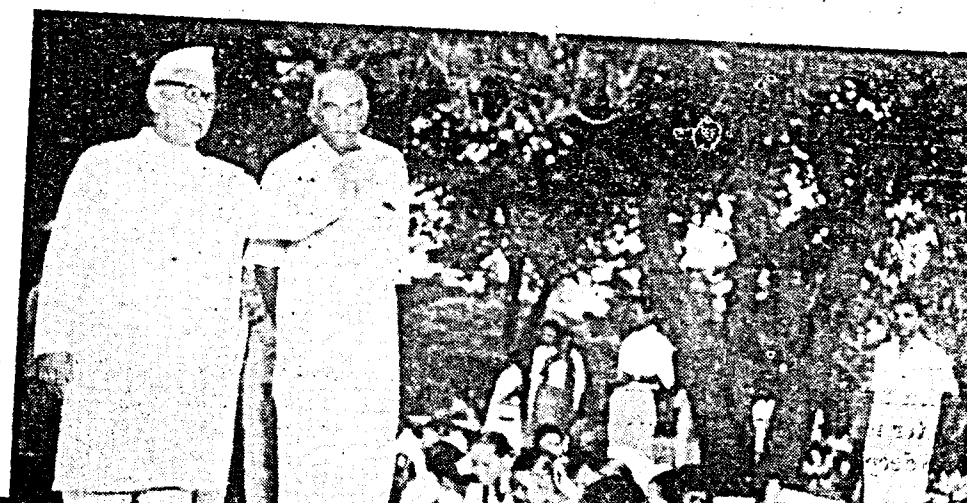
The record of work, turned out by the State Vigilance Department, is by no means a meagre one. Thousands of misguided victims to immoral traffic have been rescued and helped, and a good number of gullible women, who had adopted it as a profession, have been weaned from their bad ways and honourably settled in life. The need for security, both economic and emotional, is one of the foremost drives in the human personality. When these are not satisfied in the normal way, frustration sets in and the individual gets emotionally disturbed and socially maladjusted; and she seeks satisfaction in other ways that may at times go against the set standards of social dogmas. It is such girls who are judged as a social and anti-social elements and society seeks help to protect itself from these so-called law breakers of society. The castaways in their turn harbour a grudge and bitterness against society for their unsympathetic treatment. They have, therefore, to be treated and cured and not denounced and punished. Vigilance Welfare, therefore, is a humane work, that should be undertaken in all humility and at the same time with a missionary zeal, with the unflinching faith that "The true way of serving God is to do good to erring beings".



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Srimathi Sakuntala Subramaniam, signing on behalf of the Guild of Service the agreement between the Wheat Association of America and the Guild of Service at the Information Bureau of the Guild of Service at the Government Estate on 20th October 1960.



Sri R. Venkataraman, Minister for Industries, who inaugurated the slum improvement scheme at Meenambal Sivaraj Nagar, Chetput, on 20th October 1960, is seen in the picture distributing milk to the children of the locality.



Governor Sri Bishnuram Medhi and Sri K. Kamaraj, Chief Minister, are seen at the party given by the Governor to the orphan children at Ra Bhavan on 20th October 1960.

FISH THAT FLY!

P. S. V. D. SUBBAREAN, Director of Fisheries, Madras.

It is common knowledge that *birds* alone are endowed with flying faculty. But there are exceptions too in which a *bird* like ostrich cannot fly, while *animals* like bats and some lizards do 'fly'. A vast morphological difference however exists between the feathery wings that help *birds* and the skinny limbs that help *animals* 'fly'. And it may be also news to many to learn that apart from *bird's* and *animals* 'flying', an aquatic creature like *fish* also resorts to a kind of 'flying' in air when it wants to.

Usually some fishes, when scared or when they are sportively disposed, jump above water-level and then plunge back in water and disappear from our sight. But there is one kind of fish that 'takes off' from water surface, keeps gliding in the air for a long time. This fish, because of such 'flying' propensities, is popularly called 'flying-fish'. It is called in Tamil '*Paravai Kola Meen*'. In science it is known as *Cypsilurus*. The fish has large pectoral fins which could be opened and kept stretched as the wings of an aeroplane or a glider. Forcibly emerging from the water, the fish 'takes off' and the pectoral fins keep it gliding in the air up to a distance of 200 yards.

Peculiarities

Apart from this freakish gliding or 'flying' habit of this fish, it is peculiar in some other matters also.

That is, the fish lives so far away from the shores in deep sea, that no human eyes could easily see its movements. But during its breeding time, it comes close to the shore when fishermen catch it.

Another peculiarity is that this fish looks out for green branches of plants or trees found submerged along the sea-coast. On these submerged plants alone, this fish lays its eggs and leaves them for hatching and for the propagation of its species in the sea. Taking advantage of this habit of laying eggs on submerged plants, the fishermen put lots of plants during the breeding time and tempt it to come near the shore so that they can be caught in large numbers.

Fishing season starts from the end of May to July-August.

Flying fish never appears in discoloured muddy water. If monsoons break early and the sea water is discoloured with silt from rivers, the fish migrates into deep sea.

Usually the main craft used is a *catamaran* consisting of seven large-sized logs called *Kolamaram*.

The fishing grounds are 20—40 miles from shore where the depth is 30—40 fathoms.

Screw pine leaves (*Pandanus*) or leaves of leguminous shrub (*Tephrosea*) are used as lures.

The net consists of a rectangular piece of very small mesh attached to long bamboo poles about 7 feet long.

Kinds of Kola Fish

Lures are let down on ropes 15—20 fathoms in length held in half-submerged position. The fish gather round the lures in great numbers for purpose of spawning. The net is let down slowly under the lures and the fish is allowed to get into the net and when a good number find their way into the net it is lifted up and emptied in the *catamaran*. The operation is repeated.

Three species of flying fish have been recorded in our coast, *Cypsilurus coromandelensis*, *Cypsilurus spilopterus* and *cypsilures baliensis*. Ninety per cent of catch is *C. Coromandelensis*. Length of fish varies from 170 to 260 m.m. Ninety per cent is 190 to 230 m.m.

Kolamarams

The total number of the *Kolamarams* that are being used now for 'flying fish' operations are as follows :—

1. Madras	85
2. Nagorepatnacherry ..	35
3. Samathanpettai	20
4. Nambiaragar	50
5. Nagapattinam	2
6. Keechankuppam	25
7. Akkaraipettai	66
8. Kalarkuppam	11
9. Velanganni	10
10. Seruthur	20
11. Thirupoondi	5

Average catch per *Kolamaram* is estimated as 491.18 lb. Average number of *catamarans* operating per day is recorded as 40. Average catch for the season for the

East Coast is estimated as 1,835 tons. The landings during 1950-55 are as follows :—

1950	1,678 tons.
1951	1,184 "
1952	581 "
1953	325 "
1954	1,835 "
1955	3,177 "

Price Varies

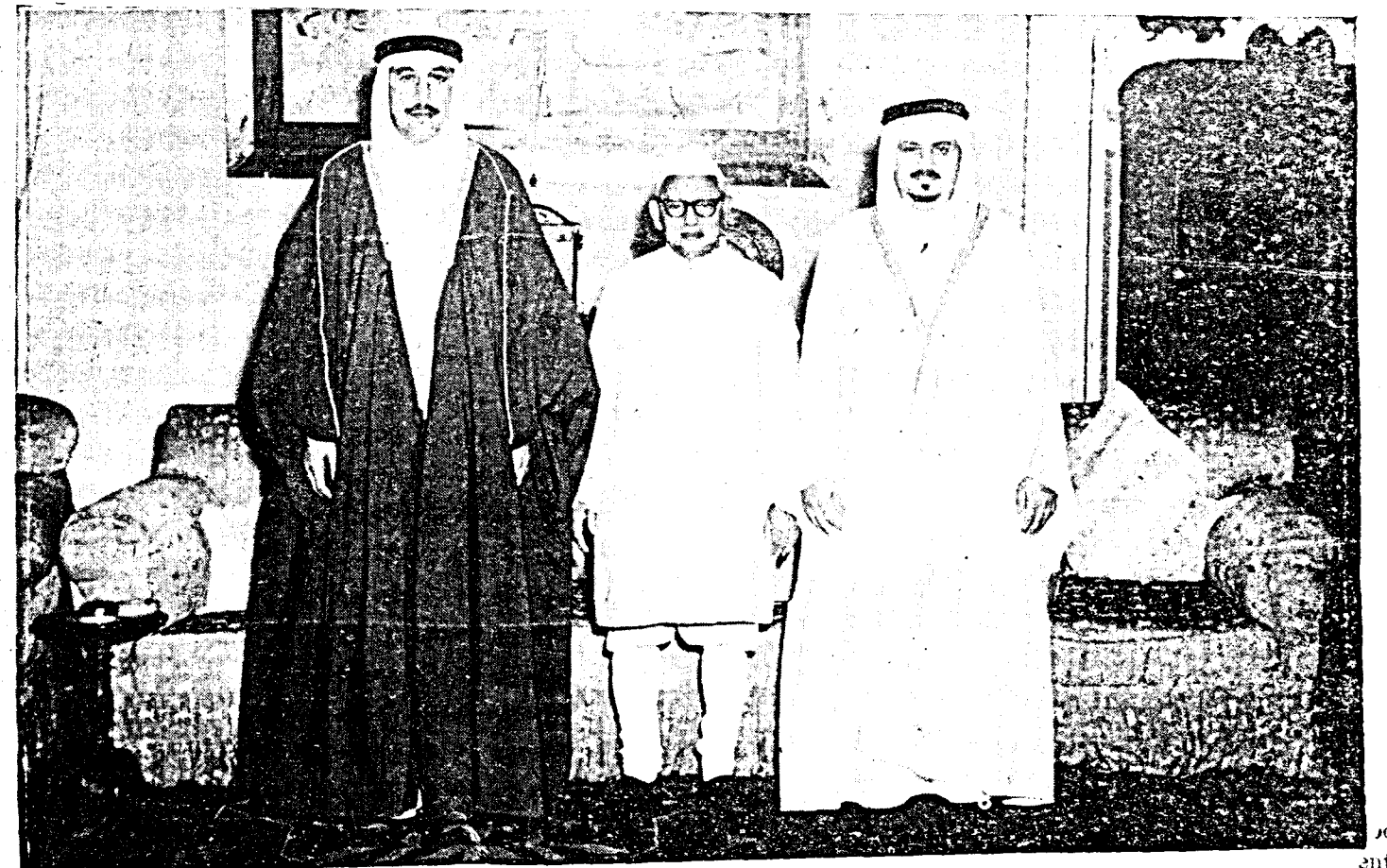
The price varies from Rs. 17 to Rs. 30 per thousand fish, and the average is estimated at Rs. 25. In the year 1953 the price was Rs. 50 per thousand. In the year 1954, the value of the catch was estimated at Rs. 9,25,000.

The average earning of a *catamaran* during the two months season is recorded as Rs. 1,122 and on an average

the earning of an individual fisherman for a month is Rs. 112.

"Flying fish" fishery extends from Point Calimere in Thanjavur district up to Madras. It is because of this wide-range fishing and because it is worth 9½ lakhs of rupees each year, the fishery is reckoned by the Fisheries Department as a good commercial crop. But in some years the fish migrates to unknown destinations. A good lot of research and investigation as to how this happens yet remains to be done.

Further the indiscriminate catching of fish at a time it comes for spawning is the greatest folly, because, maybe that before it gets even one chance in life to lay its eggs to propagate the stock, it is caught in fisherman's net and killed. Also even when eggs are laid on plants, they are removed and destroyed in the nets used by fishermen. This is bound to deplete the fishery in course of years. A certain amount of "close-season" conservancy appears to desideratum.



The Press Delegation from Saudi Arabia which had been to the City recently, with the Governor at Raj Bhavan on 1st November 1960.

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A THEATRE FOR CHILDREN

Films that educate and entertain children are being exhibited during every week-end at the well-furnished Children's Theatre in the Government Estate, Mount Road. Hundreds of children troop into this Theatre every week to enjoy these films.

HAVE YOU TAKEN YOUR CHILDREN TO THESE SHOWS?

Patrons of the Children's Theatre, be they little ones or their proud parents, are all praise for this amenity. Srimathi Indira Gandhi said :

“Madras has stolen a march over Delhi which is still struggling with plans for a Children's Theatre”.

MADRAS LEADS IN THIS AS IN OTHER SPHERES.

Soil Conservation in Madras

Sri K. R. THIRUVENKATASWAMY, B.Sc. (Ag.), Assistant Agricultural Engineer,
Soil Conservation Sub-Assistant Training Centre, Coimbatore.

The State Government have initiated many welfare projects with the aim of making the State self-sufficient in the matter of food, fibre and other raw materials under the Five-Year Plans. Still much remains to be done, and the problem of soil erosion has appropriately received the attention of the State Government. This problem, though taken note of recently, is a fundamental and pressing one, deserving everybody's understanding and co-operation for effectively tackling it.

Soil is the friable and powdery material on the earth's crust extending to a depth of 9 inches underlain by sub-soil and rock. This material contains plant food elements which supports plant growth. This is the product of weathering of rocks by the force of nature. Man is endowed with numerous things by nature and soil is the most important as it provides him with almost all his necessities. He gets food, fibre, shelter, and in short everything he needs is derived from Nature. It can be said that human culture takes its very root from the soil.

Barren Surfaces

If the soil is allowed to be drifted away by the misuse of land without check, then all our lands will be stripped of soil, and they can no longer be called lands in the real sense but unproductive barren surfaces. If the lands are ruined by loss of the top soil, then it is the extinction of agriculture. If the soil is lost by the action of moving water and wind, the process is called soil erosion. This occurs due to the misuse of land. Soil can be considered a valuable gift endowed by nature to man and is most unstable. If this is not put to the proper use, then nature resents man's action in many ways. When soil erosion is allowed to take place continuously, the productive soil layer will be lost and only the sterile, stiff sub-soil will be left, thus making the land hardly useful for agriculture. Once the soil is lost by erosion, it can never be regained; nor is there any substitute for this material. No substitute has so far been found out by the wit of man.

Slow Process

Soil is formed by nature by a very slow process and nature takes thousands of years to produce the soil, i.e., top soil of 7 inches to 1 inches which is used for cultivation.

During the process of soil formation under natural conditions, transport of soil takes place at a pace equal or less than the pace at which soil is formed, and this is a constructive phenomenon as it helps further formation of soil. This erosion is termed Soil Erosion. The soil thus transported is deposited in some other place to form alluvial area. Under natural vegetative cover, the transport of soil is minimum, and the leaf litter and organic matter on the ground surface protect the soil effectively against soil erosion by obstructing the flow of rain water and allowing greater opportunity for the water to soak into the soil. When the soil surface is opened and the vegetal cover is destroyed the physical condition of the soil is spoiled and soil erosion will take place at terrific speed many times greater than the speed at which soil is formed by nature. This is due to the fact that the biological equilibrium is disturbed by man's over exploitation of the natural wealth, namely, soil and vegetation. This sort of removal of soil by man's interference is known as accelerated soil erosion. Man could lose the top soil in less than 30 years by his reckless methods of cultivation of land and deforestation.

Perfect Protection

The fact that natural vegetation is a perfect protection against erosion can be well appreciated if we happen to see the run-off flowing from grass land and that from cultivated or land devoid of vegetation. The run off from the former will invariably be free from silt, and the run off from the latter will be muddy laden with varying sizes of particles of soil transported from the uplands. It has been estimated that when the land is covered with grass, it requires hundreds of years to erode the top soil, whereas the same will be lost within the life-span of a man when put under cultivation. This does not mean that all our lands should be left to natural vegetation leading to the starvation of millions of people. So long as man does not interfere with the nature to the extent of tilting of the biological equilibrium, all will be well, and if he exceeds the limit, then soil erosion will assume serious proportions. Forests have been protected all the world over as these are highly essential for the economy of any country not because they afford valuable produce, but they tend to exert beneficial effects.

on the climatic conditions. But this consideration has never been adhered to in many instances especially during the World War II, when large scale deforestation was done with a view to getting maximum profit. This has definitely registered its adverse effects on the climatic conditions and consequently accelerated soil erosion set in with all its attendant evils. The present Madras State has got barely 4,391,308 acres under forests which accounts for 13 per cent of the total area, and this is lamentably far below the optimum forest area necessary for any particular State. Normally, the area under forests should be at least 25 per cent of the total area for any particular country. This reduced acreage is due to the fact that the forests have been gradually encroached upon by man for turning them into field crops. It should be possible to strike at a stage wherein the requirements of the people are provided without accelerating soil erosion.

Two kinds of erosion

It has been pointed out that there are two categories of erosions: natural erosion and accelerated erosion which takes appalling dimensions by the mismanagement of soil and vegetation. So it is the latter that has to be specially taken note of as it impoverishes our lands in a very short time. The chief agents of soil erosion are wind and water. Erosion proceeds almost similarly by both these agents and the ultimate harm inflicted is more or less the same. Soil erosion by water is aided most by the slope of land in company with other factors, whereas that by wind has no bearing on the slope of the land. Soil erosion will be the least when the land is covered with vegetation and as such, the role of vegetation in erosion can well be visualized.

Erosion by water.—The rate of erosion is influenced by the soil, intensity, duration and amount of rainfall, slope of land in addition to the vegetation when the rain crops fall on the loose, powdery, friable soil, the water splashes and spreads on the land as a turbid solution. The finer particles of soil which have gone into the suspension of the splashed rain drop clog the pores of soil and prevent further free entry of water into the soil. This action of the dispersed finer soil particles impede infiltration of water and results in collection of rain water as surface run off. After a certain stage, the run-off starts flowing towards the valley and as it traverses down, it gains momentum to erode its course and carries large quantities of debris to the valley. Generally, soil erosion is manifested in three different forms. When run-off water passes through a land of even slope, the soil will be displaced in the form of an even layer. This form of erosion is less discernible as it does not leave any deep impressions, but the actual loss is great. This can be perceived by the soil colour getting lighter in some patches than the surrounding and by decline in crop yield. This type of erosion is called *Sheet erosion*.

Sheet erosion

In the land subject to sheet erosion small depressions might occur and the subsequent rain water will find its way to the valley through these small finger-like grooves. These will develop in all directions if left uncared for like the branches and roots of a plant. This type of erosion is called *rill erosion*. These rills can be buried by ploughing the land, but they cannot be got rid of by this, as they remain in the land as potential sources of further erosion.

These rills and depressions if they are neglected, will widen and deepen in due course and the entire field will be dissected into a number of uneconomic patches in a very short interval. If the substratum is loose, the gully may go as deep as the parent rock. This type of erosion leaves deep impressions on the land and is known as *gully erosion*. These gullies cannot be buried by ploughing and these deep gullies drain the moisture from the field very soon and agriculture will be hardly possible in this field. Besides these, there are other forms of soil erosion which result in the same damage to land, river beds, roads, etc. In the process of soil erosion as the water moves over the surface, it gains increased force to pick the soil particles and the run-off gets charged with the eroded material and this increases capacity of the run-off to tear the soil surface. When the velocity of the run-off is obstructed, the suspended soil material will be deposited in order of the relative weight of the different particles.

Wind erosion

Erosion by wind as already stated takes place in the same manner as that by water. When the soil is dry, loose and devoid of vegetation, the soil particles will be moved by the wind when its velocity exceeds certain limits. Initially, the finer particles and later the heavier particles are removed by the wind according to its ability to carry them. When the velocity of the wind is not able to bear the weight of the particles they are deposited. Most often, the finer particles are carried farther away and the coarser particles sand will be deposited over cultivated fields which renders them useless and also deprives the lands from which soil has been removed. Even when the land is covered with cultivated crops, the fierce wind will bend and break the plants and sometimes the plants will be stripped of the leaves. Wind assumes increased velocity as it passes unchecked over a long distance and it does lasting damage in its course.

Effects of erosion

Soil erosion derides the top soil from the lands and if allowed to continue, the entire soil that is responsible for cultivation will be lost very soon. Along with the soil the fertility-interent and applied are also lost and if we are to calculate the actual cost of this loss of fertility, it will run to thousands of rupees. The soil contains plant nutrients and abounds in microbial population vital for crop growth and if this is lost by erosion the life of the soil itself will be lost. Of the many grades of soil, the soil colloid, clay and silt combined with the micro-organisms are responsible for storage and release of nutrients to crops. An intensive analysis of the eroded material will reveal that the above components constitute the bulk of the material deposited in the rivers and valleys. Soil erosion carries the top soil in many ways and exposes the stiff

sterile subsoil which scarcely possess any of the active ingredients for plant growth. Moreover, it offers obstruction to the passage of tillage implements and does not allow rain water to percolate. In many cases numerous gullies will be formed which not only hinder cultivation but drain the soil moisture in no time as run-off. Since the subsoil is incapable of providing a favourable medium of growth due to the loss of soil nutrients, by erosion, the crop yield will become subnormal. This can be made good to some extent by application of large quantities of fertilisers but this will mount the cost of cultivation and the return will not be commensurate with the amount spent. The loss of soil fertility is nothing when compared to the loss of the basic material—the soil. The fertility can be replaced, but man can never regain the soil lost from the lands. All his achievements in scientific field are of no avail to do this job for him. When once it is lost, it is not only a loss to an individual cultivator; it is a loss to the nation; it is an irreparable loss to the entire mankind.

Run-off

The run-off carries with it silt, sand, pebbles and boulders and deposits them at the valley bottom, into the rivers and streams. The rivers and streams get choked with the eroded soil and their capacities will be reduced in due course. The lands on either side will become swampy. When the uplands are ravaged by soil erosion, they will not be able to absorb enough rainwater and the run-off will be greater than normal and when the run-off reaches the rivers and drainage channels, which have been already silted upto varying degrees by the deposition of eroded soil, this will naturally lead to increase of the flood level and bring untold disaster to the people. The occurrence of flood in our country has become a common affair now-a-days. The deposition of erosion debris on the lands and beds of streams and rivers lead to the change of their courses and this is another form of evil as the change of course will damage standing crops and other properties. The eroded material carried by the streams and rivers reach the sea or lakes, reservoirs constructed for Hydro-electric and irrigation purposes and the capacity for which the dams, lakes are designed will be progressively lessened by siltation and their life and utility will be seriously impaired. This will also adversely affect the navigability and berthing capacities of rivers and harbours. Since water passes as run-off without being absorbed by soil, there is no chance of the underground springs getting replenished by rainwater.

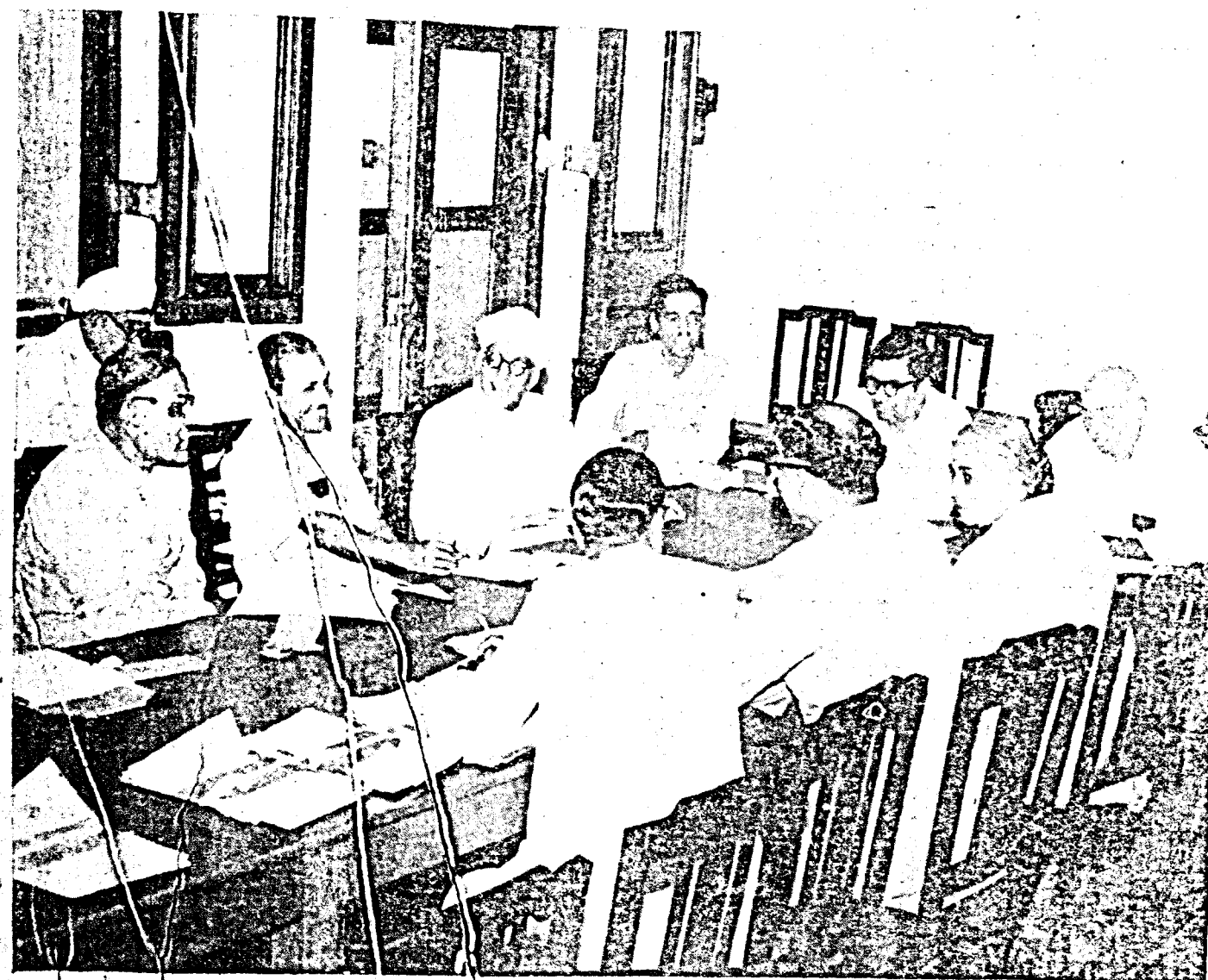
Cultivators' Duty

Wind erosion also contributes to the deposition of sand in rivers, stream, harbours and dams. Further, wind exerts accelerating influence on the evaporation of water from water sources.

It is carried out in lands having slope over 10 per cent and 16 per cent and lands having slope steeper than 30 per cent. These trenches serve interception of run off at regular intervals and allow the water to percolate into the lower layers of the soil. If the rain fall is high, the excess water is allowed to flow towards vertical drains through which it is taken to the valley bottom without causing erosion. Contour trenching is best suited to cultivation of perennial crops like tea, coffee, eucalyptus, rubber, wattle and grasses in Nilgiris and these can be substituted with other crops according to the locality. Trenching may be continuous, discontinuous or staggered. The cost of contour trenching will be Rs. 100 per acre in Nilgiris.

Bench Terracing is the process of formation of small level structures across the slope which act as small platforms for interception and absorption of rain water. This

is practised in lands having slopes milder than 30 per cent and steeper than 16 per cent for cultivation of clean tilled crops like potato, wheat and somai, etc., in Nilgiris. Bench terraces may be level, with outward slope and with inward slope depending upon the rainfall and requirement. For heavy rainfall areas like Nilgiris Bench terracing with inward slope has been found to be quite suitable as the conservation of soil and disposal of excess water are the problems in Nilgiris. These are done at suitable vertical intervals with inward gradient so that the excess water after absorption by the soil will be collected and flow towards vertical drains by the aid of longitudinal slope and ultimately disposed off. This can be done by manual labour and by tractor, bulldozer and the cost of Bench terracing will be about Rs. 370 to Rs. 400 per acre. Crop sampling experiments were conducted in areas covered



The Tagore Centenary Celebration Committee met on 9th November 1960, at the Secretariat to chalk out the programme for the centenary celebration of Tagore's Birth Day next year. Sri K. Kamaraj, Chief Minister, presided over the meeting.

with Bench terracing and the yield of potato was compared with that of unterraced fields and it has been disclosed that the yield of potato increases by about 15 to 40 per cent per acre in Nilgiris. Bench terracing has become popular now-a-days. In Kodaikanal hills also Bench terracing has been carried out. Besides this retaining walls are constructed in orchards for conservation of soil and water.

Gully Plugging is part of soil conservation programme. This constitutes construction of small Brushwood or masonry structures across the gully in order to arrest the soil carried by the flowing run-off and gradually reclaim the area for cultivation.

Wind Erosion can be counteracted by the planting of wind belts and shelter belts right across the direction of the wind. For satisfactory control, more than one species of plants and shrubs may be planted in many rows. The common species of plants associated with prevention and control of wind erosion are Agave, Doddonia, Prosopis, Casuarina, Mango, Jack, Cashew, Janbulina, Kodikapuli, Arali, etc. In hills plants like Aagave, Doddonia, Conifere, Eucalyptus, Oak, Hakea, etc., can be planted.

Fixing of sand dunes is an important item of work in the control of wind erosion. Sand dunes are heaps of sand deposited in a place and removal of this will not be feasible and in such cases, the sterile sand can be covered with a layer of top soil and fast growing species of plants can be allowed to grow on these dunes to prevent extension of sand dunes. Suitable wind belt may be raised across the direction of the wind which has brought the sand to form dunes. This work was done in Kodumudi area of Coimbatore district.

Ferocious Wind

In some places wind erosion is very severe and in some places it is moderate. Wind erosion is prevalent in parts of Madurai, Coimbatore, Ramnad, Salem and Tirunelveli districts in varying degrees. In Bodinayakanur of Madurai district which is very near the Palani hills, wind erosion is very acute and large tracts of cultivable lands are rapidly being engulfed by sand and silt accretion. The force of the wind in these parts is so tremendous that the wind creates numerous pits many feet-deep and the soil is blown off places. The soil that is blown off comprises sand and silt and the entire tract looks red due to this sort of erosion and it deserves better and concerted action on a large scale to check this menace at the earliest opportunity. The State Agricultural Department has taken up measures to prevent this menace and has commenced planting of wind belts in this area.

The lack of irrigation facilities makes it difficult to conserve the rain water for raising crops. Improved methods of cultivation combined

with dry farming practices. Dry farming practices are contour cultivation, Basin listing across the slope, strip cropping, rotational cropping, proper manuring, etc. The Government of Madras have sanctioned two Dry Farming Demonstration Schemes, one at Palladam in Coimbatore district and the other at Batlangundu in Madurai district so that the cultivators may observe, understand the improved methods and adopt them in their lands.

Training of personnel.—The paucity of trained persons for manning the various development schemes has imposed severe limitations on the execution of soil conservation schemes also as in the case of other schemes. A scheme for training sub-assistants to be employed in the Soil Conservation Scheme has been established at Coimbatore to cater for the needs of the Second and Third Five-Year Plans.

The progress made so far in contour bunding, Bench terracing, etc., in Madras State is listed below :—

	ACRES.
Contour bunding and other allied works : Construction of Bench terraces and related works in hilly areas.	80,000
Fixation of sand dunes	102

Soil conservation works are executed by the Agricultural Department and after the completion of the works, 75 per cent of the cost of the works along with overhead charges and interest are recovered from the beneficiaries of the Soil Conservation Schemes in 15 to 20 annual instalments.

Third Plan

Ambitious programmes of Soil Conservation Scheme are afoot under the Third Five-Year Plan with 18 subdivisions, spread over many part of the State. Under these schemes, thousands of acres of lands will be provided with protective works.

Soil conservation measures prevent displacement of fertile soil and loss of fertility and increase crop yields. These help infiltration of water into the soil and consequent replenishment of water to the springs and streams. As lands protected with soil conservation work allow only silt free run-off and they help prevention of silting of rivers, lakes and reservoirs, harbours, etc. With all these benefits soil conservation works ensure the prosperity of the Nation as all the Five-Year Plans are dependent on the land and soil and it is the duty of the public to extend their wholehearted cooperation to reach self-sufficiency in the matter of food and raw materials, if not produce exportable surplus.

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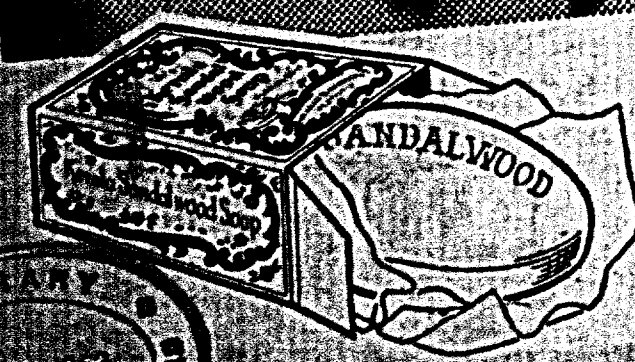
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