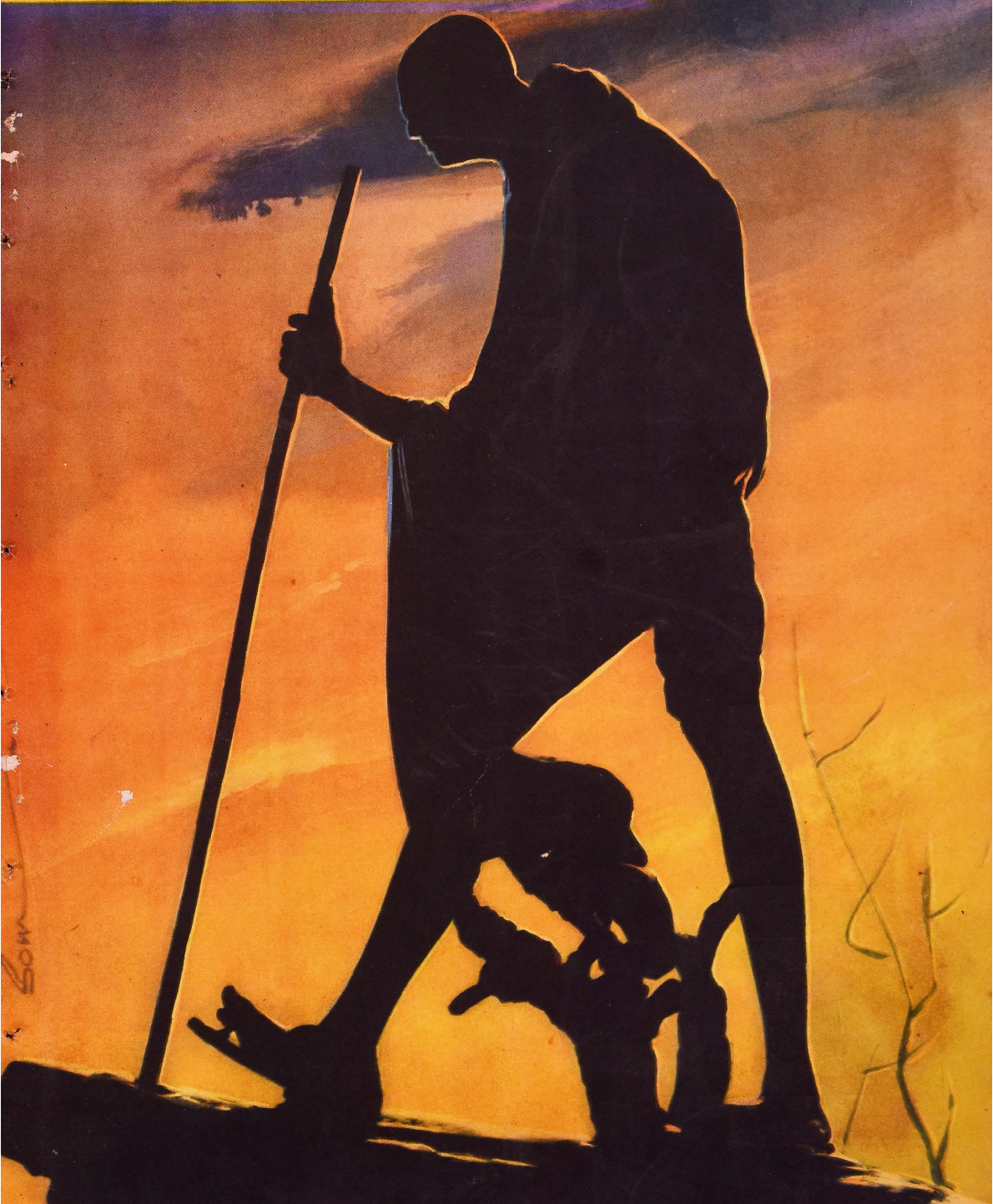


# Tamil Arasu

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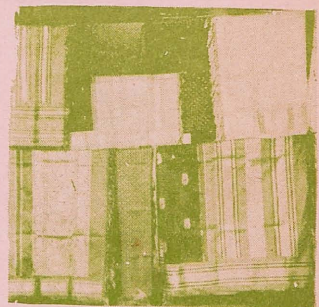
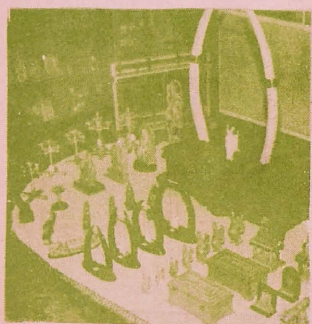
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# Tamil Arasu

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## GANDHI IS FOR EVER

Tamil Nadu and the Tamils can take pride in having helped in the moulding of the image of a shy young barrister into a Mahatma and also in the fashioning of his matchless weapon, Satyagraha.

Firstly, it was the Tamils in South Africa who discerned a true leader in Gandhi and gave the cause he expounded, such unstinted loyalty and brave, unflinching martyrdom that the leader of men in Gandhi was born.

Thus Gandhi returned to India with a philosophy of his own and a new technique of social and political agitation. During his tour of Tamil Nadu to muster opinion against the Rowlatt Act, he repeatedly cited the examples of his South African Tamil colleagues—Nagappan, Narayanaswamy and Valliammal.

While Gandhi was Rajaji's guest in Madras City they discussed plans for the great 1919 Satyagraha. Gandhi told Rajaji early the next

morning that the idea came to him the previous night in a dream, that they should call upon the country to carry out a general hartal and observe the day as one of fast and prayer.

Accordingly, it was from Madras that a call to the Nation went to observe fast, to pray and to suspend all business on April 6, 1919, instead of on March 30 which was fixed previously. That call from Madras galvanized the whole country. Again it was in Madurai in Tamil Nadu that Gandhi spurned his superfluous clothings and adopted the famous 2-piece suit of dhoti and upper cloth, the simple dress by which Gandhi is familiar throughout the world.

Surprisingly enough, Gandhiji himself admitted that he was possessed more of the traits of the Tamilian than that of any other people in India. No wonder Tamil Nadu remembers Gandhi for ever not merely on this birth day, the 2nd October.



# WHAT TAMIL NADU AIMS TO DO IN FIFTH FIVE-YEAR

## PLAN

In the approach to the Fifth Plan, the Union Planning Commission has aimed at achieving certain levels of development under various sectors, in order to ensure the fulfilment of some of the minimum needs of the common man atleast by the end of the Fifth Plan in all the States. The objectives of this programme are—

(a) to provide an all-weather link road to every habitation with population of 1,500 and above ;

(b) to launch a massive programme of rural water-supply ;

(c) to have 100 per cent enrolment in the age-group 6 to 11 and atleast 60 per cent enrolment in the age-group 11 to 14 ;

(d) to cover atleast 40 per cent of rural population by providing electric supply ;

(e) to have a Primary Health Centre for every Panchayat Union, with sub-centres for every 10,000 of population and

(f) to provide house-sites to the landless workers after legalising the occupation of house-sites by the tenants, and to improve the conditions in the slums in the Urban Centres having a population of eight lakhs and above.

### Rs. 148 Crores for Minimum-needs Programme

The Union Planning Commission suggested, after discussion with State Government officials, that a programme of Rs. 148.31 crores will be called for to achieve the objectives outlined under the minimum-needs programme and that this outlay should be spent in the following manner. The amount indicated by Government of India are grossly inadequate to reach the targets laid down by us for the Fifth Plan. The provision now made are indicated at the next page :

Emphasis is being laid in the minimum-needs programme of Fifth Five-Year Plan on development of

rural sector of the State, so that the continued migration to the overcrowded urban centres is discouraged and controlled. This is also important from the point of view of removal of rural poverty. Employment opportunities and improvement of living conditions in the rural areas are conditions precedent to any reduction of levels of poverty in the country. It is from this point of view that the State has provided much larger sums in the Fifth Five-Year Plan than have been indicated by the Government of India. Our programme includes, in particular, Rs. 15 crores for link roads in Panchayat Unions, connecting habitations with a population lower than 1,500 and Rs. 15 crores for construction of elementary school buildings. A sum of Rs. 15 crores has also been set apart for bringing up to standards minor irrigation sources in the rural areas. We hope that as a result of these outlays proposed, adequate employment opportunities will emerge for the rural poor and at the same time the productive resources of the State will be improved.

### Rs. 25 Crores for Slum Improvement

Though the Government of India have considered only slum improvement as part of minimum-needs programme, this Government has all along been of the view that a programme of slum clearance will be the only solution to the problem of crowded urban slums ; we have made a provision of Rs. 25 crores for this item to carry out works mainly in Madras City and other major towns like Madurai and Coimbatore. Out of about 24,500 Harijan Colonies in the rural areas, during the Fourth Plan period, we have given electric supply to 23,450 Colonics. During the Fifth Plan

period the balance will also be electrified. We are proposing an integrated child care and nutrition programme at a cost of about Rs. 57 crores covering nutritional feeding and nutritional education. We have made a provision of Rs. 9 crores towards sites for landless agricultural labourers.

### AGRICULTURE.

There has been a marked increase in production in the agricultural sector during the four Five-Year Plans in Tamil Nadu. The increase in production was to a considerable extent due to the extension of agriculture to new areas in the fifties. During the sixties, the increase in production was accomplished largely by stepping up agricultural productivity. Between 1951-52 and 1960-61 the foodgrains production rose from 36.07 to 53.96 lakh tonnes. The area under foodgrains cultivation also rose from 44.19 lakh hectares to 51.01 lakh hectares. The foodgrains production rose from 53.96 lakh tonnes in 1960-61 to 70.34 lakh tonnes in 1970-71 and is expected to reach 74 lakh tonnes by 1973-74. The Fourth Plan target of 79 lakh tonnes of foodgrains could not be achieved mainly due to shortfall in fertiliser supplies which are vital for the success of the high yielding varieties programme. Only 2.3 lakh tonnes of nitrogen are likely to be available as against 3.15 lakh tonnes needed in 1973-74.

### Increased Productivity

During the Fifth Plan period, emphasis will be laid on increase of productivity by ensuring supply of good seeds and other necessary inputs like fertilisers, pesticides, etc., in time. It is proposed to step up foodgrain production from the expected level of 74 lakh tonnes by the end of Fourth Plan to 90.50 lakh tonnes by the end of Fifth Plan. The following table indicates the



targeted production in Fifth Plan period :—

1973-74  
production in lakh  
tonnes. Fifth Plan.

Rice ..	57.00	67.00
Millets ..	15.00	20.00
Pulses ..	2.00	3.50
Total food-grains.	74.00	90.50
Sugarcane.	11.00	14.00
Cotton (lint).	0.72	0.90
Oil Seeds ..	11.50	15.16

Emphasis will be laid on production of quality seeds by the Agricultural Department itself and necessary facilities for growing seeds will be created in the State Seed Farms. The aim is to produce enough seeds

# EMPHASIS ON MINIMUM- NEEDS PROGRAMME IN FIFTH FIVE-YEAR PLAN

to cover 5 per cent of the total area under Paddy and Millets and 10 per cent of the total area with improved seeds regarding pulses. It is also proposed to establish large elite coconut seed farms. 1.2 to 2 per cent of the normal area under groundnut will be covered by improved seeds every year. Emphasis is also being laid on setting up two more seed processing units in addition to the four units which would be in position by the end of Fourth Plan. It is proposed to step up short-term and medium-term co-operative credit lendings to Rs. 105 crores and long-term lendings to Rs. 34 crores by the end of the Fifth Plan.

All efforts in extension work and credit facilities will bear fruit only if adequate quantities of fertilisers are made available by the Central Government. Experience during the current Plan has indicated the vital role played by fertilisers, shortage of which has contributed to shortfall in production. The massive programme of agricultural production proposed during the Fifth Plan needs additional fertiliser as indicated below :—

	Amount indicated by Government of India.	Amount provided in Draft Fifth Plan.
	(RS. IN CRORES)	
Elementary Education .. ..	19.63	†34.69
Nutrition (including mid-day meals schemes and CARE component).	57.14	57.14
Rural Water-supply .. ..	25.00	40.00
Rural roads .. ..	10.00	40.00
		*15.00
Health .. ..	17.54	21.69
House-sites for landless workers ..	9.00	9.00
Environmental improvement to slums ..	10.00	10.00
Rural electrification .. ..	Nil.	50.00
Slum clearance .. ..	..	25.00
	148.31	302.52

\* Provision for link roads for habitations with population less than 1,500.

† Includes a provision of Rs. 15 crores for elementary school buildings in rural areas.

	N	P	K
	(LAKH TONNES)		
1974-75	3.25	1.00	1.00
1975-76	3.50	1.25	1.25
1976-77	3.75	1.50	1.50
1977-78	4.25	1.70	1.70
1978-79	5.00	2.00	2.00

High yielding varieties also require an adequate supply of pesticides. While there is greater participation of non-Government agencies in distributing fertilisers and pesticides, the attendant need to continuously check the quality of these vital inputs should not be ignored. It is proposed to have a rigid quality control of pesticides and chemicals sold through trade channels. An organisation is being set up to test a large number of samples. A programme of ground-spraying by local entrepreneurs is also planned during the Fifth Plan. This will provide adequate employment opportunities and involve local talent in launching organised pest control campaigns. Mobile repair units will be set up in each district; a large number of



# MARKED INCREASE IN AGRICULTURAL PRODUCTION

mechanics and maistries will also be trained in maintaining the plant protection equipments. It is proposed to start an agricultural machinery Training Centre in a central place in the State. This will be used to give training to staff as well as farmers in Tamil Nadu. In addition to the existing 6 workshops, it is proposed to set up 3 more workshops for maintenance of agricultural machinery.

## Modernisation of Irrigation Systems

Most of the irrigation system in Tamil Nadu are very old and have been developed during the past many centuries. Many of them are anicuts with open head channels with inadequate facilities for controlling the flow of water into the branch channels. Modernisation of these irrigation systems including the provision of controlling devices at the head works and at all the main sluices was taken up in the Fourth Plan period. Substantial work has been done under the Periar System and the Tambarabarani System during the Fourth Plan. It is proposed to take up the remaining portion of the Vaigai and the Tambarabarani Systems and also take up modernising all the other irrigation systems. For these programmes a provision of Rs. 63.34 crores has been made under the Fifth Plan period.

Under Minor Irrigation, it is proposed to sink 10,000 filter-points, 12,500 private tube-wells, 4,000 bores in existing open wells and to deepen 10,000 open wells through the use of departmental machinery. This will be supplemented by efforts of Agro-Industries Corporation and other private agencies.

## Taping of Ground Water Potentiality

It is well known that Tamil Nadu has been for many year tapping major portion of the surface water potential and has been now left with no major river to tap. However, there are still a large number of small sources widely scattered throughout the State, which, if harnessed, will bring benefits both as sources of irrigation and for prevention of floods. Medium irri-

gation schemes have been proposed for construction during the Fifth Plan period for which a provision of Rs. 2 crores has been made. In addition, a provision of Rs. 30 crores has been made for taking up works under special minor irrigation programmes for construction of new tanks and improving the existing tanks.

Many of the 27,000 tanks coming under the control of Panchayat Unions require standardisation and in some cases major repairs. A large number of them, which are in ex-Zamin tracts suffered, continued neglect in the earlier years. A provision of Rs. 15 crores has been made during the Fifth Plan period for their improvement.

The State has reached a stage where utilisation of ground water potential has to be carefully planned and regulated. Unless a detailed and a scientific survey is made, this will not be possible. A provision of nearly Rs. 8.14 crores has been made for having an intensified ground water survey covering the whole State. This will enable us to frame definite policies for utilisation of ground water. Adequate provisions have been made for purchasing suitable machinery for the Agriculture Department and the Agro-Industries Corporation for assisting individual ryots to tap ground water using boring equipment.

## Development of Power

The need for development of power requires no emphasis ; more so in Tamil Nadu, which does not have much of mineral wealth based on which industries can be started and where power happens to be the main basis for further industrial development. In addition, Tamil Nadu, with very little of surface water potential to be tapped, has to be depend for its improvement of irrigation on power development only. The fact that there are a number of electric pumpsets and that a substantial percentage of the total energy consumed goes towards agricultural pumpsets emphasises the role of electricity in agricultural development. All this points to the need to take adequate steps to develop generation capacity to meet

the full requirements of the State, both to sustain and improve the present levels of industrial as well as agricultural production. Based on our experience, we have calculated that we have to provide for a growth of 12.5 per cent per annum both in respect of peak demand needs and in the total energy consumed.

The Plan provides for Rs. 446 crores for power ; out of this, Rs. 331 crores is on generation. The State Government has put up plans to tap even small schemes of hydel potential available within the State. Besides, it has taken up schemes like Kadambari pumped storage, Koniar pumped storage and Velar pumped storage which will help to meet the peak load demand. It is well-known that except for small Hydro-Electric Schemes and the Kondah Hydro-Electric System, the Major Hydel Schemes like Mettur and Periar Schemes are all linked up with irrigation despatches and have, therefore, limitations in becoming firm generators of power. Our only hope lies in the creation of additional thermal generation capacity. Clearance for the Tuticorin and Mettur Thermal Scheme is therefore urgently sought for. It take about 5 years from the date of starting work for Thermal Generation Scheme to be completed. Our efforts in the Fifth Plan will give us benefits mostly only in the Sixth Plan period. Therefore, we have to plan our generation programmes in the Fifth Plan keeping in view the demand targets of the Sixth Plan. The proposed outlay will give only an additional 825 M.W. of installed capacity in the Fifth Plan period and 1,990 M.W. capacity in the Sixth Plan period. This will still leave a gap of 1,364 M.W. at the end of the Fifth Plan.

In addition to the increase in the generation capacity planned by the State, a massive effort has been proposed for reduction of line loss by way of installing shunt capacitors and improve the transmission and distribution net work. In addition, it is proposed to monitor the line loss in each one of the sub-systems individually and try to rectify defects found in them. A provision of Rs. 90 crores has been earmarked for this purpose.



# MODERNISATION OF IRRIGATION FACILITIES

## Exploitation of Fuel Resources

In the present state of crisis in the fuel economy of the country, it is obvious that all available fuel resources should be fully exploited. Care is also to be taken to minimise the strain on transport of fuel resources from point to point. It is from this point of view that further development and exploitation of the Neyveli mines become very important. It takes 7 to 10 years for an open cast mine of this kind to be fully developed. The power crisis in the State points to the need for action to develop an additional pit site thermal station of 1,000 M.W. capacity at Neyveli. Even if we start today, power will be generated only at the beginning of the Sixth Plan. Keeping all these factors in view, the State Government feels that action should immediately be taken to initiate work on the second mine cut at Neyveli and a thermal station of 1,000 M.W. capacity. Kalpakkam Atomic Energy Plant should be expanded to the extent of 470 M.W. of additional generation capacity. Any delay would worsen the power situation in the State for years to come.

## Rapid Industrialisation

Tamil Nadu has more than 30 per cent of its population living in urban centres. The per capita availability of cultivable land being only 0.2 hectares, there is always a compelling need for the rural population to migrate to urban areas in search of other avocations. Tamil Nadu has to depend more and more on rapid industrialisation and development of secondary and tertiary sectors to improve its overall economy. With this in view, we have done our best during the Fourth Plan to take part in direct industrial investment through the Tamil Nadu Industrial Development Corporation which has set up a Cement Plant at Rajapalayam and a continuous Casting Plant at Arkonam. It is in the process of setting up a Nylon Plant. In addition, TIDCO is also promoting industrial growth in the joint sector by sponsoring

certain ventures in collaboration with private entrepreneurs. Preliminary work is under way in the case of a tyre plant, certain chemical plants and a pharmaceutical project. A massive fertiliser project promoted in the joint sector by TIDCO is nearing completion at Tuticorin and will go into production during the early years of the Fifth Plan. Among the new projects, planned are a SPONGE Iron Plant attached to the continuous Casting Plant at Arkonam, a machine tools plant, expansion of the Cement and continuous Casting Plants, besides expansion of the SPIC fertiliser plant. A provision of Rs. 40 crores has been made towards the various new schemes to be undertaken by the TIDCO. There are certain gaps in the facilities provided for entrepreneurs interested in starting medium and large scale industries. We have therefore set up the State Industries Promotion Corporation with a view to giving a package of incentives, including under-writing of equity and provision of term loans for new companies. SIPCOT is also developing an industrial complex at Ranipet located at about 100 Kms. away from Madras. For the development activities to be undertaken by SIPCOT, a provision of Rs. 15 crores has been made.

We have set up a Textile Corporation entrusted with the task of reviving the sick mills in the State. It is noteworthy that out of 12 mills taken over so far by the Textile Corporation, 7 units have reached the break-even point.

Tamil Nadu is located in a strategically advantageous position for the establishment of defence industries. It has also adequate skilled and well-trained labour. It has a base for ancillary industries which can serve well the needs of modern and sophisticated defence industry. Government of Tamil Nadu have been pleading with the Government of India for the regional dispersal of defence industries. We hope and trust that in the coming Plan, a deliberate decision will be taken to locate more such units in the State.

It has been reported that the pace of activity on Salem Steel Plant is being slowed down. Tamil Nadu hopes and trusts that this will not be the case. Expeditious completion of Salem Steel Plant should be ensured by adequate provisions being made in the Fifth Five-Year Plan.

It is proposed to set up immediately three sugar factories in the co-operative sector and to take steps to instal and develop another 8 units. Towards this, a provision of Rs. 10.50 crores has been made in the Fifth Plan period. We are also planning to modernise the textile mills taken over by us in order to make them more economic. For this, a provision of Rs. 5 crores has been made.

Under the Small-scale Sector, during the Fourth Plan, the State Government promoted the Small Industries Development Corporation. SIDCO renders assistance to small-scale entrepreneurs by way of supply of machinery and workshops on hire purchase, supply of raw materials and other technical assistance in setting up industries. A provision of Rs. 6.45 crores has been made for the Small Industries Development Corporation during the Fifth Plan.

## Position of Handloom Industry

Special mention must be made regarding the position occupied by the handloom industry in the State. About 5 lakhs of weavers depend on handlooms in this State. In respect of handlooms in the Co-operative Sector, the State Government is giving all the support it can, by way of organising and strengthening the Co-operative structure, improving the managerial talents available to the central co-operative apex organisation, by making arrangement for timely supply of yarn at fair price through the Co-operative Spinning Mills and by granting incentives by way of rebate on the cloth sold by the handloom industry. Provision has been made

## Rs. 446 CRORES FOR POWER GENERATION



# RAPID INDUSTRIALISATION IS AIMED AT

in the Fifth Plan to expand Spinning mills at a cost of Rs. 2.12 crores. The State Government has made a provision of Rs. 17.88 crores for assisting the Handloom industry. All these will not be effective unless the Centre comes forward and recognises the need to sustain this employment-oriented industry by reserving certain items for exclusive manufacture by handlooms and also makes suitable arrangements for supply of essential raw materials without any hitch. The State Government hopes that at least at this stage, the Centre will come forward to protect and sustain this labour intensive industry, which is capable of providing gainful employment to the educated as well as uneducated, and which is carried on in a widely dispersed manner, avoiding all the attendant problems of urbanised industrialisation.

During the Fourth Plan period, the State Government started work on the development of Sericulture in various places, which have been found suitable for this purpose. For its further development, a provision of Rs. 1.28 crores has been made under the Fifth Plan. In addition, we have set up the Handicraft Development Corporation to take charge of the marketing of traditional handicrafts of Tamil Nadu, which incidentally have a very high export potential.

## Plea for an Industrial Refinery

While the State has done its best and plans to continue its efforts vigorously, the Centre must come forward to make investment in the industries in the State in a big way. Tamil Nadu has been pleading for a long time for an industrial refinery located at Tuticorin. The southern extremity of the country is not served by a refinery. Tuticorin, with its fast developing chemical industry base, needs adequate supply of naphtha. Tamil Nadu Industrial Development Corporation has already submitted a detailed project to the Government of India for the installation of a Refinery at Tuticorin which will concentrate on

petroleum fractions useful to petrochemical industries. The Project Report which has been submitted also incorporates an arrangement for the import of necessary crude. This proposal has been sent as early as 1971. Tamil Nadu requests that early action be taken on this.

The Fifth Plan provides Rs. 101 crores towards road development of which about Rs. 55 crores goes toward fulfilling one of the objectives of minimum needs programme viz., providing all-weather linkroads for all habitations of 1,500 and above. This will cover both villages and clusters of villages with population of more than 1,500. The overall roads programme will enable laying 2,700 Kms. of new roads and improving 6,300 Kms. of existing roads.

## A New Minor Port in Ennore

The Fifth Plan also aims at the creation of a new minor port at Ennore in Tamil Nadu at a cost of Rs. 1.31 crores. This port will connect Ennore estuary with the Buckingham canal and is expected to flush the Buckingham canal periodically. It will help in implementing the programme of improving Buckingham Canal as a water way for which a provision of Rs. 4 crores has been made. In addition, the Government is providing additional facilities at Nagapattinam and Cuddalore ports.

The coal demands of the Thermal Stations at Ennore and Basin Bridge and also the one proposed at Tuticorin will have to be ultimately met by sea-borne coal. Unless the State Government has got ships of its own and can properly programme the schedule of delivery of coal, it will not be possible for us to ensure uninterrupted generation at these power stations. The State Government has therefore proposed to set up a shipping Corporation for which a provision of Rs. 2 crores is made as seed capital.

The Sethusamudram project is of vital importance from the defence point of view. It will also shorten the shipping distance from the west to the east coast of India. It will

provide tremendous employment opportunities. As years go by, costs increase. Tamil Nadu hopes that early action will be initiated on this project also in the coming plan.

While the State Government is making endeavours to improve the system of roads, any dispersed industrial development, to the south of Madras, can take place successfully only after the conversion of the meter-gauge system into broad-gauge. Government of India has declared its policy to have only broad-gauge, ultimately throughout the country. The State Government would therefore urge that Madras-Tiruchirappalli-Tuticorin line be converted into broad-gauge. It is necessary to take immediate steps to construct a broad-gauge line between Karur and Dindigul. Only this will enable a continuous broad-gauge link from Dethi to Kanyakumari.

The shortage of fertilisers in the country has led to consequential shortfalls in food production. Tamil Nadu has therefore been pleading for a new fertiliser factory to be established to serve Thanjavur delta. If approval is given now, it will be possible to establish a plan during the Fifth Five-Year Plan.

## Pride of place to Education

Education has been given pride of place in the allocation of resources by the State Government during the Fourth Plan period. We expect to reach 90 per cent of enrolment in the age-group 6 to 11 and 53 per cent in 11 to 14 by the end of the Fourth Plan period, and 96 per cent in age-group 6 to 11, 64 per cent in age-group 11 to 14 during the Fifth-Plan. In addition a massive programme of providing science equipment and laboratory facilities for all high schools at a cost of Rs. 10.4 crores is proposed in the Fifth Plan. While taking steps to strengthen the set-up for imparting formal education in the conventional manner, the State Government also proposes to launch a new scheme for providing out-of-school education both in the elementary and in the higher elementary stages. It is also proposed to

# PLEA FOR SETTING UP OF AN INDUSTRIAL REFINERY

# PRIDE OF PLACE GIVEN TO EDUCATION

have full-time craft instructors in all the schools, enabling the students to learn useful crafts, which will help them to appreciate the value of manual labour. The State Government has also proposed to set up an Institute for research and training, which will take care of research in curricula, training of teachers, etc.

The State Government has proposed to improve and make the Engineering College at Guindy as an advanced centre for post-graduate learning. With this institution as nucleus, it is proposed to establish a Technological University bringing under its control all other Engineering Colleges also. It is proposed to establish an institute of management at Madras. A total provision of Rs. 12.45 crores has been made for technical education, in the Fifth Plan.

Special emphasis is being laid in the Fifth Plan on schemes to promote and preserve traditional crafts and arts in Tamil Nadu for which a provision of Rs. 3 crores has been made.

## More Medical Facilities

During the Fifth Plan, it is proposed to implement the programme of having 30 beds for every four PHCs, integrating it with the scheme of upgrading existing Government hospitals in such a way that medical facilities are evenly spread-out throughout the State. Though considerable progress has been achieved in providing medical facilities in various important centres in Tamil Nadu, there are still many areas in the State which do not have sufficient medical institutions to treat cases of special nature. The Fifth Plan aims to set up a widespread network of specialities by creating in every district headquarters hospital specialities such as Blood Banks, Ophthalmology, Orthopaedics, Paediatrics, E.N.T., and dermatology. Similarly all taluk headquarters hospitals will be provided, with specialities including Blood Banks, E.N.T., Ophthalmology and dental clinics. In order to sustain a programme of this magnitude and diversity, steps are being taken to train sufficient number of post-graduates in various

specialities listed above. The Plan also provides Rs. 1.58 crores for the development of indigenous system of medicine which includes improvement to the pharmacies at Madras and at Tirunelveli, setting up of herbal farms under the control of Director of Indigenous Medicine, and the opening of Siddha Wings in 100 Government Hospitals.

The Arignar Anna Cancer Hospital at Kancheepuram will be developed into a regional centre for cancer research and treatment. The Plan also provides for upgrading Madras Medical College into a post-graduate Medical Institution as part of the Centrally-sponsored scheme for higher education in medicine.

It is well known that Tamil Nadu has been playing a leading role in the Family Planning Programme. Thanks to the sustained efforts of the Third and Fourth Plan period, the birth rate has come down to 31 per thousand. Continued efforts would be made to bring down the birth rate further in the Fifth Plan period.

During the Fifth Plan period, programmes initiated earlier to eradicate malaria and small-pox and other diseases will be continued. In addition, it is proposed to give special emphasis to the identification and cure of leprosy cases. A special programme has also been drawn to have a massive school medical inspection with necessary follow up measures.

It has been increasingly recognised that one of the factors motivating couples to adopt Family Planning methods, is ensuring the survival of their children, which depends on provision of adequate nutrition in the crucial ages 0-5, and also propagating nutritional standards and information. Having this in mind a programme of nutritional education-cum-feeding has been formulated. This will be implemented through the child care centres, nutritional rehabilitation centres and the Primary Health Centres.

## Massive Efforts for Providing Water-Supply

Massive efforts have been made during the current Plan period for providing water-supply both to urban and rural areas. This tempo will be kept up during the Fifth Plan period also. In addition, the

work on the Veeranam Project which will give 40 m.g.d. of water to Madras will also get completed. The preliminary work for the Veeranam Second line is expected to be started in the early years of the Fifth Plan. The existing net work of water-supply and drainage in the city of Madras will need further improvements. In addition, drainage schemes in some of the major municipal towns will be taken up during Fifth Plan. A total provision of Rs. 125 crores for water-supply and sanitation has been made.

## Housing Facilities

A total provision of Rs. 62.70 crores has been made towards creation of Housing facilities throughout the State during the Fifth Plan of which Rs. 25 crores is towards clearance of slums in Madras and in major urban centres. In addition, a provision of Rs. 11 crores has been set apart towards giving house-sites to the landless labourers and for creating an organisation for implementing rural housing programmes. A new scheme of construction of low cost, durable houses at a cost of about Rs. 10,000 each will be launched during the Fifth Five-Year Plan period. Under this scheme, persons with fixed incomes will be given houses on hire-purchase in various urban centres including small towns. The Central Apex House Mortgage Society will also be suitably strengthened by additional share capital of Rs. 1.5 crores so that its activity can be enlarged both in coverage and volume.

A total expenditure of Rs. 34.20 crores was spent by the State Government towards the welfare of scheduled castes and scheduled tribes during the Fourth Plan period; of this Rs. 8.43 crores formed part of the State Plans. During the Fifth Plan period it is proposed to spend Rs. 40.09 crores as non-plan expenditure and Rs. 11.20 crores as plan expenditure, totalling up to Rs. 51.29 crores. Thus the constitutional responsibility of uplifting Scheduled Castes and Scheduled Tribes is given great importance. The State Government has been taking care to improve the lot of other sections of the society who have been kept backward for centuries. This policy of taking up



# DEVELOPMENT OF MADRAS CITY

the welfare of Backward Classes in addition to Scheduled Castes and Scheduled Tribes has been consistently followed by Tamil Nadu Government throughout the 23 years of planned economic development. The Government proposes to continue this policy during Fifth Plan. During the Fifth Plan period on all backward classes the total expenditure of Rs. 91.56 crores of which Rs. 23.99 crores will form part of the plan will be spent against the total expenditure of Rs. 53.68 crores

spent during the Fourth Plan period.

## Development of Madras City

It is well recognised that Madras is not only the metropolis of Tamil Nadu but also the leading city for the southern region. With the facilities of free immigration available to all the Indians, Madras City

has developed into a multi-lingual city, with a large number of persons from Kerala, Andhra Pradesh and Mysore. It is, therefore, the responsibility of the Centre to come to the help of the State Government in solving the problems of Madras. The State Government, on its part, has programmed as part of the Fifth Plan to spend about Rs. 100 crores on various schemes meant for providing infra-structure facilities in the City of Madras as noted below :—

### Head of Development.

### Scheme.

Outlay.	
State Plan.	Centrally-sponsored.
(RUPEES IN LAKHS.)	
Roads .. .. .	Metropolitan Road .. .. . 5,00
	City Roads (Corporation) .. .. . 7,50
	Improvements to street lighting .. .. . 1,56
Inland Waterways. .. .. .	Improvement to Buckingham Canal .. .. . 2,00
	(Approximately)
	(Centrally-sponsored).
Health .. .. .	Public Health facilities for City Corporation .. .. . 3,00
Water-supply and Drainage .. .. .	{ Veeranam I Phase .. .. . 9,00
	{ Veeranam II Phase .. .. . 10,00
	City Corporation Schemes (Water-supply and Drainage) .. .. . 15,37
Housing .. .. .	Slum Clearance .. .. . 20,000
	Slum Improvement .. .. . 10,00
	(Centrally-sponsored).
	(Approximately).
Town Planning and Urban Development.	Government Rural Scheme. 2,00
	Construction of shops, etc. 1,20
	Satellite Towns, etc. .. .. . 25,00
	(Centrally-sponsored.)
Total ..	74,63
	37,00

The Government expects that the special problems it faces in meeting the needs of the Madras metropolitan area, will be taken note of by the Centre, while it allocates Central assistance to this State.

Electrification and increase in the capacity of railway lines emanating from Madras in all directions at least up to a distance of 30 miles is an urgent need; the southern line should be doubled up to Chingleput. It is also expected that the electrification schemes sanctioned by Government of India will be completed in the early years of Fifth Plan both on the western line and on the northern line.

It may be recalled that a survey conducted by the Planning Commission has revealed that in 1969-70 unlike Calcutta and Bombay which carried 39.3 per cent and 49.7 per cent of commuter traffic by buses, Madras carried 82.25 of this traffic by buses. The scope for putting more buses on the roads is very much limited. More than that, the availability of chassis and diesel oil may also become constraint in the further development of road transport during the Fifth Plan. It is, therefore, imperative that the work on mass transit system for Madras City be started at an early date so that it gets completed at

least before the end of Fifth Plan.

The State Government is also planning to create three Satellite towns around Madras as centres to counter-balance the attraction of Madras City by providing necessary infra-structure facilities in order to attract the new industries. The work on the development of a satellite town, namely, Maraimalai Nagar, south of Madras, has already started. The work of improving Manali as an urban node has also been started in order to provide necessary housing and other facilities for various industries coming up in that region.

# Our Fifth Five- Year Plan Is Part Of Our Own 12-Year Plan

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Doubling the State's per capita income reckoned at constant prices, removal of poverty and social and economic inequality, elimination of unemployment and reduction of under-employment and modernisation of the State's social and economic structure are some of the salient sound points visualised in the draft plan frame for the State for the 12-year ending with 1984. And Tamil Nadu has approached the Fifth Five-year Plan as a part of this long-term perspective of development.

Tamil Nadu has approached the Fifth Plan as a part of the long-term perspective of development. The State Planning Commission has evolved a draft plan frame for the State for the 12-year ending with 1984. This plan frame visualises, among other things, the following major goals :—

(a) Doubling the State's per capita income reckoned at constant prices ;

(b) Removal of poverty and social and economic inequality ;

(c) Elimination of unemployment and reduction of under-employment ;

(d) Modernisation of the State's social and economic structure.

The draft Fifth Plan now presented to the Centre proceeds on the basis of these broad objectives of economic growth and welfare with social justice.

In connection with the preparation of the perspective Plan for 1972-84, the State Planning Commission had set up a number of task forces which included representatives of industry and various professions. These task forces have sent in their reports on the basis of which the State Planning Commission is engaged in the preparation of the long-term perspective plan for the State. Based on this work, the State Planning Commission also prepared a draft plan for the Fifth Plan period and submitted it to the

Government in April 1973. This plan was discussed at Governmental level in a number of working groups including the secretaries of the task forces of the Planning Commission. The present draft has been formulated taking into account the Plan submitted by the State Planning Commission and the deliberations of the working groups thereon.

The Government of Tamil Nadu recognises the importance of planning from below and has created the necessary organisational set up for district plans for each of the 23 development districts of the State. The State Planning Commission is in charge of this work. Fitment of these district plans within the overall framework of available resources and the finally approved plan of the State is a process which has just been initiated. After discussions with the Central Planning Commission and finalisation of the plan of the State, a further dialogue with the district level planning organisations will be initiated. It is expected that as a result of this, a set of district plans which will be closely integrated with the State and National plan will be ready for implementation by the beginning of the Fifth Plan.

Economic growth measured in terms of per capita income is a necessary but not sufficient indicator of the improvement of the welfare of the people. We believe that our ultimate goal should be the increased welfare of the people. Growth of per capita income is



useful to the extent—and only to the extent—to which it subverts the main aim of increase of welfare. Reduction of inequalities, removal of poverty and elimination of unemployment become important instruments for the increase of the net economic and social welfare of the people.

Tamil Nadu believes that employment should be one of the primary objectives of the Plan. The increasing numbers of rural unemployed and educated unemployed threaten to wreck the very structure of social and economic relations. A massive employment-oriented Plan which emphasises the building of essential infra-structure like roads, housing and water-supply should be incorporated in our development effort. In view of the constraint on Tamil Nadu's resources, the Fifth Plan aims at a modest programme in regard to roads, water-supply and housing. The Central Government should provide additional resources for increasing these outlays and reorient its production policies from this point of view.

Removal of poverty is an important national objective. This cannot come through any single programme. It has to be the result of a whole package of programmes. Tamil Nadu has pioneered a number of initiatives in this regard. It has started a massive slum clearance programme which indirectly offers an income supplement to the needy urban poor. The assignment of 4-23 lakhs house-sites to the landless in the villages, the conferment of ownership rights on cultivating tenants and the transfer of 6-41 lakh acres of land to 3-29 lakh poor landless persons are among the pioneering programmes of Tamil Nadu during the Fourth Plan. The Fifth Plan will see an intensification of the efforts in this regard. From the point of reduction of inequalities and removal of poverty, Tamil Nadu lays emphasis on its programmes of welfare of backward classes on which during the coming Plan, Rs. 91-56 crores will be spent in all. Tamil Nadu will also be implementing a large programme of nutrition through the establishment of 5,000 child-care centres and 1,000 nutritional rehabilitation centres to tackle the problem of malnutrition, which is particularly prevalent among the poor children of the State.

## Priorities :

The draft Plan assigns the highest importance to the attainment of the target of 90-50 lakh tonnes of food grains, including 67-00 lakh tonnes of rice and 3-50 lakh tonnes of pulses. In terms of resources allocated, the highest priority goes to power and irrigation. The lack of minerals and other resources in the State has made it inevitable that adequate power should be made available to help the local industries to process raw materials and intermediates obtained from other regions. Similarly, the almost full utilisation of the State's irrigation potential leads to our heavy dependence on groundwater and therefore on power to run agricultural pumpsets. Generation and distribution of power have been allocated nearly Rs. 440 crores in the Fifth Plan. Irrigation programmes which would help exploit to the fullest extent the existing irrigation system and improve the water management have been assigned about Rs. 60 crores out of a total of Rs. 188 crores for Irrigation in the Plan. Agricultural Production Programmes absorb Rs. 61 crores. From the point of infra-structural development and employment, roads have been given a high priority. Particular emphasis has been laid on rural roads for which nearly Rs. 55 crores has been set apart in the five years. Water-supply programmes in the villages have been allocated Rs. 40 crores. Urban water-supply schemes will absorb Rs. 82 crores. Other social services including education have been assigned 24 per cent of the outlay.

## Dimension of the Fifth Plan :

Dimensional considerations relating to the Fifth Plan of the State emerge primarily from three factors: (a) The needs of the State; (b) feasible tempo of implementation; (c) the resources available. During the last four Plans, our pace of implementation has been as below:—

	(RS IN CRORES.)
First Plan .. .. .	80
Second Plan ... ..	188
Third Plan ... ..	348
Three annual Plans ..	267

## Fourth Plan—

Proposed .. ..	624
Approved Plan ..	519
Likely actuals .. ..	557
Annual Plan, likely actuals, 1973-74.	134

The physical content of the Plan is related to the needs of development. It cannot be judged merely on the basis of monetary size of the Plan. The formula of doubling of Plan size for the Fifth Plan has meaning only if the real content is taken into account. From this point of view, it is necessary to allow an increase of 100 per cent over the magnitude of the Fourth Plan, adjusted for the inflationary factor. On this basis, it appears reasonable to take the Fifth Plan size, at current prices as Rs. 1,500 to Rs. 1,600 crores.

Another approach to the problem is from considerations of the pace of implementation in 1973-74. Including outlays such as rural roads, employment programmes financed by the Centre directly, which are, in future, to be part of the State Plan and the institutional funding for our power and water-supply programmes, our current year's outlay will be about Rs. 160 crores. The outlay in the first year of the Fourth Plan was about Rs. 80 crores. The annual increase in outlay has been on an average around 20 per cent. On the same basis, for 1974-75, an outlay of about Rs. 200 crores would be both feasible and necessary. The mid-year of the Plan will, on the same basis, need an outlay of Rs. 300 crores. This again justifies an outlay of Rs. 1,500 crores roundly for the Plan.

The State Planning Commission has made detailed calculations regarding capital-output ratios and the employment generation. Based on these, the State Planning Commission has recommended that a total investment of Rs. 3,900 crores should be made in 1974-79 in Tamil Nadu. Out of this, the State Planning Commission calculates that about Rs. 1,600 crores should be spent on schemes which are now included in the State Sector of the Plan. (If according to the State Planning Commission's

ormula, a number of these are accommodated in the Centrally-sponsored sector, the State Sector outlay can be shown as Rs. 1,300 crores). Since these are now shown in the State Plan, the size of the Plan comes to about Rs. 1,500 crores. Based on all these considerations and the needs of development of the State, we have proposed an outlay of Rs. 1,532 crores for the Fifth Five-Year Plan and Rs. 202 crores for the Annual Plan 1974-75.

The National Plan of the public sector is expected to be of the order of Rs. 34,800 crores. Rs. 15,600 crores, out of this, is in the State Sector; the balance of Rs. 19,200 crores is in the Central Sector. It is legitimate that the State of Tamil Nadu should expect that a reasonable share of investment by the Central Government should also be made in the State. Unless this is done, further development of the State will be seriously

handicapped. The following is a list of the important projects in the Central Sector, action on which has to be expedited :—

(i) Second mine cut at Neyveli and a 1,000 M.W. thermal station, using the additional lignite to be raised.

(ii) The development of Cuddalore as an alongside harbour.

(iii) Intensification of activity on the Salem Steel Plant.

(iv) Expansion of Kalpakkam Nuclear Plant.

(v) Setting up of another Nuclear Plant at Tuticorin.

(vi) Intensification of oil exploration activities both in the Cauvery Basin and off the coast of Tamil Nadu.

(vii) Conversion of the Madras Tiruchirappalli Madurai-Tuticorin line into board-gauge.

(viii) Construction of a new broad gauge line between Karur and Dindigul.

(ix) Construction of a mass transit system for the Madras metropolitan area.

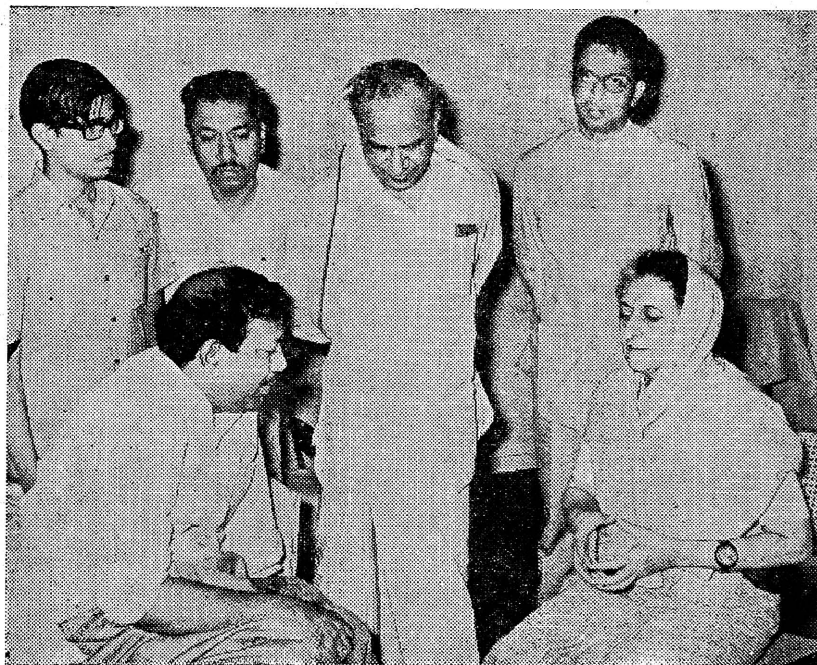
(x) Implementation of Sethusamudram Project.

(xi) Establishment of a shipyard at Tuticorin.

(xii) Setting up of an industrial refinery at Tuticorin.

(xiii) Setting up of a fertiliser plant near Cauvery Delta.

(xiv) Establishment of defence industries.



Thirumati Indira Gandhi, Prime Minister of India, during her tour of Tamil Nadu, called on the Chief Minister of Tamil Nadu who was indisposed suddenly while on a tour of Ramanathapuram district last month.

Tamil Nadu has presented a draft Fifth Five-Year Plan of Rs. 1,532 crores in conformity with the objectives of the approach to the National Fifth Plan and the draft plan frame for the perspective Plan put forth by the State Planning Commission giving the highest priority to removal of poverty and to putting an end to the unemployment problem besides the fulfilment of other plan goals in a well-balanced and accelerated manner.

## **TAMIL NADU PLANS**

### **Rs. 1,500 CRORES EXPENDITURE**

Tamil Nadu has presented a draft Fifth Plan of Rs. 1,532 crores. The strategy and profile of the Plan is brought out in this brief memorandum. The goals of the Plan follow the objectives of the approach to the national Fifth Plan and the draft Plan Frame for the perspective Plan put forth by the State Planning Commission.

The Plan of Rs. 1,532 crores put forth by us is the minimum necessary consistent with our goals of development. The size of the State Plan is determined by the total of the State's resources and the Central assistance. The recommendations of the Finance Commission are vital for deciding the State's resources. Part of the State's resources comes from open market loans and borrowings from Commercial Banks. In regard to these we have raised certain important points for the consideration of the Government of India. Unless these are resolved, the determination of the Plan size is not possible.

More important even than the size of the State Plan is the question of Central sector projects. There is a whole set of Central Governmental programmes in the area of agriculture, education, health and social welfare. We do not agree that such a large investment outside of the State's Plan should be done directly by Central ministries. It is far better

## **IN THE NEXT FIVE YEARS**

that the resources therefor are brought in directly into the State's Plans.

Turning to the industrial, defence and other projects in the Central sector, we would earnestly plead for reversal of the recent trend towards the decreasing share of the Tamil Nadu State in these projects. We have listed out a few of these important projects in the memorandum. We hope that early action will be taken on these.

Tamil Nadu believes that employment should be a major goal of the Plan. A massive employment-oriented plan which emphasises the building of essential infrastructure like roads, housing and water-supply should be incorporated in our development effort.

Tamil Nadu assigns the highest priority to removal of poverty. Tamil Nadu has pioneered a number of programmes in this regard, such as the massive slum clearance programme, assignment of 4.23 lakh house-sites to the landless in the villages and the conferment of ownership rights on cultivating tenants and assignment of 6.41 lakh acres of land to 3.29 lakh poor landless persons. The Fifth Plan will see an acceleration of this aspect of development.

The Plan and its components should not be looked on merely as a package of projects and schemes of a



departmental nature but as part of the movement towards a socialist reconstruction of society. Tamil Nadu believes that rapid economic growth consistent with the increase of welfare of the people can be achieved only in a socialist society. Unless this view of economic and social relations is kept in mind, goals of economic growth will be illusory.

Tamil Nadu recognises that the transition to socialism should be on the basis of a properly articulated and well-designed plan of reorganisation of the economy and social structure. If these arrangements are not properly made and if socialist measures are adopted without the objective conditions being ripe for them, there will be a set back to the economy and welfare goals will be jeopardised.

Tamil Nadu recognises that in the transition to socialism, we have to operate for a considerable length of time within a mixed economy. Government of Tamil Nadu is of the view that a mixed economy such as ours in which the private sector continues to operate should be guided through a mix of policy instruments such as price, credit and mandatory controls including licensing. Reliance on any single tool of guidance of a mixed economy with increasingly sophisticated inter-sectoral relationship is bound to fail. Government of Tamil Nadu believes that in operating these levers by which the economy is manipulated, there should be sufficient decentralisation and delegation of powers; India is too large and the Indian economy is too complex to be controlled from one centre of power. Tamil Nadu believes that from the point of view of quick response to signs of and the need for change, the controlling points for the economy should be more widely diffused than now. Proper implementation is as important as planning. The need to decentralise decisions gains strength from this aspect also. The case for decentralisation of the powers of economic management of the country is therefore strong and urgent.

High prices and low production are the chronic list of our economy. The price situation is determined on the one hand by the monetary and credit policies which modify effective demand and, on the other, by licensing and import policies which impinge on production and hence on

supply. The State Government is very often a helpless spectator and victim of the results of decisions taken at All-India level without its knowledge and concurrence. For instance, delay in action at the Central level in regard to procurement of essential inputs like cotton, crude oil, fertilisers and pesticides has had an inevitable impact on production and on prices. Again, the delay of nearly two years in the approval of the process for production of fertilisers at Tuticorin has led to continuing shortage of this vital commodity. Examples of this abound in the industrial sector and in the generation of power. Some power schemes which should have been sanctioned years ago are still awaiting Central decisions. The State Government would plead for early decisions in regard to these. These delays particularly highlight the need for decentralisation of decision-making.

Of late, prices have become the determining factor in regard to development itself. The erosion of the economic fabric of the country by inflation is threatening the national priorities themselves and leading to a restrictive approach to projects, plans and programmes. This will lead, both in the short-run and long run, to a vicious circle of shortages and higher prices which will in turn further show down the Plan. Unless we master the price situation, we will not be able to achieve our goals of development. Tamil Nadu believes that now more than ever, it is time to ensure that an integrated and national approach to the problems of prices, wages, profits and taxes be evolved and implemented.

Immediate steps should be taken to ensure that the production of essential goods in the country is increased. Necessary inputs for these must be allowed to be imported. Early clearance should be given for important projects which will increase the availability of essential commodities such as power, fertilisers, pesticides and fuel. The investment and licensing policies should themselves be reshaped so that we can increase the availability of consumption goods in the country and help ensure a more stable price situation.

The tax system should also be gone into from the point of view of (a) reducing the incidence of taxes on the prices of commodities in mass

use and (b) increasing the incentives of people to save and invest in productive enterprise. The evils of unaccounted money should be tackled through a bold policy of emoneyisation and at the same time, the tax structure reorganised in consultation with the States.

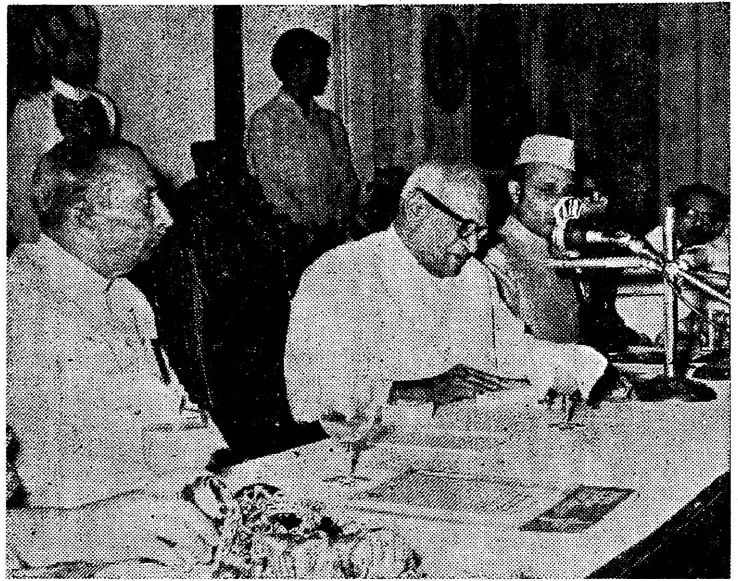
Early decisions based on discussions on issues of national economic importance are vital in determining the future of the Plan and the country. There may not be much use in finalising the Plan unless these issues are resolved. The Governments of the States have a right to requests that these issues be resolved early. A national conference of State Governments should be called and facts regarding the economic crisis placed before the Chief Ministers. Their views should be obtained on various alternatives to handle the present critical situation. Only then can a final decision be taken on the shape and size of the Fifth Plan.

## The States at the mercy of the Union Government

The State Government's budgets totally lose all flexibility and freedom of manoeuvre. They are at the mercy of allocations decided by the Centre. I am of the view that in keeping with the true federal principles, States should be free to borrow from the banks on the basis of viable projects and guarantee of the State revenues. There should be no need for a prior clearance by the Central Government—so long as States are fulfilling their obligations to the Centre. If need be, broad guidelines for a total borrowing limit can be laid down. The necessary constitutional amendments should, in our view, be brought in early.

—C.M.

Around Madras is spread out the entire, exotic South of India—a land of sun and warmth, of temples and legends, of silver-lined beaches, blue mountains and velvet-green rice fields. It is an ancient land where life is still gracious and hospitality spontaneous and warm. Madras and the South of India has so much to offer by way of tourist attraction.



The President is seen delivering his address at the 12th A.I.H. & R. Convention.

## WHERE LIFE IS STILL GRACIOUS

(Given below is the text of President V. V. Giri's speech at the 12th All India Hotel and Restaurant Convention on 21st September 1973.)

It gives me great pleasure to be here, today in the historic city of Madras to inaugurate the 12th All-India Hotel and Restaurant Convention. I am particularly glad about the choice of Madras as the venue of your convention. Since Madras and the South of India has so much to offer by way of tourist attractions. These attractions need to be put into proper focus to attract visitors to this part from overseas as well as from the rest of India. Madras is not only a great capital city of the State of Tamil Nadu, but also the major entry point for visitors from abroad next only to Bombay and Delhi. Around Madras is spread out the entire, exotic south of India—a land of sun and warmth, of temples and legends; of silver-lined beaches, blue mountains and velvet-green rice fields. It is an ancient land where life is still gracious and hospitality spontaneous and warm.

### PRESIDENT'S TRIBUTE TO TAMIL NADU

It is heartening to know that Madras and the rest of South India which has been some what lukewarm towards the development of tourist facilities have realised the immense potential of tourism for economic development. Hectic activities in the construction of hotels in this city is a proof of the new realisation. Near Madras, Mahabalipuram is shaping into a great cultural centre-cum-beach resort.

Elsewhere in the South of India, a new beach resort of tremendous future potential has come up at Kovalam in Kerala. The States of Mysore and Andhra are also taking steps to provide new accommodation for the visitors to their States. If all these activities are properly co-ordinated with promotion in India and abroad, I have no doubt that South of India will attract lakhs of tourists as it legitimately deserves.

#### Largest Economic Activity

International tourism, today, is a major industry in the world perhaps the largest single economic activity. It involves the movement of about 200 million people every year, from one country to the other. In pure economic terms the volume of this business is 22 billion dollars a phenomenon unique in the history of the world. Given peace and stability in the world, this business will grow constantly leading to a better understanding among the people in the world. India's share in this business is very small—mainly due to the fact that our country is located at great distance from the

affluent countries of the world where international travel has become a way of life. However, India has a great appeal for the discerning tourist from abroad. Our traffic has been steadily increasing and the estimated arrivals in 1973 are likely to exceed four lakhs. The average stay of a foreign visitor to India is more than 25 days—the longest per capita stay in the world for a tourist.

The principal constituents of travel industry are rich tourist attractions, good accommodation and fast and dependable means of transportation. We are undoubtedly rich in tourist attractions. We have a thousand miles of snow-clad Himalayan ranges dotted with scores of mountain resorts; some of the greatest architectural creations built by the hand of man; endless sandy beaches on the coasts of India and a country endowed with great culture and history. We have inherited these rich investments from our forefathers. But we need more hotel accommodation and better transportation.

#### Changing Sky-lines.

During the last six years, India has built several new hotels in major cities increasing the accommodation to 11,000 rooms in appro-

ved hotels. This accommodation will go up to 20,000-rooms as soon as the projects presently under construction are completed. The skyline of some of our cities is changing with the construction of high rising hotel buildings. This development has been possible under the dynamic leadership of Dr. Karan Singh, Minister of Tourism, Government of India. Apart from his success in accelerating the development of infrastructure in India, he has been able to create an awareness of tourism throughout the country by bringing into focus economic impact of tourism on the life of the people as well as its significance as an instrument of goodwill among the people and the nations of the world. In this respect both the Government and the private enterprise in travel industry have worked with close co-operation with the result that India is well on its way to progress in the field of tourism.

Lately, there has been a greater concentration in the luxury class hotels. Since the visitors from affluent countries prefer top class accommodation and facilities, irrespective of cost, we have no choice but to provide accommodation in this category. There is, however, a possibility that by over-building accommodation in this class, we may outprice our hotels for the middle-income overseas tourists, who

**Hotels in the South have a high reputation for their cleanliness, typically Indian cuisine and cheerful, personalised service could well serve as models for hotel groups elsewhere.**

are travelling all over the world today, in large numbers. The reduced air-fares for young people and groups and the introduction of air-charters has made it possible for not so affluent people to take trips to destinations like India. We have to cater to this class of people not only from a narrow economic angle, but also from the point of view of goodwill. These people tend to stay longer and visit a country again and again, if they are happy with their visit. I would, therefore, recommend to the leaders of the hotel industry to consider this new aspect of tourism development in their scheme of things.

#### Tribute to Tamil Nadu Hotels.

An average visitor from abroad needs a spotlessly clean room with a clean bath and it should not be difficult for us to provide that at a reasonable price. This type of accommodation is required not only for the foreign visitors, but also the Indians who want to travel for a holiday. In this, I am glad to say that many of our hotels operating in the South have a high reputation for their cleanliness, typically Indian cuisine and cheerful, personalised service could well serve as models for hotel groups elsewhere.

While catering to the needs of foreign visitors, the hotel industry should not lose sight of the economic realities in the country and their responsibility to serve the common man of India. Every Indian has a right to leisure and a holiday.



The President in a cheerful mood is seen exchanging pleasantries with Dr. Karan Singh.



To us domestic or home tourism is as important as International tourism. Home tourism is even more significant as it brings about better understanding among the people of India leading to national integration and unity. I do appreciate the role of your industry as a foreign exchange earner from foreign tourists. But your responsibility does not end there. The Government is aware of its social responsibility of providing cheap holidays to people of India. They have put up youth hostels and tourists bungalows all over the country. More will be added during the Fifth Five-Year Plan. But, the efforts of the Government in this direction will always be limited by the constraint on our resources due to other equally important priorities. It is here that the hotel industry can come to the aid of the Government by putting up inexpensive tourist hotels and motels to meet the needs of the travelling public for modestly priced accommodation. During my visits to the Soviet Union and East European countries, I was delighted to see holiday homes for ordinary workers, peasants and children in all health resorts there. They are given compulsory vacation and all of them spend some time in the salubrious climate of these resorts. I think we should emulate this example.

### Standard Menu at low cost

In the present context of the acute food shortage facing the country, I would like to stress the importance of evolving standard menus at prices which our common people could afford. When I was Governor of Kerala (during the President's rule in 1964), we organised at the height of the food crisis, the supplying of standard meals at reasonable prices. All political parties, social organisations and hotel industry co-operated in this venture. This experiment was



President is seen being led to the rostrum of the 12th A.I. H & R. convention.

very popular with the people of Kerala. These meals were nutritious and at the same time within the reach of large masses of our people. I would call upon both public and private sectors of our hotel industry to devote their attention to this pressing problem. Good food packed hygienically and priced reasonably would be a boon to over-worked house-wives and others like Railway travellers. I am sure it is not beyond our ingenuity to tackle this difficult problem of producing nutritious food at low cost. I hope your convention will devote its attention to the suggestions I have made. In India we have a tradition of hospitality and a genuine respect for the guests. *Athithi devo Bhava*—A visit from a guest is like a visit from God—has been our motto since the dawn of civilisation in this ancient land. There was no commercial or economic angle in our hospitality to the guests. With the movement of millions of guests from one end of the world to another, it is no longer possible for anyone to stick to these ideals. However while falling in line with the universal pattern of

hospitality which is paid for, we can combine it with an Indian touch of personalised service, politeness, attention and devotion. The interiors of your hotels should be so designed as to give a fine touch of Indian sophistication to each room. So also, the entertainment offered to the visitor from abroad, should distil the essence of the finest and most imaginative of our dance and music forms.

### Right Step taken in Tamil Nadu

I was pleased to hear Mr. Ananda Rao mention that Tamil Nadu has taken the right step in this direction and have no doubt that with a little effort on your part, you will be able to offer the tourist a distinctive sample of the best in our art forms, wherever he travels in our country. A visitor to India is a guest and a friend and we should treat him like that in our hotels, in our shops and on our streets. He should not feel a stranger in the country where Buddha and Gandhi lived and worked.

# THE AWARD OF THE TAMIL NADU CHIEF MINISTER'S POLICE MEDAL FOR GALLANTRY



The Parade Commanders at Thanjavur Police Parade on 15-9-73 were Thiru A. Ramu, D. S. P. (A.R.) Tiruchi and D. I. G. Tiruochi, Thiru Suvarna. They are seen conducting the Chief Minister at the Ceremonial Parade.

## THIRU C.S. ARUMUGAM.

*Assistant Commissioner of  
Police, Law and Order,  
Central Range, Madras City.*

Thiru C. S. Arumugam with 29 years of service to his credit, distinguished himself in unearthing the famous Naxalite conspiracy case of Andhra Pradesh by the seizure of secret documents and arrest of several desperate accused at great personal risk.

He has great initiative, perseverance and tact and these qualities brought him distinction.

## THIRU A.V.P.V. RAMANUJA REDDY.

*Reserve Inspector, Madurai  
North.*

Thiru A. V. P. V. Reddy with 25 years of service to his credit in S. A. P., is a prominent athlete.

From 1967 to 1971, he brought laurels to the State Police by serving as coach in the All-India Police Games Meets held at various States in Jullunder, Lucknow, Tekanpur, Bhopal, Neemuch and credit goes to him for the efforts taken by him in coaching our police athletes who won gold, silver and bronze medals in several events. He has earned 29 rewards during his service.

## THIRU A. RAJAGOPALAN.

*Inspector of Police, Excise.*

Thiru A. Rajagopalan with 23 years of service to his credit, has made a mark by his detective ability and flair for crime work right from the beginning. By reason of high merit he was drafted to the Crime Branch, C.I.D. in 1956 where he displayed great skill and diligence in investigating important and complicated cases. He has earned 275 rewards and Good Service Entries including 2 Meritorious Service Entries. He is a considered asset to this department.

He joined the Excise Enforcement Wing on 1st April 1972 and here also he distinguished himself by his collection of intelligence and execution of daring raids.

## THIRU C. S. THRILOKA-CHANDRAN.

*Inspector of Police, Madras City.*

Thiru C. S. Thirilokachandran joined the Police Department as a Sub-Inspector of Police in 1959. After training he held charge of several police stations where he did exceptionally good work for this reason. He was specially selected for the Madras City Police where he continued to work with conspicuous merit. During his distinguished

Every year on 15-9-73 the Birthday of late Dr. C. N. Annadurai, awards to members of Police Force for Gallantry and Outstanding service are conferred by the Chief Minister. Biographical sketches of the recipients of the Chief Minister's Police Medal for Gallantry are outlined in the following pages.

service of 14 years, he has earned 2 M.S.Es., 47 G.S.Es. and 208 money rewards and maintains a clean defaulter sheet.

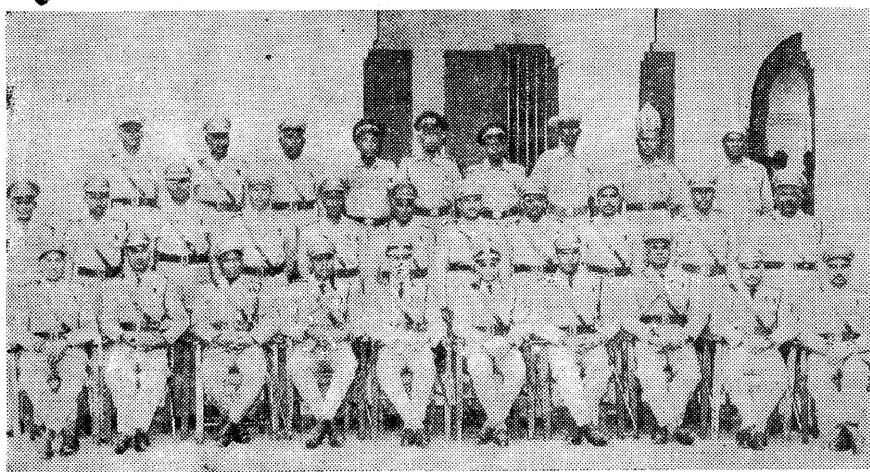
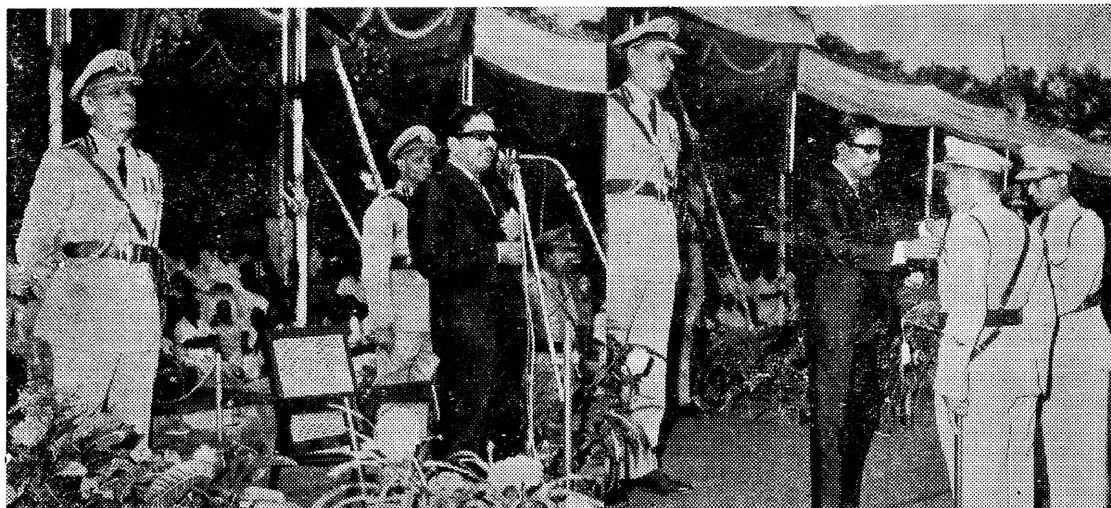
This officer was responsible for tracing and arresting a notorious Naxalite by name, Goa Kandasami, who was involved in lawless activities and had gone underground for a long period.

**THIRU DEVANAYAGAM  
RAMASAMY.**  
*Station Officer (Transport).*

Thiru Devanayagam Ramasamy was enlisted as a Fireman Driver in the A.R.P. Organisation on 29th December 1942. As a Driver Mechanic he earned six cash rewards for very good work done during fires and rescue operations. The one given in 1956 was for very valuable services rendered during the Ariyalur train disaster.

In the recent unprecedented floods in South Arcot district from 8th to 12th December 1972 a series of rescue operations were carried out under the orders of the Collector in the villages in and around Cuddalore. As Station Officer (Transport) Thiru D. Ramasamy displayed conspicuous gallantry in saving a number of lives and valuable property like cattle and household articles during the rescue operations carried out at Uppalavadi and Sirupalayur villages.

Dr. M. Karunanidhi, Chief Minister, addressing at the function of the Award of the Tamil Nadu Chief Minister's Police Medal for Gallantry and Outstanding service held at Thanjavur on 15th September, 1973 (Left). The Chief Minister is pinning the medal on Thiru Ramanuja Reddy, Reserve Inspector, Madurai North. (Right).



Group Photo of Police Officers who were honoured at the Thanjavur Investiture on 15-9-73.



# THE AWARD OF THE TAMIL NADU CHIEF MINISTER'S POLICE MEDAL FOR OUTSTANDING SERVICE

Given below is the biographical sketches of the recipients of the Chief Minister's Police Medal for Outstanding service during the year 1972-73.

**THIRU J. E. SAMUEL**  
(Deputy Superintendent of  
Police, Chingleput East.)

Thiru J. E. Samuel entered service in the Madras Police as a Sub-Inspector of Police in 1943. After his practical training, he held charge of heavy stations in Chingleput district and transferred to the Railway Police where he did excellent work in putting down Railway offences. He was placed on special duty in 1952 and he successfully booked a case against Railway Guards who were responsible for the pilferage of goods.

He served in the District Special Branch for three years and developed excellent sources of information. He was specially selected as security officer in 1958 to accompany the Governor of Madras during his tour of Assam State.

In recognition of his efficient service he was promoted to the rank of Inspector of Police in 1959. His work for 4 years as Divisional Detective Inspector in Madras City was equally praiseworthy.

In 1969 he was elevated to the rank of Deputy Superintendent of Police and posted to Thiruthurai-poondi sub-division, where he successfully handled the situation arising from the Land Grab agitation. He is now in Tiruvottiyur Sub-Division where he has shown equal competence in dealing with industrial unrest.

His long service of 30 years is marked by exemplary character, efficiency and integrity of a high order.

**THIRU H. T. THUKKARAM**  
(Deputy Superintendent of  
Police and Assistant Commis-  
sioner of Police, Law and Order,  
Western Range, Madras City).

Thiru H. T. Thukkaram entered service as Sub-Inspector of Police in 1948. After his training he held charge of various stations in Tiruchirappalli district and carried out his assignments ably and efficiently.

In recognition of his good services he was promoted to the rank of Inspector of Police. He rigorously put down rowdyism, smuggling of liquor, etc. His work during the Anti-Hindi agitation in 1965 was commendable.

He was promoted as Deputy Superintendent of Police in 1969 and posted to Mettur Sub-Division in Salem District where he managed the labour problems with tact and firmness. In handling the very difficult situations at India Pistons in 1972 he showed great competence and leadership.

His long service of over 25 years is characterised by thoroughness, resourcefulness, loyalty and integrity of a high order.

**THIRU C. A. KUPPUSAMI**  
(Deputy Superintendent of Police,  
Namakkal, Salem District).

Thiru C. A. Kuppusami entered service as Sub-Inspector in 1943. He served in heavy stations and dealt with law and order problems firmly and tactfully and earned the appreciation of his superiors and the public alike. In 1950-51 he arrested smugglers and seized goods worth Rs. 50,000. In 1953 he detected a grave burglary in a

V.I.P.'s house and earned encomiums. Later he rounded up a North Indian Gang responsible for house burglaries in and around Chingleput and South Arcot districts.

He was promoted as Inspector of Police in 1960. For his good work in Tiruchirappalli district, he was awarded a Meritorious Service Entry.

In 1969 he was drafted to the Food Cell, C.I.D. and with the assistance of the Central Excise staff he intercepted a car coming from Bangalore and recovered 7,000 tolas of gold worth Rs. 1,40,000 concealed in the petrol tank. He chased another car in Hosur limits resulting in the recovery of gold threads and Tetron cloth over Rs. 50,000. The contraband seized and the two cars were confiscated to Government.

In December 1970 he was promoted as Deputy Superintendent of Police. He is in charge of Namakkal Sub-division where he continues to work with sincerity.

His service of over 29 years has been marked by sincerity, zeal, and detective ability of a high order.

**THIRU T. R. RAMANUJAM**  
(Deputy Superintendent of Police,  
Research Centre, C.I.D., Madras).

Thiru T. R. Ramanujam entered the Police Department as a Sub-Inspector of Police in the year 1949. He did excellent work as a Sub-Inspector in the Special Prohibition Squad of the Madras City Police. As he was found to be a good detective, he was drafted, to the State Crime Branch, C.I.D. in 1955. He was specially chosen to assist in the investigation of the sensational

Coimbatore and Nagapattinam Hundred Rupee Currency Note cases. By diligent enquiries and careful examination of persons connected with these cases, he rendered yeoman service towards the detection of these cases.

He was promoted to the rank of Inspector in 1960 and detained in the Crime Branch, C.I.D. itself as a special case in view of his detective ability and skill.

In 1962, while he was in-charge of the Madurantakam Circle in Chingleput district, a theft of two suit cases containing valuables worth Rs. 75,000 belonging to a Cine actor was reported and he successfully investigated and detected that case.

In 1971, he was promoted to the rank of Deputy Superintendent of Police, Prohibition, Intelligence Bureau C.I.D. He did excellent work in effecting recoveries of smuggled goods and unaccounted currency to the value of about Rs. 4 lakhs. He is currently in-charge of the Police Research Centre in the Crime Branch, C.I.D., Madras.

His distinguished service of over 22 years is marked by industry, integrity and efficiency of a high order.

## THIRU M. A. RADHAKRISHNAN

*Deputy Superintendent of Police,  
Tamil Nadu Special Police  
IV Battalion, Kovaipudur.*

Thiru M. A. Radhakrishnan entered service as a Jamadar (now Sub-Inspector of Police) in the Special Armed Police V. Battalion, Palani in 1948. He ably conducted training courses of cadets entrusted to him. He was promoted as Subedar in 1948 and played an effective role during the Police Action in Hyderabad State. During 1949-50 he was posted to quell an outbreak of crime in Tirunelveli district and he carried out this work creditably.

He held the post of Quarter Master in 1958 and took keen interest in the welfare activities of the Police personnel. By dint of his hard and efficient work he was promoted to the post of Deputy Superintendent of Police.

He was on deputation to Orissa State and Nagaland from 1964 to 1971 and his work in the operational area was appreciated by his superior officers as well as Army authorities.

He takes a leading part in conducting Sports Meets, Duty Meets and Welfare and Cultural Exhibitions.

His long service of 25 years has been characterised by a high degree of efficiency, loyalty and devotion to duty.

## THIRU V. R. GANAPATHI

*Inspector of Police, Special  
Branch, C.I.D., Madras.*

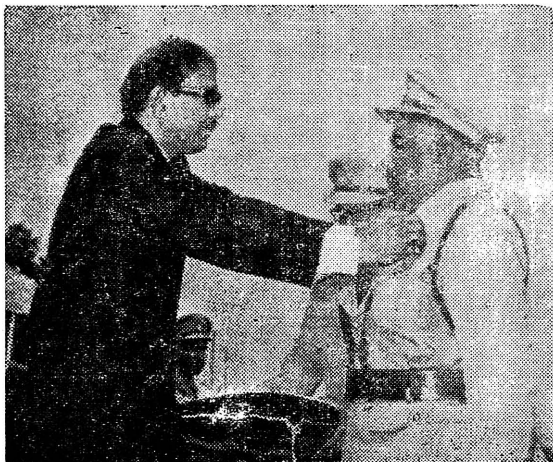
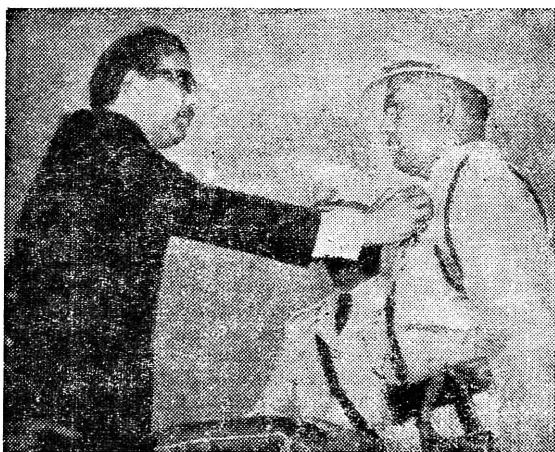
Thiru V. R. Ganapathi joined the Police Force on 8th October 1949. Even as a probationer he showed competence in the field of Crime detection. He was mainly responsible for arresting notorious K.Ds. concerned in about 25 cases of various circles leading to recovery of a large amount of property and all the cases ended in conviction. He continued to work well and arrested O.V.D.Cs. and inter-State criminals concerned in house-breaking and major thefts in Chingleput and South Arcot districts and in Madras City.

He was then posted to Special Branch, C.I.D. where he did excellent work and was awarded a meritorious service entry. In 1967 he was specially posted to Chingleput district for duty during the General Elections and he earned encomiums for his efficient work. Thereafter he has been working as security officer with quiet distinction.

He has earned 131 rewards including two Meritorious Service Entries. His service of over 23 years of service is marked by integrity, efficiency and devotion to duty of a high order.

Thiru H. T. Thukkaram, A. C. Law & Order, West of India, Madras City, receiving Medal for Outstanding Service

A close up of Madurai North Reserve Inspector Thiru Ramarajam Reddy receiving the Gemantury Medal



**THIRU J. R. SREERAMULU,**  
Inspector of Police, Crime Branch,  
C.I.D., Madras.

Chief Minister presents Gallantry Medals.

Thiru J. R. Sreeramulu entered services as a Sub-Inspector of Police in the year 1949. He made his mark in the detection of a series of burglaries perpetrated by professional criminals of Chingleput, North Arcot and Thanjavur districts. At the risk of his own life he arrested the absconding accused in a triple murder case.

By reason of continuous good work he earned his promotion as Inspector of Police in 1964. He served for a full term of five years in the Directorate of Vigilance and Anti-Corruption. He succeeded in several trap cases and successfully handled important cases against highly placed officials.

He was transferred to the Food Cell, C.I.D., in the year 1969 and subsequently to the Crime Branch, C.I.D. in April 1972. He has maintained his fine record in these two branches also.

He is now working as Senior Executive Officer, Crime Branch, C.I.D., Madras. He has earned 157 rewards and maintains a clean defaulter sheet.

His service of over 21 years is marked by integrity and efficiency of a high order.

**THIRU C. BRAHMANANDAM.**  
Inspector of Police, Food Cell, C.I.D.,  
Madras-4.

Thiru C. Brahmanandam entered the Police Department as Sub-Inspector of Police in the year 1949. He did splendid work in detecting a case of robbery followed by murder in the Meenakshi Amman Temple, Madurai. Several cycle and cattle theft cases in Madurai Urban district were located by him.

He was promoted as Inspector of Police during the year 1964. He joined the Directorate of Vigilance and Anti-Corruption and worked in South Arcot and Tirunelveli Units. He successfully investigated several difficult cases of corruption.

He joined the Food Cell, C.I.D. Unit in Kanyakumari on 24th July



Top: Thiru C. S. Arumugam, A. C.,  
Central Range.

Middle: Thiru Thrilokachandran, City  
Police Inspector and

Bottom: Thiru A. Rajagopal, City  
Police Inspector receiving



1970. He has maintained an excellent drive against smuggling of paddy and rice to Kerala.

He has earned 78 rewards and maintains a clean defaulter sheet.

His service of over 23 years is characterised by efficiency and integrity of a high order.

**THIRU V. N. SREENIVASA RAO**

*Inspector of Police, Madras City.*

Thiru V. N. Srinivasa Rao was appointed directly as a Sub-Inspector of Police in the year 1950. He showed his mettle within a few years and by reason of merit was specially chosen for the Special Branch, C.I.D., where he served from 1953 to 1959. He distinguished himself in this specialised branch.

On promotion as Inspector of Police, he joined the Vigilance and Anti-Corruption Unit at Thanjavur and South Arcot, where he worked from 1964 to 1969. His work in this new sphere was a high order.

He was specially chosen to work in Tamil Nadu Police Commission Office, where he worked from January 1970 to January 1971. He served the Police Commission very efficiently.

He has earned 106 rewards and his service of 23 years is marked by sincerity earnestness and devotion to duty.

**THIRU M. C. PARTHASARATHY,**

*Officiating Inspector of Police, Tamil Nadu Special Police III Battalion, Manimutharu.*

Thiru M. C. Parthasarathy entered service in the Special Armed Police as a Sub-Inspector of Police in the year 1948. After training at Malappuram, he was drafted for duty on the Hyderabad border. He displayed courage and leadership in facing hostile elements from the erstwhile Hyderabad State.

Thereafter, he was drafted to various duties at Nagaland where he took active part in operations. He worked efficiently and earned the appreciation of his superiors and Army Officers. He exhibited great courage in 1963 in saving many civilian lives and properties from destruction by hostile Nagas.

In recognition of his continuous good work, he was promoted to the rank of Inspector of Police in 1963. He held charge of several armed police companies with distinction. He was awarded Special Duty Medal with two bars in the operational area.

He is now working as a Quarter Master since 1969 and he does his work with efficiency.

His 25 years of service is marked by integrity and ability of a high order.

**THIRU PARANUR VEDAGIRI**

*Inspector of Police, Vigilance and Anti-Corruption, North Arcot Detachment.*

Thiru Paranur Vedagiri, a graduate, joined the Police force as Sub-Inspector of Police on 11th October 1949. He served in various heavy stations like Arkonam, Vellore Crime Branch, etc., and handled several notable crimes and serious law and order problems tactfully. He located and got convicted a notorious gang of Ex-N.T.M. Koravas of Potharai and Sengunam who were responsible for a series of highway dacoity cases in Kalambur and Polour Police Station limits in 1952. His assistance in detecting an intricate case of murder for gain of Santhaval Station was very valuable and the culprits responsible were convicted. While at Arkonam in 1954, he displayed exemplary and outstanding skill and ability in rounding up a notorious criminal organisation of Stuwartpuram of Andhra Pradesh, headed by one Ramiah, an Ex-Police Constable of Hyderabad, who was responsible for serious of inter-State lorry, car and bandy hold up cases of Tamil Nadu, Andhra and Mysore States. While convicting the accused, the trial court commended his work and the Government rewarded him in appreciation of his good work. The menace of wire thefts at Arkonam and its surrounding areas for a period of over five years from 1949 was put down by him in 1954 by tracking the criminal organisation responsible for them and all the accused were convicted.

In recognition of his good work, he was promoted as Inspector of Police on 1st June 1964. As Inspector of Police, Special Branch, C.I.D., Madras, he acquitted himself

creditably from 1964 to 1966. While at Arni Circle, he detected grave telephone copper wire theft cases and house-breaking cases for which he was rewarded. He joined the North Arcot Detachment, Vigilance and Anti-Corruption in November 1972 and he has been doing good work.

He has earned 207 rewards so far.

His service of 24 years has been marked by earnest devotion to duty, integrity, detective ability and tactfulness.

**THIRU M. VENKATACHALAM**

*Inspector of Police, Madras City.*

Thiru Mariappa Venkatachalam, was appointed as Sub-Inspector of Police in the year 1952. He was drafted to the Madras City Police in 1953, where he made a name by putting down prohibition and cotton betting offences ruthlessly.

He underwent a diploma course in Criminology and Forensic Science in 1962 and came out successfully.

He was promoted to the rank of Inspector in 1966 and was posted to the Directorate of Vigilance and Anti-Corruption, where he made a mark by collection of information and efficient investigation. In 1968, he reverted to the Madras City Police and continues to this day serving the people with efficiency.

He has earned 370 rewards and maintains clean defaulter sheet.

His 21 years of service is marked by efficiency, devotion to duty and integrity of a high order.

**THIRU D. E. CHARLESLEY**

*Inspector of Police, Saint Thomas Mount.*

Thiru D. E. Charlesley entered as a Sub-Inspector of Police in the year 1958. He distinguished himself by unearthing property offences, arresting condemned prisoners, who escaped from the Central Jail, Madurai, and by generally efficient investigation.

By his able investigations and around efficiency, he earned his promotion to the rank of Inspector

of Police in March 1970. He was posted to the Special Branch, C.I.D., Madras, where he earned as many as 11 rewards for his efficiency.

He is now working in Saint Thomas Mount Circle in Chingleput East district, where he has proved to be highly successful against criminals and anti-social elements.

His service of over 13 years has been marked by industry, initiative and devotion to duty. He has earned 163 rewards and a Meritorious Service Entry.

**THIRU ISMAIL KHAN BAILAM,**  
*Sub-Inspector of Police,*  
*Thanjavur West.*

Thiru Ismail Khan Bailam was enlisted as a Police Constable in 1942 in Tirunelveli district. By industry and efficiency, he rose to the rank of Head Constable in the year 1949.

He did excellent work in the District Special Branch, Tirunelveli district, by setting up valuable sources of information and was thus able to track the movements of anti-social elements and arrest them which was greatly appreciated by his superior officers.

In recognition of his continuous good work, he was promoted to the rank of Sub-Inspector of Police in 1954. He worked with distinction in heavy police stations.

He has earned 120 rewards and maintains a clean defaulter sheet.

His service of over long 30 years is characterised by efficiency, integrity and devotion to duty of a high order.

**THIRU K. VENUGOPAL,**  
*Sub-Inspector of Police,*  
*Tiruchirappalli.*

Thiru K. Venugopal was enlisted as Police Constable in 1941. After his training, he was posted to several stations, where he proved his worth by hard work and efficiency. He was duly promoted as Head Constable and he justified his promotion by good work. He was then promoted to the rank of Sub-Inspector of Police in 1965. He did excellent work in the famous counterfeit currency note case in which a Mill Magazine was involved. He has, thereafter,

worked in several Police Stations with distinction.

He has a clean defaulter sheet and has 91 rewards to his credit.

His service of over 32 years is marked by ability, integrity and devotion to duty of a high order.

**THIRU V. CHINNA THEVAR,**  
*Sub-Inspector of Police, Madurai*  
*North District.*

Thiru V. Chinna Thevar was enlisted as a Police Constable in the year 1939 in Madurai South district. By reason of hard and efficient work he earned his promotion as Head Constable in the year 1946.

He did excellent work in the detection of a number of dacoities in various stations, viz., Andipatti, Keeranur and Veerapandi. His detective ability was fully utilized in the detection of thefts from bungalows of foreigners and tourists. His outstanding work in the arrest of B.C. Gurusami of Nagalapuram, who was terrorising the area with fire arms, was commendable.

He was promoted as Sub-Inspector of Police in the year 1966. He is prompt, reliable and hard working and can be entrusted with important and arduous assignments with confidence.

His long service of the over 31 years has been characterised by resourcefulness, loyalty and devotion to duty.

**THIRU K. THANGAPPAN,**  
*Reserve Sub-Inspector,*  
*Ramanathapuram.*

Thiru K. Thangappan was enlisted as a Police Constable in 1956 in Travancore State Police. Consequent on the reorganization of the States, he was absorbed in Kanyakumari district with effect from 1st November 1956.

He was duly promoted as Head Constable in 1965. By dint of his hard work and ability, he rose to the rank of Reserve Assistant Sub-Inspector in May 1966. He is a good athlete and has taken active part in the State and All-India Police Sports and Games Meet successively for several years.

Due to his outstanding ability he was promoted as a Reserve Sub-Inspector. His conduct and character have been exemplary throughout.

His service of 16 years is marked by sincerity, industry and ability of a high order.

**THIRU R. KRISHNASAMY,**  
*H.C. 173, Chingleput East district.*

Thiru R. Krishnasamy was enlisted as Police Constable in the year 1941. On successful completion of training he was posted to the Armed Reserve, Chingleput district.

He has always been a hard and willing worker. He has taken pride in being always neat and clean in his turnout at all times. He has been a fine example to all the other men in the Armed Reserves.

He was later drafted to the Motor Transport Branch where also he has distinguished himself as a good driver.

His service of over 30 years sheet has been marked by efficiency, hard work and devotion to duty. He has earned 56 rewards.

**THIRU RAMALINGAM,**  
*H.C. 1844, Special Branch, C.I.D.*  
*Madras.*

Thiru Ramalingam served in the Army for four years during the Second World War before he was enlisted as a Police Constable on 28th March 1947 in the Madras City Police. As a constable in the Madras City Police, he exhibited his skill in apprehending criminals concerned in several property crimes. He also exhibited his ability in assisting his superiors in the field of investigation leading to the recovery of properties from different places in the City. His work in rounding up of several narcotic and prohibition offenders was commendable.

For his good work, he was promoted to the rank of Head Constable on 1st October 1960 and he served in the Madras City Police, Food Cell and Prohibition Intelligence Bureau wings of the C.I.D. and his work was appreciated by his immediate superiors. He is working in the Special Branch, C.I.D. where also his work is commendable.

His long service of 26 years is marked by integrity, sincerity and devotion to duty. He has a clean defaulter sheet.

**THIRU N. GOPALA PANICKER,**  
*H.C. 340, The Nilgiris.*

Thiru Gopala Panicker was enlisted as a Police Constable on 5th April 1942. By reason of outstanding ability as a detective and by his hard and sincere work, he was promoted to the rank of Head Constable.

His unquestionable integrity and efficiency has made him a natural choice for the investigation of all important cases. He has proved his worth in the field of intelligence as well.

His continuous record of over 30 years of service is marked by selfless devotion to duty and integrity of a high order. He has earned 131 rewards.

**THIRU M. MEENAKSHI NAIDU,**  
*Head Constable No. 561, Vigilance Cell, High Court, Madurai Detachment.*

Thiru M. Meenakshi Naidu joined the Police Department as a Police Constable in the year 1942 and was posted to the Armed Reserve, Madurai. Even as a Probationary constable, he showed outstanding ability and courage in arresting anti-social elements at Kambam during a raid, when they were in unlawful possession of arms under Section 19(i) of the Arms Act and thus earned his first reward. Because of his hard work and devotion to duty, he was promoted as Head Constable on 2nd October 1947 within five years of his enlistment as Constable. He did excellent work in detecting cases of house gambling and took initiative in rounding up several bad characters under the Security Sections and earned as many as 18 rewards. He was of immense assistance to his superiors in solving complicated cases.

As a sequel to his integrity and devotion to duty he was absorbed in the Directorate of Vigilance and Anti-Corruption from its very inception in 1964 to 1969. During this period, he was instrumental in trapping six officers and successfully conducted detailed enquiries including the famous "Jamabandhi Case". He was then taken to the Vigilance Cell (Food), Madurai Unit and served there from 1st June 1969 to 30th June 1970. During this period, he was instrumental in detecting nearly 150 cases and earned a number of rewards.

He joined the Vigilance Cell, High Court, Madurai detachment in 1970 and continues to do good work as before. He has done commendable investigation in certain enquiries relating to corrupt practices of certain Judicial Officers.

His service of 31 years is marked by efficiency, integrity, loyalty and devotion to duty of a high order. During his tenure of office, he has earned as much as 238 cash rewards and four Good Service Entries.

**THIRU KUPPUSWAMY RAJU,**  
*Leading Fireman 19 (Madras City Division).*

Thiru Kuppuswamy Raju, Leading Fireman 19 was enlisted as Fireman in the Tamil Nadu Fire Service on 24th April 1942. His smartness and sense of discipline attracted the attention of his superiors, who promoted him to the rank of Leading Fireman on 1st May 1943 itself. During the 31 years of service, he has worked in heavy Fire Stations in Madras City. His work throughout has been characterised by ability and keenness. His capacity to enforce discipline and his exemplary sense of duty marked him for selection to the post of Leading Fireman in the Fire Control Room, Madras. He acquitted himself well in this assignment. When there were unprecedented fires in Madras City during June-July 1968 in hutted areas, as Leading Fireman in charge of Fire Unit, he rose to the occasion and relentlessly fought the fires untiringly and with high devotion to duty.

This Leading Fireman has put in 31 years of service and throughout this period, his hard work was characterised by discipline, high sense of duty and integrity and has been an example for others in the department to emulate. Throughout his long service he has maintained an unblemished record, which is no mean achievement, for which he has been granted Long Service Special Pay of Rs. 2 per mensem. He has earned nine rewards in all, eight cash rewards and one Good Service Entry. His long and outstanding service is marked by ability and merit.

**THIRU VARADARAJULU VEERARAGHAVAN,**  
*P.C. 105, Government Railway Police, Tiruchirappalli.*

Thiru Veeraraghavan was enlisted as a Police Constable in Madras City in 1939 and served efficiently in the Armed Reserve till 1947. He joined the Railway Police in 1948.

He is a willing worker and has taken keen interest in sports activities. He took part in several shooting competitions and was awarded prizes. He was always found smart in his turnout and is conscientious.

He has earned 81 rewards and maintains a clean defaulter sheet.

His service of over 34 years has been marked with loyalty, devotion to duty and integrity of high order.

READ

## TAMIL ARASU

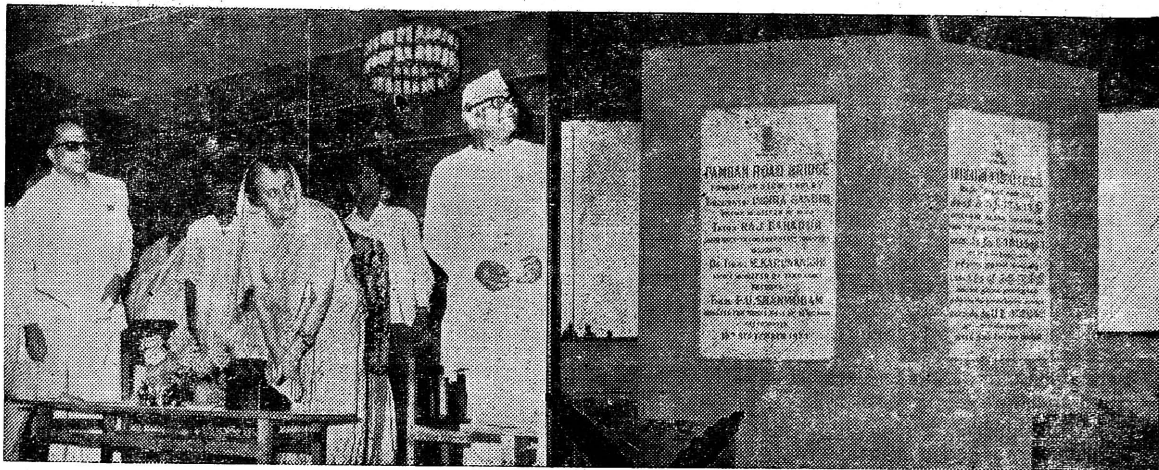
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The Prime Minister inaugurating the Pamban Road Bridge work.

# PAMBAN—THE FIRST

Thousands of pilgrims from all over India visit the Sri Ramanathaswami Temple at Rameswaram. The pilgrims have to cross the Pamban bridge which lies between Mandapam and Pamban Station, only by train as this Railway bridge has been the only link with the main land. This bridge was constructed in 1914 to connect Mandapam and Rameswaram, and till date it is considered to be a great "engineering feat", because it is one of the longest bridges in the world. The bridge was damaged during the storm of 1964 and in 1965 it was restored much earlier than expected.

## THE PAMBAN ISLAND

The island of Pamban lies at the tip of Ramanathapuram district on the West and Ceylon in the east, being separated from the former only by a narrow passage or channel which opens in the north into the waters of Palk Strait and on the South into the Gulf of Mannar. The island is about 11 miles long by 6 miles wide. The eastern half is merely a narrow strip of sand running down to join Adam's Bridge, and the remainder is based on rock of coral formation and is chiefly covered by thorny acacias or by swamp, there being little cultivation of any kind. The chief town is Rameswaram.

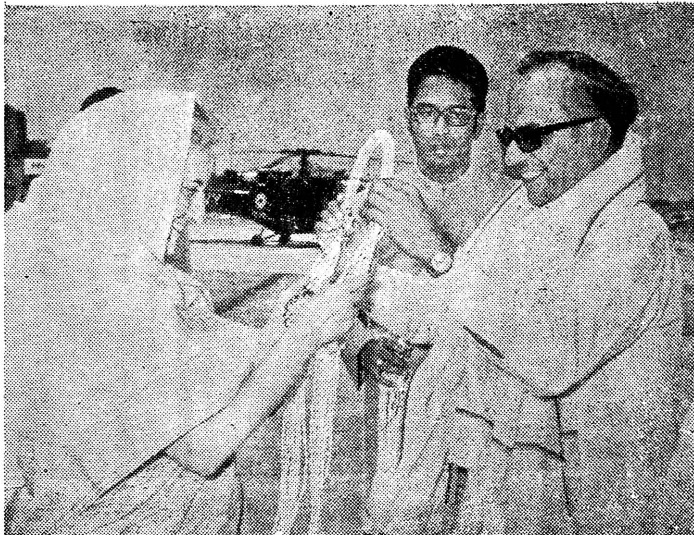
# ROAD BRIDGE TO THE RAMES- WARAM ISLAND

The town of Pamban, which is said to derive its name from the tortuous, snake-like course of the above-mentioned channel, is situated at the western extremity of the island, and is one of the two largest sea ports in Ramanathapuram district. A light house rises 97 feet above high-water mark, showing a light visible at a distance of 12 or 14 miles. It is one of the chief points of departures for emigrants and other passengers to Ceylon and it also receives the numerous pilgrims who visit the temple at Rameswaram. The number of passengers and pilgrims who arrive at it has increased considerably since the opening of the railway to Mandapam on the mainland opposite the Channel. The climate is considerably cooler than that of the mainland and the town was formerly used as a health resort by European officials. The ruins of a Dutch fort are still to be seen.

Pamban passage or channel is a partly artificial channel which runs between the western extremity of Pamban Island and the mainland of India, connecting Palk Straits and the Gulf of Mannar. It has been deepened by the Government in order to allow sea-going ships to pass along by this quicker and more sheltered route. Geological evidence tends to show that in former

times the gap was bridged by a continuous isthmus; and until it was deepened the passage was quite impracticable for ships being obstructed by two parallel ridges of rock reaching just above the high-water mark and about 140 yards apart, the space between which was occupied by a confused mass of rocks lying for the most part parallel to the ridges in the horizontal strata of sand stone formation. The first proposal to deepen this Channel for traffic was made by Colonel Maunel Martineo who brought the matter to the notice of Mr. Lushington, then Collector of Southern Provinces and afterward Governor of Madras.

A scientific marine survey of the Channel was conducted in 1837. Operations for deepening and widening the Channel were begun in 1838 and continued for many years. It is now about 80 feet wide, 14 feet deep at a minimum, and 4,232 feet in length, and is used to a large extent by coasting vessels. Proposals were under consideration to bridge the Channel and to carry the railway across it to Rameswaram to cut a canal through Pamban Island large enough to take sea-going ships; to establish a ship basin in one part of this canal and connect it with the railway and eventually to continue the railway across Adams Bridge to Ceylon. Most of these grandiose schemes did



Thiru P. U. Shanmugam, Minister for Public Works, is seen garlanding the Prime Minister on arrival at Pamban.

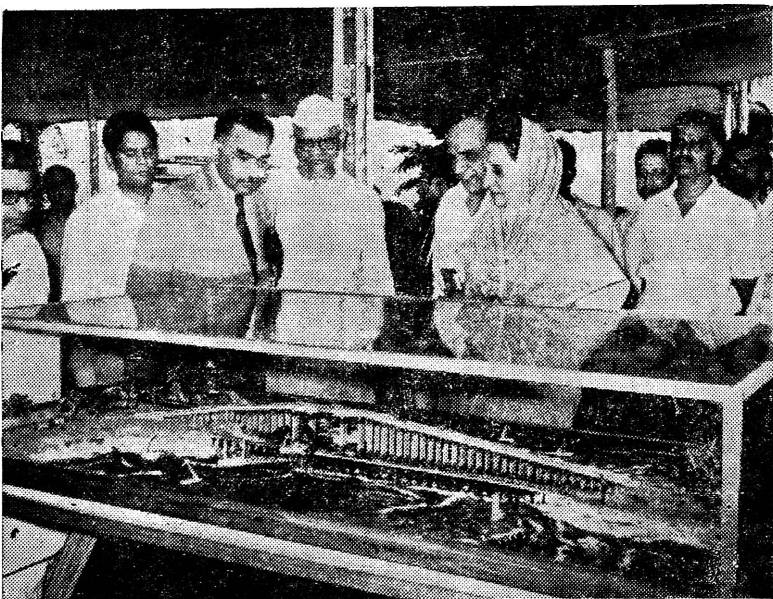
not fructify. The present road-bridges is the first improvement that is taking place.

#### COMPLETING ALL MISSING ROAD LINKS IS AIM OF FIFTH PLAN.

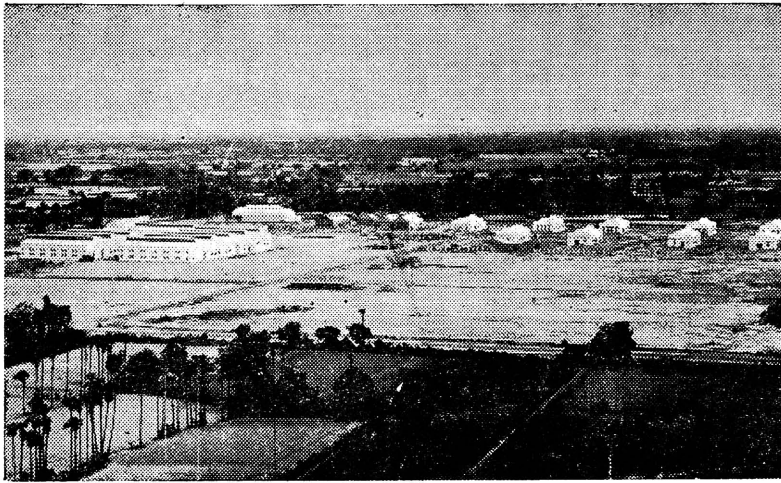
The 7,692-foot-long bridge would have approach links costing Rs. 51.01 lakhs. It would have a prestressed concrete superstructure

with foundations taken down to rock. There would be one navigation span, about 330 feet long with a vertical clearance of 55 feet above the high tide level for an uninterrupted passage of ships underneath. The bridge would have a carriage-way 7.5 metres wide and two foot-paths each 1.5 metres wide. The road over the bridge would slope down from the navigation span towards the shores in a gradient of 1 in 100 on the Mandapam side and 1 in 50 on the Pamban side. The lowest point of the bridge deck would be kept at a minimum height of 20 feet 6 inches above sea level to ensure safety of the superstructure from the tidal waves. The approaches to the bridge would be about 5 km. and 2 km. long on the Mandapam and Pamban sides respectively. The bridge, which would cost in all Rs. 5.3 crores, would take four years to build.

The Pamban Bridge would, besides fulfilling the long cherished desire of the people to have an uninterrupted road communication to the famous pilgrim centres of Dhanushkodi and Rameswaram, would also provide the last missing link in the National Highway System in Tamil Nadu. With the completion of the bridge, there would be no unbridged river crossing left on the National Highway. The bridge was also of paramount importance as it fell on the Asian Highway No. 4 which was ultimately going to link up Sri Lanka with India through a ferry service.



The Prime Minister seeing the model of the Pamban Road Bridge.



Panoramic view of the Anaikarai Patti Motor-cycle factory of M/s. Enfield India

## ENFIELD INDIA'S SECOND MOTOR-CYCLE FACTORY AT

### ANAIKARAI- PATTI IN RAMANATHA- PURAM DISTRICT

Inauguration of the Enfield India's second motor-cycle factory at Anaikarai Patti in Ramanathapuram district on 17th September, 1973 by Dr. M. Karunanidhi, Chief Minister of Tamil Nadu heralds a significant break with the established and existing custom of setting up of heavy industries in and around the metropolitan cities. It signifies a leap forward in the pace of industrialisation of backward areas in the State. It is the first unit to be set up and going into production in the backward region of the State. And it is also the first vehicle producing unit of its size to spring up in a backward region in the whole country with an annual installed capacity of 14,000 motor cycles. As such, it is a forerunner in this line and augurs well for the future pace and phase of industrial progress in a well-laid out and wide spread manner in the State, thereby providing a timely boost and boon to the spreading of industrial units in rural areas in large measure.

The factory is located in a total area of 46 acres of which the factory premises comprise 32 acres of land, the rest being occupied by 13 ancillary units set up there. The

capital outlay of the factory is Rs. 95 lakhs in addition to the working capital of over Rs. 1 crore. The capital outlay of the eleven small-scale units and two medium scale units works out to Rs. 81 lakhs.

The Enfield is providing a good deal of help and a good number of incentives to the small and medium scale industrial units adjacent to it in the form of technical and management know-how, preparation of project reports, advice in the selection and procurement of plant and machinery, obtainment of term loans for them, and above all, supplying raw materials and getting back the finished components from them in easy and effective terms and condition. All the ancillary units are engaged in production of different components useful to the main factory. As such one unit produces electro-plating while the second one is engaged in the production of sheet metal pressing and fabrication. Another one manufactures flywheel magneto while the fourth one is building frames. Likewise, all the ancillary units are engaged in the specialised production of various components required for the main factory.



One of the welfare measures executed by the Company is construction of a workers hostel which gives accommodation to the labour force of the factory as near the factory as possible. The worker's Hostel was declared open by Thiru Madhavan, Minister for Industry.

#### SIPCOT'S.

#### Loan Facilities.

In all, a total capital of Rs. 3 crores has been employed in the main factory as well as the ancillary units. This huge investment in a relatively backward region is likely to confer considerable benefits to the region in a short period. The capital amount has been drawn from many a public financial institutions. Thanks to the policy of the Tamil Nadu Government to encourage setting up of big industrial units in a comparatively backward region in the State so as to give industrial tenor to those areas, the State Industries Promotion Corporation of Tamil Nadu have granted to Enfield an interest free loan to the tune of Rs. 23.18 lakhs repayable after 18 years in three annual instalments. Under the same scheme, the Corporation has also sanctioned an interest-free loan of Rs. 11.90 lakhs to the 2 medium scale units. So also, the Tamil Nadu Industrial Investment Corporation has given in all a sum of Rs. 51 lakhs as loan at 7 per cent interest to the 11 small scale ancillary units as well as the 2 medium scale units.

# THE FIRST UNIT TO BE SET UP IN THE BACKWARD AREA IN THE COUNTRY

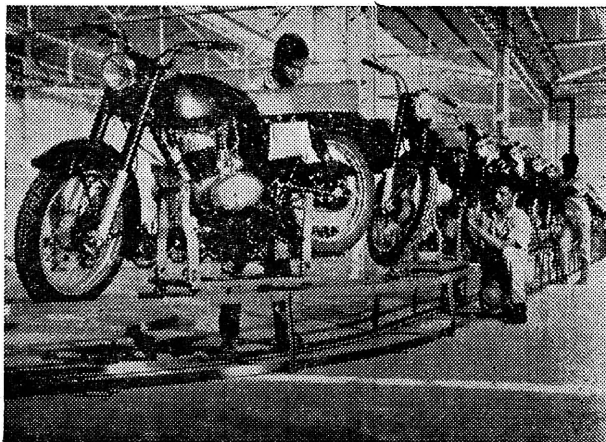
Besides this, the Company received a loan assistance of Rs. 50 lakhs from the Industrial Finance Corporation of India at seven per cent interest in addition to a subsidy of Rs. 5 lakhs from the Union Government.

Starting a new factory, especially in a backward region, involves for the sponsor a higher capital cost in view of lack of infra-structural facilities as well as production facilities, apart from considerable amount of additional efforts to make it a going concern. It also involves additional recurring expenditure on items like freight and duplication of certain functions. Notwithstanding these natural obstacles, the Enfield has started its second unit at Anaikaraiatti because of the abundant availability of ground water in the area in addition to its nearness to the commercial centres such as Madurai and Tiruchirappalli.

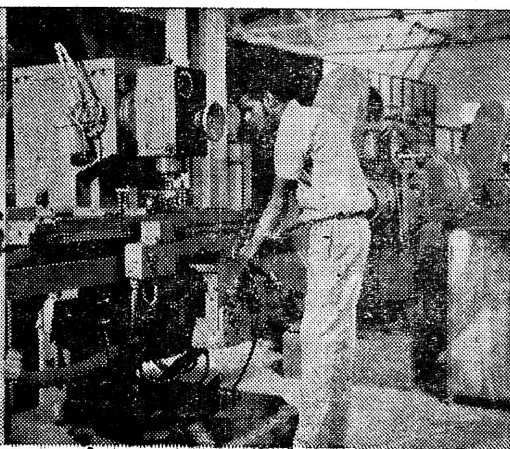
This factory and its ancillaries are capable of giving employment for over 1,200 persons including 100 engineers. Precise estimate regarding the employment potentiality indirectly influenced and induced by the sales and service agencies of the Company could not be ascertained now. But it will not be an exaggeration to say that the multiplier effect will be nearly quite large.

Presiding over the inauguration of Enfield India's second motorcycle factory at Anaikaraiatti, Thiru T. A. Pai, Union Minister

Enfield Line Assembly Section.



Enfield Machine Shop.



for Steel and Heavy Industries, expressed his mood of happiness over the fact that this part of the country witnessed for the first time in the country the moving of an industry to rural area, creating more potential for employment and development. He added in a warning tone that mere location of industries in backward areas alone would not help. But success, by and large, depended upon the attitude of the entrepreneurs. He emphasised that local capital should be mobilised for these dispersed industries.

## Regional Markets

He also said that "You may have to think of regional markets" in the light of changing pattern of industrial development in the country in the period ahead. "There will be more units and also more and more competition" he added. He also said the present output of two lakhs of motorcycles, scooters and mopeds would be increased to eight lakhs by the end of the Fifth Plan. He suggested that manufacturers of two-wheelers should aim at bringing down the prices as low as possible so that more and more people could avail of this mode of transport.

## Tamil Nadu in the Forefront

Inaugurating the factories of Enfield India and ancillaries, Dr. M. Karunanidhi, Chief Minister of



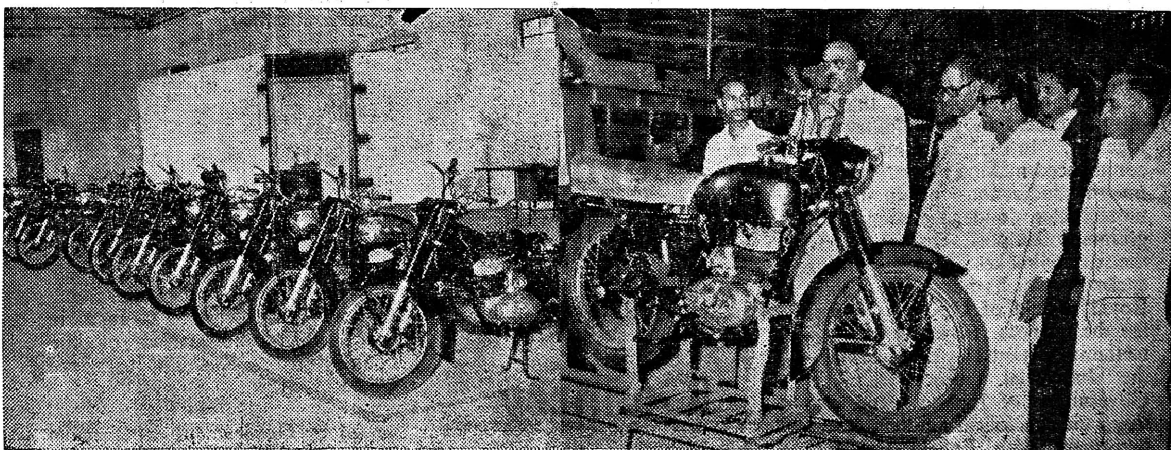
Dr. M. Karunanidhi is seen inaugurating the Enfield India's second motorcycle factory at Anaikaraiipatti.

Tamil Nadu, felt happy that the new units meant job for 1,200 workers. He added starting of industries in rural areas would help to arrest the migration of villagers to towns and cities. The Chief Minister also pointed out in his speech that though Tamil Nadu stood in the forefront in the matter of industrial development, there were backward areas in many districts in the State.

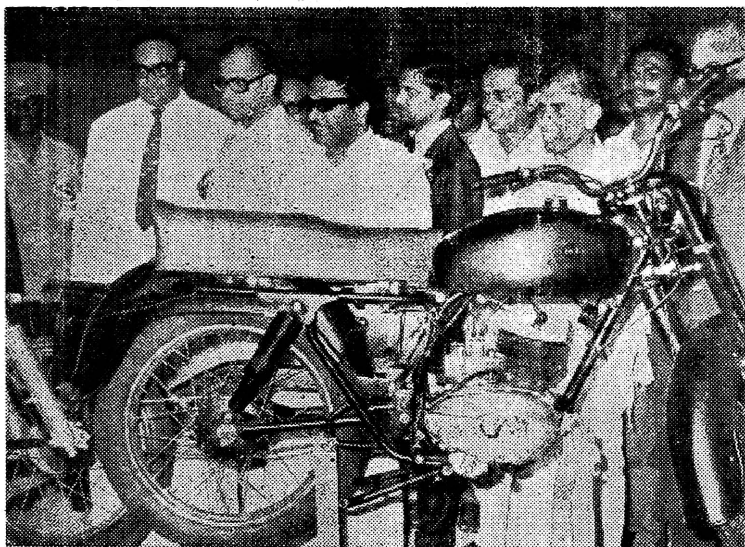
He put an ardent appeal to the Union Minister, Thiru T. A. Pai, to give special attention to the improvement of these areas.

He added that the State Government was keen on starting its own ventures but it was committed to encourage joint sector projects and help private industries to relieve the growing unemployment problem. ☉

The Chief Minister and others seeing the assembled motorcycles.



# The Enfield— Origin And Growth



The Chief Minister and others seeing an assembled motorcycle "CRUSADER".

The Royal Cycle and Motor Company, a partnership firm was first established in the year 1930 to do the business of importing and selling bi-cycles. In 1937, the partners of the firm K.R. Sundaram Iyer and K. Eswaran started a separate department for importing and selling motorcycles. It can be said that the first foundation stone was laid in 1937 for the ultimate birth of Enfield India. Visualising large market potential for motorcycles, Sundaram Iyer and Eswaran started the Madras Motors, Private, Limited, to concentrate in the sales and after-sales-service of motorcycles.

In those years, under Open General Licence, anybody in the country could import any quantity of motorcycles from any country. Against stiff competition, Madras Motors steadily expanded its business, and from 1950, they were selling more motorcycles than at all the others in the country put together. In 1952, Madras Motors commenced making plans for taking up the indigenous production of motorcycles under phased programme of import substitution. Of the various makes of foreign motorcycles in which they were dealing, Royal Enfield of U.K. was chosen for the purpose. Eswaran attended to the important matters of securing the Industrial Licence from the Government of India and negotiating the technical collaboration agreement with Enfield Cycle of

**Enfield—  
A  
Famed  
Byword  
In  
Every  
Nook  
And  
corner  
Of  
The  
Country**

U.K. Madras Motors commenced indigenous production of motorcycles in 1955. Import of motorcycles was continued to be permitted and posed stiff competition. In order to meet this situation, it was considered that Madras Motors should continue to concentrate in marketing and a separate company should be started to concentrate on production and achieving fast progress in increasing indigenous content. Thus, Enfield India was born and incorporated in November 1955 and commenced activities in 1956. With the consent of Government of India and Enfield Cycle of U.K., the Industrial Licence and technical collaboration agreement respectively were transferred to the Enfield India, Limited, by the Madras Motors without any consideration.

Enfield produces two models, namely, 350 cc. Bullet and 173 cc. Crusader.

Enfield supplies the entire requirements of motorcycles of Defence Forces, who have standardised on the 350 cc. Bullet. Police and Border Police forces also use the Bullet.

In fact, Enfield's Bullet and Crusader Motorcycles are used in every nook and corner of the country from Kashmir to Cape Comerin—

(a) by Government departments to facilitate field work pertaining

to development and construction activities and in implementing measures for the welfare of the people ;

(b) by industrial undertaking in the Public and Private Sectors ; and

(c) by all categories of persons engaged in productive activities for performing their work and as personnel transport — examples, farmers, entrepreneurs in the small scale sector, engineers, Government employees, etc.

**Villiers Agro-Industrial Engines**  
which can be operated either on petrol or kerosene :

Enfield produces, at its factory in Toraiakkam, Mahabalipuram Road, Madras, three models of engines, namely, 34 cc. 120 cc. and 256 cc. which are used as prime movers in a variety of agricultural and industrial applications. Over 80 per cent of the production of these engines cater to the needs of Agriculture and Defence. A substantial portion of the knapsack sprayers produced in the country for plant protection are fitted with Villiers 34 cc. engine. The 120 cc. and 256 cc. Villiers engines are fitted as prime movers for portable pumpsets for irrigation (used by farmers with small and scattered holdings, Grain Threshers and Grain Driers) and in the battery charging sets and generating sets used by Defence and Police. They are also fitted to a number of other equipments like Concrete Vibrators, Concrete Mixers, Portable Compressors, etc.

**Agro-Industrial Engine Production**  
is now at the peak level of permitted capacity:

The licenced capacity for Agro-industrial engines is 40,000 Nos. per annum. The Company has now reached a monthly production of 4,000 engines, equivalent to 50,000 engines per annum, up to which the Company can produce as permitted by Government Policy. It is proposed to shortly apply to the Government for a licence for substantial expansion of the Company's undertaking for the manufacture of engines.

#### **Indigenous Content**

The indigenous content of Vehicles and the Agro-Industrial Engines

produced by the Company is practically 100 per cent.

#### **Export Performance**

Efforts were commenced only recently, but fast progress has been made. Exports during 1972 was nearly Rs. 30 lakhs and it would be about Rs. 40 lakhs in 1973. It is expected that the value of exports will increase at the rate of about 10 lakhs per year. The bulk of the present Exports is contributed by Agro-Industrial Engines.

#### **The Enfield plan for Rural Industrialisation**

A major problem in rural areas is the seasonal employment of agricultural labour. It is the intention of Enfield India to attempt to play a catalytical role, however modest, in the above and other similar matters by making available its technical and managerial know-how to facilitate the accelerated development of this and surrounding areas. As a step towards this, studies will soon be initiated to assess the feasibility of promotion of cottage industries preferably with local agricultural wealth, example coconuts, which will enable the economic cycle of persons now on seasonal employment going on a continuing basis and also the promotion of self-employment for rendering service and producing articles which in the normal course will be acquiring from commercial centres such as Madurai and Trichy. If, as it is hoped, the result of the study indicates feasibility, Enfield will endeavour to organise a centre to give training to individuals to enable them to undertake ventures with a small investment which will be of an order the nationalised banks of this area would be prepared to advance as loan.

#### **Dedication**

The Board of Directors dedicate themselves to develop this new factory complex on a sound line to fulfil the aspirations of the people of Tirupattur taluk and surrounding areas for increased employment opportunities and for the over-all development of the area and faithfully discharge their duties for the welfare of workmen, staff, engineers and executives, shareholders and all those connected with the organisation.

# **Enfield**

V

## **Suppliers**

### **Of**

### **Motor—**

### **Cycles**

### **To**

### **Defence,**

### **Police**

### **And**

### **Border**

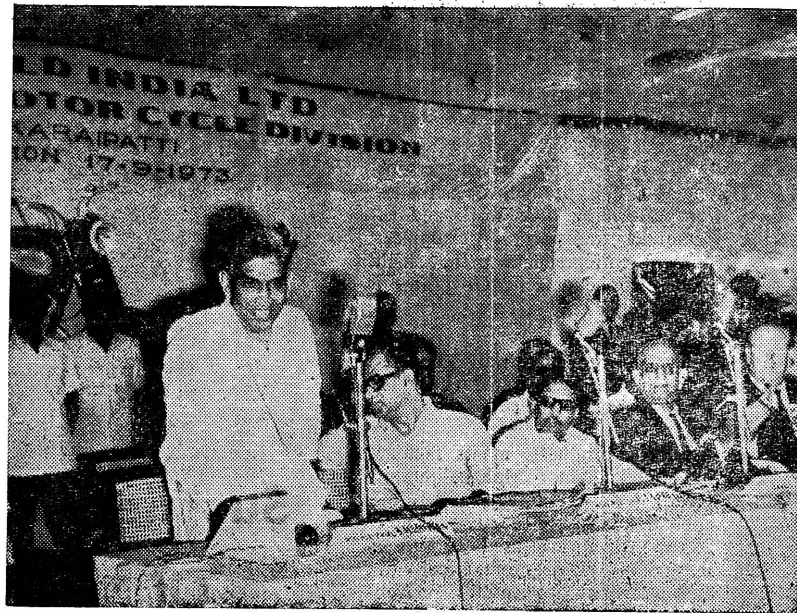
### **Police**

### **Forces,**

### **Etc.**



Thiru Madhayan, Minister for Industries, who declared open the Worker's Hostel at Anaikaraipatti, is seen addressing the distinguished audience explaining in detail the pragmatic and practical industrial policy of the State Government.



The Entrepreneurs of 10 small scale units in Enfield Complex in Anaikaraipatti are from Singampureri and the surrounding areas while the eleventh unit is owned by the Executives of the Enfield India.

None of the owners of the eleven units is associated with the Directors of Enfield India.

One unit will do electro-plating.

There is one unit for sheet metal pressing and fabrication.

There is another unit which will be engaged in the manufacture of flywheel magneto, while the fourth unit will be engaged in the production of frames.

#### Seven Machine Units

The remaining seven are machining units which will produce the following components :—

(i) Two will be engaged in the manufacture of components out of forgings ;

(ii) Three units will be manufacturing components out of tubes and bars ; and

(iii) Two units will be producing components out of castings.

#### Manufacturing Capacity

The manufacturing capacity of the eleven small scale units have been planned only to meet the Enfield's requirements. However, they are free to undertake work from others either by achieving a higher level of efficiency than what is contemplated and/or by adding to their capacity.

#### Two medium Scale units

One will be engaged in the manufacture of steel forgings and the other in the manufacture of Gravity Die Cast components. The entrepreneurs of these two units (who, incidentally, are associated with some of the Directors of Enfield India) are on their own, as they are running similar industries in Madras and do not require any assistance from Enfield India. They already have plans to supply forgings and die cast components to others also.

## ABOUT THE ANAIKARAI- PATTI ANCIL- LARIS

# IS KHADI COSTLIER?

There is a common misconception about Khadi that it is costlier, coarse and not durable and does not offer many varieties, etc. This is, however, only a misconception that has to be shed. With the revival of muslin Khadi, an age-old fame of India, it is possible for skilled hands to produce cloth of 250 counts where a seven sophisticated mills find it difficult to produce cloth of 150 counts fineness. As a result of continuous and sustained efforts in evolving new techniques and methods there has been a tremendous improvement in the production of Khadi cloth in recent times.

It is no secret that the silk sarees produced from centres at Kancheepuram, Arni, Salem, Rasi-puram, Kumbakonam, Dharmavaram and Varanasi are of superior quality and more durable than any other comparable variety available in the market. There has been a steady increase in the demand for Khadi. The annual turnover which was in the order of a few lakhs in 1960 touched Rs. 1,009.81 lakhs in 1972-73. The production of silk sarees alone is in the order of Rs. 8 to 9 lakhs per month. And the Khadi Board as an air-conditioned silk emporium at Myslapore.

## Sales Units

Through a network of sales units known as Khadi Krafts numbering about 178 throughout the State, the Khadi and Village Industries products are marketed. The emporium housed in our own buildings at Kuralagam is perhaps the biggest of its kind in India.

What are the factors that determine the cost of a product? The cloth is produced where labour is available in plenty. As far as raw materials—cotton for cotton Khadi; silk for silk Khadi; wool for woollen Khadi—are concerned, there is absolutely no difference between the Khadi sector and the mill sector. Both will have to buy raw materials in the same market. This being a programme with a socio-economic background, interest-free loans are available for purchase of

raw materials, for paying wages to the spinners and weavers, for organising marketing units, etc.

## Meagre margin of profit

Further, there is what is known as Cost Chart formulated by the Central Certification Committee of the Khadi and Village Industries Commission. This Cost Chart is prepared taking into consideration the cost of raw materials, the labour content, subject to local variation and a meagre margin of profit sufficient enough to meet the establishment charges. This Chart is uniformly made applicable to all the State Boards and certified Institutions engaged in Khadi production.

It is here that we differ basically from the mill sector. It is an open secret that the mill sector aims at maximum profit, for no money is available, interest-free; the overhead charges are many and the expenditure on publicity is unimaginable.

## High Labour Content

Except that the labour content is more in Khadi cloth which is more or less neutralised by the interest-free money that we get

in this is that there is lack of publicity. But any expenditure on publicity will only add up to the cost of cloth which will have ultimately to be passed on to the consumer.

## Not costlier

There may also be a feeling that maintenance of Khadi cloth is costlier. But the cost of maintenance is in relation to the degree of cleanliness that one expects.

A glance at the following facts and figures relating to the cotton, khadi, silk and other readymade may help convince to appreciate the view that Khadi cloth is certainly not costlier and that it is any day the best and cheapest.

<i>Readymade Garments.</i>	<i>Price.</i>
	RS. P.
White slacks 32" ..	8-40
26" ..	9-20
Colour slacks 32" ..	9-00
36" ..	9-95

## Children's Garments :

Baba Suit .. ..	6-50
Bell Bottom .. ..	12-75
Bedsheets 6' x 3' ..	11-25
D.T. Varieties 7' 4" ..	19-80
Furnishing Cloth—per metre	7-30

## D. GANGAPPA, I.A.S.,

*Chief Executive Officer,*

*Tamil Nadu Khadi and Village Industries Board, Madras.*

from the Government, there is no other convincing reason to tell that Khadi cloth is costlier. Though the price of mill cloth has gone up several times due to the abnormal increase in yarn prices, during the power cut we had no such problems, thanks to the millions of spinning and weaving hands which required no power to produce cloth.

It is therefore paradoxical that cloth-pure and simple cotton; simple and stimulating readymade garments and pure and fascinating silk sarees are considered beyond the reach of common man. The possible reason that we could see

<i>Cotton. Cloth—</i>	<i>Count.</i>	<i>Width.</i>	<i>Per meter.</i>
			RS. P.
White ..	32	127c.m.	3-60
Shirting	44	127c.m.	4-25
	75	127 c.m.	5-70
<i>Mukil—</i>			
Lok Vastra	2/32	71 c.m.	3-00
<i>Dousti—</i>			
Drill	2/33	76 c.m.	3-71

The price of Village Industries products like soap, honey, oil, etc. too is quite competitive. Moreover, it is a well-known fact that the Tamil Nadu Khadi and Village Industries Board has a programme and philosophy to provide jobs to the weaker sections of the society. The Board being of State undertaking, has got to function within the framework of governmental rules and regulations and as such there is hardly any scope for us aiming at profit. ☉

# Extensive Public Health Programmes In Operation in Tamil Nadu



Youth Service Corps volunteers help in health services.

Health is not merely absence of disease. It is a state of complete physical, mental and social well-being. Every individual should be assured reasonable opportunity to maintain his health at the highest possible level so that he can contribute his best to the society by his productive efforts. Towards this aim, the Government of Tamil Nadu have taken steps to provide various community health services for the promotion of community health care including maternal and child health, the improvement of nutritional status of people, prevention and control of communicable diseases, the registration of vital events and the spread of health education among the people and the promotion of environmental sanitation.

## Primary Health Centres

The Primary Health Centre is an institution which offers a package of services to the people living in its jurisdiction which is usually the area covered by a block (now Panchayat Union). There are 374 blocks in our State. Primary Health Centres have been established in all the blocks except in two blocks in Salem District, namely, Ellichipalayam and Rasipuram blocks. Seven blocks in the State have two Primary Health Centres each. Thus there are 379 Primary Health Centres in our State.

The services rendered by a Primary Health Centre include general medical care, improvement of maternal and child health, family welfare planning, improvement of environmental sanitation with emphasis on sanitary disposal of excreta, safeguarding drinking water sources, control of communicable diseases by immunisation with suitable vaccines, and by surveillance to detect the occurrence of communicable diseases like smallpox, cholera and malaria, nutrition education and control of nutritional diseases, collection of vital statistics and improving the registration of vital events of births and deaths and health care and education of school children.

For the purpose of medical care, every Primary Health Centre has an out-patient department and an in-patient section with 6 beds. At the out-patient department, the patient is examined and given appropriate treatment. In the conventional dispensaries and hospitals, while the service stop sharp at the level of dispensing drugs, at the Primary Health Centre, further services extend from these patients to their contacts who are given appropriate treatment both preventive and curative. The patient and the contacts are educated about the nature of the disease, its mode of spread and about the methods of disinfection of infective materials.

Out of the 379 Primary Health Centres now functioning, 149 Primary Health Centres are now functioning in their own buildings. Buildings for 22 Primary Health complex, i.e., dispensary plus staff quarters and 21 staff quarters are under construction. The other 187 Primary Health Centres are functioning in rented buildings.

#### Second Primary Health Centre

The Government of India have recommended that, in order to serve a larger section of the rural people, a second Primary Health Centre may be established in each block. The State Government are examining the question of establishing second Primary Health Centres in the blocks in a phased manner. The blocks having a population of one lakh and more being selected for the establishment of second Primary Health Centres in the first phase.

The total amounts allotted for the Primary Health Centre for the last

two years, the current financial year and for the year 1973-74 are as follows:—

Year.	Amount.
	(RUPEES IN LAKHS.)
1970-71 .. ..	127.57
1971-72 .. ..	177.10
1972-73 Revised estimate	176.48
1973-74 Budget estimate.	181.15

#### Maternity and Child Health Services

In maternity and child health services, the emphasis is ensuring the birth of a healthy child to a healthy mother and safeguarding the health of mother and child thereafter. For the purpose, at present, mothers, when they are in the 5th month of pregnancy, are enrolled for ante-natal care. The ante-natal registration is done by the Maternity Assistants/Auxiliary Nurse and Midwives of the Primary

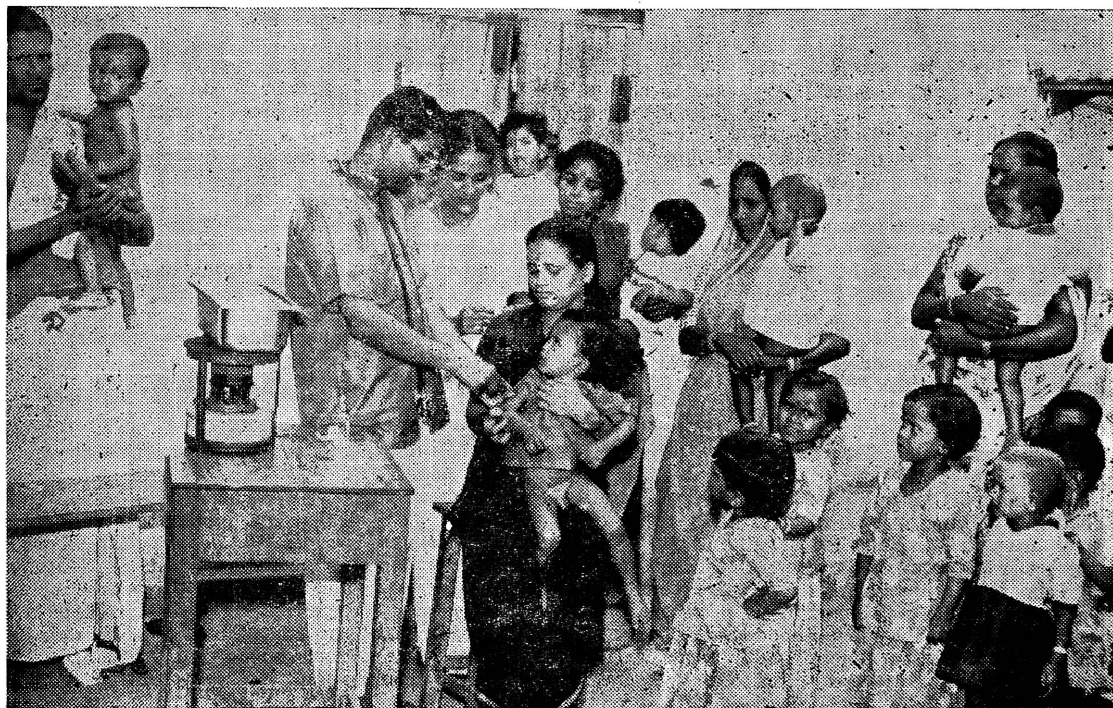
Health Centres and the various maternity centres in the Panchayat Union Blocks.

Every ante-natal mother is given a health check-up especially to detect any abnormality in her or in the lie of the foetus. Special emphasis is given to detect anaemia, signs of toxæmia and mal-nutrition in the pregnant woman. She is given proper advice on the diet to be taken and on her personal care during pregnancy. She is educated on infant feeding, immunisation schedule and childhood diseases and on family planning methods.

At present, maternity centres are established at the rate of one per ten thousand population. The total number of maternity centres as on 1st January 1972 is 3,801. The centres maintained by the Panchayat Union Councils are in receipt of a Government grant equivalent to two-thirds of the recurring expenditure incurred by them. A sum of Rs. 39,74,766 was given to them as grant during 1971-72.

## LIMBS OF HEALTH SERVICES REACH REMOTE VILLAGES

Vaccination and immunisation injections are routine measures of child care even in villages as seen in picture below.







Routine inspection of healthy babies against preventable malnutrition.

There are 68 Maternity Homes and 303 maternity centres functioning in the municipalities. They are in receipt of the Government grant equivalent to 25 per cent of the recurring expenditure incurred by them. During 1971-72, a sum of Rs. 6,59,617 was sanctioned for the purpose of the above grant.

In addition to the maternity centres maintained by the Panchayat Unions, the Government have established at 76 villages Maternity Centres as a part of the post-war reconstruction programme. These centres have been located in remote villages then considered as backward areas. The total expenditure on these maternity centres for 1971-72 was Rs. 5,31,556 and provision made for them in the Budget Estimate for 1972-73 is Rs. 5,27,500.

#### Children Immunisation Programme

The immunisation of pre-school children is being implemented in rural areas in the State from 1st October 1964 through the agency of Primary Health Centres. The children in the age-group 0-5 years are taken up for immunisation with triple vaccine as a prophylactic against diphtheria, tetanus and

whooping cough concentration being made on children under one year of age. Each child is given three doses of D.P.T. at intervals of one month between each dose. The target for immunisation is 900 children per Primary Health Centre per year. The particulars regarding the number of children immunised with all the three doses during the period from 1969-70 are as follows :—

Year.			Number of children immunised.
1969-70	..	..	87,239
1970-71	..	..	97,358
1971-72	..	..	103,667
1972-73 (up to December 1972).			71,542

Apart from these effective and efficient measures are in operation in Tamil Nadu to prevent the recurrence of epidemic diseases such as Cholera, Small-pox, Malaria, Urban Malaria, Filariasis, Yaws, etc. For the control of Cholera, besides



Rehabilitation of polio victim through exercise therapy in Children's Hospital.

the long-term measures like provision of safe water-supply, sanitary latrines, etc., other steps are also being taken to attend to instant cases. To attend to this duty there is a reserve of 64 Health Inspectors, whose main duty is, on information about occurrence of Cholera anywhere in the State, to go to the area of occurrence and help the local Staff engaged in the line in the matter of control measures such as mass anti-cholera inoculations, chlorinating water-supply and disinfection of stools. There are also mobile epidemic units with health staff and ambulance and jeeps in requisite strength. One ambulance van is located in each of the following centres—Poonamallee, Kancheepuram, Cuddalore, Madurai, Tirunelveli, Coimbatore, Salem, Vellore and Ramanathapuram. Jeeps are provided for each district to attend to epidemic control.

The number of anti-cholera inoculation done in the State during the year 1972 was 1,669,731. Thanks to the various preventive measures adopted by the Government, the number of attacks and deaths in 1972 has come down to 3,670 and 205 respectively from 6,508 attacks and 3,298 deaths in 1958. The

entire expenditure on the Cholera Control Programme is reimbursed by the Government of India.

### Prevention of Small-Pox

Small-pox is a virus disease spread from one person to another. To put an end to this dreadful disease, the National Small-pox Eradication Programme was launched during 1963-64. There are 1,410 Vaccinators, 97 Supervisors, and 35 Selection Grade Health Inspectors in the Public Health Department to attend to the works of the National Small-pox Eradication Programme. The Government have sanctioned in December 1972 an additional strength of staff to the extent of 199 Vaccinators, 50 Supervisors, and 5 Selection Grade Health Inspectors to improve the coverage of vaccination and for greater vigilance.

The expenditure incurred under this programme during 1971-72 was Rs. 20.82 lakhs. The provision made for this in the Budget Estimate for 1973-74 is Rs. 21.28 lakhs.

Thanks to the sincere and serious work of all the staff of this programme coupled with the active co-operation of the public, small-pox has been practically eradicated in Tamil Nadu.



A case of severe malnutrition being attended to by means of intravenous fluid therapy.

### Plague Control

Plague, a disease of the rodents transmitted from rats to human beings by the rat fleas, was a major problem in the past. But now it is almost non-existent in our State. In spite of it, routine preventive measures are continued for the control of plague in the plague epidemic areas, namely in the districts of Dharmapuri, the Nilgiris, North Arcot and Coimbatore and in the municipalities of Ootacamund, Coonoor and Vellore.

Since 1958-59, the National Malaria Eradication Programme is being vigorously implemented in Tamil Nadu. A bureau for malaria and mosquito borne diseases exists with a well equipped machinery at the State Headquarter, in addition to two regional Malaria Organisation at Thanjavur and Coimbatore with established laboratories and facilities for training, research and investigation.

In the early phase of the programme, D.D.T. spraying was applied to reduce the Vector density and house-to-house surveillance was conducted, to detect malaria-afflicted individuals. By such intensive measures, malaria has been put an end to in 28.75 units and in 3.05 units the problem is in consolidation phase where intensive research for malaria patients is undertaken. Further, in the area which have entered into the maintenance phase of the N.M.E.P., Basic Health Services have been set up from 1st April, 1969. As many as 353 Panchayat Unions out of a total strength of 374 Panchayat Unions, are in the maintenance phase areas.

The scheme of Urban Malaria has been sanctioned by the State Government for the three towns of Salem, Rasipuram and Tuticorin and the question of sanctioning the scheme

for Elampill and Madras City is under the consideration of the Government.

Since 1957-58, four National Filaria Control Units are functioning in the districts of Chingleput, North Arcot, South Arcot and Thanjavur. Each Unit carries out anti-larval operations by spraying mosquito larvicidal oil, supplemented by minor engineering measures so as to benefit a population of 3.75 lakhs exposed to the risk of filariasis.

Under the reorganised filaria control programme, eight new units have been set up at Kancheepuram, Villupuram, Cuddalore, Thanjavur, Nagapattinam, Srirangam, Pudukkottai and Madras City. Altogether 12 units are now functioning in the State and the total population benefited by them is estimated to be 45 lakhs.

Weather exerts a great influence on crops at all stages of cultivation. Advance warning of the likely weather for the next 2-3 days greatly facilitates economy and timely execution of farm operations. Realising this fact and necessity, the India Meteorological Department was set up. Now it has grown to the status of a Division and is making all round progress in the field of Agricultural Meteorology.

# AGRICULTURAL METEOROLOGY

## IN INDIA

The influence of weather on crops was realised as early as 1922 when, on the recommendation of the Royal Commission of Agriculture, the Central Government created a unit in the India Meteorological Department to study the influence of environmental factors on all aspects of agriculture. This unit has slowly grown to the status of a Division and is making all round progress in the field of Agricultural Meteorology.

In its early years, the activities of the Division were mainly confined to the study of climatic conditions near the ground, development and instrumental techniques for recording observations, and soil water phenomenon. In 1945, a major step was taken when the Division undertook to render to agricultural institutions all technical assistance for setting up of specialised meteorological observatories, so as to inculcate weather consciousness amongst the research and field workers in agriculture, and to develop a plant environment-climatology. This has resulted in steady growth of such observatories which number about 140 now.

Weather exerts a great influence on crops at all stages of cultivation. Advance warning of the likely weather for the next 2-3 days greatly facilitates economy and timely execution of farm operations. Realising this necessity, the Division prepared and issued to the regional forecasting centres material for framing special farmers' weather bulletins. This useful service was started in July 1945 by the regional forecasting centres of the India Meteorological Department. These bulletins include an outlook of weather for 2 days beyond the forecasting period of about 36 hours and are broadcast by All-India

Radio in regional languages, in dialogue form, in the Farmers' Forum.

The Division commenced issuing crop outlooks based on the week by week progress of weather and its deviations from the normal, in a particular area. These crop outlooks are essentially an objective assessment of the crop prospects in each meteorological sub-division. For the last five years, these are supplied to the Ministry of Food and Agriculture, Government of India and released through press, as well.

In late fifties and the early sixties, the Division laid emphasis on studies relating to the optimum utilisation of irrigation resources. Experiments were conducted to develop techniques for assessing evaporation losses from storage reservoirs and to determine the periodic and total water requirements of crops.

### Drought Study

The wide spread famine in the year 1965-67 aroused deep concern regarding the nature, distribution and recurrence of drought. A special Research Unit was set up to describe and study the climatology of drought and to predict crop yields from meteorological parameters, principally rainfall and temperature. To help agricultural production specialists in planning an effective overall strategy for increasing crop production, supply of data concerning Agromet and weather observatories to selected addressees, was started. Significant meteorological and crop data of interest to agriculture have been

mapped for publication as an Agroclimatic Atlas.

In the light of the importance being paid to dry land farming at national level, studies have been commenced for soil moisture availability periods for the different phases of crops of varying growth rhythms and life durations.

During the current Fourth Plan, work is in progress for setting up 35 stations for accurately assessing moisture needs of important crops in each of the major soil climatic regions of the country for installation of pan evaporimeters in regions not covered by the existing network, and to study meteorological conditions favouring the multiplication and migration of desert locust, with a view to predicting their occurrence and to provide assistance in control operations.

### Fifth Plan

During the Fifth Plan period, the Division proposes to undertake studies on the incidence, spread and control of pests and diseases in relation to weather. It would also intensify and expand the weather services for farmers. To that effect weekly quantitative crop yield and acreage outlooks will be issued and consultative exchanges between meteorologist and agronomist, both at State and regional level, will be arranged. This will help properly understand and interpret weather forecasts for issuing farming advisories to cultivators. The Division also proposes to undertake intense experiments on growth and behaviour of plan in controlled environmental chambers and in the field at selected centres. This will help in developing instrumentation for agrometeorological investigations and evolving agrometeorological models to assist irrigation scheduling, plant protection, crop rotations and land use planning. ☉

# CASHEW KERNELS

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Well-known for its delicious taste, pleasing flavour and high nutritive value, the cashew kernels are one of the favourite snack items in sophisticated parties in developed countries. The cashews are consumed raw or fried, salted or sugared and are used as flavouring medium in the confectionery and baking industries.

During 1972-73 cashew kernels worth about Rs. 68.50 crores were exported, setting an all-time high record. Export of cashew kernels amounted to Rs. 61.78 crores in 1971-72, as compared to Rs. 52.06 crores in 1970-71.

## Main Buyers of Cashew Kernels

The main buyers of the cashew kernels are the U.S.A., Canada, G.D.R., Australia, U.K., Japan, Hong Kong, Netherlands, Yugoslavia, Czechoslovakia, France, Poland, Hungary, Iran and Kuwait.

The Cashew Export Promotion Council takes various measures to increase sale of cashew kernels abroad. The measures include participation in international fairs and exhibitions, distribution of samples, sponsoring sales-cum-study teams and market surveys and arranging publicity abroad.

## Production centres

Cashew is cultivated in Kerala, Mysore, Goa, Andhra Pradesh, Tamil Nadu, Maharashtra, Orissa and West Bengal.

Production of cashew-nuts went up from 1,58,000 tonnes in 1965-66 to 2,00,000 tonnes in 1970-71. The target for the Fourth Plan was fixed at around 2,36,000 tonnes.

The raw cashew-nuts are processed in the factories, which include roasting, shelling, peeling and grading. There are nearly 175 cashew-nut processing factories in the country, mostly concentrated in Kerala.

Indigenous production of raw cashew-nuts is not sufficient to meet the needs of the processing units and the demand abroad, and as such India imports of raw cashew-nuts from East African countries. The Cashew Corporation of India, which is the canalising agency for

import of cashew-nuts, is responsible for meeting the demand of the processing units.

## Special Schemes

Various measures for increasing the production of cashewnuts were initiated during the Fourth Five-Year plan. This included production and distribution of cashew-air-layers. The Fourth Plan Programme was to distribute 2,75,000 air-layers at a subsidized rate of 50 per cent.

Introduction of better cultivation techniques included setting up of demonstration plots for the growers. The Fourth Plan aimed at laying out 1,500 demonstration plots for which farmers were to be provided Rs. 300 per plot of .8 hectares.

## Plant Protection Measures

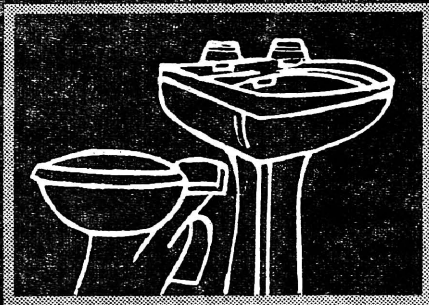
Besides these, prophylactic plant protection measures were also adopted. A target of an average of 40,000 hectares had been fixed for the Fourth Plan, for which a subsidy of Rs. 62.50 per hectare is provided.

A special scheme of area expansion of 5,000 hectares and package programme for another 5,000 hectares is being implemented on a pilot basis. A total outlay provided for the programme is Rs. 100 lakhs for the Fourth Plan.

## Spects for Glaucoma Patients

Statistics show that every fourth person over forty suffers from glaucoma. This disease is marked by an increase in intra-ocular tension accompanied by severe pain in darkness. Y. Petrov, an engineer from Moscow, has designed spectacles which make it possible for glaucoma patients to work in darkness. These spectacles look very much like ordinary ones, except that the arms are somewhat thicker. Inside them tiny batteries are placed. As soon as the patient puts the spectacles on, the ultra-miniature lamps mounted in the upper part of the frame are automatically switched on. The light from these lamps is directed into the patient's eyes. The intensity of light can be regulated and the patients are relieved of sufferings, while other people are not at all disturbed.

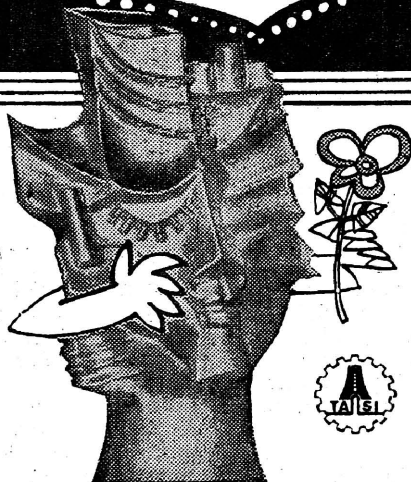




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# TUTICORIN

## THERMAL

## PROJECT

The Tamil Nadu Electricity Board propose to establish a Thermal Power Station at Tuticorin, 600 KM. south of Madras on the east coast. The first stage envisages installation of 2 Nos. 200 MW. units and the power station will be expanded upto 1,500 to 2,000 MW. later in stages.

The present electricity demand in Tamil Nadu is about 1,325 MW. which is expected to go up to 3,500 MW. in 1978-79. A number of power projects is proposed by the T.N.E.B. to meet this growing demand and the Tuticorin Thermal Power Station is one such project.

### Why Tuticorin was chosen

Tuticorin was selected for the thermal project because it is easier to transport coal from Bengal by sea to Tuticorin where a port is under construction. As coal is available only in Bengal-Bihar area and as rail transport of coal is impossible due to shortage of wagons and inadequate rail facilities, coal has to be necessarily transported by sea. The policy of the Government of India in respect of future thermal plants is to locate such large thermal stations on the coast thereby avoiding inland transport of coal by rail. The southern part of Tamil Nadu has at present no large power station and the industrial development in this region is also picking up with establishment of S.P.I.C., Heavy Water Plant, Tuticorin Harbour Project, Expansion of Chemical Works, Cement Plants, etc. It has therefore become necessary that a large power station is built up in this area.

The Tuticorin Harbour Project is expected to be commissioned in 1974 and the main traffic through this harbour will be coal which will be of the order of 1.2 million tonnes per year for the 400 MW. installation. A separate coal berth will be provided in the harbour and coal will be unloaded from the ship and directly transported to the power station by conveyors.

Tuticorin is an ideal place for establishing a 1,000 MW. coal-fired thermal station as coal can be economically transported from Bengal by sea to Tuticorin and the T.N.E.B. are already planning in this direction. It is also proposed to use this station for the future

interconnection with the Ceylon Grid.

### Economy of Sea Transport of Coal

The transport of coal by sea is at present a very costly process because only small capacity ships can enter Calcutta Harbour and because of manual handling. These boost up the cost of transport of coal by sea. The Haldia port coming near Calcutta is expected to receive up to 30,000 D.W.T. ships and the Tuticorin Port will also be able to receive similar capacity ships. Both the ports will be equipped with mechanised coal handling facilities to handle 1,000 to 2,000 tonnes per hour. With this the detention time of ships will be very much reduced and the cost of transport would come down to one third of the present figures.

In fact, with the superior quality of the coal of Bengal-Bihar and with the cost of sea transport of coal coming down, the cost of generation of electricity at the proposed Tuticorin Thermal Station is expected to be 7.25 paise/unit which is almost the same as the cost of electricity being generated at the Ennore Thermal Power Station which uses the inferior grade coal from Singareni Collieries.

### Atomic vs. Coal Fired Station

A question will arise whether an Atomic Power Station cannot be had at Tuticorin instead of the coal fired thermal station. The Kalpakkam Atomic Power Station itself is expected to come up by 1977-78 and the next atomic power station (i.e. fourth in the chain) is to be established in U.P. The Atomic Energy Commission and the Government of India are of the view that the next atomic power station in the south will have to meet the requirement of power in the entire Southern Region and they are already examining various sites for locating the power station. It is not therefore correct to view whether an atomic station is to be had instead of coal-fired thermal station. Actually both will be required to meet the growing demand for power. As stated earlier, demand for power by 1978-79 will be 3,500 M.W. and the available generating

V. SAMBANDAN,  
Publicity Officer,  
Tamil Nadu Electricity Board.

capacity will be lower than this and thus the second atomic power station will always be necessary.

## Estimated Cost of the Plant

The estimated cost of first stage of Tuticorin Thermal Station is Rs. 73 crores and project is expected to offer a return of 12.1 per cent in the third year of operation. Power generated in this station will be stopped up and connected to the existing Grid. The project is awaiting the sanction of the Government of India and is expected to be cleared shortly.

## Programme of Work

The preliminary works have already been started and the first 200 MW unit is expected to be commissioned in 1977-78 and the second in 1978-79. Further additions will be planned in suitable stages.

## Planning Commission Approval

The Planning Commission has informed the Tamil Nadu Government that it will shortly give its clearance to the Tuticorin Thermal Power Project for inclusion in the Fifth Plan.

The Tamil Nadu Government has been asked to prepare the detailed engineering design of the 440 MW project to be put up at a cost of Rs. 75 crores.

## Supply of coal by sea

The cost of coal to be supplied from Raniganj Coalfields by sea to the Tuticorin Project has been worked out at Rs. 105 per tonne as against the State Government's earlier estimate of Rs. 85. The cost of coal at Tuticorin Port will include railway freight from Raniganj Coalfields to Haldia Port, port charges at Haldia and Tuticorin and shipping freight. The Planning

Commission feels that the port charges at Haldia amounting to Rs. 15 per tonne was excessive and should be re-examined by the authorities concerned.

On the basis of the coal cost of Rs. 105 per tonne, the cost of power generation at the Tuticorin Project works out to 10 paise per unit but the State Government feels that even at this rate it would be cheaper than nuclear power. The subsidy on coal transportation is due to expire by the end of March 1974 and Tamil Nadu has agreed to abide by any new decision the Centre might take on subsidy.

## 10 Ships for Coal Transport

The Shipping Ministry has also informed the Planning Commission that it had already ordered 10 ships of 18,000 tonne capacity of which three will be received this year and they are meant for coal transport. The ships will be available to transport coal to Tuticorin when the project takes shape.

## Railway Ministry Expects No Difficulty

The Railway Ministry does not expect any difficulty in effecting the movement of about 1.2 to 1.3 million tonnes of coal from Raniganj to Haldia Port to meet the initial requirements of the Tuticorin Project. The total requirement would be in the region of 6.5 million tonnes and the Railway Ministry is confident of handling this quantity. It has, however, told the Mines and Metals Ministry to inform it in advance of the mines from which coal will have to be loaded so that it could complete the necessary arrangements in time. The Mines and Metals Ministry has also advised the State Government that the boilers for the Tuticorin Project consisting of two 220 MW. sets should be designed for Grade I and Grade II coal available from the Raniganj Coalfields.

# Training for Poor Harijan Cultivators in Dry Farming

The Government have sanctioned a Pilot Scheme for imparting training in new agricultural techniques of dry farming to selected poor Harijan farmers owning between one and three acres of dry lands as the poor Harijans, who own small extents of dry lands, are not conversant with the modern techniques of dry farming.

The scheme called "Training scheme in Dry farming for Poor Harijan Cultivators" will be tried first in Tirunelveli district as an experimental measure and will be extended to other districts based on the experience gained in the functioning of the scheme. The scheme will be implemented at the Dry Farming Research Station at Koilpatti in Tirunelveli district.

## 40 Farmers to be trained

Under this scheme 40 farmers will be given training in four batches, each batch having ten farmers. The Officer-in-charge of Koilpatti Dry Farming Research Station will be the Training Officer, guiding the trainees in modern methods of dry farming.

The training will be for 6 days at Koilpatti. The trainees will be paid actual bus fare/train fare for their journeys from the places of their residence to the training centre and back. In addition, the trainees will be paid each Rs. 6 (Rupees six only) per day for food charges. The District Welfare Officer, Tirunelveli who is in-charge of implementing the scheme, will make arrangements for the boarding and lodging of the trainees during the period of their training.

# AUTORICKSHAW CO-OPERATIVE

With a fleet strength of 180 autorickshaws, the Madras Autorickshaw Drivers' Co-operative Society is proud of its achievement of the main object of making the poor autorickshaw drivers the owners of the vehicle within a record period of 3 years.

The society was started when the poor autorickshaw drivers were at the mercy of unscrupulous fleet owners and money-lenders. They had no regular duties, and were at the beck and call of the autorickshaw owners. Further the very existence of autorickshaw drivers were at stake, as the previous Government adopted the policy of reducing the strength of autorickshaws in the city. It was at this juncture, the president of the Tamil Nadu Taxi and Auto Workers' Union Thiru A. V. P. Asaithambi represented to our present Chief Minister the need for helping the poor autorickshaw drivers through a Co-operative Society. The Chief Minister, who is a guardian of poor, immediately arranged for the registration of the society. The Chief Minister has also assured the promoters that the present Government will revise the policy of restricting the number of autorickshaws in the city and will gradually increase the strength of autorickshaws in the city. Thiru A. V. P. Asaithambi initiated the formation of the society. He was ably assisted by Thiru S. V. Nalliah and a band of selfless taxi drivers' in Madras.

The society started functioning from 18th September 1969. Every year a bulk number of autorickshaws were secured through allotment from the Government and given to autorickshaw driver-members. The present fleet strength of the society is 180. Recently the society has received another allotment of 10 autorickshaws from the State Government and the vehicles are ready to be given to the 10 members by the Chief Minister.

The Society admits only autorickshaw drivers possessing current driving licence with public service badge as members. A member, who is desirous of getting an Autorickshaw, has to pay 1/8th of the

## RUNS ITS OWN PETROL BUNKS

Bunk and supplies products at fair prices and at correct quantity. Out of the profits of the petrol bunks, two sets of uniforms were supplied based on the member's 'off-take'. For the past two years, the society has declared maximum dividend of 6 per cent on shares held by members and dhothies and sarees to members and their wives from common good fund.

75 Autorickshaws were given to the members during the year 1970 and now there are owners of vehicles worth Rs. 10,000 because three years have lapsed and the members have become eligible for the ownership of the vehicle as they have cleared their dues for the purchase of autorickshaws. The society has thus made history by fulfilling the dreams of poor autorickshaw drivers into reality.

### SHARE CAPITAL

The authorised share capital of the society is Rs. 5,00,000 made up of 10,000 shares of Rs. 50 each. There are at present 366 members with a paid-up share capital of Rs. 1,77,050.

### ALLOTMENT OF AUTORICKSHAWS

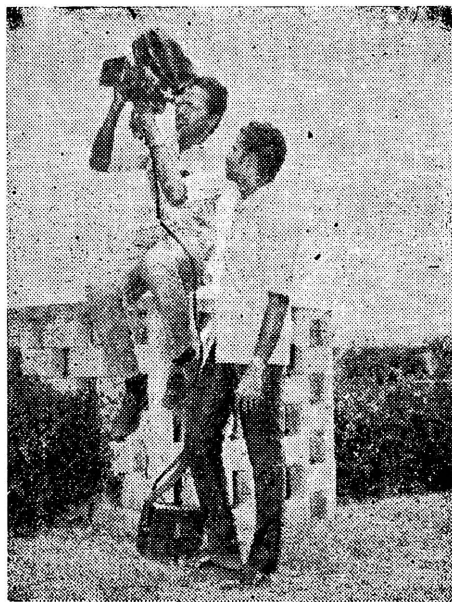
Government have fixed the strength of autorickshaws to be run in the city of Madras. The limit was 200 at the time of formation of the society. It is only on the representation of the society to increase the strength of autorickshaws in the city to meet needs of middle and poor class public to have a cheap and quick conveyance, the Government have relaxed the limit every time. On all such occasions, the society has got permits nearly 40 per cent to 50 per cent of the total number of permits allowed for issue. It is thus the society has helped the poor drivers and the public in a great way.

The autorickshaws are not supplied to the society from the dealers quota. It takes nearly 3 to 5 years for the dealer to supply autorickshaws if orders are placed to him with necessary advance. Therefore, the society has embarked on getting quotas of allotment of autorickshaws from Centre and State Governments.

cost of the autorickshaw, nearly Rs. 1,400 as share capital to become eligible for the allotment of autorickshaws. The society undertake to get permit and for the allotment of autorickshaw. When the vehicle is passed on to the member, he has to pay daily Rs. 13 for a period of 3 years. This amount can easily be paid from out of the daily earnings of the driver. The society helps the drivers in insuring the vehicle, settling Insurance claims during accident, payment of taxes, getting his life insured and all other activities in connection with the maintenance of the vehicle. The society is also running a Petrol



The set-up of the Tamil Nadu Films Division is the brain-child of the people-oriented Government in Tamil Nadu. It was started not only to fill up the vacuum created by the non-coverage of Tamil Nadu news in full by the Films Division of the Union Government, but also to keep the public abreast of the every day and latest development schemes executed by the Government in the interest of their welfare and well-being. The Tamil Nadu Films Division during its short span of five years existence, has not belied the hope and expectation of its sponsors. On the other hand, it has added one more feather to its cap by its efficient functioning.



## CREDITABLE ACHIEVEMENT OF THE FILMS DIVISION OF

### TAMIL NADU GOVERN- MENT

The Films Division of Tamil Nadu Government has added one more feather to its cap in its 100th documentary within a short span of five years of its existence. Such spectacular and splendid achievement to its credit has been made possible by the earnest and efficient functioning of the department plus the constructive and contributing initiatives taken by the Government in its affairs.

Started in 1968 as a wing of the Department of Information and Publicity to fill up the vacuum created by the non-coverage of Tamil Nadu news in full by the Films Division of the Central Government, the Tamil Nadu Films Division has served its purpose well and proved beyond an iota of doubt its multi-purpose usefulness and utility to the society in more than one way.

After assuming the reigns of office in Tamil Nadu in 1967 under the able stewardship of Dr. Arignar Anna as Chief Minister, the new Government gave first priority to mass contact so as to keep the public abreast of the every day and latest development schemes executed by the Government in the interest of their welfare and well-being. Hence the set-up of the Films Division

in Tamil Nadu may rightly be called the brain-child of the people-oriented Government in Tamil Nadu.

#### To Enthrall the Public

The first documentary film of the Film Division was released on 4th May 1968 at the then Children Theatre (now it is renamed as Kalavanar Arangam) in Madras. Thiru C. A. Ramakrishnan, I.C.S., the then Chief Secretary of Tamil Nadu, in his welcome address, pointed out in lucid and unambiguous term the purpose for which the Films Division was started in this State. His speech runs:—"The Union Government have been releasing documentary films. But the Union Government's documentary films are not in a position to give

full and complete coverage of all the important goings and happenings in this State. So the State Government releases its own documentary films to put an end to that sorry state of affairs in such a way as to enthrall the minds of the people of this State".

Inaugurating the function of the release of the first documentary films of the Films Division of Tamil Nadu, Dr. V. R. Nedunchezhiyan, Minister for Education, in his speech said that "the Department of Information and Public Relations of Tamil Nadu Government has undertaken the responsibility to set up a Films Division and to take and release documentary films. Proper execution of its purpose by this department will ensure goodness to the public at large.

"In the documentary films of the Central Government the news and functions of Tamil Nadu are not even given half a minute's time. Of course it is not easy to give incomplete coverage of all the matters of importance and of news value all over this vast and big country. So the documentary films produced by the Films Division of Tamil Nadu on behalf of this Government will

lead to beneficial result to the people of Tamil Nadu."

"Documentary films of the Films Division of the Department of Information and Public Relations will carry to the people all the achievements and statistics and planning schemes and the implemented schemes of this Government in good taste".

"Releasing the first documentary film of the Films Division, the then Public Works Minister, Kalaigñar Karunanidhi said: "The Central Government's Films Division, in view of the vastness of its field for coverage, could not entertain all the matters of importance and interest to us in this State in its documentary films. To remove such grievances in our midst, our Films Division has come forward to release documentary films of its own making. Arrangements have been made to show its films in all the theatres in the State.

"The documentary films of the Films Division will be much useful to carry the good deeds of the Government to the people and to obtain, in turn, the backing of the masses to the Government".

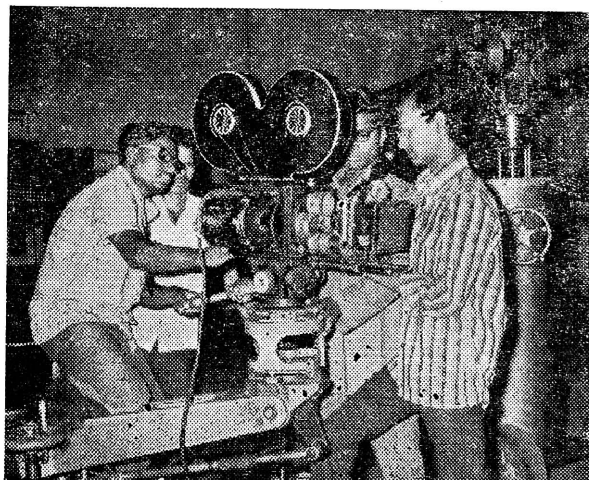
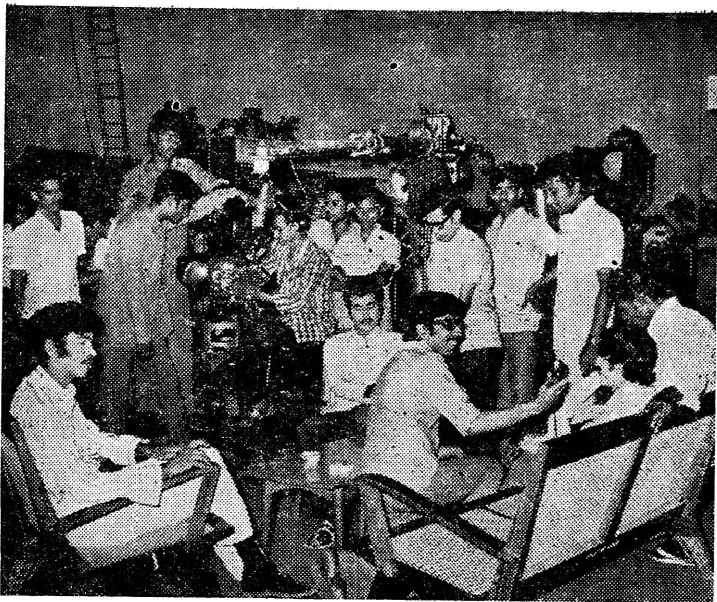
The Film Division, in its short span of service to the society, has not belied the hopes entertained by the ministers at the inaugural function of the release of its first documentary films. It works in a target-oriented way. Accordingly, it releases two documentary films every month and it has hitherto brought

to light 100 documentary and feature films under its auspices. It is not an achievement of mean degree and dimension to any institution of its kind.

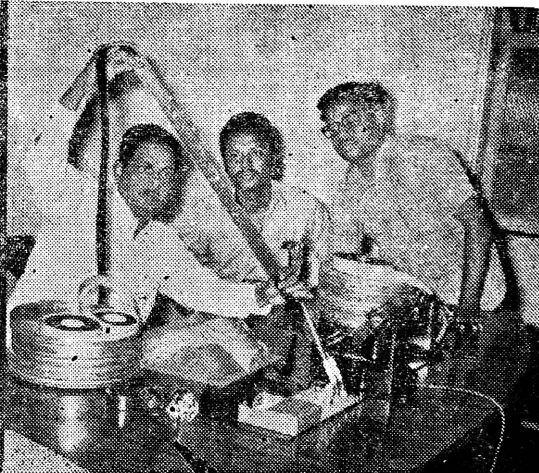
Its documentary films include "The Funeral Procession of Anna", "Anna Lives", etc. The documentary film "Anna and After" taken by this Division in English was received well, wherever it was screened. Some documentary films of the Films Division depicting the activities and achievements of the State Government have also been given good reception by the

mass of Tamil population. It stands to its credit that the documentary film on Poompuhar brings out the ancient Tamil culture in all its splendour and glory.

Apart from these documentary films, the Films Division has also embarked upon picturising some important subjects and institutions in this part of the country. The documentary film on the Madras Museum under the title "Don't the stone speak in symphony?" is a pointer to prove the creditworthiness of the Films Division. "On the Deep Sea", "Helping Hand", "Fertiliser alone is Food"



Cine Camera in action.

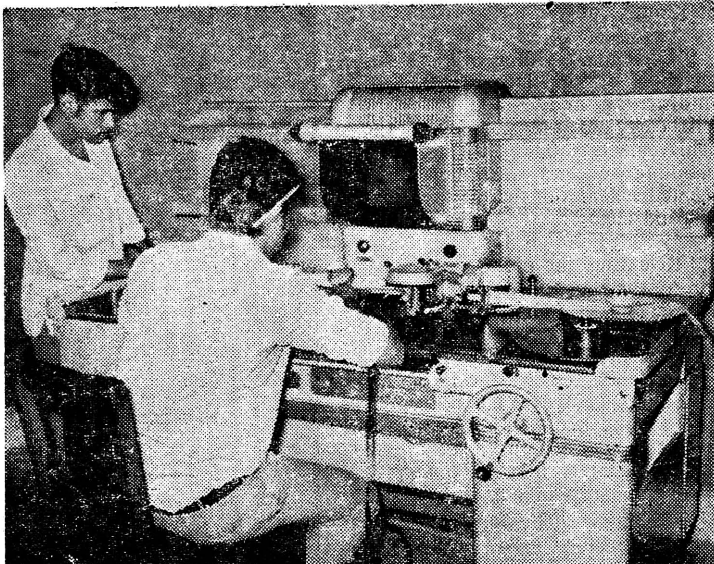


Film Editing.

etc., are some of the documentary films that go to prove the pivotal role played by the Films Division in taking the modern scientific knowledge and technical know-how to the door-steps of the people helping a lot in revolutionising methods of cultivation. The documentary film "Our Duty" of the Films Division brings to light the importance of the Small Saving Scheme thereby giving a fillip to the popularisation of the schemes among the illiterate rural folk as well.

"After Having Got Blindness", "The Dark Home", "Heart is a Monkey", "Cotton Cultivation", "Industrial Development", etc., are some of the documentary films of the Films Division under production.

Popular film stars have also come forward to act in the films of the Film Division and they are also encouraged and afforded chances in good measure. The documentary and feature films of the Films Division are screened in every nook and corner of the State in rural areas as well as urban areas, and in industrial centres and the predominantly agricultural areas, etc.



It is a healthy sign in the administration of the Films Division that the revenue derived from the screening of the films of the Films Division is on the upward trend as years roll by. And every one in Tamil Nadu feels proud of the fact

that as in many other fields, in this line also Tamil Nadu marches ahead of many other States in the Indian Union, bringing laurels to the effective and efficient functioning of the administrative set-up in this State.

R.N.

## the living past

The imprint of Time left on impressive buildings like the Taj Mahal is more easily discerned in written records. In place of mute memorials, eloquent books speak to one and all. The past is preserved in documents and books for posterity to show how and where history is imperishable. The same can be a guide to the future also.

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# CONTRIBUTION OF THE TAMIL NADU AGRO-INDUSTRIES

In our effort to attain self-sufficiency in food and to substantially improve the nutritional standards of our people, it is of fundamental importance to realise that a mere increase in the output of cereals through "Green Revolution", high yielding varieties and fertilisers are just not enough. A qualitative improvement through a basic change in food habits, taste and attitudes of people is more important. It is in this context that fishing industry, agro-industries, poultry, cattle, piggyery, increased production, preservation and optimum consumption of fish, vegetables, fruits, etc. have, to be considered. Although fishing and allied industries are not unfamiliar to India, we have yet to go a long way in organizing them scientifically so that the industries would play their role both in improving nutritional standards and as a valuable source of foreign exchange.

The Government of India and the State Governments recognised the role of agro-based industries as a vital sector to improve the qualitative side of our diet and a massive development of agro-based industries was envisaged in setting up Agro-Industries Corporations in all the States of India, to form the nucleus for a nationwide effort to augment the output of more and better cattle, poultry, pigs, fish and similar items. This effort is expected to form an essential part of the employment schemes of the Government to vastly increase production of basic necessities of life, their careful conservation and efficient distribution.

The Tamil Nadu Agro-Industries Corporation Limited was incorporated on 5th July 1966. The main objects of the company are—

(i) To promote, establish, administer, own and run industries for manufacturing articles which will help the growth and modernisation of agriculture, animal husbandry, pisciculture and poultry farming;

(ii) To promote, establish, administer, own and run industries and facilities for processing agricultural produce and products of

## CORPORATION IN THE BLUE REVO- LUTION

piscicultural and animal origin for the purpose of increasing the availability of goods and subsidiary food in the country and for export;

(iii) To take over from the Government of Tamil Nadu the industrial units and facilities falling within the ambit of clauses (i) and (ii) above with their rights and liabilities in so far as they relate to such units and facilities and

(iv) To promote the rapid development of the industries of the category mentioned in clauses (i) and (ii) above in the State of Tamil Nadu and for that purpose to operate suitable schemes including the financing of any such industry or facility whether owned by the State Government or Central Government or by any individual, firms, company or association—by way of underwriting the issue of shares, participating in the share capital, grant of loans and offering guarantees.

The authorised share capital of the Tamil Nadu Agro-Industries Corporation Limited is Rs. 4 crores, out of which Rs. 330 lakhs has been subscribed by the State and Central Governments in equal parts. The Board of Directors consists of one non-official Chairman, three non-officials nominated by the State Government, four officers of the Government of Tamil Nadu and three officers of the Central Government. The Corporation is under the administrative control of a Managing Director from the Indian Administrative Service. The Tamil Nadu Agro-Industries Corporation was concerned in the beginning only with agricultural schemes. But towards the end of 1971, fisheries schemes were also proposed to be operated with the appointment of one Project Officer (Fisheries) by taking an officer from the State Department of Fisheries on deputation. Recently, the Corporation has decided to form an autonomous separate unit for "fisheries" as a wing of the Corporation.

**B. KRISHNAMURTHY,**

*Project Officer (Fisheries).*

TAMIL NADU AGRO-INDUSTRIES  
CORPORATION LIMITED, MADRAS-32.

The Fisheries Wing of the Tamil Nadu Agro-Industries Corporation



has proposed to take up a few schemes on fisheries, detailed below :—

**(a) Freezer storage complex in Madras.**

This complex will consist of a 100-tonnes freezer store, a 15-tonnes chilled fish store, a 3-tonnes tunnel freezer and a 12-tonnes plate freezer. The Tamil Nadu Agro Industries Corporation has also agreed to put up in the same building a 30 tonnes ice plant with a 50-tonnes ice storage of the State Department of Fisheries. The frozen fish store will consist of 5 cubicles of which two are to maintain—15° to 20° F and three will maintain—5° to 10° F. The tunnel freezer will maintain—40° F and the intake per load is proposed to be 400 Kgs. The chilled fish store is proposed to be maintained at 25° to 28° F. Two plate freezers of 6 tonnes each are proposed to be installed in the building. Sufficient space in the building for receiving and handling fish and for processing has been planned. This important infrastructure for deep sea fishing operations is proposed to be erected in Royapuram in the fishing harbour site. The facilities are proposed to be made available to the public at rental charges. As soon as the site is handed over to the TAI Corporation by the Government, work on this project can be started and completed within 8 months.

**(b) Deep sea fishing**

The major project will be with 8 deep sea fishing vessels to be operated from three bases—Madras, Tuticorin and Mandapam. Four vessels are proposed to be imported of which two will be in the 23—25 metres and two in the 30—35 metre length classes. The balance four vessels will be built in India. All the vessels will be of the stern trawling type and for combination fishing. One of the imported vessels is proposed to be rigged for operating purse-seine nets. Although the project is export-oriented, it is proposed to take up internal marketing in the country also to make available nutritive fish food under hygienic conditions and at reasonable rates to the people in the hinterland and in Madras City.

**(c) Nylon twine twisting and fishnet making factory**

The TAI Corporation has decided to put up a factory in Madras for

twisting nylon filament into twine and braiding the twines into net webbings for fishing nets. The net making machines will be suitable for single or double knots and for braiding monofilament twines also into webbings. The factory will be capable of handling about 48 tonnes of nylon yarn per year. It is proposed to produce about 18-tonnes of webbings per year. The import licence for the machinery is awaited from the Government of India.

**(d) Trawl Winches for fishing boats.**

The fishing boats require mechanical trawl winches for the smaller vessels and hydraulic winches for the medium and larger boats. A few companies are at present manufacturing winches for the smaller boats, but hydraulic trawl winches for fishing are not generally made in the country. The TAI Corporation has proposed to take up manufacture of mechanical trawl winches to begin with and gradually start manufacturing hydraulic trawl winches. The design of the C.I.F.T., for these winches will be generally adopted and it is proposed to implement the project in technical collaboration with the C. I. F. T., Ernakulam. The terms of collaboration are not yet finalised.

**A Project for Liquid Nitrogen.**

The above projects have been approved to be implemented by the TAI Corporation. Apart from these, the Corporation is having under consideration the effective role that it can play in the regulated marketing of fish for internal consumption. There are many other ancillary fields like manufacture of fishing hooks, fabrication of ready made nets like trawl nets, purse, seines, etc., fabrication of rudder assemblies for mechanised boats anchors, manufacture of fishing boats, insulated boxes for fish transport, plate freezers, life saving appliance, navigational lights, magnetic compasses, echo sounders, etc., which if operated by a single organisation will facilitate the fishermen and boat and ship builders to procure more easily and thereby speed up the construction work or fishing efforts. The TAI Corporation may consider taking up these items of manufacture also gradually. The TAI Corporation is also having under consideration a project for

using Liquid Nitrogen in freezing prawns and fish fillets and for I.Q.F. Products.

**High percentage of Risk.**

No other industry depends so much on nature as does the fishing industry. The element of risk involved is high in this industry especially in deep sea fishing. The data on the availability of fish in deeper waters are practically nil. It will be futile for the industry to wait for Government to collect the data and furnish to them. In their own interest, the private entrepreneurs have to do some survey work also along with their commercial fishing. Financing institutions and commercial Banks have to appreciate this aspect and give encouragement to the industry to stabilise itself. The Tamil Nadu Agro Industries Corporation has for its part come forward to play its role in the ringing in of the "BLUE REVOLUTION" in Tamil Nadu by taking up commercial fishing, manufacture of fishing requisites and providing the infrastructure for the processing and marketing of marine products.

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## Acupuncture with Laser Rays !

Acupuncture, one of the oldest medical treatments, has been given a new slant by modern technology. Soviet doctors have proposed that steel needles be replaced by a light needle, the laser ray, which guarantees painlessness and absolute sterility. [The new method is already practiced in the treatment of a number of diseases. The initial results are quite encouraging. There is reason to believe that quite soon another revolution will be wrought in the technique of acupuncture, which has progressed over the millennia from stone needles to the laser ray.]

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# BUCKINGHAM CANAL

## WORKS TAKEN UP

After the reclamation and revival of the river Cooum to its original beauty and elegance, now much attention is being paid to the improvement work of Buckingham canal. Though various kinds of improvement works in Buckingham canal has already been in operation for the last two years, the Public Works Department's Cooum Improvement Canal Division—now renamed as Buckingham Canal Division has undertaken the works of major improvements to the canal such as deepening the canal by five feet to facilitate plying of mechanised boats and connecting the canal with the Cooum at the Cooum lock near Madras Central Jail to rid the canal of its stink.

History reveals that waterways promoted more trade and commerce as movement of men and materials were made at comparatively cheaper cost by this mode of transport. The modern development of rail and road transport has considerably affected the importance of inland waterways. Mostly for movement of cargo, waterways are used now. Inland waterways have their own attractions as a transport moving in natural surroundings with scope for enjoying and appreciating landscape on either side. The time factor in modern days favours fast moving system of transport but still for pleasure trips and sight seeing inland waterways can be primarily important. The two waterways worth mention in Madras City are :

1. Cooum river
2. Buckingham canal

The Cooum river traverses through 41 miles from Sattarai village to the sea (including the distance of 6½ miles within the

Madras City); its width within Madras City ranges from 75' to 100'. Its catchment area is 111.6 square miles: the average rainfall in the basin is 41" per year. The maximum flood discharge by the river is 19,111 cusecs. It floods during the north-east monsoon period. In other seasons, water stagnates in the river. The river within the City limits has been improved for navigation, especially pleasure boating at two stages costing Rs. 32 lakhs and Rs. 62 lakhs respectively.

The Buckingham canal is a navigable canal running through the backwaters and parallel to the coromandel coast at an average distance of less than a mile from the sea. It extends to a length of 262 miles from Pedda Ganjam in Krishna district in Andhra Pradesh to Mercanam in South Arcot district in Tamil Nadu. About 100 miles of the canal traverses in Tamil Nadu. Within the city of Madras, its length is 12 miles. The canal is used only for movement of cargo such as firewood, salt, lime and shell, which find chief market in Madras City. Country boats of capacity 5 to 30 tonnes ply in the canal. Several committees were appointed to examine the technical feasibility and financial implication of developing the Buckingham canal so as to augment cheap transportation facilities in the city. The Bhagavathi Committee constituted by Government of India, has recommended an outlay of Rs. 20 lakhs for dredging the canal. The Madras Metropolitan Plan has suggested a mass transportation system being taken alongside of the canal alignment to solve the rapidly growing transport problem within the city and the feasibility of this proposal is being examined by the Railways now by the recently set up special

Metropolitan Cell in Madras. The width of the canal ranges from 90' to 120' and hence it is possible to take suburban rail or an express way within the canal width leaving adequate waterway by deepening and paving the canal to serve as waterway. The one great advantage in this alignment of mass transit system is savings in cost of land and avoiding the delays in acquisition process.

### WORK ON CANAL.

The first phase of the work on the Buckingham canal is almost complete on the Tamil Nadu side and that on the Andhra side is expected to be over by the middle of next year.

Traffic can be operated up to Kakinada port through the Krishna-Godavari canals, and in the southern portion of the canal, lying between Madras and Marakanam (in Pondicherry) backwaters country boats can be run for a distance of about 64 miles.

The Tamil Nadu Government has provided a sum of Rs. 50 lakhs this year for the second phase of the scheme. The silt-clearing and dredging operations are almost over. Thanks to Central assistance, there is no paucity of funds as felt during the first phase of the scheme. Dredging by manual labour has resulted in a saving of nearly 50 per cent.

The study group expects to submit its report to the Ministry of Transport by the end of this year. It will also study the possibilities of introducing tugs and other mechanised boats in the canal after widening it and this work will be taken up during the Fifth Plan period.

The group consists of besides Mr. Banerjee, Thiru Sat Prakash, Joint Director, Planning Commission, Thiru J. Raja Rao, Superintending Engineer, P.W.D., Andhra and Thiru N. Balasubramaniam, Deputy Chief Engineer, Irrigation, P.W.D., Tamil Nadu. A naval architect is also assisting the group in design and type of craft with its horse-power, etc., which could be used after carrying out the improvements suggested by the group.

### GRAND SCHEME OF RECLAMATION

With the grand scheme of reclamation at a total cost of Rs. 2.28 crores, the Cooum has lost much of its stench and has become the Thams of Madras City adding to its beauty and elegance. But its sister counterpart—the Buckingham Canal which flows for a total distance of more than 100 miles wending through Tamil Nadu and Andhra Pradesh thereby providing a commercial inland navigable route with ease and effectiveness for country boats which carry salt, lime, shell and firewood to the city from far-off places on its way had been left high and dry in the matter of reclamation and revival to its original status and beauty.

While inaugurating the Pleasure-boating in the Cooum on 4th February 1973, Dr. M. Karunanidhi, Chief Minister of Tamil Nadu spoke thus :

“Of course, we have completed the Cooum reclamation work. But there is another waterway in the city which mars the beauty of the city posing a health hazard in the city. The name of that waterway is Buckingham Canal. The Government is thinking of cleaning that also.” As if to prove that he is not only a man of mere words but a man of deeds of public interest, he, as the Finance Minister, allotted a nominal fund for the work in the budget for 1973-74 to convert the canal into an inland navigation channel.

The reclamation work of the Buckingham Canal within the city has already been taken up for execution. Under this Scheme, sanctioned at a cost of Rs. 44 lakhs, formation of roads at wood wharf and shell wharf on the North Buckingham Canal margin, construction of wharf at Chintadripet in the heart of Madras City and

lining the canal in certain reaches were done. Further, excavators for dredging the Buckingham Canal and one sand pump for use at the mouth of the Cooum for Cooum Improvements Scheme were also purchased and installed. In addition to these, proposals for dredging the Buckingham Canal in Tamil Nadu limits, with a view to improve the draft conditions at a cost of Rs. 20 lakhs was sanctioned during 1971-72 under Central Government loan assistance and the works are now in near-completion stages. Apart from these, the State Government is sparing nothing at its disposal to get this scheme included in the ensuing Fifth Five-Year Plan for which the State Government's proposal is lying with the Union Government for necessary approval.

### DOUBLE PURPOSE SERVED

The State Government has become alive and alert to the need of improvement in the Buckingham Canal System in view of its potentiality in the inland water navigable facilities in addition to doing away with the health hazard problem of menacing proportion as far as Madras City is concerned, and has sanctioned the scheme and plunged into action. Further the study by a committee headed by Thiru Vaz, the then Irrigation Chief Engineer, recommended the worthiness of the scheme in favourable terms. Before that, the project had been under study for some years by both the Andhra Pradesh and the Tamil Nadu Governments and the Planning Commission and the Irrigation Transport Directorate. Accordingly, the Andhra Pradesh Government has also taken up the work simultaneously. But the nature of work to be carried out is not so simple as one would tend to think of it. There is full of hurdles and obstacles of various kind and varying degree and dimension in its execution.

First of all, to carry out the work, co-ordination of the railways is to be sought as many bridges such as bridges at Basin Bridge, Korukupet, Park Station, Elephant Gate, Tiruvottiyur, Marshalling Yard and on the Arkonam Line, span the canal. Without the co-operation and co-ordination of the railway department concerned, the work cannot have a smooth and quick sailing.

Tenders for the excavation and lining works of the 10-mile route with

concrete slabs have been called for, for which the Tamil Nadu Government has provided Rs. 5 lakhs in its last budget for 1973-74 expecting a grant from the Union Transport Ministry. The Union Government is expected to provide 50 per cent subsidy for the project.

Work on the northern 34-mile section of the canal has already been taken up on hand by the State Government in view of its traffic potentiality and now it yields an annual revenue of Rs. 1 to 2 lakhs by way of licence fees on boats and rent from 17 godowns built on the banks of the canal. The first stage of the work is expected to be completed by the end of next year. The State Government is expected to sanction soon a revised project costing Rs. 65 lakhs in this connection.

Further the State Government is also keen to take up on hand for execution the work on the 64-mile southern section stretching up to Markanam without further delay.

In this connection cross-bunds have already been put up behind the University and at the Pycrafts Road points for dewatering and lining. The proposal is to cover the stretch up to Raja Annamalaipuram and later up to Tiruvanmiyur and Lattice Bridge.

The second hurdle in the execution of the scheme is that there are more than 5,000 huts on the banks of the canal and that sewage is let into the canal at a number of points. The City Corporation has been requested to stop this. The State Government is in expectation of financial assistance in right quantum from the Centre to carry out improvements to the southern section of the canal.

A Rs. 6-crore plan to make the canal navigable throughout its length is before the Centre pending approval.

After improvements to the canal, the Tamil Nadu Government proposes to introduce mechanical boats and tugs that can have a train of boats in the place of country boats now plying. Further the completion of work is expected to facilitate the work to connect the proposed transport of kerosene and other oil products from the Manali Refinery and fertilisers from Madras Fertilisers to the city by boats.

# WHY A BALANCED DIET?

Who doesn't know that good and proper diet is a key to good health? We take food not just to make life possible but to live a healthy life. The question would then be—What is good diet? To understand this fully, it will be necessary first to know why food is needed for the body.

Some energy is spent when we do work, and even in sleep some energy is being spent by the body. The energy that is being expended should be made good, and this is done by the food we take. The size of our body is very small at birth and it grows daily till about the age of 21 years, and attains the adult size. This growth of the body is made possible only by the food we take. During the growth as well as after the growth has ceased, many processes go on in the body, and certain nutrients we take from food are essential for these processes to proceed normally. Moreover, we live in an atmosphere full of all types of microbes, and we should have sufficient stamina to withstand the onslaught of these micro-organisms. Food gives us this stamina.

Food contains many nutrients, and it is in fact for the sake of these nutrients which are needed to make the body grow and keep it in a healthy condition that we take food. All foodstuffs contain more or less all the nutrients, but in varying proportions. Some foods give more energy. For example, cereal grains like rice and wheat, tuber vegetables like potato, oilseeds, sugar and jaggery are some of the foods which yield essentially energy. To ensure proper growth of the body we need foods like pulses, milk, curds, flesh foods, fish, eggs, oilseeds, fruits and various types of vegetables. For formation of good bones we need foods like milk and curds, and for the muscles to develop properly, we need foods, like pulses, flesh foods and other foods of animal origin. Leafy vegetables are needed for keeping the eyes, the gums, bones and blood in healthy condition.

The requirements of the body for the various nutrients depends on the age, physical work and other physiological conditions. Because of

the larger size of the body, an adult requires more nutrients than does a small child. The growing child, however, requires, per kilogram body weight, more protein and minerals than an adult does because of the rapid growth that takes place during childhood. A labourer doing heavy work requires more of the energy-giving foods than does a person doing office work sitting in a chair. Because of the physiological changes that take place in the body, pregnant and lactating women require body building nutrients like proteins and minerals. A good diet is one which yields daily the nutrients in the proper amounts and proportions to satisfy the needs of the body under the various conditions, and it is also called "Balanced diet".

A typical balanced diet required by an adult male doing a sedentary type of work (light work) is given below :—

	GRMS.
Cereal grains .. ..	400
Pulses .. ..	70
Leafy vegetables ..	100
Tuber vegetables ..	75
Other vegetables ..	75
Fruits .. ..	30
Milk .. ..	200
Fats and oils .. ..	35
Sugar/Jaggery .. ..	30

It is to be noted that the diet suggested above is for a vegetarian. Non-vegetarians can reduce the amounts of milk and take 30 gms. each of flesh foods and eggs. If the person is doing heavy work, some of the ingredients like cereals, fats and sugar foods should be increased to obtain more calories from the diet.

All the foodstuffs, listed above, as ingredients in the balanced diets are being consumed by people, but they are not being taken in the required amounts and proportions, and this may lead to deficiency diseases. Cereal grains constitute the

bulk of the diet for a majority of people, and the other protective foods like milk, eggs and leafy vegetables are not consumed in the amounts needed. One of the reasons for this is the economic status, but even within the existing economic status, there are possibilities of improving the nutritional qualities of the diet with slight changes in the dietary habits and cooking practices.

'Toned milk' is cheaper than fresh milk and except for the somewhat lower content of fat, toned milk is as nutritious as fresh milk. Skimmed milk, i.e., milk from which fat is removed, is being distributed by the Government in schools to school children. Advantage should be taken of this facility by every boy and girl to improve their nutritional status. If milk is in short supply, priority should be given in distributing the milk to children and pregnant and lactating women, and normal adults should take only what remains.

Although not pleasing to the eye, hand-pounded rice and parboiled rice provide essential nutrients to the body. Likewise preparations from whole wheat flour would be more nutritious than those made from refined flour (Maida). Instead of consuming one type of cereal as the staple food, it is better to use a mixture of two or three cereals in the diet.

Leafy vegetables are inexpensive; they provide many nutrients to us. The vitamin C, which is obtained from fruits, can be obtained in the same amounts from leafy vegetables. When whole pulses are used, it is good to use some of them after germination.

By preventing cooking losses also we can considerably improve the nutritional quality of our diets. By following scientific principles in cooking and in planning the diet, one can consume a balanced diet and ensure a healthy life physically and mentally.

*National Institute of Nutrition,  
Hyderabad.)*



# ELECTRIC TRACTION FOR HIGH SPEED AND COMFORT

With the progressive industrialisation of different regions, and with the increase in the tempo of life everywhere, there is a demand for faster movement of freight and passenger traffic. Electrification of Railways' major trunk routes is the answer to higher speed and higher level of comforts.

Electric traction requires a higher initial outlay compared to steam and diesel traction but its working expenses are very low.

To reduce the consumption of comparatively scarce sources of energy like coal and crude oil, the Railways have already brought more than 4,000 route kilometres under electric traction. Electric energy used for electric traction is less than 3 per cent of the generation of power in the country for industrial, agricultural and other purposes.

Electric traction is based on electrical energy which is produced from inferior crude coals available more abundantly in the country than petroleum products.

The traffic needs on trunk routes, heavy mineral lines and suburban sections have grown beyond the capacity of steam traction, which has been proved comparatively uneconomical. The alternate of electric traction is modern, efficient and economical. It is superior to steam traction on technical, operational and financial grounds.

As convertor of available heat energy into power for hauling traffic, the steam locomotive is very inefficient. It is also much less powerful than an electric locomotive. This factor is important when heavier trailing loads have to be hauled at faster average speeds to take the maximum advantages of track capacity.

The electric locomotive can also start much heavier loads and haul them at a much higher speed on severely graded sections, thus making this form of traction more attractive, both operationally as well as financially.

Electric traction on Indian Railways was introduced on the Central, Western and Southern Railways between 1925 and 1930. Subsequently, electrification work was undertaken in 1954 on the Eastern Railway on Howrah-Burdwan and Sheoraphuli-Tarakeswar sections. This was completed in December 1958.

It was decided in 1957 to adopt 25 KV AC single phase system as a standard on the Indian Railways because it is economical.

The busy trunk routes connecting the metropolitan cities of Calcutta, Delhi, Bombay and Madras carry 50 per cent traffic although they form only about 14 per cent of the total route kilometreage of the Indian Railways. Railway modernisation has, therefore, been correctly carried out on the most congested routes so as to achieve maximum benefit with minimum expenditure.

Between Delhi and Howrah (Calcutta) a stretch of only 205 kilometres between Tundla and Delhi remains to be electrified. On completion of this project, the direct trunk route of 1,441 kilometres between Delhi and Howrah will be completely electrified.

Of the 1968 rkms. between Bombay and Howrah via Nagpur, 1,303 rkms. have been brought under electric traction. The Virar-Sabarmati section of 441 kilometres on the Bombay-Ahmedabad route is being electrified.

Work on the Madras-Vijayawada section of Delhi-Madras trunk route is in progress.

In this way all the trunk routes connecting Delhi, Madras, Bombay and Howrah would be progressively brought under electric traction to keep the Railways abreast with industrial and economic progress of the country.

By 1976-77, an additional 1,700 route kilometres are expected to be brought under electric traction at a cost of Rs. 113 crores.

The sections to be covered are Virar-Sabarmati (Western Railway), Panskura-Haldia (South-Eastern Railway), Waltair-Kirandul (South-Central Railway), Tundla-Delhi (Northern Railway), Madras-Vijayawada (Southern and South-Central Railway) and Madras-Tiruvallur (Southern Railway).

The 69 rkms. Panskura-Haldia project is expected to be completed by the end of the current year. The Ahmedabad-Baroda section of the Virar-Sabarmati project has already been energised. In case of 471 rkms. Waltair-Kirandul and 259 rkms. Tundla-Delhi sections, foot-by-foot surveys have been completed and preliminary works are in progress. Both these sections are expected to be electrified during 1975-76.

The Madras-Vijayawada project was approved for inclusion in 1971-72 Works Programme on out-of-turn basis, and is expected to be completed during 1976-77.

During the Fifth Plan period, another 2,880 rkms. of railway line are likely to be taken up for electrification on Bhusaval-Nagpur, Durg-Nagpur, Delhi-Itarsi, Madras-Guntakal-Hospet, Arakonam-Bangalore and Erode and Baroda-Nagda and Godhra-Anand sections. The surveys for Bhusaval-Nagpur and Durg-Nagpur sections have been completed.

All this would require more power. Keeping in view the present power shortage in the country and its repercussions on the rail movement, the Railway authorities are seriously considering a proposal for setting up Railways' own power houses in the Eastern region.

A high power Technical Committee has recommended that such power houses should be linked with the State Electricity Boards. This step would, on the one hand, provide necessary power for the expanding electrification programme and, on the other, ensure continued and reliable power supply for uninterrupted running of trains.

# VACCINE AGAINST INFLUENZA

E. GORBUNOVA.

Workers of the Institute of Viral Preparation of the Ministry of Health of the USSR have developed a new vaccine against influenza which proved effective during the epidemic last winter. The vaccine reduces the incidence by half and the risk of dangerous complications to a third. The vaccine has already been acknowledged as new in principle by researchers in Yugoslavia, England, U.S.A., France, Bulgaria, G.D.R., Rumania, Greece, Japan and other countries.

The idea of seeking protection from influenza in vaccination was conceived four decades ago, when the virus causing the disease was finally "nailed down". Since then dozens of vaccines have been developed and tried, the number of sceptics increasing in proportion to the attempts to subdue influenza by vaccination.

'Flue' vaccines have little effect"—such, essentially, is the view held by the majority of doctors, and they advance some weighty arguments to support their position, such as vaccination protects only a certain proportion of the people who have undergone it, the vaccines themselves cause the 'flue' in a mild form in approximately two persons out of a hundred, and this, in global terms, means thousands of cases of vaccine-provoked influenza.

Naturally, supporters of vaccination advance their own arguments: vaccines can protect every second person, while according to economists, a 10 per cent reduction of incidence already justifies all the expenses entailed by research, and organisational measures involved in fighting this mass infection which annually hits millions of the earth's population.

But why are influenza vaccines less effective and reliable than those used against smallpox, polio-myelitis and many other grave diseases? There are several reasons and the main one is that the influenza virus is highly mutable and appears in a new guise in every new epidemic.

To produce a vaccine, the scientists must isolate the pathogen of the new epidemic and then "tame" it, so

that it should be able to deceive the organism, as it were, causing it to muster its defences, but without actually provoking the disease. Such a weakened virus stimulates the formation of special substances, antibodies, in the organism, which make ready to attack and destroy the real "wild" virus.

The process of "taming" is lengthy and complex, and so scientists used simply to kill the virus and make prophylactic preparations out of it. Soviet researchers preferred to obtain vaccines from live viruses. These were introduced into a chicken embryo, then transferred to another egg, a second, a third and so on. Fifteen, twenty and sometimes thirty changes were needed to deprive the virus of its pathogenicity. The "candidate" for a vaccine was tried out on volunteers (most often workers of the laboratory themselves) and then on a limited group of the population. By the time the vaccine was ready for mass use it often happened that another strain of the virus and not the one against which the vaccine was effective was running amock all over the globe.

How were they to keep up with the virus's metamorphoses? A team of researchers at the Moscow Institute of Viral Preparations headed by the Doctor of Medical Sciences A. Alexeyeva proposed a new method of cultivating the virus—not in a chicken embryo but in a tissue culture medium, in special flasks. The scientists place kidney cells of chicken embryos in this culture medium, infect them with the virus and, once it has multiplied, transfer it to another flask with the same culture medium and chicken cells. Another few transfers, and the virus loses its aggressive properties, and after a few more the scientists have at their disposal a so-called stable strain, a viral variant suitable for making a vaccine.

In point of fact this "tamed virus" is vaccine. To start mass production, it is only necessary to "accumulate" large quantities of the virus. The new method makes it possible to grow thousands of millions of viral particles on four chicken embryos and turn them into vaccine—all within one day.

In tissue culture medium, the virus is "tamed" much more quickly. Two and a half to three months is enough to obtain a vaccine strain. It means that having isolated the new pathogenic strain of the incipient epidemic (this is usually done in summer) the scientists have enough time to prepare for the dangerous winter season.

The new method not only saves time. It has been established that the pathogen grown in tissue culture medium is milder in character than the one cultivated in the chicken embryo. So, the new tissue vaccine causes no side-effects and never provokes the disease it is supposed to protect man against.

The effect of vaccination largely depends on its scope. Formerly vaccination was counterindicative to the most vulnerable section of the population, the children. As for tissue vaccine, it is harmless even for one-year-olds.

The vaccine is produced in the powder form. In special drum-shaped chambers the culture medium, where the viruses multiplied, is dehydrated and turned into a powder. It can be preserved for a year without losing its properties. Before use the powder is dissolved in ordinary water. The vaccine is administered orally which is another distinctive feature. Formerly vaccination was performed either subcutaneously or by inhalation through the nose, which made control over the quantity administered quite difficult. This vaccine is swallowed, and one teaspoonful of the reddish nice-tasting solution is enough to produce immunity in man.

The tissue vaccine can also be used for the treatment of influenza. It causes the organism to produce interferon, a protein which represses multiplication of the virus. This probably accounts for the vaccine's effect of preventing complications, first and foremost the development of pneumonias, which become a grave danger during influenza epidemics and take a toll of many hundreds of human lives.

("Soviet Union" 6/73.)

# NATIVE DOCTOR TURNED INTO SUGARCANE FARMER

Doctor Arjunan is one of the native doctors specialised in orthopaedics in the Telungupalayam of Coimbatore District, who made a mark in the field of sugarcane cultivation.

In 1964, all farmers were afraid to take up sugarcane cultivation. Even those who cultivated had resorted to burn the crop. It was because they were unable to get back the invested money by way of marketing the sugarcane or the finished product jaggery. The price was very low. It was Rs. 17 to 27 per four bags of jaggery.

Undaunted by trend of the price, Dr. Arjunan raised sugarcane in his five acres wet land. He took every care to cultivate the crops as per the guidance of sugarcane cultivation specialists. The judicious use of fertiliser and pesticides and adoption of appropriate plant protection measures increased the yield. About 20,000 bags of jaggery he was able to get from the yield. Incidentally towards the end of 1965, the price of jaggery had gone to Rs. 200 to 250 per four bags. A net profit of rupees two lakhs he had in that particular year. He purchased land and built one-storied 50-bedded orthopaedic hospital in the centre of Coimbatore City.

## Growing interest in cane cultivation

Because of this, his interest in cane cultivation grew day-by-day. He also made some interesting studies in sugarcane cultivation in consultation with the centrally sponsored Sugarcane Breeding Institute and the State Agricultural

Department specialists. According to him CO 413 blossoms early and yields less if the application of fertiliser is less; whereas the same yields more with late florescent if the fertilizer input is more. The better quality B 7172 variety will yield less with more sugar content. CO 1295 variety is ideally suited for rainy season. And CO 6304 is the latest released good variety which has the quality to give more jaggery with less fuel due to its heavy sucrose concentration. Contrary to the population notion, he said cane cultivation could be done throughout the year without minimising the sucrose concentration provided the late florescent varieties like CO 1295, CO 658 were selected for monsoon seasons. The narration of his experiences to the progressive farmers on the occasion of Sugarcane Breeding Institute's field day celebration promoted new vistas in the sphere of cane cultivation.

## Spectacular growth

From the small holding of 6 acres wet land, he became the proud owner of 47 acres of land, within a period of 30 years. He also cultivates paddy, maize and fruits. He got the district-level second prize in 1971 for his IR 20 cultivation. He was one of the directors of co-operative land-development bank, and also the counsellor in many organisations.

Now, Dr. Arjunan is 53 years, having 4 daughters and 2 sons. He attends more than 200 patients every day.

—Source: F. P. O. Coimbatore.

# PROGRAMME FOR PROMOTION OF TOURISM

TOURISM in the coming years is expected to yield rich dividends. Both Centre and State Governments are taking several steps to reap this benefit.

The Air India has drawn up a programme for promotion of Tourism abroad by organising exhibitions at important centres in foreign countries through their offices to attract more tourists to India. They have approached this Government for old temple sarees, Toda's costumes and jewellery, ancient musical instruments, etc., and deputed their costume designer to select articles in consultation with the State Government. The Department of Tourism, Government of Tamil Nadu have accepted the proposal of Air India and sanctioned Rs. 7,000 for this project details of which are given in the annexure.

The State Department of Tourism has collected the temple saree specially made by Kalakshetra, Madras and Toda costumes and jewellery and ancient musical instruments like Panchamukha Vadyam (Five face drum) and Mahara Yazh (a string instrument), etc., designed and made by Thiru P. Damodaran of Madras.

The Government of Tamil Nadu have also sanctioned Rs. 10,000 towards hospitality programme of State Tourism Department this year under which foreign experts sponsored by Government of India and connected with travel trade and tourism are treated as State Guests. Besides, it has been now decided to invite Air India Artists to undertake a tour of Tamil Nadu to enable them to study the tourist attractions and ancient art and architecture of our temples so that they can introduce Tamil motifs in the publicity programme, interior decoration, etc. of Air India. For this Government have sanctioned another 10,000 rupees.

# TEMPLE ARCHITECTURE IN SOUTH INDIA

✦ According to Mr. DUBRUEL, a French authority on Architecture, the outstanding characteristics of South Indian architecture are

(i) it is ancient ;

✦ (ii) it has remained isolated, and uninfluenced by the development of architecture in other parts of the World and

(iii) it has involved over the ages without external influence.

✦ The isolation cannot be attributed to the non-availability of communications in the ancient times. During the Chola period, the South Indian architect had opportunities of visiting other parts of the world but even then, he held fast to his own method of architecture. Every chief mason was an institution by himself and he struck to his motifs which he inherited from his ancestors. Thus Dravidian Art presents a rare picture of an architecture which remained in isolation for more than thirteen centuries borrowing nothing from foreign arts. But the art underwent variations continuously on the path of natural evolution in such a manner that one could follow its modifications from one century to the other. In the ancient Dravidian monuments the origin of all motifs of ornamentation, which characterise the modern style, could be traced ; but on the whole, Dravidian art has changed by itself rather than through the influence of other styles.

South Indian Architecture can be roughly divided into periods of :

1. Pallava Architecture (600-850 A.D.).
- ✦ 2. Early Chola Architecture (850-1100 A.D.).
3. Later Chola Architecture (1100-1350 A.D.).
4. Vijayanagar Epoch (1350-1600 A.D.).
5. Modern Epoch (1600-A.D. till day).

✦ South India is fortunate in preserving its original form without major devastations that visited other parts of the country during alien invasions. Thanjavur district located in the delta of Cauvery river and traditionally known as the

Granary of the South, was the seat of the famous Chola Empire. The rulers of that empire were noted for grandiose architectural constructions of Hindu temples, both Saivite and Vaishnavite philosophy. This is the reason for concentration of a large number of ancient and interesting Hindu temples in Thanjavur district. There are over ten thousand well known and important temples in the fourteen districts of Tamil Nadu of which 1,809 temples are situated in Thanjavur district alone. The Census Department of Government of India have selected 277 important temples for their surveys study and publication (in Census, 1961) relating to temple in Thanjavur district. Out of the 1,809 important temples of Thanjavur district, 24 belong to the Pallava period ; 400 belong to the Chola and Naick periods ; Of these not less than 36 are more than two thousand years of age. Most of these temples have richly endowed landed properties and several temples have noteworthy collections of jewellery. Assessment of age of construction of temple have to be based on the style of construction and reference found in the inscriptions in temple, to other events of kings and visits by main saints. The most ancient Tamil classic of Tholkappiam makes the only mention that every type of land is associated with a particular God while referring to religious aspect ancient Tamil culture. (Murugar is said to be the Lord of the Hilly tracts ; Indra is said to be the Lord of fertile deltaic plains) ; Varuna-God of rains is associated with pastoral lands. The other famous Tamil classic SILAPPATHIKARAM refers to the Indra festival in Kaveripatnam which confirms that Indra was the God of Cauvery delta. Later Sangam Classics refer to Gods as the "Deity under the Banyan tree" or "Deity under the tree", survival of this ancient cult, is even now exhibited in some village shrines under Banyan, Neem Pipal or other big trees. The most ancient temple covered under the survey of temples of Thanjavur district in Tamil Nadu by the Census of India seems to be the one in Kaveripoompatinam, where according to SILAPPATHIKARAM both Kannagi and Madhavi worshipped. This temple is construc-

ted of brick and mortar and on a modest dimension compared with the large temples of the later Cholas. It appears that large temples owe their commencement to the Pallava period ; the style got more refined during the Chola period and turned highly ornamental and decorative in the days of Vijayanagar Empire. References to all temple towers, piercing the clouds are found in SILAPPATHIKARAM, indicating that even about two thousand years back, there were huge temples with tall towers (gopuram), but these temples have not remained unaltered all these ages.

History narrates that it is the Pallavas who were the first great temple builders. Remnants of Pallavan architecture can be detected here and there in the temple of Pallaneswaram in Kaveripatnam in Thanjavur district. A bold and impressive style, as is well and distinctly expressed in the famous Bragadheeswarar temple in Thanjavur, emerged during Chola period. It was a mature style with an integrated conception of a temple. Pandyas succeeded Cholas but the same style continued, perhaps with taller gopurams in the later period. In the succeeding period of Vijayanagar rule, large scale construction of temple was again taken up with added ornamentation and exquisite beauty. The temple at Darasuram is considered as a landmark in the transition of style from the Chola to Vijayanagar period. It clearly denotes that there was a change over from the relatively robust and disciplined productions of the Pallavas and Cholas towards richer and more elegant style. The intricacy and rich beauty of the Vijayanagar type of temples lie in the number and prominence of its pillars and spheres and the way of sculptural work to fit into an integrated figurative drama in stones. Pavilions consisting of hundreds for pillars form the chief type of architectural scheme. These impressive pillars form the central theme ; often the shaft becomes merely a central core for the attachment of the involved group of statutory, often of heroic size and chiselled entirely in the ground having as its most conspicuous element of a furiously rearing horse rampant hippograph or an upraised



animal of a supernatural type. Subsequent to 1565, when the Vijayanagar empire abruptly came to an end, the Nayak rulers of Madurai have contributed to the construction and maintenance of temples in Thanjavur district. The excellent expressions of their architecture is in the temple at Thiruvavur. At this period, ornamentation reached its climax, the vimanas, the gopuram and the pillars were all richly decorated; the architect has been able to maintain a theme of integrated aesthetic imagination.

Of the 1,809 temples in Thanjavur district, 1,650 are administered by the Hindu Religious and Charitable Endowments Board of Tamil Nadu, 21 temples by the Dharmapura Adheenam (Mutt), 16 temples by the Thiruvadhuthurai Adheenam (Mutt), and the rest 122 fall outside the administration of the Hindu Religious and Charitable Endowments Board.

These ancient temples are still alive and green exposing the intricate architectural and sculptural art works of the ancient artists carved in stone, bronze and plaster.

There are a number of Hindu Religious Institutions specially intended to promote the ideals and culture of Hinduism in Tamil Nadu, many of them are time old and ancient, rendering valuable service in their respective fields. Hinduism, a most tolerant religion, covers both Saivite and Vaishnavite philosophy. There had been reputed devotees as the 63 Nayanmars and the number of Saints including the Nalvar—Appar, Sundarar, Sambandar and Manickavasagar propagating Saivism through their literary works; similarly there had been reputed devotees as Alvars and Desikar propagating Vaishnavam through their literary talents. There had been numerous Sankarachariars and Madathipathis who had been constantly keeping the religion alive in the past. These religious institutions still continue their noble services for the religion.

History and Archaeology play a very vital role in generating tourist traffic all over the world. Tamil Nadu is specially fortunate in having its ancient and rich heritage and a variety of dedicated living traditions and cultures spread over its jurisdiction. Finest monuments such as Historical Forts, structures

depicting Architecture of different ages, ancient temples (of Chola, Vijayanagar, Pandiya and Naick and Pallava periods) and birth places of famous saints, poets, and patriots adorn the rich and famous heritage of Tamil Nadu. Stone inscriptions still alive in most of the ancient temples of the State are narrative of the various activities of the famous rulers including their numerous gifts and donations both in cash and kind. The ancient Architecture of the then rulers is unique in itself its grand style and picturesque Gopurams in temples. It is observed that more foreign tourists visit India attracted by its historic and architectural value. South Indian rulers had been maintaining calm and peace in the past, in contrast rulers of other parts of the country, which enabled them to concentrate upon temple architecture in their own exclusive style which even to-day is admired by visitors.

The main authorities involved in planning in and around areas of historical and architectural value in India are :

(a) The Archaeological Survey of India and their counterparts in the various States ;

(b) The Central Development of Tourism, Indian Tourism Development Corporation and their respective counterparts in the various States ;

(c) The departments entrusted with physical planning with various States. (Directorate of Town Planning in the various States).

The Archaeological Survey of India was established during British period in India through the pioneering efforts of Lord Curzon at the beginning of the century and since then the department has been active in identifying our ancient monumental heritage. It is almost exclusively a maintenance department functioning at present under "The Ancient Monuments and Archaeological Sites and Remains Act of 1958" and rules thereof. This Act superseded the "Ancient and Historic Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act, 1951 and section 126 of the States Reorganisation Act, 1956—(which section relates to Ancient Monuments)". The current Act applies

only to existing buildings and sites of atleast a hundred years old; it is an effective piece of legislation widely empowering the Director General of Archaeology to declare monuments and/or areas to be protected as being of archaeological importance to enter upon any land, believed to contain ruins or relics ; to acquire such land and to remove unauthorised structures from them and impose penalties. Under this Act, the "Ancient Monuments and Archaeological Sites and Remains Rules, 1959" was passed empowering the Directors General to declare (i) to the extent desirable "prohibited areas" around protected monuments where in no construction and mining operations are permitted and (ii) "regulated areas" in addition to and around the prohibited areas, wherein development is permitted only under licence. Most States (including Tamil Nadu) have set up their own Archaeological department with legislation on similar lines to the All India Act. The Department's maintenance and policing of monuments of primary importance and areas around them are satisfactory but they are not adequately equipped to prevent vandalism in the smaller and scattered monuments. The hundred years minimum age prescribed in case of monument in the Act fully covers the great Hindu, Buddhist and Indo-Islamic periods but it excludes a majority of the post mutiny buildings and sites. Even though this may be in order from Archaeologist's prime concern of ancient monuments, for a physical planner, all buildings and sites of historic and architectural importance, irrespective of their age, are significant. A need is felt for effective legislation in the country and States to protect and enhance, where required the value of the surroundings through suitable civic design of all buildings and sites of architectural and historical importance.

The Tamil Nadu Tourist Development Corporation has recently been constituted in 1971 with a view to set up and concentrate on Tourism Development at State level. In cultural-historical tourism, these departments of Tourism have no statutory role; the Archaeologists are responsible for excavation and conservation ; the Physical Planner is well-equipped for preparing statutory Tourist Development Plans as part of comprehensive Development Plan Programmes.

# ON THE MUSICAL INSTRUMENTS— PANCHA MUKHA VADYAM

This is a large instrument and has a big spherical resonator made of *panchalokha*, brass or copper. There are five projecting tubes on the top, four from four sides and one from the centre which is a bit larger in diameter than the other four tubes and has a circular ring of skin. Four pieces of goat skin are stretched over the four faces on the sides and for the centre face there is an outer ring of skin in addition to that of the playing face as in the case of *Mridangam*. Delightful rhythmic patterns can be played upon this instrument. Acoustically also, this instrument is of interest.

## Heaviest Instrument of the Drum Class

This instrument is mainly played during temple rituals in *Tiruvavur* and *Tiruthuraipundi* in *Thanjavur* District. In the *Sarva Vadyam* rituals this instrument is played. This is the heaviest instrument of the drum class.

In the temple at *Tiruppur* in *Thanjavur* district is a rare metallic image of *Nataraja* with a figure in the pedestal as playing on the *Panchamukha Vadyam*. In *Udaiyarpalayam* also there is a similar bronze image of *Nataraja*. In the temples of *Chidambaram* and *Thiruthuraipundi* can be seen sculptured figure with eight hands

playing on the *Panchamukha Vadyam*.

## MAHARA YAZH

This is also an ancient instrument somewhat like a harp. In Europe, Egypt and other countries, it is called harp. In the Bible it is mentioned as lyre. In the temples of India one can see sculptures with various kinds of musical instruments. In *Thirumayam*, *Amaravathi*, *Sanchi* and *Goli*, for instance there are sculptures with different kinds of *Yazh*. In *Thirumayam* (8th Century) there is a rare sculpture of *Saint Barada* playing on *Mahara Yazh*.

## Ancient Panar's Musical Instrument

In ancient days, tribals and mendicants called *Panars* used to play *Yazh*. The instrument is also a favourite of the Kings and their families. *Emperor Samutra Gupta* is depicted in his Gold Coins as playing *Yazh*. One of the *Saivait* Saints, *Thiruneelakanta Nayanar* is a Master of *Yazh*. In his *Thirupalliyechuchi*, *Manickavachagar* refers (verse 4) to the use of *Yazh* and *Veena* which shows that these two instruments were in vogue in those days. But when *raga, alapana* emerged as an important branch of classical music, *Veena* came into prominence throwing the *Yazh* into the background.

## AIR INDIA'S PRICELESS TREASURES OF ART

Air India today is one of the greatest art collectors in the world and enjoys the unique distinction of possessing the priceless treasure of India's rich and varied cultural heritage.

The primary objective was to create an esoteric national image—an image of an all Indian airline. Making a modest beginning 20 years ago, Air India scoured the country to find traditional masterpieces which, notwithstanding the fading of empires, have remained a voice from the past. It searched art galleries and art studios and bought the works of the old and the new artists.

Today Air India's collection is fabulous, and it ranges from old stones and bronzes to delicately chiselled wooden panels, from fine miniatures to folksty wooden figures, of the distant past belonging to South India, *Madhya Pradesh*, old *Central Provinces*, *Rajasthan* and *Gujarat*, from the relics of the past to the expressive art of today. Each piece is a page from mythology. And Air India is using this priceless treasure of art to provide international exposure of India's inexhaustible wealth of cultural past and contemporary rhythms. Several selected pieces also adorn Air India's hundred offices around the world, telling its patrons the charm and joy that India is, its religious beliefs and mythological stories, expressed exquisitely on canvas and in oil, in wood, in stone and in metals.

The office entrance of Air India's Pairs office is composed of wooden panels engraved with a thousand figures. The panels depict *Gajalakshmi*, the goddess of wealth, elephant guardians and host of attendants; *Ram*, *Sita* and *Lakshman* in exile from the kingdom of *Ayodhya*; *Lakshmi* and *Narayan*, the celestial pair, astride their vehicle—the *Garduda*; *Lord Krishna* as slayer of the demon snake *Kali*, and as *Venugopal*—the capricious flute player philandering with the *gopis*.

# Recommendation of the National Commission on Agri- culture

Four interim reports submitted to Thiru Fakhruddin Ali Ahmed, Union Minister of Agriculture, by Thiru Nathu Ram Mirdha, Chairman, National Commission on Agriculture, deal with :—

(1) Reorientation of Programmes of Small Farmers and Marginal Farmers and Agricultural Labourers Development Agencies ;

(2) Poultry, Sheep and Pig Production through Small and Marginal Farmers and Agricultural Labourers for supplementing their income ;

(3) Sericulture ; and

(4) Social Forestry.

In its Interim Report on Re-orientation of Programmes of Small Farmers and Marginal Farmers and Agricultural Labourers Development Agencies, the Commission has recommended that the distinction between S.F.D.A. and M.F.A.L. projects should be given up and in future each Agency should have a compact area approach to cover the small farmers, marginal farmers and agricultural labourers in its area of operation.

The basic approach to the programme of small and marginal farmers should be to improve their crop production. Assistance would have to be directed towards development and utilisation of irrigation facilities, introduction of water harvesting techniques, land development and adoption of improved technology of farming, both in irrigated and rainfed areas. In order to ensure a more equitable distribution of limited groundwater, considerable emphasis has been placed on group-owned well system and community irrigation, wherever possible, for the benefit of small and marginal farmers. Through consolidation, the scattered holdings of small and marginal farmers are to be brought together to form compact blocks to enable preferential irrigation by the State Governments.

The Commission has suggested that State programmes of irrigation development should be undertaken in areas where surface water schemes or large-scale groundwater schemes are possible, so as to benefit substantially the small and marginal farmers. States would also be expected to take up on their

own, programmes of water harvesting, soil conservation, etc., in the rainfed areas on a substantial scale. In order that farmers can take to improved farming practices and necessary technical guidance is available to them, the strengthening by State Governments of their extension network in the selected areas has been proposed. The Report has suggested the formation of as many Farmers' Service Societies as possible to make a beginning towards the development of an integrated credit structure.

## Extension of programmes

The Commission has recommended the extension of the programme to 160 Agencies including the existing Agencies and indicated the distribution of additional Agencies among the States. Each Agency on an average is supposed to cover 70,000 small and marginal farmers preferably in the ratio of 1:3 to conform to the all-India pattern and to ensure that the programme would have the necessary tilt in favour of marginal farmers who are more numerous. As a result of the extension of the programme, about 11 million small and marginal farmers are likely to be covered during the Fifth Plan. In addition, the investment programme and the much more intensive crop production programme, both under irrigated and dry farming conditions would give increased labour opportunities to agricultural labourers. Since crop production alone may not yield incomes sufficient to raise many small and marginal farmers above the minimum need level, the Commission has suggested the superimposition of subsidiary occupation programmes to be undertaken and financed separately on a substantial scale in such of the Agency areas which have been included in the list of districts identified for individual subsidiary occupations in its Interim Reports on Milk Production, Poultry, Sheep and Pig Production and on Sericulture. It has been recommended that the entire programme should be time-bound and target-oriented and implemented with a sense of urgency.

The Commission has estimated that a sum of Rs. 241 crores would be required in the Central Sector of the Fifth Plan for this programme. It has recommended that in future, the State Government should bear the cost of staff subsidy to institutions and the cost of staff of the Agency,

the staff of the Farmers' Service Societies and additional extension staff of the State Governments in the project area costing in all Rs. 40 crores over the Fifth Plan period. The Commission has recommended the continuance of the subsidy of 25 per cent of the cost of investment to small farmers and 33-1/3 per cent to marginal farmers; at the same time, it has suggested certain modifications in the pattern of risk fund subsidies being given under S.F.D.A./S.F.D.A. schemes.

### Poultry Sheep and Pig Production

The Report on Poultry, Sheep and Pig Production through Small and Marginal Farmers and Agricultural Labourers deals with the need and scope for augmenting the production of eggs and poultry, mutton and wool, and pork and pork products by harnessing and developing the facilities available with the small and marginal farmers and agricultural labourers. It has been observed that livestock rearing has remained mainly as a bye-product industry of the rural areas in the country and it is practised as a mixed farming complement along with crop production.

Most of the people engaged in raising poultry, sheep and pigs in the rural areas belong to the category of small and marginal farmers and agricultural labourers. The Commission feels that improvement in the productivity of livestock such as poultry, sheep and pigs and their raising through weaker section of the population can be relied upon as a major instrument for effecting social change by improving the income of these people. Such a development would also offer great potentiality for providing employment to the producers and their family members and also to a number of village artisans. Increased production of animal products such as eggs, poultry, meat, mutton and pork in the rural areas would also lead to increased home consumption of these products by the producers, thus ensuring better nutrition to these people. It has been recommended that these development programmes should be formulated on a package basis providing for all inputs such as better breeding and feeding, proper management, disease control, credit and services such as extension, remunerative marketing and other facilities.

The Commission has recommended that while formulating the size of the poultry programme in each district not only due consideration should be given to marketing facilities but it should also be ensured that as large a number of families as possible would be benefited. Each selected family should be assisted to start a poultry unit of 50 layers and that in each district at least 3,000 families of small and marginal farmers and agricultural labourers should be identified and enrolled under the programme which should be taken up in 167 districts covering about 5 lakh families.

Programmes have been suggested for sheep development for improving the quality and productivity of sheep in regard to wool and mutton production by the small and marginal farmers and agricultural labourers. This is proposed to be obtained by gradual replacement of indigenous types of sheep with these people by crossbred progenies having exotic inheritance produced by the farmers themselves and/or to a limited extent by supply of crossbred ewes and rams from other sources.

One hundred and forty districts have been recommended to be taken up for the sheep development programme, at least 3,000 families being assisted in each district. This would help over 4 lakh families.

The Commission has drawn attention to the fact that pig keeping is mainly in the hands of the backward communities and with tribals and that such pig breeders deserve special assistance for improving their pig rearing practices. It has recommended that the main plank for improving the economy of pig producers should be the replacement of indigenous pigs by crossbred pigs, produced mainly by the breeders themselves. It has been proposed that about 2,000 families of pig farmers should be assisted in each district and that pig production programmes should be undertaken in about 100 districts which will help about 2 lakh families to improve their economic status.

For the production and supply of crossbred poultry, sheep and pigs to participant farmers and agricultural labourers, the Commission has emphasised that intensive crossbreeding schemes should be implemented in selected areas where such work as already been found popular

and successful. It has also suggested that the farmers selected for these poultry, sheep and pig development programmes should be extended subsidy to meet the costs of capital expenditure such as purchase of stock, rearing up to production stage, housing, equipments, etc. A total subsidy of Rs. 71.40 crores has been indicated during the Fifth Plan period.

The Commission has laid special emphasis on organising these programmes on co-operative basis mainly consisting of producers belonging to small and marginal farmers and agricultural labourers. In view of their backwardness and low economic status, it has been recommended that Government and the credit agencies should liberalise the terms of financial assistance in the form of loans.

### Sericulture

The Interim Report on Sericulture deals with development of mulberry silk which accounts for about 79 per cent of the total silk production in the country and is concentrated in Mysore, West Bengal, Jammu and Kashmir and Uttar Pradesh. The Commission has suggested a plan of action and identified certain districts for the development of sericulture in these major silk producing States as a first step towards modernising the sericulture industry, particularly keeping in view its beneficial impact on the economy of small and marginal farmers.

The Commission has recommended that instead of relying on the development of sericulture based on local races, a phased programme should be taken up for the introduction of bivoltine hybrids in the irrigated mulberry areas of Mysore, particularly Kolar and Chennapatna, where the method of rearing bivoltine hybrids developed by the Central Sericultural Research and Training Institute could be followed.

### Social Forestry

The Interim Report on Social Forestry deals with farm forestry, extension forestry, reforestation in the graded forests and recreation forestry and has suggested an action programme during the Fifth Plan. The programme is designed to bring social benefits to the population



in the form of increased supply of fuelwood (thereby releasing cowdung for manure), small timber and fodder as well as of recreational facilities.

The Commission has recommended extensive plantation on the bunds and boundaries of the fields of the farmers for which the forest extension units would develop the nurseries for the supply of seedling. A pilot scheme for development of farm forestry has been recommended to be taken up in the Central Sector in 100 selected districts—60 districts in areas with advanced agriculture where fuelwood and timber are scares and 40 in dry and arid zones.

Mixed forestry has been proposed to be taken up on waste lands, panchayat lands and village commons in drought prone areas for which a survey of waste lands and village panchayat lands has been proposed for preparing land-use plans based on a village or a group of village as a unit. Development of fodder and grass is to be an important component of mixed forestry so as to increase their supply and benefit the weaker sections of the population who may be encouraged to take up animal husbandry programmes. Emphasis has, therefore, been placed on the organised production and distribution of seed involving local farmers. The Commission has proposed that an area of one lakh hectares should be covered through pilot projects of mixed forestry in the Central sector.

With a view to preventing damage to agricultural crops, agricultural lands, roads, etc., through wind erosion, the Commission has suggested the establishment of shelter belts in hot and arid areas. The programme is to cover one lakh hectares distributed among the States of Haryana, Punjab, Rajasthan, Uttar Pradesh, Madhya Pradesh, Andhra Pradesh, Mysore and Maharashtra with 50 per cent central assistance. In addition, the commission has recommended planting of trees on lands on the sides of roads, canal banks and railway lines as a commercial investment with an annual target of not less than 8,000 k.m. of planting. Moreover, three lakh hectares have been proposed to be covered by reforestation programmes in degraded forests with a view to increasing the

supply of fuelwood and small timber and preventing unauthorised removal from and easing the pressure on valuable commercial forests. To supply fuelwood and small timber for agricultural implements at fair rates, State subsidy has been proposed for the first 15 to 20 years.

#### Urban Recreational needs

The Commission has advised that the State Government should make a study of the problem of recreational needs of the urban areas and dedicate some forests or establish tree groves near such areas for recreational purposes. Moreover, green belts, around towns and cities, wherever necessary, should also be created.

The Commission has laid considerable emphasis on appropriate training in extension methodology and technology for officers selected for implementing the programme.

Agricultural Universities are also to include in their syllabi a course in social forestry for the agricultural graduates. A large number of field demonstrations with the participation of panchayats, co-operatives and village school staff have been suggested for popularising social forestry. Field assistants are proposed to be recruited from the local people in the programme areas to secure involvement of villagers. The Commission also recommends that all social forestry programmes should be executed by engaging local labour and not through contract system.

For implementing the programmes during the Fifth Plan, a total expenditure of Rs. 80 crores is visualised including the cost of extension organisation, research and survey. The share of the Central Government has been estimated at Rs.34.50 crores.

## EMPLOYMENT TO 10,200 TRAINED TEACHERS SANCTIONED

The Government of Tamil Nadu have accorded sanction for creation of 10,200 teacher posts to provide employment to the unemployed trained teachers. The Government sanction the employment of these teachers in recognised schools under the various managements in Tamil Nadu from September this year till the end of the academic year 1973-74 (31st May 1974). They will draw the pay of the posts and the usual allowances admissible to the State Government employees.

Among the posts to be created under the scheme during 1973-74 are 500 posts of Higher Grade teachers, 6,000 posts of Secondary Grade teachers, 500 posts of Physical Education teachers, 1,200 posts B.T. teachers and 2,000 posts of Craft teachers. It is estimated that an expenditure of Rs. 150 lakhs would be incurred in Tamil Nadu during 1973-74 under this scheme.

It is said that about 1,800 Apprentice Teachers appointed under State Government's Apprentice Teacher Scheme in October, 1970, are yet to be absorbed in regular vacancies. Out of the newly sanctioned posts of 10,200 as many as 1,800 posts shall be earmarked for allotment to the schools in which those apprentice teachers are working.

The object is that a post of the appropriate Grade under this scheme is allotted to benefit each and every apprentice teacher now working, so that he or she can be allowed pay in regular pay scale as also allowances with effect from the date of the Government order issued in this respect. The Director of School Education will distribute the remaining posts among schools under the managements of the Government (Government, Board, Local Body and Aided). These posts may also be allotted to the schools run by the Directorates of Harijan Welfare and Backward Classes.

The Chief Education Officer will distribute the posts in each district and the additional posts for each school will be allowed on the basis of Teacher-Pupil ratio in eligible cases. No fresh appointment of any out-sider as teacher in any regular post should be made in any school in which the teacher appointed under this scheme remains to be absorbed in regular post and the teachers appointed under this scheme are likely to be appointed in regular vacancies during the academic year 1974-75.

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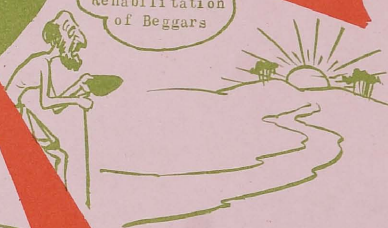
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