



Tamil Arasu

FOR FRONT OF
GOVERNMENT
TAMIL NADU
MAY 1970



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DOCUMENTATION WORK
Completed

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by

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TWENTY DAYS

1. I'm off

"Fly away to nations distant To impart home their treasures of art," says our great national Tamil Poet, Bharathi. His expressions are no longer imaginary or emotional. His expressions were intended to rouse the Tamils to action.

Historical evidences abound regarding the commercial, political and cultural relations our Tamil Nadu had with far distant countries thousands of miles away. Roman and Greek coins discovered by excavations in some of the ancient ports in Tamil Nadu add to those evidences.

To persons shouldering responsibility of a high order, tours abroad should not be of a mere pleasure-seeking nature but should result in more intensive activity towards common good. I was waiting long to embark on such a useful journey.

I was invited by Great Britain a year back. I received invitations from other countries also. My tour however was getting postponed because of a series of restless engagements and a reluctance to be away from my Homeland.

I chose to visit countries that might provide more for

thought and source for constructive action than sight and delight.

My intention was to introduce the treasures of our culture and art into nations abroad apart from getting benefited their greatness.

The present generation of the countries I visited naturally do not remember the ancient ties that existed between our Tamil Nadu and their nations. Therefore, an aim of my visit was to remind them of our friendly relations with them in the past and to learn something of the vigour and zeal of the nations that have revived themselves from their economic depression and political decline.

In order to realise my desire fully and to implement my plan effectively, I took along with me the Finance Secretary and my Private Secretary. It was keeping with the old adage "Travel not long without guide".

Just to evade the pestering volley of questions "When are you going abroad? Which countries will you visit?" from Press reporters, I had been answering "This month; next month; very soon", and so on. It was due to the pressure of press correspondents that I abruptly announced that I would start off on 1st of July 1970.

My voyage abroad was quickened, more by the interest of the press than my own desire

and I would like to thank the representatives of the Press first.

Till the day of my departure I had to be busy with matters of administration.

I couldn't think of the arrangements for my tour, not even of the dress to be worn in cold countries. When I was about to find some time to check up the arrangements made, my friends

from all over Tamil Nadu started pouring into my residence with garlands and bouquets to bid me farewell. I had to leave those arrangements to the care of my family.

It was my first foreign tour. Many a time preparations were made for my foreign tour but were cancelled. Many impediments stood in the way. I could not even visit the neighbouring country, Ceylon.

This being my first foreign tour, some uneasy feelings haunted my heart. "How could I be away from my beloved millions? And that too for 20 days!". Such questions disturbed my sleep and kept me awake the previous night. I had been alone in prison for months together, but even in that isolation I had the consolation that I was in my Motherland amidst my people.



I had visions of the beautiful citadels, the happy parleys with foreign Ministers and sumptuous feasts. This mental vision egged me on to tour abroad, but the thought of separation made me ill at ease.

It was the first of July. From day-break, friends assembled at my residence in thousands. I was offered garlands and felicitations by friends so much and so long that I felt elated, excited and also tired.

The clock, the regular task-master, indicated the fast march of time. I cursed the clock.

When we are worried or

the crowds of people all along the route.

The Governor of Tamil Nadu, the Ministers and thousands of enthusiastic people had come to the Meenambakkam Airport to see me off.

Overwhelmed by their affection and zeal, I couldn't even express my gratitude to them.

I got into the plane. Other passengers could not reach the plane as there was the huge crowd in their way.

Only after my entry into the plane, people made way for others to reach the plane. I expressed

I had a stronger tie with people outside ; that belt was loosened ; and I rose. My wife stopped me saying that all had gone.

"None have gone. All their eyes seek me and mine seek them", said I. So saying, I wiped away the tears that welled up in my eyes.

They all stood gazing at the aircraft. Could I ever forget that scene? I can never forget that day, the sweetest day !

Life is full of bliss and bitterness. That day was a day of bliss.

irritated due to some cause, we don't do our duty properly but develop an ill-feeling towards a regular worker. This human weakness was revealed by my curse of the clock.

The time of departure of the plane was 6:20 p.m. and it would have been punctual to leave home at 5:45 p.m.

But I was asked to leave my residence at 4:30 p.m. itself for I had to satisfy the enthusiastic crowds lining the route from home to the Airport.

The aircraft could not start at the scheduled time because of

regret over the difficulties caused to others by my presence there.

I had occupied my seat in the plane. Yet I could not help coming out. I rose from my seat, and looked at the people outside. They waved their hands in joy.

I returned to my seat. Then again I stood up to look at the zealous crowd. They raised their hands again.

Others might think that I was fussing over a short stay of 20 days, so I thought, and felt a little ashamed. I fastened myself to the seat with the seat-belt.

"Will you please be seated Sir?" asked a gentle voice. It was the voice of the dutiful hostess. I had but to sit. The doors of the plane were closed.

I peeped out through the window, and continued to look out till the plane took off and rose high up in the air.

The plane took me far away leaving Tamil Nadu behind. Tamil Nadu and the people were concealed from my sight but not from my mind.

(To be continued.)

Having toured many countries, Chief Minister Thiru Karunanidhi arrived at Madras on 21st July. People gathered in thousands and were awaiting his arrival at the Meenambakkam Airport till 2-15 p.m. without minding the hot sun. As the Plane reached the airport, the huge crowd raised shouts of cheers 'A N N A V A Z H G A', 'KALAINAR V A Z H G A'

inspected a guard of honour provided by the Prosperity Brigade volunteers.

Huge crowds lined the route from the airport and the Chief Minister drove slowly in an open jeep specially decorated. Petals of roses were showered on him from a small trainer plane at the aero-drome and at some points on the route later.

drove in a car to Anna Chathukam ; he placed a wreath on the grave of our Revered ANNA and then went home.

The Chief Minister was given a reception at the Children's Theatre at 6 p.m. the same day. The Education Minister Thiru V. R. Nedunchezian presided over the function. Ministers and

An Endearing Welcome



'WELCOME Our CHIEF' and 'WELCOME Our LEADER' that rent the air overpowering even the roar of the aeroplane.

The Chief Minister was the first to descend from the plane. The Governor of Tamil Nadu, Sardar Ujjal Singh, garlanded him, and embraced him. Then the Education Minister Thiru V. R. Nedunchezian and other ministers and leaders garlanded the Chief Minister. Then he

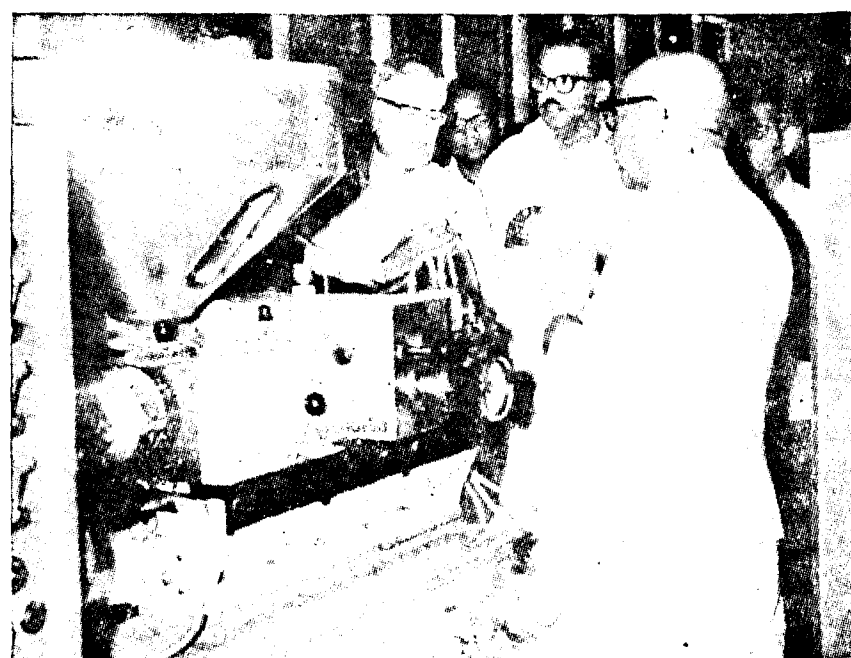
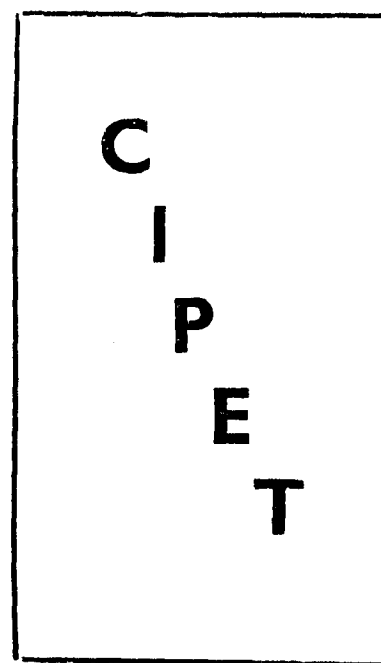
When the Chief Minister reached Chinna Malai, he was garlanded by two elephants and trumpets were blown to announce his arrival.

There were beautiful and big arches erected by M.G.R. Pictures, Vauhini Studio, A.L.S. Productions, etc.

Overwhelmed by the tumultuous and warm welcome accorded by the people, the C.M. got out of the decorated jeep and

other leaders expressed their pleasure and complimented him on his successful and skilful dealings with foreign leaders and Press Corps.

All praised him for inaugurating the Third International Tamil Conference in Paris, the citadel of western culture and for introducing to the world the grandeur and elegance of Tamil and Tamil Culture through his gift of oratory and his wise words and deeds.



A Training Institute for Plastics

THE CENTRAL INSTITUTE OF PLASTICS ENGINEERING AND TOOLS

Plastics, to-day, occupies a very important place in our daily life. From children's toys to industrial uses it has a wide application in all possible ways. Every house is to-day flooded with plastic wares by the street vendors. No other metal, perhaps, finds such a wide use in our daily life. It caters to the needs of all people and all purposes. They are not only most attractive, but they are very cheap and come in handy for any use.

Naturally, the plastics industry has made considerable headway during the last three Five-Year Plans. The essential raw material—the plastic powders are now indigenously produced to meet the needs of the industry. Bombay, Calcutta, Madras, Delhi,

Bangalore, Baroda, etc., are the chief centres of the plastics industry. A very wide range of products are being manufactured at these centres. Yet, it could not be said that the industry has attained sufficient maturity in our country. This is so, because of the lack of facilities for manufacturing the different kinds of moulds required for the plastics industry. Another great obstacle in the way of the healthy growth of the industry is the non-availability of experts and trained personnel in the field and effective consultancy service to offer advice to the industry—to suggest ways and means of overcoming technical and other difficulties faced by individual entrepreneurs in the field.

As far as the plastics industry is concerned a stage has now been reached when we cannot afford to neglect these aspects of the industry, lest we be left behind in this essential field of technology.

What an important place, the Central Institute of Plastics Engineering and Tools, which was formally inaugurated on 25th July 1970 by Dr. Triguna Sen, Union Minister for Petroleum and Chemicals under the Presidentship of Thiru V. R. Nedunchezian, Minister for Education and Health, Tamil Nadu, occupies in our industrial development can now be understood fully. For, it has been established with the

intention of meeting the above need of the plastics industry fully and effectively.

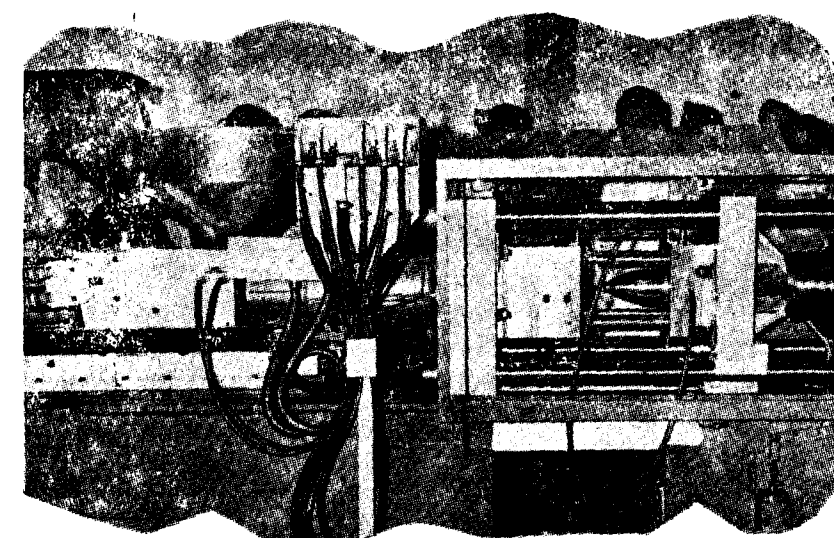
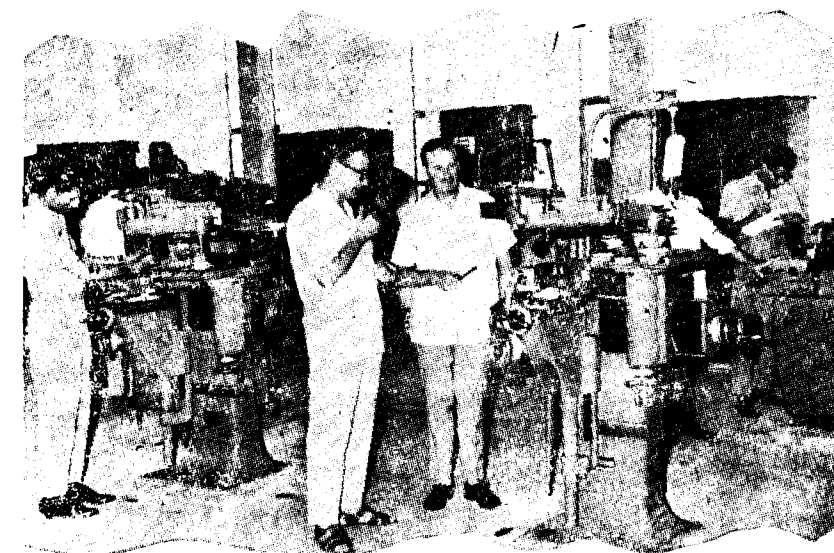
The Central Institute of Plastics Engineering and Tools (CIPET) situated in an eight acre plot offered by the Government of Tamil Nadu is a Government of India undertaking. This Institute is the first of its kind in India. Besides meeting an essential need, the setting up of the institute paves the way for the development of other ancillary small scale industries in Tamil Nadu.

CIPET is assisted by the United Nations Development Programme (UNDP) with the International Labour Organisation (ILO) as the Executing Agency. The UN Development Programme besides sending experts for staff of the Institute, has also supplied specialised machines for the tool-room and some moulding machines. CIPET has the best tool-room in India for making moulds for plastic mouldings. There are presently four specialists with the Institute and they are all from the industrial field.

The aim of the institute is to offer :

1. Training in—

- (a) mould making.
- (b) mould design.
- (c) mould polishing.
- (d) machine setting.
- (e) upgrading of design and tool-room personnel.



2. Consultancy service for plastics industry.
3. Production of moulds.
4. Design and development of moulds.
5. Setting up of tests and quality standards.
6. Development of machines and moulds.

The training mentioned above is given only to students sponsored by firms or Government departments. This is because the training at the CIPET is industry-oriented and aims at training personnel for the sponsoring industries. The institute has capacity to handle 80 students. There are now 55 students at the institute sponsored by 36 firms from all over India. There is a hostel attached to the institute which can accommodate 60 students.

The training

The training is subsidised by Government with no tuition fee or special fee, but with only charges for the messing of students who stay in the hostel; this is again done to make it attractive for small industries to make use of this unit. The duration of the training varies from two years to three months depending on the course.

The first mould making course commenced on 29th January 1969 in a temporary workshop with a limited number of machines and with an ILO Chief of Project and an expert on the staff. The first design course was started six months later, when the second expert arrived. Indian instructional staff for mould design and

mould making were recruited in the meantime and given training. The foreign experts will be replaced by our own staff in due course.

At present, the institute is conducting three courses in mould making, two in mould design and one in mould polishing. The training is carried out on the mould orders received from firms. To date, it has over 20 mould orders on hand.

Exacting standard

Mould making is a highly specialised process. It takes at least 3 to 4 months for making a mould. Again the finish of the moulds should have an accuracy of 1/1000 of an inch. Polishing the moulds is an important aspect. Each mould takes 2 to 3 weeks of polishing to reach the high standard of quality. Different grades of diamond powders are used for polishing to obtain the required degree of finish.

Another important aspect of the mould is that a mould cast for making plastic wares using a particular type of plastic cannot be used for making plastic wares

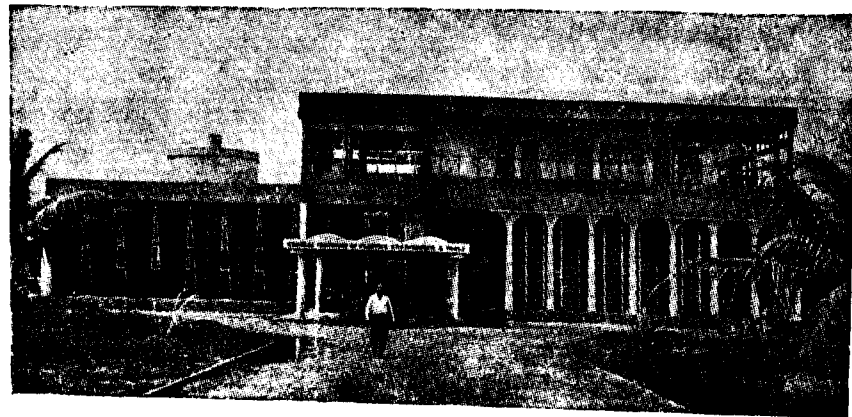
with a different kind of plastic. Each type of plastic requires a separate mould.

These moulds are made of high quality with a special type of steel. The moulds made here are of international standard and there is scope for exporting them. Some other moulds made by the Institute is being exported to the United States.

The CIPET is assisting the State Governments to set up tool-rooms in their various regions to make moulds for small industries. When these are established, it will be of immense help to make quality moulds for industries who have no tool-room of their own.

Architecture

A word about the architecture of the building which houses the institute. Each and every aspect of the building has been planned and executed with imagination. In keeping with the functional purpose of the institution. Plastics and fibre glass has been extensively used in its decoration. In short, it is a creation of an environment that mixes the practical consideration of training, with elegance.



Too busy I was to enjoy the scenic elegance of Nature's charm in Kanyakumari district. The gentle breeze pregnant with fragrance and the fascinating verdure of paddy fields invited me to stand and stare. But my sense of duty roused me up and I started off shouldering my heavy movie camera.

Our Chief Minister, Thiru Karunanidhi, was on tour in the Kanyakumari district opening colleges, schools, stadia and participating in social functions. My role was to document those events by means of the film.

Meetings were in quick succession at 9-45, 10-30, 12-30 and so on in many places without any interval.

People were full of enthusiasm everywhere; huge crowds gathered to welcome the Chief Minister, and there were demonstrations of affection by the people at the hottest midday as well as at the coldest midnight.

Lured by the eloquence of our Chief Minister, people were in a state of ecstasy but we couldn't have the pleasure of listening to our Chief Minister. We could not rest but had to proceed ahead of our Chief Minister to make lighting arrangements to facilitate filming the events from angles of vantage.

It was midnight when we reached Nagercoil and the people were awaiting the arrival of the Chief Minister without sleep.

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We did not feel any hunger or thirst. Occasionally we stopped our van to swallow one or two bananas and to drink the 'cooling colour.'

The Institute of Film Technology at Adayar is our Alma Mater where about 25 film technicians are trained every year. The success of any Government depends on the public reaction to, and reflection on, the schemes and achievements of the Government concerned. Realising this, our Tamil Nadu Government entrusted to the Film Institute the task of producing documentary films twice every month. This was an interesting item of our curricular activities taken up in 1968.

About 30 films have been produced since April 1968

including those depicting the life-sketches of Mahatma Gandhiji and Arignar ANNA. Apart from the programmes of the Government, the events in connection with the birth day celebrations of Thiru K. Kamaraj, Thiru Kalyanasundaram and Thiru M. P. Sivagnanam, have also been filmed.

Details of social functions, schemes and programmes of the Government, Fine Art functions are all collected and forwarded to the Film Technology Institute by the Information Department of Tamil Nadu Government.

Fragments of our Experiences

Here are some instances of sweet, risky and pathetic experiences we had at the time of



our documentary adventure in the last two years.

In order to attract larger number of tourists we were ordered to film the graceful flower gardens and the green grass lands of Ooty. At the height of our excitement over the scenic splendour we went on filming till the whole film was about to be exhausted !

On the occasion of the opening of the Children's Hospital at Egmore, I was told to film an operation. I consented readily without considering the nature of the operation. The

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firmly. Fortunately, the camera had been functioning automatically and the 'operation' was fully filmed.

On the U. N. Day for the Handicapped the sorry spectacle of the handicapped whom we approached for filming, made our hearts bleed and I believe the same feelings of sympathy would have been aroused in the minds of the people who witnessed the scene on the screen.

Many a person would thrust forth his head or hand so that his face should find a place on the film and in order to satisfy them we would lengthen the film to include his head. They would be disappointed if their heads find no place, on the screen at the local theatre. It is the 'heartless' editor who chops off the snaps we take. What can he do ?

He has been ordered to see that the film is only one thousand feet long.

patient was a child, and when the doctor cut open the stomach of the child, I felt giddy. I turned my face away closing my eyes



FINGER PRINT IN CRIME DETECTION

THIRU C. RAMAN NAYAR
Director, Finger-Print Bureau
Vellore

'Finger-prints are God's own seal given to us that we may know and recognise His greatest creation—man', says an author on Finger-prints. Though apparently insignificant and infinitesimally small, the fibrous lines on the hands and fingers afford an infallible means to fix the identity of every individual, honest or felonious. It is, therefore, no wonder that finger-prints play an important part in the prevention and detection of crimes.

New technique

As in the case of any other science, methods and techniques in the application of the science of finger-prints for the purpose of crime detection have undergone changes from time to time. At one time, finger-prints were mainly used only to identify ex-convicts in the Finger-Print Bureau, Vellore. Now both in the Finger-Print Bureau, Vellore and in its Single Digit Sections in important towns finger-prints are harnessed to trace the criminal concerned in the commission of a crime, positively leading to the detection of the crime. In order to help the

investigating staff to achieve this end, the Finger-Print Bureau, Vellore, has evolved some new techniques in using stray chance prints from crime-scenes to locate a criminal quickly from even huge multitudes of finger-print records.

One can easily imagine the enormity of time and labour involved, if a single or partial chance finger-print from a scene of crime has to be compared with 25 lakhs of finger-prints of about 2½ lakhs of persons available in the Finger-Print Bureau to get at the probable criminal. Indeed the effort is well nigh impossible. Nevertheless, an effort is possible if the field of our pursuit in locating a chance print could be restricted to only those criminals who are addicted to breaking into houses and committing crimes inside dwelling places, as such criminals form only a percentage of the total criminal population. In the Finger-Print Bureau, Vellore, there are many finger-print slips available in respect of a person for all his convictions. Spare sets of finger-prints of notorious house-breakers and

house-thieves are gleaned out and kept separately according to the district to which he belongs and if more finger-print slips are available, duplicates are placed in other districts also, to which he had extended his exploits. A compact collection of finger-print slips of selected criminals is thus made so that it is less voluminous and easily accessible for a quick search even with a stray and lone chance print. Such a concise and compact record collection is named a "District-wise collection".

Few instances

With the help of the district-wise collection, many a crime is solved now in the Finger-Print Bureau every year without undue loss of time and delay and the culprit is often betrayed by his own infallible marks left at the crime-scene.

The cases mentioned below are only a few instances to illustrate how the criminal who believes he had done a perfect crime without any reason to implicate him, is pin-pointed for quick apprehension, by the technical analysis of his finger-prints done at the Finger-Print Bureau, Vellore:—

On 30th August 1969 a report was received that the house of one Padmabai Ammal in Vishnukancheepuram was burgled the previous day in the temporary absence of the inmates from the house and that gold jewels worth Rs. 580 were stolen. Finger-Print Expert from the Finger-Print Bureau examined the scene and lifted a few chance finger-prints and got them photographed. One of them was on the glass of a cycle lamp. There was no other clue to know who the culprit was. The expert at the Finger-Print Bureau began to work up with his records available in the district-wise collections.

After wading through the collection of records relating to Chingleput district without any success, he took up examination of the district-wise collection of finger-print records of the neighbouring district of North Arcot. The finger-print slip he was looking for was there, as he found the chance print matching exactly with the left middle finger-print of an ex-convict, Ranganathan of Alapudur in Chengam Station limits, previously convicted in Arcot Station. Further investigation and apprehension of the accused followed as a matter of course without much hurdle or waste of time. Ranganathan was charged for the offence before the First-Class Magistrate, Tiruthani and sentenced.

Another case of house-breaking in the house of one Chakravarthy at Poyapakkam village, 3½ miles from Villupuram town was reported on 5th April 1968. The culprit had scaled over the wall

at the back-yard, climbed up the roof of the house and got entry into the kitchen by removing a sun-glass. He had decamped with silver vessels and ever-silver articles worth Rs. 500 and made his exit by opening the back door. The Finger-Print Expert from the Finger-Print Bureau, Vellore, examined the sky-glass removed and kept aside by the intruder at the crime-scene, processed the finger-prints found on it and got them photographed. The routine check up of these prints with those of the inmates disclosed that they were not of the inmates and that they might probably be of the criminal's. The expert made a search of these prints in the finger-print collection of notorious house-breakers and

Symbol of Pride

While instituting the system of 'Chief Minister's Medals' to Policemen in Tamil Nadu, Thiru M. Karunanidhi said: "Hitherto badges with the figures of the British Emperors and the Indian national emblem have adorned the Chests of Policemen in Tamil Nadu. Along with these, they will wear the new medal which will bear the figure of Thiruvalluvar, the symbol of the pride and glory of Tamil Nadu.

"Ours will be the first State in India to honour its Police with a State-level insignia."

house-thieves kept for the South Arcot district. On 22nd April 1968, he found a matching set of finger-prints relating to one Selvaraj of Poyapakkam in South Arcot district in this collection. On the desk of the Finger-Print Bureau, Vellore, the criminal responsible for a heinous crime was brought to light without any chance of error. Information was flashed on to the investigating officers immediately.

Further investigation to apprehend the criminal and to recover the properties became comparatively easier for the Police.

Immediate report

Identification of chance prints through a search in the district-wise collection of finger-prints is one of the several means evolved in the Finger-Print Bureau, Vellore for the Finger-Print Expert to locate a criminal directly and speedily without waiting for the investigating officer to give suggestions regarding the probable criminals.

The above two cases point to the need for an immediate report to the Police, of thefts and keeping the scene of crime from undue disarrangement by curious neighbours. In both the above cases the finger-prints left behind by the culprits were chance prints on objects lying nearby. If curious neighbours or even panicky victims had disturbed the objects at the scene of crime, detection would not have been quick. It is quick detection that gives confidence to the public and also deters crime.



A fur cap to keep a cave-dweller's bald head warm on a winter's evening long, long ago, may have been the first wig ever worn.

The vogue of wearing wigs has great antiquity. Egyptian mummies have been adorned with wigs. In ancient Greece, wigs were used by men and women and in Rome wigs became a fashion in the early days of the Empire.

The use of hair buns and "chouries" is popular among Indian women. In England the periwig was in use in the 16th century but in the next century the peruke (wig) became a distinctive feature of the costume. This fashion was stated to have emanated from Paris. During the period of Queen Anne the wig attained its maximum development covering the back and shoulders and floating down over the chest. Though the fashion waned later, the full-wig is still worn by the speaker, the smaller tie-wig by the Judges and the fizzed wig by barristers and advocates.

In industrial societies of the U.S. West Germany, Japan and elsewhere, wearing of wigs by young women has become common in recent times. In U.S. the fashion is growing fast as is evidenced from the sharp rise in wig sales from 4 million dollars in 1961 to about 500 million dollars in 1969.

Organised export trade in human hair is of recent origin in India. In the great pilgrim centres of Tirumalai, Palani, Tiruttani and Simhachalam, men and women shed their locks in fulfilment of their religious vows. And these form the perennial source of supply of hair.

A particularly long tress of hair measuring 4½ feet received from Tirumalai has been sent to the United States for museum display.

In the international market, China is the largest hair supplier Japan and Hong Kong being well established producers of wigs. Chinese hair is stated

to be thick and coarse, whereas Indian hair, is soft and silken in texture.

When in 1965 the U.S. banned import of wigs made with Chinese hair, manufacturers naturally turned to India for supplies. Thus, the limited trade in unprocessed human hair carried on by some exporters in Tamil Nadu, became a business of huge dimensions overnight.

In order to earn more foreign exchange than possible by export of unprocessed hair, the State Trading Corporation set up a factory at a cost of Rs. 15 lakhs at Ambattur, the industrial suburb of Madras, for the manufacture of wigs and wiglets.

The Wigs India factory which has technical collaboration from Lion Rock Trading Company of Hong Kong is expected to earn a sum of Rs. 17 crores within seven years by virtue of an agreement entered into with, Fashion Tresses Incorporated, leading importers of wigs in the U. S. A.



The Factory employs over 500 women, and is turning out wigs of all sizes and colours to satisfy the most fastidious and diverse tastes of the countless fashion centres in the United States and many Western countries.

Wigs India has worked out arrangements with the temple authorities for on the-spot collection of the offerings of human hair. The monthly purchase is of the order of 10 tonnes. Tirumalai Shrine alone gives 3 to 4 tons per month and the other temples account for the balance. To develop the skill that go into the intricate process of wig making, help was sought from Hong Kong, where a flourishing wig industry is in existence for years.

The Hong Kong firm, the Lion Rock Company, sent a group of experts to Madras to help train Indians in wig making. "Operation learning" took just about 18 months. Since then, skilled workers have done all the processing and fashioning to meet rigid international standards.

The factory produces two types of wigs; the wholly handcrafted wig, and the machine-made wig. The hand made wig is a quality product which is in great demand and fetches a high price. The wig-maker has to stitch each hair carefully on a net skull cap. In regard to the other, a special sewing machine is used to



arrange strands of hair in lengths which are stitched on to a net cap.

At present, twenty different types of hair products are made to satisfy the different styles and tastes. Plans are under way to diversify even further, so that Wigs India can supply any product that is in demand. Buyers can choose from 100 varieties produced in the Factory.

"What is important" says Thiru Vaidyanathan, Manager, of

Wigs India, "is the basic technical know how. This has been developed. We can now turn out wigs of any type, as per buyer's sample". For the manufacture of eye-lashes three employees were sent to France for training and are now making samples in the Wigs India Factory, Ambattur. On the basis of the samples the factory hopes to secure order for a new type of product of intricate workmanship.

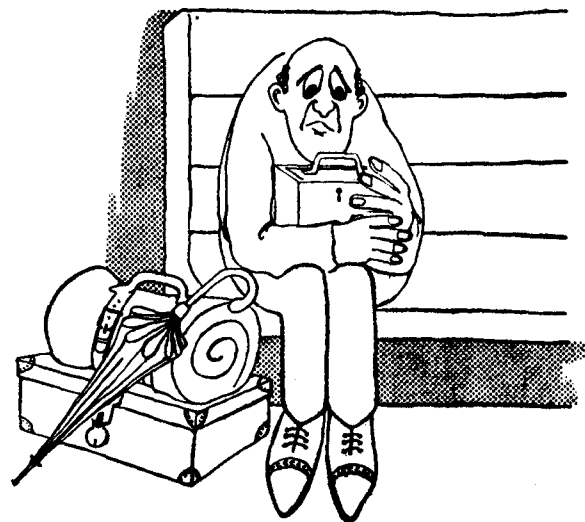
TIRUCHI MAKES 100-TON COAL BUNKERS

In April this year, the BHEL High Pressure Boiler Plant, Tiruchirappalli, manufactured P.F. bunkers for the 100 MW Bhatindia power station. The four bunkers are designed for a storage capacity of 400 tons of coal per boiler and have a capacity of 100 tons each.

The pulverised coal from the drum mill, after passing through the classifier and cyclone separators is collected in the pulverised coal bunkers. These bunkers store the required quantity of pulverised coal ready for use. From here the coal powder is fed to the burners along with the air from the primary fan, after being mixed in the mixing nozzles.

The bunker consists of two parts, vertical or sloped side walls in the upper part and toughened hopper at the bottom. To ensure effective discharge of coal powder the angle between the side walls and the horizontal is kept at not less than 50°. The side walls are provided with vertical stiffeners to resist the lateral pressure of coal powder. Secondary horizontal stiffeners give proper support for the main stiffeners and the walls of the bunker.

Tell him there's an easier way to carry money safely...

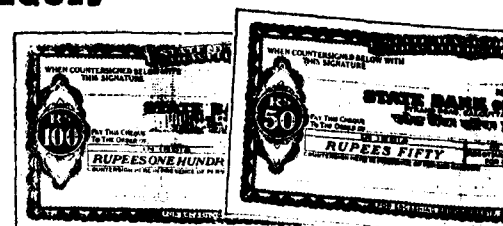


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STATE BANK TRAVELLERS CHEQUES—
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THE HISTORIC FORT SAINT GEORGE

ITS HUMBLE ORIGIN

Madras, with which Fort Saint George is associated, has always been in the limelight of Indian politics and history but both had an obscure beginning. Of all the fortified centres of Trade and Commerce no fort other than Fort Saint George, named after Saint George, the Patron Saint of England, has gained a world-wide fame. To all the nations of Europe, Asia and the Far East, Fort Saint George is a familiar name. To the British, it was the chief commercial centre between Mauritius in the Middle East and Bantam in the Far East Asia. It is a romance in history how a narrow strip of land, six miles along the marina, which Francis Day selected for his commercial activity developed into the modern Fort Saint George.

Francis Day who was commissioned by the Court of Directors from Masulipatam in 1639 was given a warm welcome at Santhome. But he avoided the choice of the erstwhile Portuguese settlement at Santhome, in spite of the support

BY

Thiru S. SINGARAJAN,
M.A., M.LITT.,
Director of Archives

of the Portuguese and local merchants for the choice of that settlement. On the other hand, with their help he secured for rent a piece of land directly north of Santhome. It looks

paradoxical that the new site had neither beauty, nor a harbour except a shallow lagoon-like river, running parallel to the sea for a short distance. In fact the Cooum emitted an unpleasant and unhealthy effluvia from the rotting seaweed lying in its loathsome black ooze. Neither the stink of the river nor the acres of sandy waste discouraged the persevering servant of the East India Company, and Day concluded his negotiations with the Rajah of Chandragiri satisfactorily on the 1st of March, 1639.

When Fort Saint George was erected, local merchants, weavers, local manufacturers, painters and others were encouraged to settle in the neighbourhood at a place thence forward popularly called

Chennapatnam and Madras-pattinam by the Indians, and Madras by the English. A *cowle* for building the fort was obtained, through the mediation of the Naik of Chingleput, from the Raja of Chandragiri, a descendant of the Hindu Royal family of Vijayanagar. It is interesting to note that it was the Raja of Chandragiri who delivered the deed of possession to Francis Day. After all, the Raja was an obscure representative of a magnificent Indian Empire of the past; Francis Day was an obscure representative of a magnificent Indian empire that was yet to be; and the document that the Raja handed to Francis Day was in reality a patent of an empire, transferred from Vijayanagar to Great Britain. It was at Chandragiri that the British Empire in India was begotten; it was at Madras that the British Empire was born. And by his transaction, his employers in England obtained their first territorial rights in India.

The Raja of Chandragiri, who received the cash paid down as rent for the ground, must have laughed up his sleeve at the folly of the English in parting with gold for that dreary waste of sand and mud. He could not foresee that the apparently worthless spot might hold a Clive and a Munro, and that it might send forth mandates for the deposition of princes stronger than himself; that it might shelter and despatch a Job Charnock to found Calcutta in the name of his masters, and to stretch a powerful arm over the length and breadth

of the country to protect the weak from the tyranny of the strong. Francis Day's task was only half finished when he obtained possession of the land. There were no buildings upon it but half a dozen mud huts belonging to the muk-vas or fishermen; he had to set

about raising a warehouse for the Company's goods, and a house for the offices, wherein the Company's affairs might be transacted. Dwellings were also needed for the Company's servants and it was necessary to attract the country-born Portuguese merchants, who



St. Mary's Church in Fort St. George built in 1680

were the link between the exporter and the producer.

The Fort House stood at the present Secretariat buildings just in front of the sea gate. It contained offices, reception rooms, a dining hall, a room set apart as a Chapel, and accommodation for the few merchants, factors and writers who were numbered on the staff. By 1680, during the Governorship of Mr. Streyen-sham Master, St. Mary's Church was built in the Fort to meet the long felt need of the Protestant citizens for a separate place of worship. The original house had not been built with the solidity which marks the fine houses raised some fifteen years later under more experienced architects. In fact Sir William who visited Madras then found it rapidly falling into ruin. In the initial stages, the garrison at the fort gave the Directors enough trouble over their love affairs.

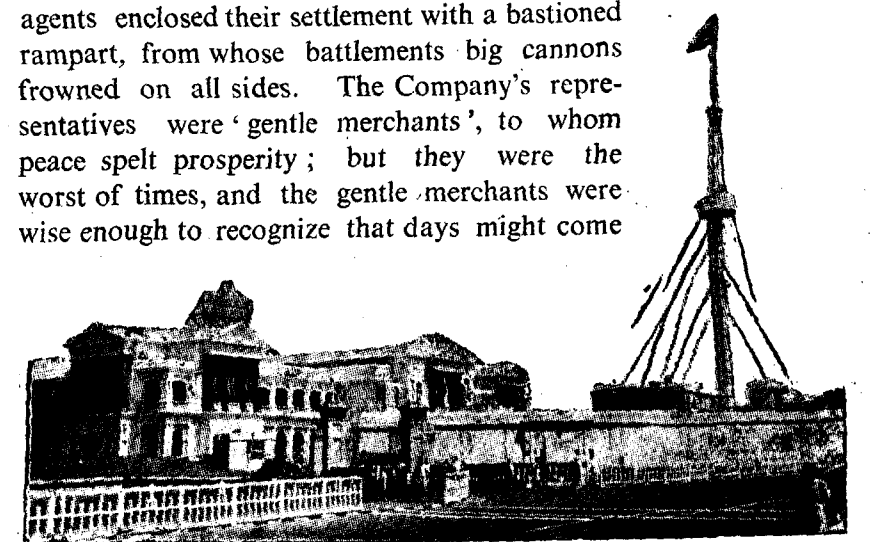
Since 1690 communications in the form of general letters, were sent for the first time by the Agency at Fort Saint George to the Court of Directors. In the beginning the settlement was placed under the Presidency of Bantum in the island of Java; and was intended to supply goods from the Coromandel Coast to meet a demand which existed in Java.

It should always be remembered that the East India Company was established purely as a commercial association, with its head office in London, and its employees in India were men with business

qualifications, appointed to carry on the Company's trade. The prime concern even of an Agent or a Governor was the making of good bargains on the Company's behalf and sometimes on his own getting the best prices for European broadcloths and brocades and buying as cheaply as possible Indian muslins and calicoes and other natural products, for exportation to London, where they were sold at a huge profit. Any fighting in which the Company's servants engaged was merely incidental to the pursuit of business in a land in which the ruling sovereigns, as well as the many small chiefs, were constantly at war. It is a maxim that 'Trade follows the Flag'; but in the case of India the Flag has followed trade.

From the very beginning the settlement was called Fort St. George, but it was several years before the buildings were surrounded by a high and fortified wall. It was in no spirit of military aggression that the Company's agents enclosed their settlement with a bastioned rampart, from whose battlements big cannons frowned on all sides. The Company's representatives were 'gentle merchants', to whom peace spelt prosperity; but they were the worst of times, and the gentle merchants were wise enough to recognize that days might come

when it would be necessary to defend themselves and their merchandise and the town of Madras as well, from the 'roving robber or the princely raider or the revengeful trade-rival', and that military preparedness was a dictate of prudence. In fact there were such dangers to the Fort. On such occasions the excitement in the Fort Saint George had been really great. We can imagine the anxiety with which, when the sentry gave the alarm, the merchants climbed upon the walls and looked out at the horsemen who were appearing at a distance, and enquired to one another disconsolately whether it was in peace or in war that they came. Even fifty years after the Fort had been founded, a 'party of soldiers under the Commander-in-Chief of the Mohammedan King of Golconda pursued some of the King's enemies who entered Madras, "burning and robbing of houses, and taking the company's cloth and goods", whereupon the Governor of the Fort sent word to them that "he would



employ all means to force them out of the town; upon which they retreated out of shot of the Fort." They returned, however, with additional strength, and for eight months they besieged the stronghold, but without success; and finally, they wearied of their hopeless endeavour, marched away. Madras changed hands on many occasions both among Europeans and Indians but the British always had the sagacity to buy off the Victor. The fascinating fact about their deal is that they always gained an additional territory or concession when treaties were concluded. The acquisition of Chennapattinam, Madraspattinam, Mylapore, Eelu-yoor or Elumboor and Thiruvottiyoor would testify to these facts. The annexation of the territories of the Nawab of the Carnatic, the scandals that attended the Carnatic debt, the annexation of Tanjore the conquest of Mysore and Marhatta territories, and the transformation of the Poligars into Zamindars are chapters which testify to the diplomacy and tact which made Fort St. George a mighty territorial power. It was the treaties, sannads and deeds which became the primary weapons rather than the armaments on which the Empire depended. *(To be continued.)*

EVENTS IN PICTURES

Health Minister being shown the first child born at the Arignar Anna Maternity Centre, Aranchangi.

The President being received by the Governor.

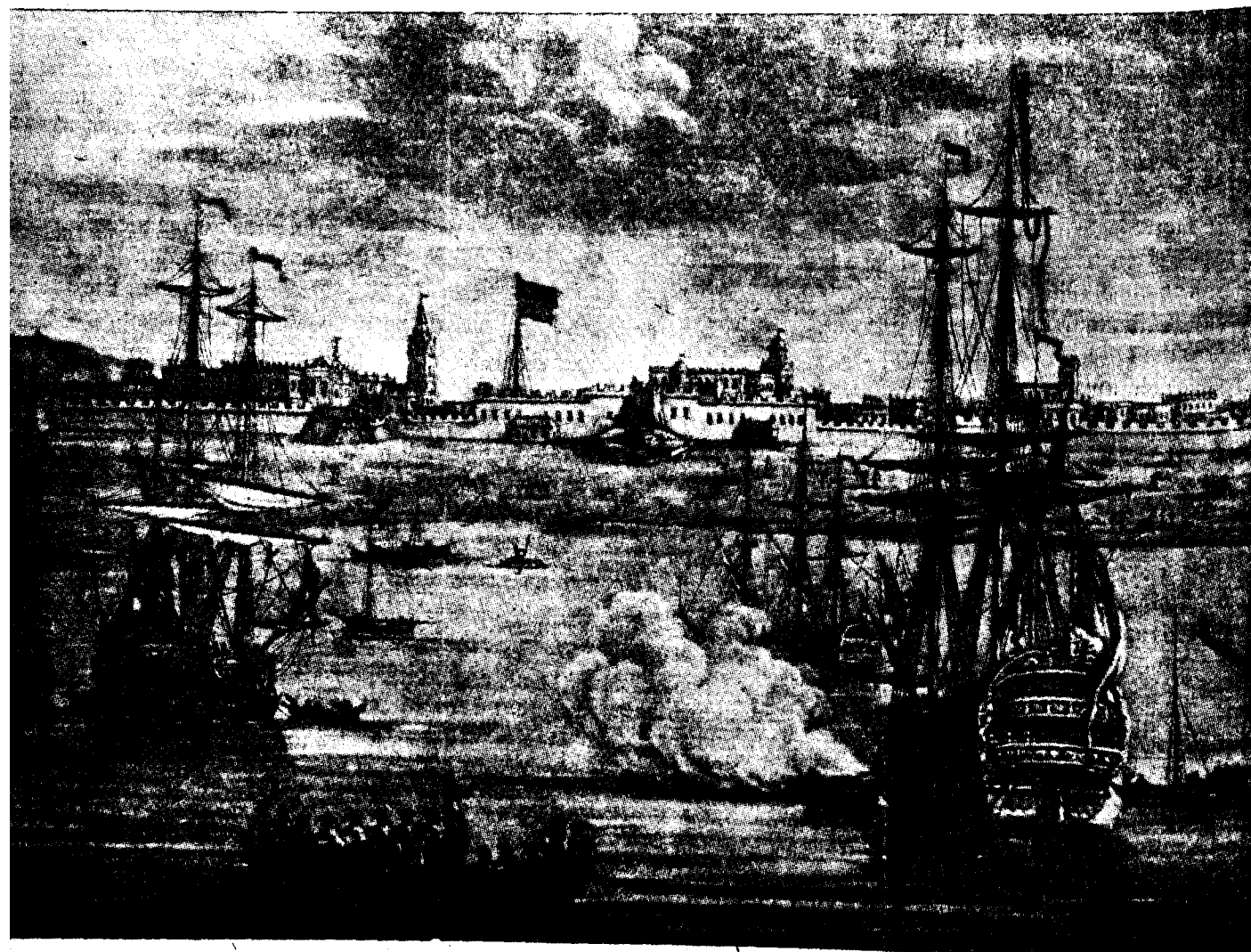
Fishermen Families uprooted by Kalpakkam Atomic Project housed in Padur Housing Colony.

E.S.I. Scheme for families of workers extended to Vikramasingapuram.

Celebration of U. N. Education Day at Rajaji Hall.

The New Office Buildings of Punjaipuliampatti Panchayat Union is being declared open.

Sir A. Ramaswami Mudaliar receiving the "Padma Vibushan" Award.



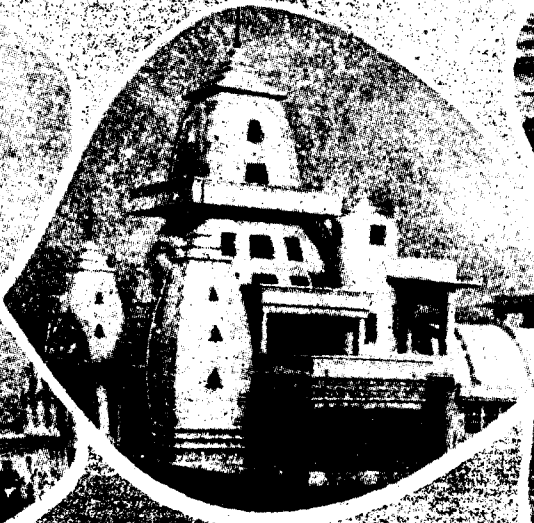
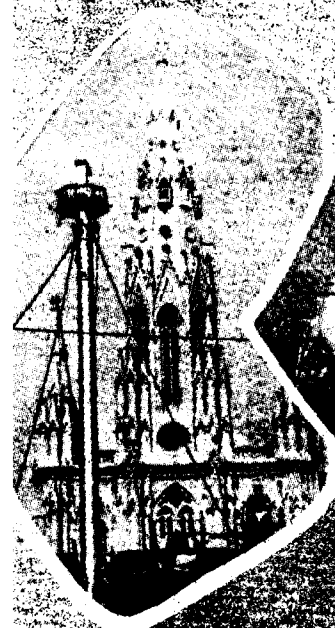
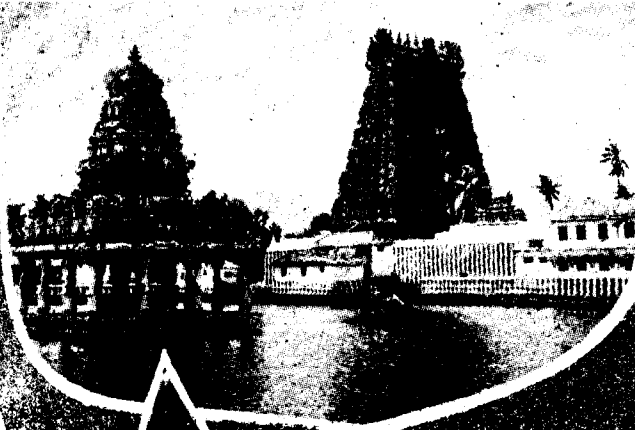
View of the Fort Saint George in the time of Governor Pitt 1698—1709.



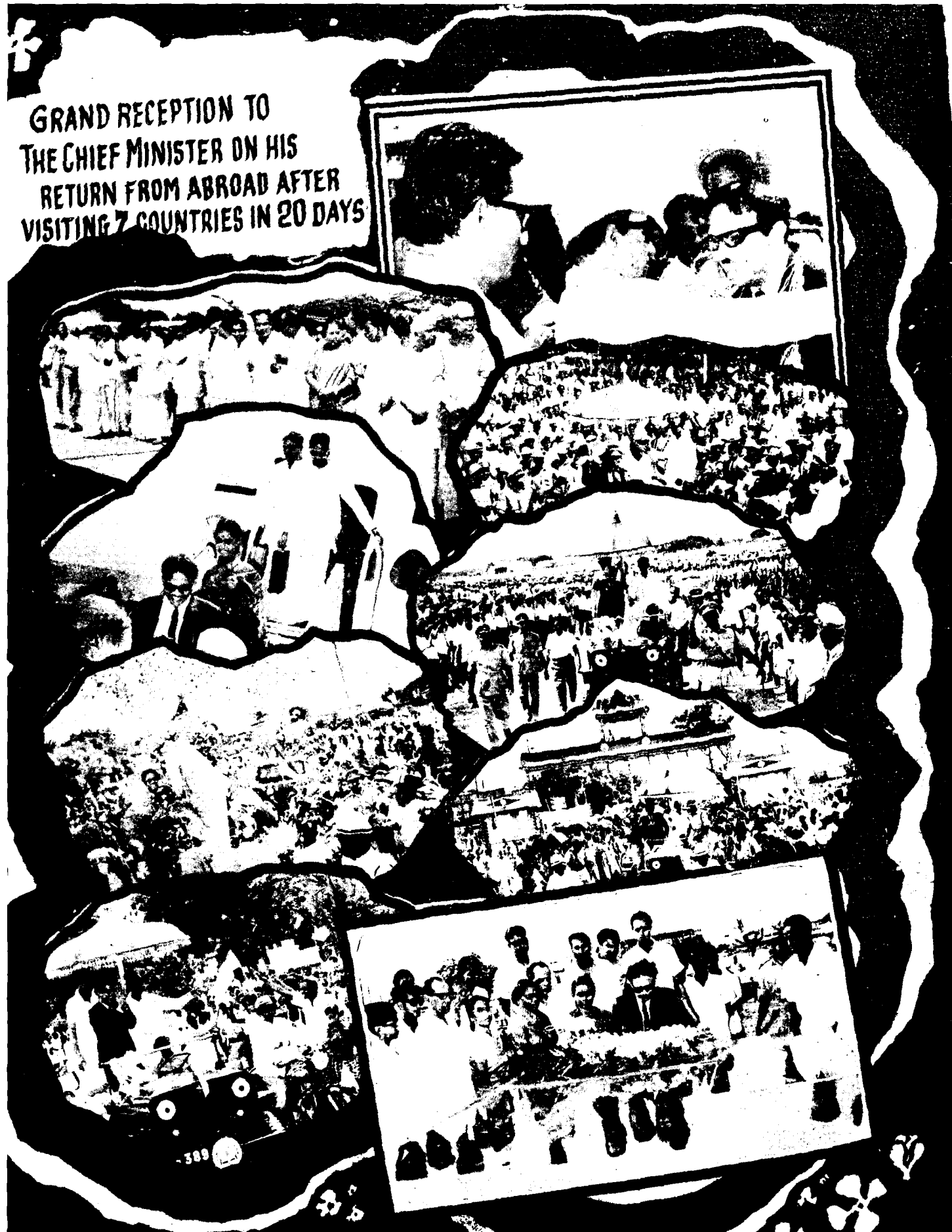
KANYA KUMARI

The Land's end of India, Kanyakumari
is in itself a fairyland,
Washed by three oceans, and
Lashed by winds of both monsoons.
Nature goes on a rampage here.
Ripening fruits twice a year
While the rest of India has to be
Content with but one season of fruits.
Not lagging far behind nature's
Exuberance, skilled artisans have
Erected an abundance of temples and churches.
As also memorials to Vivekananda and Gandhi.
Palm-fringed canals and pleasant roads
Unwind miles and miles of loveliness
To enchant every visitor.

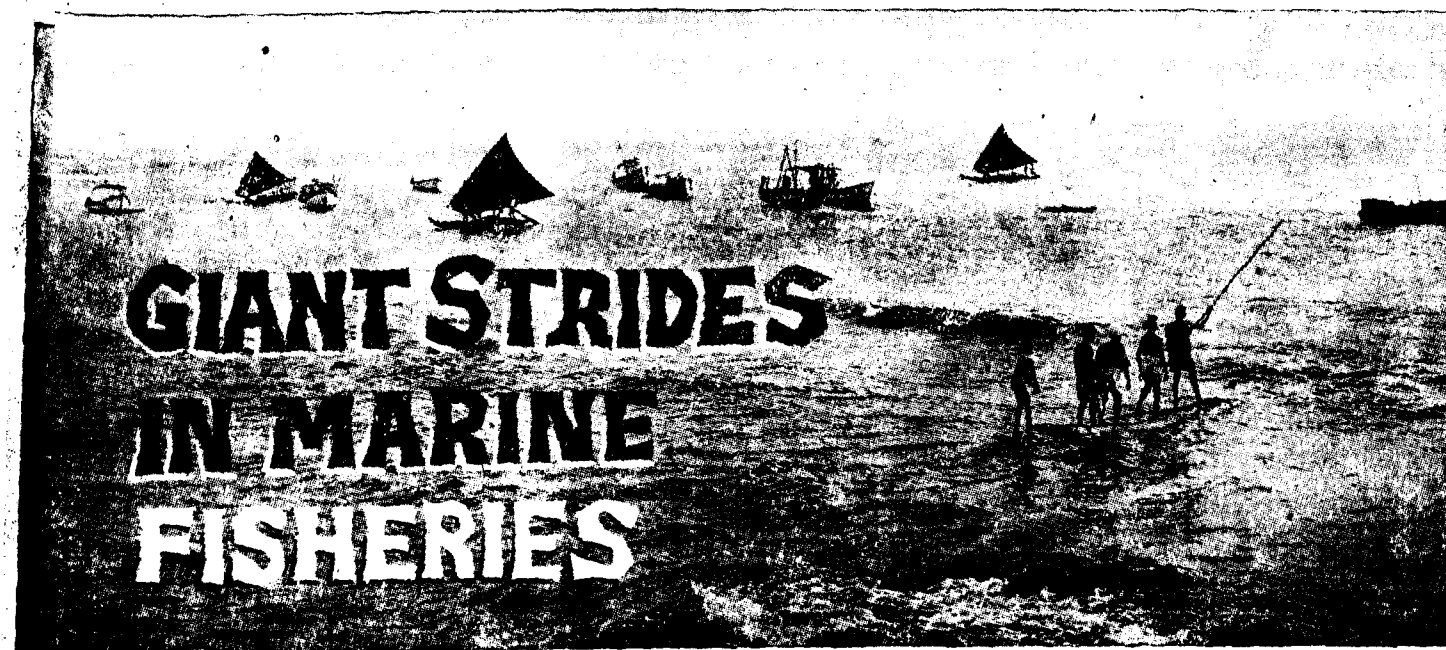
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**GRAND RECEPTION TO
THE CHIEF MINISTER ON HIS
RETURN FROM ABROAD AFTER
VISITING 7 COUNTRIES IN 20 DAYS**



GIANT STRIDES IN MARINE FISHERIES



A. D. VENKATASWAMY, B.Sc.,
Assistant Director of Fisheries (Information and Statistics.)

Marine fish production in Tamil Nadu has increased rapidly in recent years, with the result that among the nine maritime States in India, it ranks second in respect of marine catches, accounting for 15 per cent of marine fish landed in India. A beginning was made in the export of fish and fish products from the State in 1968-69 to the tune of Rs. 1.70 crores. While this progress represents merely the near shore operations with mechanised boats, the prospects for the industry with trawlers in deep-sea fishing to be inaugurated in 1971 are immense.

In this field, Tamil Nadu will be competing with fishing vessels from Russia, Japan, South Korea, Taiwan and Ceylon in the Bay of Bengal for the tuna fisheries.

The construction of a major fishing harbour at Royapuram in Madras to accommodate 400 mechanised boats and 50 fishing trawlers is under execution by the Madras Port Trust, and is expected to be completed by the middle of 1971. Similarly the construction of a fishing harbour at Tuticorin, is under execution by the Tuticorin Port Trust and, is expected to be completed in 1972. On completion, this harbour will also provide berthing facilities for 400 mechanised boats and 50 trawlers. In addition, proposals for construction of a fishing harbour at Colachel in Kanyakumari district, is under consideration of the State Government.

Fish production in Tamil Nadu has been stepped up from 78,000 tonnes per annum at the beginning of the First Plan period to 3,32,205 tonnes at the end of the annual plan 1968-69. During the above period the world production of fish increased from 20 to 56 million metric tonnes. The relatively poor production is mainly due to the dependence on the traditional types of fishing in the limited and much exploited narrow inshore region bordering the coastline with meagre yields per unit effort. Even with the mechanisation of the fishing crafts, the area of operation is confined only to the inshore region of the coast. This is chiefly due to the lack of adequate information on fishing grounds





and availability of fish in the offshore region and harbour facilities for the quick unloading of the catches and protection from the vagaries of nature. It should be possible to double the catches by putting into operation large trawlers, equipped with modern electronic equipment, such as Echo-Sounder, Radio telephone, Radar, etc.

In the field of mechanised fishing, significant advance has been made during the last decade in the State. As a result of experiments conducted on different lines such as motorisation of indigenous canoes, trials with surf landing boats, and designing of new type of boats suitable for our sea conditions with the assis-

tance of F.A.O. Experts, a 25' boat called the "Pablo Boat" (P. Bs. with 10 to 15 H.P. engines) and later the 30' "Illugason Boat" (I. Bs. with 30 to 37 H.P. engines) were evolved. These boats facilitated trawler net operations. The survey of fishing grounds carried out by the Department off Rameswaram, Cuddalore and Madras has established the fact that rich trawling grounds for prawns and silver bellies, etc., do exist. In order to improve the cruising range of the boats, the Department switched over to 32' boats with 37 to 45 H.P. engines. Further experience has shown that 35' and 43' boats of a new design with 60 H.P. engines will be more productive. Construc-

tion of these boats has been started since 1967. *Even though mechanised fishing boats are being built in this country for more than 15 years, building of deep sea fishing trawlers is comparatively of recent origin. The first deep sea fishing trawler was built by the Mazgaon docks in the year 1964. They have built 40 more (57 ft.) Jheenga type trawlers of 17.5 metric length. Out of these 40 trawlers, The Tamil Nadu Government will be getting four trawlers.

Exploring fishing grounds

Accurate knowledge of fishing grounds, big fishing harbours for providing shelter and operational facilities for large fishing vessels, trained crew and skilled workmen for the operation of big trawlers and adequate finance—all these are important factors for the advancement of the mechanisation programme of the Industry.

The inshore waters are being surveyed by the Inshore Fisheries Survey Stations at Madras, Cuddalore and Rameswaram. The F.A.O. Expert Mr. Illugason has already assisted us in the survey. The Government of India Offshore Fishing Unit at Tuticorin is surveying the offshore waters in and around Tuticorin. The offshore and the deep sea waters around Madras and the area between Madras and Mandapam, are to be surveyed.

Berthing facilities

The most important requirement for development of fishing industry is proper berthing facili-

ties for the mechanised fishing boats and big trawlers. Under the Five-Year Plans, small fishing harbours (First stage) have been established in Cuddalore and Nagapattinam and Landing Jetties have been provided in Porto novo (South Arcot District), Rameswaram, and Mandapam. These harbours and jetties have been designed to accommodate mechanised boats up to 36' in length. They cannot be utilised by the trawlers and other bigger boats. It is necessary that when the trawlers return with the catches, adequate facilities are made available for quick unloading of the catch, storage, supply of ice, water, etc. Two schemes for the construction of fishing harbours at Tuticorin and Madras (Royapuram) at a cost of Rs. 200 lakhs and Rs. 388 lakhs respectively have been approved by the Government of India as centrally sponsored schemes, both harbours will be ready for use soon.

Berthing facilities for 50 trawlers and 500 mechanised boats in each of the two harbours will be available. The construction of these harbours will be a major break through and is expected to provide adequate facilities for the exploitation of fish in the offshore regions along the coast of Tamil Nadu and in the deep seas of the Bay of Bengal. Another fishing harbour at Colachel in Kanyakumari district is also planned as a State Scheme.

Trained personnel

Another important factor is the availability of trained personnel to man the offshore and deep sea fishing trawlers. A fishing trawler needs a skipper, an engineer, a second hand and three or four deck hands. At present only a few trained persons are available to operate any one of the bigger type of fishing boats and trawlers. The Government of India have established the Central Institute

of Fisheries Operatives at Cochin where they give training to these personnel. A similar institute has been functioning in Madras since February 1969.

The Central Institute of Fisheries Operatives has a very significant role to play in training persons for the operation and the maintenance of fishing trawlers in the east coast of India.

Lastly the availability of finance plays a very significant part in the proper development of the fishing industry. The funds allotted under the public sector alone will not meet the entire demand. Hence for large scale fishing operations by utilising big ocean going trawlers we must have to look to other sources also. Real break through in the development of fisheries is possible only with the active participation and involvement of the private entrepreneur. To exploit the untapped resources of Tamil Nadu coast



his is the time for the private entrepreneurs and fishermen's co-operatives to participate on a large scale. The resources of Commercial banks could be utilised in a big way to fulfil the needs of the fishing industry. Other institutions such as the Industrial Finance Corporation of India and Agricultural Re-inance Corporation are ready to finance the industry.

The Technological side.

Tremendous advance on the technological side of the fishing industry has been made. The latest techniques on fish preservation and fishing crafts with various latest electronic devices and gear made of nylon twine, are being utilised in all the advanced countries. In India, modern methods of preservation by freezing and canning have been established. A large number of freezing plants and canning factories have sprung up all along the west coast of India. Processing by freezing

and canning has been taken up in Tamil Nadu also. The first freezing plant with a freezing capacity of 3 tonnes of fish per day was established at Ennore. It was leased out to a private entrepreneur. The freezing plant erected under the Indo-Norwegian Project at Mandapam is to be commissioned shortly. One more freezing plant is being established at Tuticorin.

In addition to these, a number of smaller freezing units have been established under the private sector in Madras City and in Cuddalore. In the proposed fisheries harbours both at Madras and Tuticorin, sites have been set apart for the establishment of processing plants both in the public and private sectors. The department undertook establishment of a canning factory (pilot plant) in Tamil Nadu at Tuticorin with a capacity of producing 5,000 cans per day. This factory has been leased out to a private entrepreneur.

A fish meal plant incorporating the latest technique with a capacity of 50 tons raw material daily is nearing completion at Mandapam.

Availability of suitable machinery and equipment is an essential pre-requisite for the proper development and success of the deep sea fishing industry. Importing the machinery will not only mean drain of foreign exchange towards initial cost, but will also impose a recurring burden on our limited foreign exchange resources towards its maintenance. On the other hand, if the necessary equipment is manufactured indigenously, the equipment as well as spares and services would be available locally. This would also provide employment to a large number of persons.

Electronic equipment

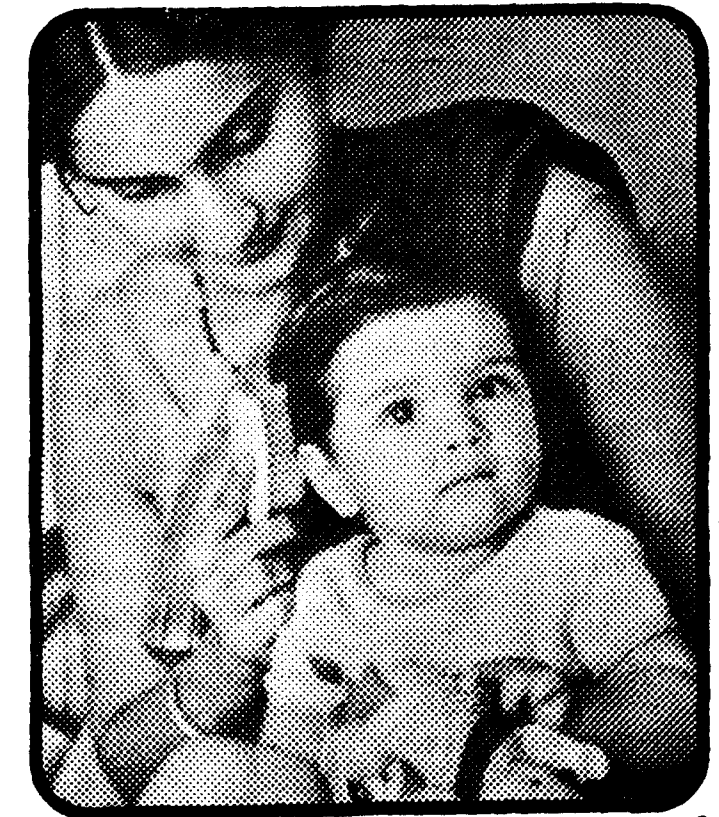
Electronic devices are being increasingly used for fish detection and navigation. Fish finders,

radio telephones, radar and direction finders are some of the most important electronic equipment used on fishing vessels. All the requirements of electronic equipment are met by imports at present. The Indian electronic industry has shown interest in the manufacture of these devices and prototypes of some of the equipment have already been built and tested.

In the Fourth Five Year Plan, schemes have been included for the construction and distribution of 1,525 mechanised boats through departmental Boat Building Yards and through the Fishermen Co-operative Federations. In addition, under deep sea fishing scheme, the working group of the Government of India has recommended that 70 trawlers operate off Tamil Nadu coast from 4 bases including Madras and Tuticorin harbours against an overall total of 300 for the entire country. Four trawlers have already been ordered and two of them are likely to be received during 1970-71. Against this, in the Fourth Plan, provision has been made for operation of 4 trawlers by the department and 66 by private entrepreneurs. By implementing the above two schemes the total fish production by the end of the Fourth Plan will be in the order of 5 lakh tonnes, i.e., double the present landings.



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CAN THE SAND DUNES OF TIRUNELVELI BE TAMED?

HOPE FOR THE COSTAL LANDS

Thiru K. R. THIRUVENKATASWAMY, B.Sc., (AG.), *Agricultural Engineer Soil Conservation Training Centre, Tirunagar, Madurai-6.*

A survey of the coastal lands in Tirunelveli District, ravaged by wind erosion, waterlogging and salinity, reveals that wind erosion has devastated the largest area of cultivable land and what is more menacing, is that this will spread to adjoining areas to the tune of 2.98 lakh acres if proper methods of prevention and control are not taken up expeditiously. What is now lying as desolate sandy patch can be transformed into cultivable lands yielding the much needed food grains, cotton, pulses, etc., by execution of the protective measures. If exploitation of underground water is linked with the reclamation of sand dune areas, crop production can be increased manyfold. The waterlogged and saline lands can be reclaimed for growing rice, coconuts and plantains.

The length of the coast in Tirunelveli district is 150 kilometers from north to south. The

maximum temperature is 108° F and minimum 80° F. The west and south-west parts of the district are hilly regions with steep slopes and the coastal taluks have mild slopes. The area between the hilly region and the coastal taluks is the plateau region. Major part of the hilly regions is covered with natural vegetation and with plantation crops in certain parts. The plateau region is covered with field crops and so also the plains adjoining the coast. Several rivers and streams originate from the hills and confluence with the Bay of Bengal in the east. Notable among them are Thambiraparani, Manimuthar, Chittar, Jambunadhi, Ghatanadhi Pachiar, etc., besides other small rivers which serve as drainage courses.

Rainfall and soil

The distribution and amount of rainfall vary widely from the hilly region to the coastal plains.

The hilly region receives 1219mm. of annual rainfall, the plateau region 977 mm. and the plains 600 mm. The coastal areas are benefited more by the north-east monsoon rains. The distribution of rainfall is quite erratic and uncertain. Every third year is a scarcity year, every 7th year a medium year and every 10th year a good one as far as rainfall and yield of crops are concerned in the coastal areas.

The soils of the district are formed from Gneissic rocks. Red soil is found in most parts (up to 62 per cent of the area) of the district and the rest is black soil derived from basic rocks found at the north and north-east portion. Kankar deposits are found in black soil areas at 2 feet depth. The coastal areas abound in sand dunes of varying sizes over the red soil areas and as such the natural soil formed cannot be seen. A very narrow portion of the coast is strewn

with white coastal sand. The soil is deep, adequately fertile, well drained and so any crop can be raised without limitation.

Agricultural practices

The total land area of the district is 28,21,000 acres and out of this 11,18,000 acres being under cultivation work out to 39.7 per cent. Out of the 11,18,000 acres, 6,006,186 acres come under irrigated crops and the rest under rainfed cultivation. Irrigation is provided through the Thambiraparani system and several tanks in the district. Most of the tanks are fed by canals drawn from the reservoirs. Rice is cultivated in 30.6 per cent of the area followed by cotton having 17.8 per cent and cumbu with 15.8 per cent area. Rice is grown in two seasons in a year.

Sowing in dry lands commences from September in the red soil tracts and in black soils sowing is taken up after three weeks. Of course the actual time of sowing is dictated by the onset of monsoon rains. In some parts, a few enthusiastic cultivators have sunk wells and have taken up the cultivation of plantains, chillies, rice and chulam. Some well-to-do people have constructed concrete structures of three inches thickness at 12 inches depth and have started cultivation of rice in the sand dune areas. Chulam, cumbu, cotton, groundnut and horsegram are sown under dry conditions. Large areas in the coastal taluks are left without

cultivation due to the deposition of sand and there are no irrigation facilities. The extension of sand dunes on the lands is the principal cause for neglecting these lands.

Palmyra is extensively grown in the coastal lands and is nursed like any other field crop with regular manuring and root pruning. Growing palmyra palms gives employment to thousands of people in these parts. Every part of the palmyra tree is useful and fetches revenue. Besides the sweet juice extracted from the flower stalk is used for neera and for making jaggery. The leaf is used as thatching material, making toys, etc. and the trunk is used as rafters in building houses.

Palmyra and Udai

Another interesting cultivation practice in the sand dune areas is the growing of Udai trees (*Acacia planiferons*) for fuel. The trees grow to full height in five years and the trees are cut for fuel leaving the stump for coppicing. Just after felling, brinjal is grown in the field for one or two seasons. No manuring is done to the field as there is good amount of leaf litter and organic matter. Cumbu is cultivated during the third year after felling and afterwards the trees are allowed to grow. The cultivation operations carried out for brinjal and cumbu aid better growth and perennial crops are grown in these parts with best advantage. The cultivator reaps handsome returns by this practice.

It is the coastal area of this district which is affected by a variety of problems. The chief of them are wind erosion, salinity and alkalinity, water logging and excessive infiltration capacity of soil.

Wind erosion

After the north-east monsoon rains, very little rainfall is received during the winter months and hot weather period. The cultivated lands are free from any crops after the harvest of the field crops during January. The vast stretch of uncultivated lands are also devoid of any vegetation during this period. Due to continued dryness, the soil in these lands become friable and loose. At this moment the wind starts blowing with velocity upto 75 kilometers per hour from the second fortnight of April upto

ANNA ON SOCIALISM

"Socialism I should say, is not merely one amongst many patterns of economic activity—it is as much a fact as it is a system. It demands not the head alone, but more especially the heart. It is not sustained by charts and graphs alone but by the sincerity and the spirit of the missionary. It is not bookish. It is born out of the notes of warning issued from the proper section—the groans of the down trodden."

September. In the absence of any vegetation to anchor the soil the loose friable soil is easily subject to detachment, transportation and deposition elsewhere, where the velocity of the wind is not able to keep the soil particles in suspension or to keep them moving. Further the blowing wind gains greater velocity as it advances through tracts in the absence of any obstructions. The wind becomes turbulent as it meets with uneven obstructions like houses, a few ill grown trees and sand dunes of varying heights. Further wind blows from the south-west and southern directions and when the winds from both directions meet, turbulence sets in and high dust storms occur. The land area is triangular in shape with hill at the western side and the pattern of the blowing wind causes severe soil erosion due to the turbulence. The soil from the cultivated land is subject to wind erosion and as such it contains all plant nutrients as in the case of the soil found elsewhere. The moisture retention capacity of the soil is much less due to the excessive infiltration capacity. Save this limitation, the soil is quite suitable to raise any field crop. The movement of sterile sand from the sea coast is only a fraction.

The soil movement is intensive along the coast to a distance of about 10 kilometers into the land; deposition of sand in some cases extends upto 22 kilometers inland. The height of sand dunes ranges from a few inches to 70 feet and the sand deposit has

—Continued on Page 42.



PEARL FISHERIES

Pearl fisheries and chank fisheries have been sources of revenue to the Tamil Nadu for ages. In the absence of any recorded history it is not possible to trace the origin of these 'industries'. In the very early days when Pandyas ruled South India, they were reported to have been trading in pearls. The Greeks, Egyptians, Moors, Arabs and Venetians have referred to the pearl fisheries in the Gulf of Mannar as among the notable sights seen during their travels. It was Marco Polo who recorded the first description of diving for pearl oysters in the Gulf of Mannar.

Pearl is the queen among gems. Unlike other gems, the pearl comes to us perfect and polished, direct from nature. It neither needs nor admits of any improvement by man. Its perfection

and purity, its soft gleam, its chaste and subdued beauty and its quiet dignity have fascinated and will continue to fascinate mankind for all times. Its magical charm has fascinated the uncivilised as well as the sophisticated and it is sought after and worn by the high and the low. Women of rank and refinement, of wealth and beauty, prize them more than even the dazzling diamonds.

The sources of pearls are fairly widely distributed throughout the world, but the places where profitable pearl fisheries occur are limited. In point of production and value and probably of antiquity also, the fisheries of Persian Gulf and Gulf of Mannar stand pre-eminent. According to London's Hatton Garden, the world centre of the pearl market, the pearls coming from the Gulf of Mannar are equal in quality to those coming from any other part of the world.



THE RAFFLE

The Tamil Nadu Raffle Scheme started by the Government of Tamil Nadu in the year 1968 was a new venture. The idea of the State conducting a raffle is not altogether new. The Scheme has been in vogue in some of the continental countries for decades and it has become a part of the normal routine of life of the people there. In India, the State Raffle Scheme started first in Kerala, though a raffle has been run in Orissa much earlier through private agencies. Now the Raffle Scheme has been introduced in almost all the States.

In the immediate and distinguished presence of Governor Sardar Ujjal Singh, the Scheme was inaugurated in Tamil Nadu by the late Chief Minister, Dr. C. N. Annadurai on 15th August 1968 in the Rajaji Hall. The Governor was the first to buy a raffle ticket from the Chief Minister.

Main features

The Scheme consists of a monthly draw. Though the draws

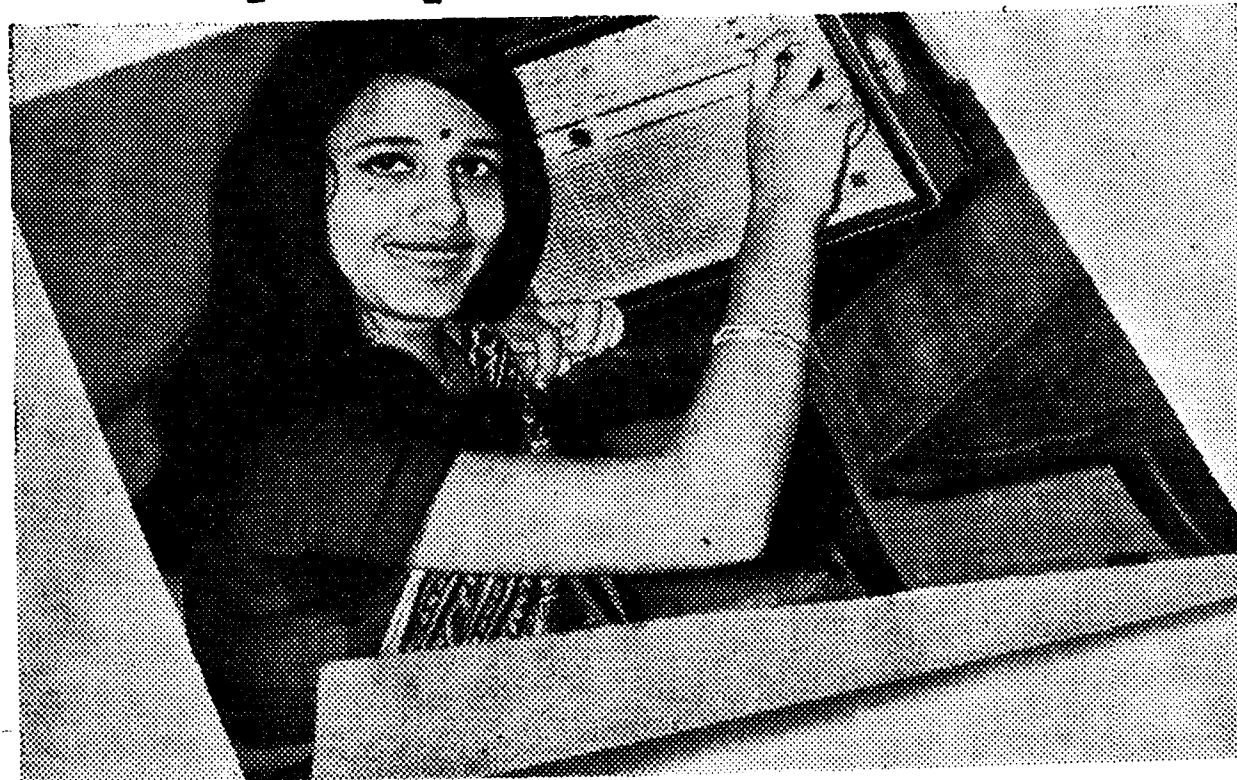
have been conducted in Madras till now, there is provision to conduct it in any of the District Headquarters. Twenty-one draws have so far been conducted up to the end of June 1970.

The Director of State Raffle is in charge of the Administration of the Scheme.

The tickets are issued in distinct and separate series. Each series is



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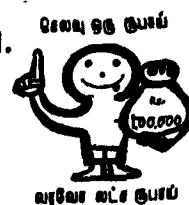
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distinguished by a distinct alphabetical notation and colour, consisting 10 lakhs of tickets bearing the serial numbers consecutively from 0,00,000 to 9,99,999.

The Director of Stationery and Printing, Madras, is in charge of printing the raffle tickets.

The price of a raffle ticket is Re. 1. The price of a ticket was however fixed at Rs. 2 for the nineteenth draw as a special case in which special Tamil New Year Bumper Prizes of Rs. 10 lakhs and Rs. 5 lakhs were offered.

Distribution of tickets

The Government decide the number of series to be released for sale for each draw, the dates for the movement of tickets from the Government Press to the districts and also the number of series to be released on various dates.

The distribution of the tickets in each series among the districts is done in accordance with the scale fixed for each district with reference to the nature of the district, the predominance of urban areas in the district and its size, population, etc.

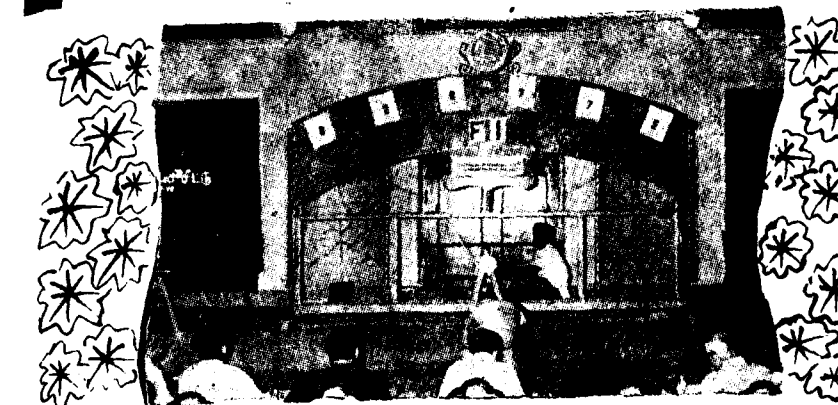
The Treasury Officer, distributes the tickets among the Sub-Treasuries in accordance with the scale of distribution, made by the Collector of the District concerned. The Sub-Treasury Officers sell the tickets to the agents direct after collecting from them the value of the tickets less 10 per cent commission allowed to them. There is also a provision for Government to sell tickets direct to whomsoever they want. Till now this provision has not been made use of.



The New Year Bumper Prize of Rs. 10 lakhs being distributed.



The Pongal Special Prize of Rs. 5 lakhs being distributed.



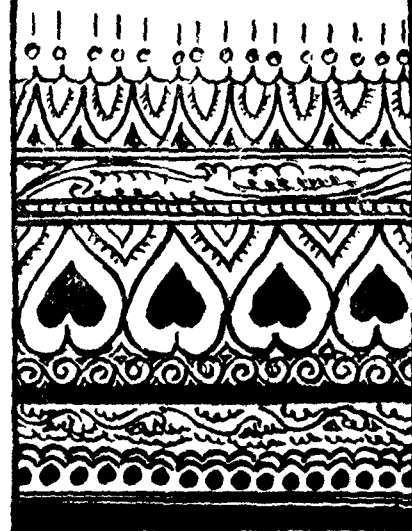
The new mechanical draw machine.

The Secret of Kanchi Silk

Kanchipuram, in Tamil Nadu, is famous for its silk sarees. The raw silk as well as the gold lace have to be imported by the weavers of Kanchipuram. Why did Kanchipuram become such an important silk weaving centre, though the main raw materials have to be imported?

The Sericulture Expert of the Government of Tamil Nadu stationed at Hosur says: The chief attraction of silk fabric being its lustre, and raw silk being dull in colour, the water used for degumming and dyeing of raw silk ought to have certain properties in order to impart lustre to silk. The water used at Kanchipuram possesses this unique quality of imparting lustre to raw silk and this may be one of the reasons why silk weaving has taken firm root in Kanchipuram.

An exhaustive article on Kanchipuram silk industry will appear in the next issue.



The tickets are sold through agents appointed by the respective Collectors, in accordance with the scales prescribed for the areas of the Panchayat Unions, Townships, various grades of Municipalities and the Madras Corporation. The Government may also directly appoint any registered co-operative society as agent for such area as may be specified.

The Government have permitted the appointment of agents outside the State to sell Tamil Nadu Raffle Tickets. 107 agents have been so far appointed outside the State to sell Tamil Nadu Raffle Tickets.

The total number of prizes offered till the tenth draw held in July 1969 was 556 with a total prize amount of Rs. 2,50,000 for each series. The prizes were however increased to 611 for each series with increase in the prize amount to Rs. 3,50,000 with effect from the eleventh draw held in August 1969.

Draw and results

The date of draw is fixed as 25th of every month from the Draw held in November 1969 onwards. The draw is supervised by a Committee consisting of five members constituted by the Government for each draw by nominating high officials of Government, Bankers, Industrialists and eminent men in public life.

The results of the draw are published in leading newspapers apart from what the news papers themselves publish by gathering

necessary particulars through their correspondents at the time of draw.

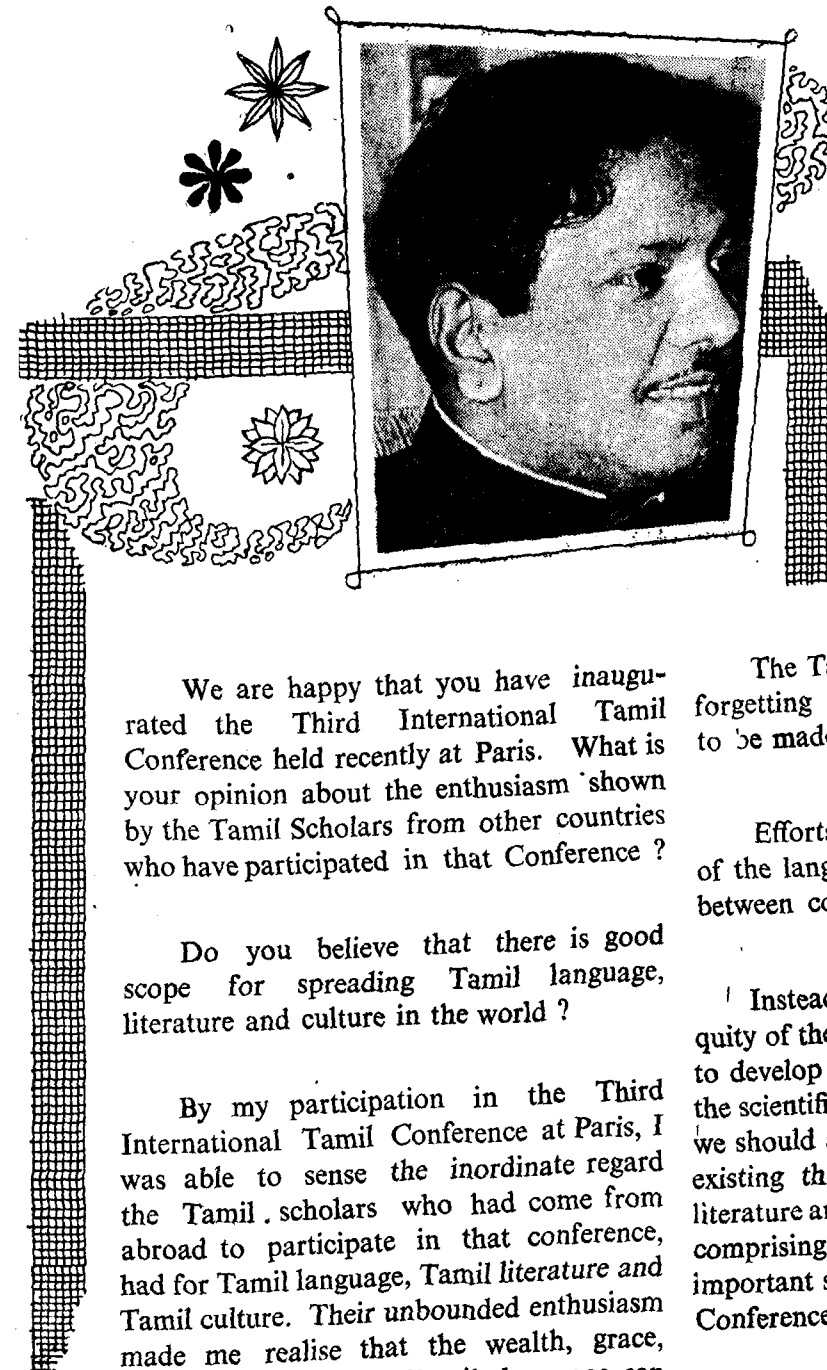
Payment of prizes

The first and second prizes are paid by the Director of State Raffle by crossed Cheques drawn in favour of the claimants. The third and fourth prizes can be claimed by the winners in any Sub-Treasury in the State. Special functions are organised for the distribution of special bumper prizes.

Each series having a gross income of Rs. 10 lakhs fetches a net revenue of about Rs. 4½ lakhs after meeting the expenditure of prize money, commission and Bonus to agents, cost of printing the tickets and other administrative expenditure including publicity. The net revenue to the State is estimated at more than Rs. 300 lakhs per year. It is proposed to spend entire receipts for developmental purpose.

With effect from the 1st April 1970, the Government have created a special Fund called 'The Tamil Nadu Special Welfare Fund' to route all the receipts and expenditure transactions relating to the State Raffle Scheme and to utilise the accretions in the Fund for the following purposes:—

- (i) Provision and expansion of medical facilities;
- (ii) Elementary School buildings;
- (iii) Slum clearance; and
- (iv) Any other development programmes approved by Government.



Spreading Tamil Across the Seas

Chief Minister's interview to the A.I.R., on his foreign tour, broadcast on 27 July 1970.

We are happy that you have inaugurated the Third International Tamil Conference held recently at Paris. What is your opinion about the enthusiasm shown by the Tamil Scholars from other countries who have participated in that Conference?

Do you believe that there is good scope for spreading Tamil language, literature and culture in the world?

By my participation in the Third International Tamil Conference at Paris, I was able to sense the inordinate regard the Tamil scholars who had come from abroad to participate in that conference, had for Tamil language, Tamil literature and Tamil culture. Their unbounded enthusiasm made me realise that the wealth, grace, beauty and charm of Tamil language can attract anybody to its fold.

I believe, even as you imply, that there is good scope for Tamil Language, literature and culture to flourish all over the world. But it is my desire that the people who are engaged in this noble purpose should have a broad vision.

The Tamilians residing in foreign countries are forgetting to read and write Tamil. Efforts have to be made to educate them.

Efforts should be made for the development of the language by mutual exchange of students between countries.

Instead of harping on the richness and antiquity of the Tamil language, we should make efforts to develop Tamil as a modern language attuned to the scientific temper of the times. For that purpose we should add three lakh more Tamil words to the existing three lakh Tamil words of the Sangam literature and release an English-Tamil encyclopaedia comprising these 6 lakh words. These are the important suggestions that I had made in the Tamil Conference.

What is the reason for the World Linguistic Scholars for evincing such a great affection for Tamil language alone? Is it because Tamil people are residing in countries like Ceylon, Malaysia, South Africa and Burma? Or is it because Tamil is still continuing to grow from apart being a very ancient language?

In a garden of a variety of beautiful flowers are not women being attracted exclusively to jasmine? Likewise, the world's Linguists have an unbounded love for Tamil. Not only is it a rich language ; but is a growing language too. And it has still to grow is another reason for this love.

The inordinate affection the Tamilians in foreign countries have for their Mother Tongue is yet another reason.

Can you roughly say how many countries have sent delegates to the Paris Conference and the countries which have sent the delegates ?

Delegates from 39 countries have participated. About 200 delegates from America, Sweden, Denmark, Germany, France, England, Czechoslovakia, Austria, South Africa, Mauritius, Malaysia, Ceylon, Singapore, Japan and Tamil Nadu and Pondicherry in India have attended the Paris Conference.

Do they have any organisation to do research in Tamil in those countries ?

Some foreign Universities have established departments for research in Tamil. Some other Universities are doing research in linguistics. Tamil is one of the languages studied in such research institutions.

WORLD CITIZENS ALL!

Shelley and Byron, Keats and Coleridge, Emerson and Bacon—they are not foreign to us in the strict sense of the term. Is Tiruvalluvar a mere Tamilian? They are all World Citizens—World Teachers. And the language enshrining their thoughts is not to be discarded just because it comes from another country. That we are not going to accord a higher status to English is borne out by the fact that we have accepted and are implementing with due caution the principle of making Tamil the medium of instruction in colleges—progressively.

—Dr. C. N. Annadurai.

Tamil Research departments are functioning in the Universities of Pennsylvania, California, Chicago, Washington, Michigan, London, Stockholm, Upsala, Heidelberg, Prague, Paris, Moscow, Leningrad, Malaysia, Ceylon and Singapore. Japan and France are two other countries that are contemplating to introduce Tamil research departments. Tamil research is done at the Institute of Oriental Studies in Russia.

Will the Government of Tamil Nadu make any arrangement so as to help them if they wish to continue their research in Tamil Nadu or invite the Tamil scholars to their countries ?

There is a scheme in the proposed International Institute of Tamil Research, Madras for Tamil scholars from abroad to come to Tamil Nadu for research as also for the Tamil scholars going abroad. Tamil scholars from Germany, Denmark and America are due to come to this Country for doing research in Tamil. Denmark has invited a Tamil scholar from Tamil Nadu to do research in Tamil in that country.

Can you tell the ways in which the Government of Tamil Nadu have planned to render help to the proposed International Institute of Tamil Research to be set up in the Capital of Tamil Nadu ?

The Government of Tamil Nadu have accepted in principle the founding of the International Institute of Tamil Research. The financial and other aspects are being worked out. The UNESCO has come forward to take part in this venture with a sizeable contribution. It has been stressed that the Government of Tamil Nadu should have sufficient control over this Institute.

Westerners, apart from their research interest in the ancient Tamil Classics may be interested in the 20th century literary works, short stories, novels, poetry, etc. Will efforts be made to develop this sphere too?

I feel that Tamil Nadu is in the vanguard in the field of short stories, novels and poetry too. If there is an impression that Tamil Nadu is lagging

behind in this field, it is because these Tamil works have not been translated into foreign languages. Recently, English translations of some of my short stories and poems were read by the Westerners and have won their appreciation. Thus through the work of short story writers, novelists and poets of Tamil Nadu, steps will be taken for development of this field also.

Generally how will the experience gained by you in the countries you visited, be useful for the development of Tamil Nadu ? Likewise how far the people in the West understand our culture ?

During my travels in the West, I saw historical monuments of Rome, which remind its heroic past, the relics of events that were responsible for its decline as also the contemporary richness with which the country is living today without bemoaning over its past decadence.

Nature's wealth in Switzerland is so lavish that I felt as if Courtallam, Ootacamund and Kodaikanal had come along with me. I saw the spectacle of the miraculous and quick resurgence of West Germany, which was ravished by a terrible war. Roads, parks and factories all fascinated me. More than my experiences, the inspiration that I had derived is impelling me to shape Tamil Nadu on the same lines. Though foreigners have not understood our culture very much, they pay high tributes to it when they become acquainted with it. For example, a cultural programme in Germany included Bharatha Natyam and Kathakali performances. I too was invited to the function. The German people were very appreciative of our culture. The resounding claps with which they expressed their appreciation of these programmes is one that I can never forget.

It is likely that this tour would have provided you with ideas for certain plans of action. It would be better if you can tell something about them.

Western countries annually earn huge income from tourism. Foreign tourists come in thousands attracted by the monuments as well as the modern parks. Statistics show that the annual income of a small country like Switzerland earned through tourism is equal to what America earns by tourism.

UNITY IN DIVERSITY

Don't you think, Sir, that the unity of India will be severely affected if your demand for greater autonomy to the States is conceded ?

Look at a picture of art in front of you with different colours. Each colour stands out but yet it gives a full and pleasant view of one integrated picture. It is in this manner that I envisage the fullness of unity in diversity.

TRADITIONAL EFFICIENCY

Tamil Nadu is reputed for its good administration. What is the reason for it ?

It is due to the existence of stable Government and the traditional efficiency of the Officers of Tamil Nadu Government.

—From Chief Minister's reply to BBC interview.

Plans have to be formulated to increase tourist traffic in our country and to attract tourists in keeping with our cultural tradition. To cite an example, in those countries, natural scenery and interesting tourist spots are printed on post cards in multi-colours. It attracts the tourists to a great extent. I have written to the Prime Minister suggesting that such publicity should be undertaken here also on All-India basis and efforts should be taken to implement it through the postal department. That should not be confined to a few selected places but should be done throughout the country. My visit to England, Italy, France and Switzerland has helped me in my efforts to expand the schemes for the beautification of cities, to improve the methods designed to develop agriculture in the countryside, to improve housing facilities and to take up with the Government of India seriously the need for increasing the industrial potential of the State. I convey my regards to the people of Tamil Nadu and assure them that the Government of Tamil Nadu with the co-operation of the people will take efforts to bring to reality the experiences gained by this foreign tour.

(continued from page 34)

buried houses, tall palmyra trees, wells, etc. The sand dunes occur in three distinct forms: (1) those situated immediately along the sea coast (2) those situated a little further inland, i.e., the middle series and (3) those situated at the inland following the middle series. The first series of sand dunes are usually taller than three feet, large, extensive completely stabilised with adequate growth of vegetation and soil movement is practically absent. In the middle series, the area facing the sea is stabilised with natural vegetation and the area facing the inland is not stabilised. The third series is quite unstable and so this forms the nucleus of severe wind erosion. Dust storms occur often and the movement of human beings, cattle and birds is affected very much. The visibility is obstructed depending upon the density of the storm very frequently.

The wind erosion is very high from Kavalkinaru in the southern most part of the district upto Tiruchendur in the north. From Kavalkinaru upto Thiruvambalapuram there are only a few sand dunes and they are comparatively smaller in size. From Thiruvambalapuram upto Tiruchendur there are several sand dunes of varying sizes extending from small ones north of Tiruchendur upto Shanmughapuram in Koilpatti taluk. Soil erosion by wind is not a problem in these parts. From Shanmughapuram upto the northern boundary of Tirunelveli district along the coast, along narrow stretch of sand

dune is found and this extends into parts of Ramanathapuram district.

The total area affected by wind erosion is 23,718 acres in the coastal taluks of Nanguneri, Tiruchendur, Sreevaikuntam and Koilpatti. In parts of Valiyur, Perungudi and Kavalkinaru, the wind-blows with so much velocity that the field crops, especially the plantations are subject to heavy damage every year. The area experiencing this problem is about 1,000 acres. The total loss due to wind erosion in these parts is estimated to be Rs. 65 lakhs per year. This loss is apart from the deposition of soil in the tanks and on the highways, causing floods and disruption of communication. In addition to these, the sweeping wind deprives the soil of the moisture rapidly, increases the loss of water due to evaporation from water surfaces and thus the deleterious wind makes the life of the people highly miserable and insecure in all respects.

Prevention and control

Wind erosion can be controlled and prevented by having vegetative barriers planted across the direction of wind. The vegetative barriers in several rows meant to protect the field crops in extensive areas are called shelterbelts. The shelterbelt with five rows of plants of different species planted in a particular fashion will be able to lift and deflect the wind away from the ground surface. These shelterbelts have to be planted in series at intervals of about 400 feet across the direction of the

wind. For raising the shelterbelt, some area has to be cultivated with field crops. The cost of raising shelterbelt per acre will be Rs. 120 including the cost of raising seedlings, planting and maintaining the plants for two years. This will allow unhindered cultivation in 24,000 acres in 32 villages and the shelterbelts will prevent depletion of soil moisture and help increase recharge of groundwater storage in about 2.98 lakhs acres. This will facilitate gardenland cultivation by tapping the underground water resources. The problem of wind erosion is particularly severe in this part of our State mostly due to its geographic disposition and configuration of the land, aided by the physical conditions of the surroundings. If there is any improvement to be attempted for the welfare of this district, prevention of wind erosion should be the first.

—To be continued

HELP TO AGRICULTURE GRADUATES

The State Bank of India has started a scheme for granting loans upto Rs. 1 lakh to help agricultural graduates in setting up modern farms in villages. Under the scheme the graduates would have to settle down in villages.

To revive and preserve the ancient Art of Sculpture and Architecture

— By A Staff Reporter —

There has been a strong theory that the monoliths at Mamallapuram (Mahabalipuram) represent only the beginning of a grandiose conception and that what we see today bear ample testimony to an abrupt ending of the work, due to a cataclysmic event. Centuries have rolled by since then.

Sound of chisel

As we approach Mamallapuram now, the sound of chisel clanging on stone is heard, ending the torpor of centuries. True, the old master sculptors of Mamallapuram, like Kevatha Perunthachan, Sathamukkian, Kunamallan and Apajan have not resumed their chiseling. But something far more important is happening

there. Mamallapuram, the creation of great sculptors is now creating sculptors for centuries to come. For, the clang of chisel upon stone is emanating from the Government Sculpture Training Centre.

Sculpturing, as an art form was taken to great heights by Tamils and the resuscitation of this art form, which has held the world in thrall for centuries, surely cannot be attempted by anybody else. Established in 1957, the Sculpture Training Centre has turned out several batches of sculptors who have found ready avenues in original work as well as temple renovation work. The trainees of this centre have shown such superb crafts-

manship in some UNESCO sponsored temple renovations, that the august world organisation is now considering to teach at this centre some of its advanced techniques of temple preservation so that future trainees can be more useful in its work the world over.

"Our only aim is to revive and present the ancient Art of Sculpture and Architecture which has almost perished during the last two hundred years and to produce a number of artisans for future work", says Thiru V. Ganapathi Sthapathi, Superintendent-cum Master Sculptor of the Centre.

He takes me to a room where there is the drawing of a temple tower.

"We explain to students the traditional and fundamental aspects of sculpture and architecture with diagrams. Here, we strictly follow the principles as laid down in ancient works on sculpture and architecture" he says, while conducting me through one class.

"What are those ancient works?" the Sthapathi was asked.

"They are Manu-Sara, an 18th Century palm leaf manuscript,



Mayamatam, a 7th Century treatise attributed to the Master Architect Mayan mentioned in Silappathikaram, Manasara-13th Century work on Architecture and such other books are our source materials" he adds. His father Thiru M. Vaidyanatha Sthapathi was the first Superin-

tendent of the Institution. He was the Chief Architect of the Gandhi Mantapam at Adayar.

Then he takes me to the workshop where practical training is given to students in sculpture and architecture. There we find sculptures of different sizes in different stages of finish. The students are found immersed in their work.

The first year students are given training with soap-stone; the

second year students with green stone and the third and fourth year students are allowed to work on granite. Yes, the duration of the course is four years. At present 23 students are undergoing training there. The students come from various parts of the State. "This year", the Super-

intendent says, "two students will be coming from Ceylon under the Colombo Plan".

The students are given a stipend of Rs. 60 per month. There is a hostel attached to the centre for the students.

Every year the students are taken round on a study tour to important temples of the State and the final year students are taken to Halibed, Somanathapuram, Ajanta, Ellora and Konarak. These study tours help the students to widen their knowledge in the field. It also gives them the necessary opportunity to study and assimilate the various aspects of the art of sculpture and architecture at these ancient monuments.

While dwelling on these aspects of the training he finds me engrossed in a pair of sculptures. Immediately he comes to my rescue.

Sculptures for Madras Air-port

"Those two identical sculptures are the 'Deepa Nachiar' or Lady with Lamp. They are under preparation here in pursuance of the instructions of Dr. Karan Singh, Union Minister for Civil Aviation and Tourism for erection at the Madras Airport when it is expanded into an International Airport soon.

I take a close look at one of the sculptures. It is about 4 feet in height so beautifully hewn out of granite. The cost of a single sculpture including the pedestal is Rs. 4,500.

He narrates an interesting story: "We have supplied a statue of Hanuman to the Hanuman Temple built by Dr. Karan Singh at Hyderabad. He was very much impressed at our work. And that is how we again had this opportunity and we are doing our bit of service to our Madras Airport."

Lady with lamp

Sculptors, Thiru Kamalanathan and Thiru Perumal, ex-students of the Centre, had carved the Lady with Lamp statues in three months. Thiru Kamalanathan a native of Mamallapuram comes from an agriculturist family. When interviewed, he said that he joined the training centre out of his own interest. After finishing the course he was paid Rs. 6 a week then Rs. 8 a week and then Rs. 250 a month, for his work. He had worked at Dharmapuri, Badrachalam, Chittapal Poondi, Hyderabad and Varanasi getting Rs. 300 to 350 a month. "I feel that I have chosen an honourable profession and I am satisfied with it", says Thiru Kamalanathan with contentment.

Next, look at the Lady with Mirror (p.46). Four or five students are carving out the same sculpture. He says that they have sent one sculpture of the "Lady with Mirror" for display at the Sidney Fair in Australia. "As it was appreciated by one and all we are going to send 10 pieces of the same to Sidney Fair". These are exquisitely carved figures which breathe life and delicateness. The cost of each

piece is Rs. 500. At Sidney it will go upto Rs. 1,000.)

Hundred models

With an unwilling heart to leave that wonderful world of creation we now enter the show room. There are many models of sculptures and architectures. There is a pair of bust size lovers which won the praise of Thiru V. R. Nedunchezian, Minister for Education and Health. There is the model of the toric (entrance) for the building of the Training Centre. The students will carve out the original toric for erection. All of the sculptural and architectural works of the building were executed by the students themselves. There is also a model of the Shore Temple. A replica of the Shore Temple measuring about 4 feet in height is on display at the Expo 70 Exhibition now being held in Japan. Its value is Rs. 9,000. So far only sculptures have been appreciated by foreigners. Now they are also evincing keen interest in our architectural designs. The Shore Temple architecture at the Expo' 70 has won the appreciation of the visitors. These are only a select sample of the many pieces kept in the show room.



There is also a Production Centre opened in 1969 which supplies sculptures on order.

Previously only foreigners have purchased these sculptures in large numbers. The sculptures of this centre have been exported to countries like United States, Holland, Australia, etc. So far, nearly 2,000 pieces have been sold out. Now, local demand is going up slowly. One Thiru Sarma of Madras for instance has placed order for a Jain image of 4 feet in height, costing Rs. 3,250. Formerly there was interest only in replicas. Now people are interested in originals.

Another important piece of work, the centre will be executing, is a 7 feet Lotus Girl sculpture for erection at the Kodaikanal Lake under the Kodaikanal Beautification Scheme.

An Expert's praise

The students of this centre have worked at Hyderabad,



was possible only because we are strictly following the ancient tradition)

Varanasi, Kanchipuram, Kuzhambandal, Badrachalam, Vembalavada, Kanyakumari and other places in temple renovation and conservation work. Two of them went to Malaysia on invitation to build Maha Mariamman Temple. The conservation work at the Kanchipuram Chokkisar Temple and the Siva Temple at Kuzhambandal near Kanchipuram attended by sculptors, Rajagopal and Raman, has been very much appreciated by the UNESCO expert, Prof. Wright, who has suggested that, in future, temple conservation work should be entrusted only to the sculptors trained at this Centre. The expert has also sent a proposal to UNESCO suggesting the teaching of the Modern Conservation Techniques to the students by the UNESCO experts. The proposal is under consideration. What impressed him most is the way in which the original architecture of these two temples have been conserved. Thiru Ganapathi said that this

Many of the students of this Centre are now having their own workshops. One is at Mamallapuram itself which is State-aided. Such workshops are at Thirumurugan Poondi in Coimbatore district and at Karuvelamkulam in Tirunelveli district. 69580

The tradition revived

At present, the Centre is giving out Proficiency Certificates to the trainees. The Handicrafts Advisory Board has passed a resolution for upgrading the institution into a College and to award Diplomas. Based on this resolution a proposal has been sent to the Government for upgrading the Centre as a College. The Centre is now teaching only the art of sculpture and architecture. There are two centres for icon making one at Swamimalai and the other at Tambaram. There is a wood carving unit at Nagercoil. A bell-metal unit is functioning at Kanchipuram. All these are

interrelated subjects. Integration of these centres in one place will not only result in economy but also help in teaching the students more systematically. And that can be possible only when the centre is upgraded as a college. Mamallapuram is most suited for such a college.

There are at present no textbooks for the students. To fill this gap a comprehensive textbook entitled "Sirpach Chennoo" is under preparation. This, it is hoped, will meet one of the long felt and essential needs in the field of Art and Architecture.



Lady with mirror