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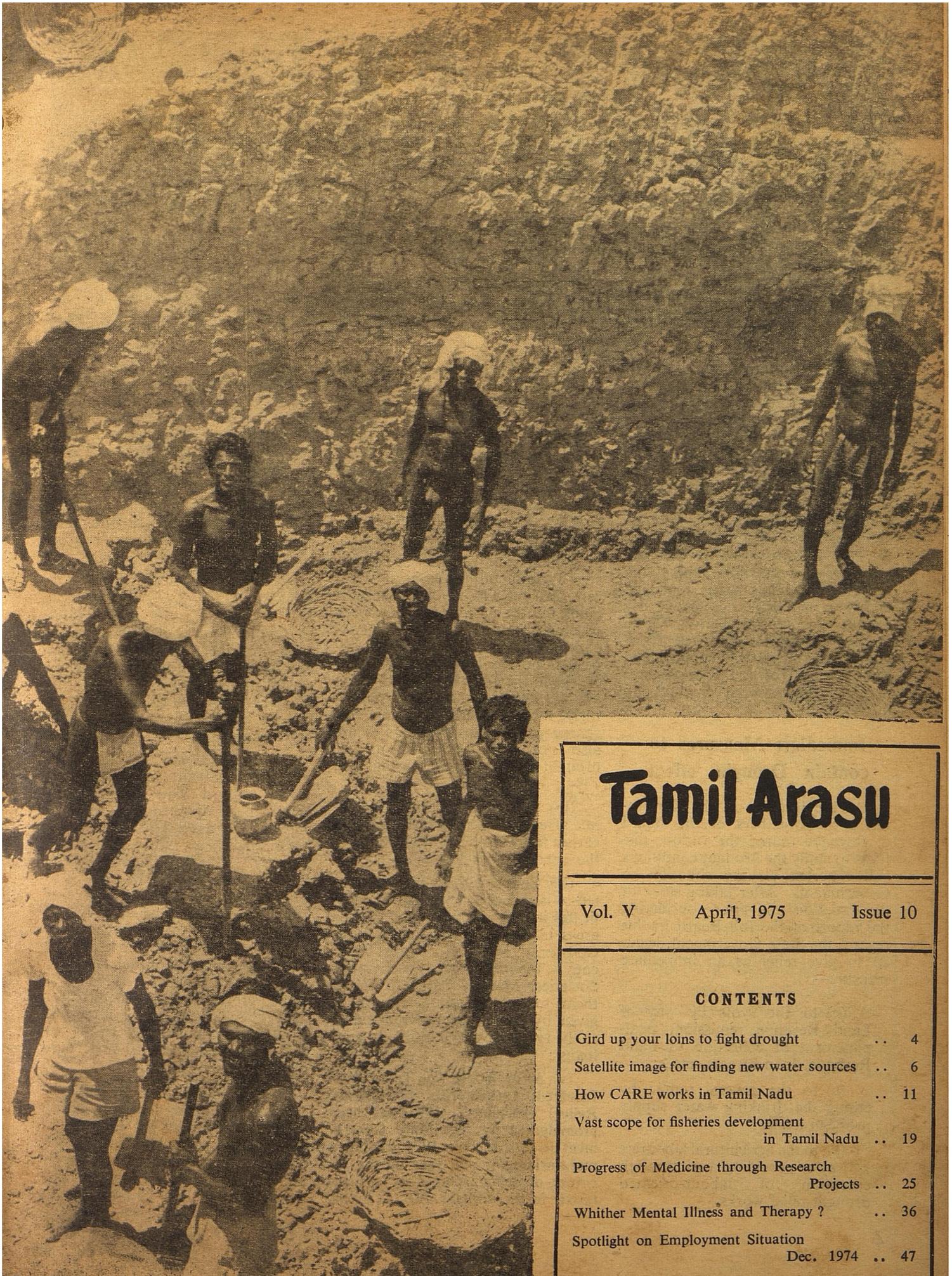
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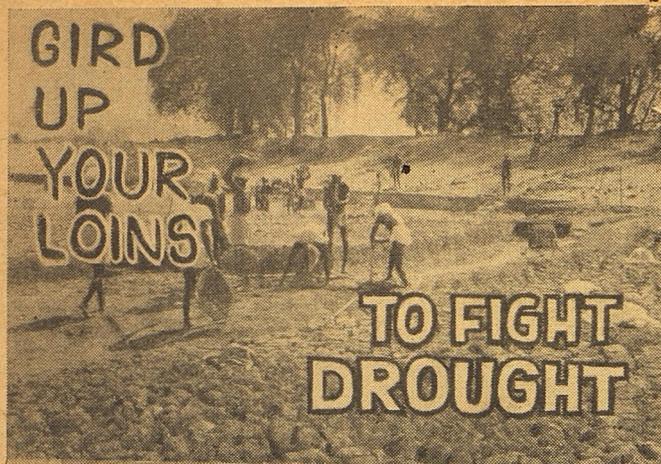
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The current unprecedented drought conditions have brought to the fore the dominant qualities of Tamil Nadu. As against the normal average rainfall of 462 m.m. during the north-east monsoon period, the rainfall during the same period in 1974 was only 195 m.m. Even this rainfall was sporadic and did not occur when the normal standing crops actually required rainfall. Consequently, the irrigation sources did not receive worthwhile supply and most of the tanks either remained empty or had gone completely dry during the crucial period. Even the storage in the river-fed reservoirs had not been comfortable. The intensity of the drought was naturally pronounced in the dry tracts.

Immediate Measures to contain Drought effect

At the instance of the Government, the Members of the Board of Revenue toured the various districts to study the drought conditions and reported on the situation to Government. After taking stock of the situation and after considering the report of the full Board in this regard, the State Government decided to give relief as an immediate measure—

(a) to the ryots by way of Land Revenue remission, postponement of collection of Land Revenue, loan arrears, etc., ;

(b) to the general public by easing the drinking water supply problem ; and

(c) to the agricultural labourers by way of providing work through execution of labour-oriented drought relief works.

The relief measures ordered are the following :—

In all the drought affected areas declared by the Collectors as such,—

(i) The collection of the State Government loans including arrears and current dues for collection in the current fasli 1384 has been postponed to the next fasli 1385 ;

(ii) Land Revenue including additional wet assessment water-cess, additional water-cess, local cess, etc., for wet, dry and manavari lands for the current fasli has been ordered to be remitted. The Panchayat Unions have also been instructed not to levy local cess surcharge in the areas declared drought affected by the Collectors. Accordingly, local cess and local cess surcharge payable to local bodies are also not being collected in the drought affected areas during fasli 1384 ;

(iii) The collection of Land Revenue arrears relating to fasli 1383 and earlier faslis have been postponed to the next fasli 1385 ;

(iv) Collectors have been instructed to issue necessary annavari certificates in respect of drought affected areas in their districts direct to the Co-operative Central Banks under copy to the Registrar of Co-operative Societies, Madras, so as to enable them to get the short-term loans given by the Co-operative Societies to the ryots converted into long-term loans ;

(v) An ordinance **The Tamil Nadu Indebted Agriculturists (Temporary Relief) Ordinance, 1975** has been promulgated by the State Government on 16th January 1975 granting a moratorium for one year on the recovery of debts incurred by agriculturists in the drought affected areas.

According to this, no suit for the recovery of debts shall be instituted and no application for the execution of the decrees for payment of money in such suit shall be made against any agriculturists in any Civil Court for one year. The Ordinance, however, does not apply to loans given by Banks ; and

(vi) collection of arrears and current dues of agricultural income tax due for collection during the current financial year has been postponed to the next financial year 1975-76.

Out of the total of 17,069 revenue villages in the State 11,035 villages have been declared by the Collectors as drought affected up to 27th February 1975. These villages are eligible for the relief ordered by the Government.

It had become imperative to undertake labour intensive relief works with a view to providing employment opportunities to agricultural labourers and small landholders during the period from January 1975 to September 1975. Based on the number of persons to be employed under drought relief and the period for which they will have to be given work even at the minimum rate of Rs. 3 per day for 20 days in a month for each labourer, it has been estimated that a sum of Rs. 55 crores would be required for drought relief. It has been ordered that the minimum wage to an unskilled labourer employed on drought relief work should be Rs. 3 per day.

In the above background, the State Government have released a special allotment of Rs. 10 crores in three instalments as shown below for providing drinking water-supply and to take up special drought relief works during 1974-75 :—

Date. (1)	Amount allotted. (2) (Rs. in lakhs).
13th December 1974.	300
4th January 1975 ...	200
7th February 1975 ..	500
Total ..	1,000

What Are The Projects ?

Under the Special Drought Relief Programme, deepening of existing drinking water wells, sinking of new drinking water wells, repairs to minor and medium irrigation sources, formation of roads and soil conservation works are taken up. The Collectors have been permitted to take up formation of new ponds also under the Special Drought Relief Programme, either under drinking water-supply or under minor irrigation depending upon the purpose. Works under provision of drinking water-supply are permitted to be taken up even in areas not declared as 'drought-affected.'

Upto 1st March 1975 as many as 34,226 items of work at a total estimated cost of Rs. 14.08 crores have been permitted to be undertaken under the Special Drought Relief Programme. **Works worth Rs. 3.73 crores have been executed and Rs. 2.79 crores have been spent. In one week, i.e. for the week ending 1-3-1975 alone, special drought relief works worth Rs. 1.10 crores have been carried out.**

Out of the estimated need of Rs. 55 crores, it has been proposed to spend Rs. 17 crores during 1974-75 i.e. from January 1975 to March 1975 and Rs. 38 crores during 1975-76 upto the end of September 1975. In addition to the sum of Rs. 10 crores already released by the State Government, another sum of Rs. 7 crores will be diverted from the normal Plan funds by the regular departments in the drought-affected areas during 1974-75. Against the said sum of Rs. 17 crores, the Central Government have announced an assistance of Rs. 7.5 crores. Similarly, during 1975-76, special allotments and diversion of Plan schemes to the affected areas during the months from April 1975 to September 1975 will have to be made to the extent of Rs. 38 crores. **

AUDIT OBJECTIONS AND THE BUDGET

In his reply to the Budget Debate, the Chief Minister had the following to say about Audit Objections :

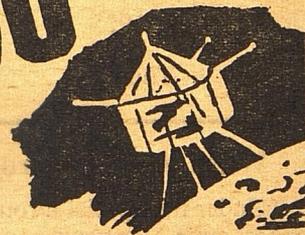
" Dr. Hande raised an accusation which received wide publicity in the newspapers. He said as follows " The total number of financial irregularities in a year run to as many as 42,416 cases involving a sum of over Rs. 25 crores. I say the exact sum. It is Rs. 25,02,75,000 for one year. What a fantastic record, our wonderful Chief Minister has for himself." I submit my explanation to the objection of Dr. Hande with the fond hope that the newspapers which gave wide publicity to Dr. Hande's statement would render equal justice to my reply also, lest the people of this State would not become misguided.

" Dr. Hande would not have wantonly raised the objection. On the other hand he might have made the observation without going through

the history of our previous budgets. But his accusation would mean to others as if during 1972-73 alone for which the Audit Report has been presented, as many as 42,416 audit objections have cropped up. Let us analyse the matter from the budget for 1962-63. In the 1962-63 budget the total budget receipts stood at Rs. 163 crores whereas the budget figure for 1972-73 had risen to Rs. 499 crores, to quote exactly, Rs. 499.97 crores. When the budget total receipt worked out to Rs. 163 crores the total audit objections numbered 31,502 involving a sum of Rs. 15 crores. The and it objections have now increased to 42,416 involving a sum of Rs. 25 crores. In the year 1962-63, the objections constitute 9.67 per cent in a total budget sum of Rs. 163 crores whereas in a total receipt of nearly Rs. 500 crores the objections comprise only 5 per cent. Thus the volume of audit objections in percentage have decreased rather than increased."

**SATELLITE IMAGES FOR FINDING
NEW WATER SOURCES**

**URGENT STEPSⁱⁿ
TAMIL NADU**



The sad experience of this year's drought has galvanized the Tamil Nadu Government into inviting global tenders for equipment capable of locating new ground water sources in the State from satellite images and computer print-outs. Money to the tune of 2.5 million dollars for these most sophisticated water divining equipment is being obtained out of I.D.A. credit for minor irrigation. Tamil Nadu stands first in India in the undertaking of scientific ground water survey in sedimentary areas in the State. Finding water sources from satellite images and computer print-outs is a further advance in water survey and will call for training of State's personnel in this most advanced technique, which is being arranged simultaneously with the tenders for equipment in order not to allow any time-lag. The World Bank, at the instance of the Government of Tamil Nadu, has agreed to allow the purchase of satellite images and computer print-outs from out of the I.D.A. funds ear-marked for consultancy services and aerial photography. The State is settling down to an era of conjunctive and co-ordinated use of surface and ground-water. At present an elementary water-shed study is in progress, in each district to evaluate the relationship between rainfall, run-off, infiltration, evapotranspiration etc. The per capita water resource of Tamil Nadu is only 570 cubic meters (0.2 m.cft.) against the All-India average of 4,000 cubic meters *i.e.*, (0.14 m.cft.) This will put in better perspective, the State's need to find new sources of water, to rectify the imbalance found even during normal years which gets accentuated during drought years.

Another
first
for
Tamil
Nadu
in
Scientific
Water
Survey
—♦♦—
Emphasis
shifted
from
Sedimentary
to
Crystalline
Soils

The scientific ground water survey was first undertaken in this State in March, 1966, in certain selected sedimentary areas with the assistance of the United Nations under the U.N.D.P. (United Nations Development Programme) in two phases. During Phase I (March 1966 to June 1969) investigations were carried out in the Madras City and its environs, Palar basins and Neyveli area. During the Phase II, from June 1969 to February 1972 ground water survey was carried out in the Cauvery Delta. Satellite images are expected to point out water sources in crystalline areas of Ramnathapuram and parts of Tirunelveli districts.

In the course of the systematic ground water survey, valuable hydrological data have been collected, compiled and evaluated with the aid of the United Nations. A total of 4,000 bore wells were drilled to a total depth of 1,22,000 ft. and 32 artesian wells and many non-flowing production wells were constructed in the course of the exploratory drilling and testing programme. Based on the hydrogeological survey the aquifers were demarcated in depth and width and the ground water potential has been assessed. A ground water atlas for the Cauvery Delta was prepared and published. Fourteen counterpart officers in the categories of Engineers, Geologists, Geophysicists, Chemists and Pedologists were trained abroad in their respective fields.

The United Nations aid for the project was of the order of 1.368 million dollars (Rs. 1,10.05 lakhs) in the form of expertise and imported equipments, during the period. **

THE GRIM FOOD SITUATION IN TAMIL NADU

Consequent on the failure of the south-west monsoon followed by the failure of the north-east monsoon the very difficult food situation in Tamil Nadu is as follows. As against the normal rains of 960 m.m. in a year, Tamil Nadu received in 1974 only 631.5 m.m. Particularly in the months of October to December, during the north-east monsoon season, we received last year only 203 m.m. as against the normal rainfall during these months of 465 m.m. Even in 1975 January as against the normal rainfall of

35.5 m.m. we received only 14.6 m.m. 1974-75 has been the year, when we have received the lowest rainfall in the last 100 years.

As a result of the failure of the monsoons, the inflow into the reservoirs in Tamil Nadu between June and December 1974 has, except in the case of Perunchani reservoir been the lowest ever since these reservoirs were constructed, as revealed by the following statistics :

In Tamil Nadu, in normal years, Kuruvai paddy will be raised on 15 lakh acres yielding 12 lakh rice tonnes. In 1974 only 8.13 lakhs acres came under Kuruvai, yielding 6.5 lakh rice tonnes. In the current Samba as against the normal coverage of 49 lakh acres and yield of 40 lakh rice tonnes, only 26.49 lakh acres were cultivated with an estimated yield of 17 lakh rice tonnes.

In normal years Navarai crop will be raised in about 5 lakhs acres yielding about 3 lakh rice tonnes. This year the prospects for Navarai are not encouraging.

Similarly, the areas under cultivation of coarse grains and other food grains have also been reduced considerably. As against the normal production of 14 lakh tonnes coarse grains in Tamil Nadu this year we expect the yield to be in the

order of only 6 lakh tonnes. Thus, production of paddy and coarse grains having been affected this year, we expect that, as against the requirements of foodgrains for Tamil Nadu, we will be faced with a deficit of more than 20 lakh tonnes this year.

Requirements

The population of Tamil Nadu is about 4.5 crores. Adopting 5 persons as the strength of a normal family, we would have about 90 lakh families in Tamil Nadu. Under the system of distribution of sugar cards about 99.8 lakh family cards have been issued throughout Tamil Nadu. We may reasonably expect that among these, the families of producers will be able to have foodgrains to meet their own requirements. It may not therefore be necessary to cover them under public distribution. But it will be necessary for us to undertake the responsibility of supplying under the public distribution system at least a portion of the foodgrains requirements of people other than producers in the urban areas and also the rural population in the drought affected areas.

The minimum foodgrain requirement of an adult per day is 400 grammes. On this basis the minimum requirements for a family of 5 persons for one month would be 60 kgs. We will not be in a position to supply the entire requirements of foodgrains under the public distribution system. But as against the monthly requirements of 60 kgs. for a family we should endeavour to supply at least 20 kgs. Even if we provide for 10 kgs. of rice and 10 kgs. of wheat, we would be requiring about 98,000 tonnes of rice and 98,000 tonnes of wheat per month for public distribution.

Till a few months ago, about 37 lakhs family-card holders were covered under the public distribution system. In view of the acute drought conditions we have now drawn up a scheme to extend public distribution to an additional 35 lakh family-card holders, thus covering a total of 72 lakh family-card holders.

Even under the scheme of limited public distribution covering 37 lakhs of families, our requirements were about 55,000 tonnes of rice per month. This would work out to about 5.5 lakh tonnes of rice for the first 10 months of the

Reservoir.	Normal inflow (average since the construction of the reservoir).	Inflow from January 1974 to June 1974.	Shortfall.
(IN MILLION CFT.)			
1. Mettur	345,976	252,778	93,198
2. Lower Bhavani	62,136	41,570	20,566
3. Amaravathi	15,211	10,592	4,619
4. Periyar	24,964	19,326	5,638
5. Pechiparai	11,238	8,375	2,863
6. Papanasam	19,642	16,187	3,455
7. Manimuthar	6,814	2,679	4,135

year until the next Kuruvai. Now that we have brought in 35 lakh more families under the public distribution system, we will largely have to rely on distribution of wheat and millets to those to whom public distribution has been extended. *

Our requirements of rice under the limited distribution system we were adopting till now, are about 5.5 lakh rice tonnes for the first 10 months. The maximum procurement in a normal year from Samba Talady and Navarai crop has been in the order of 5.5 lakh rice tonnes. This year as Samba and Taladi have been affected in many parts and as Navarai prospects are uncertain, we cannot expect to procure more than 3 lakh rice tonnes from Samba than 3 lakh rice tonnes from Samba and Taladi. Even this target can be achieved only with the whole-hearted co-operation of the ryots. Assuming that we succeed in procuring about 3 lakh rice tonnes, our requirements being 5.5 lakh rice tonnes, we will be faced with a deficit of 2.5 lakh rice tonnes. This deficit

is calculated on the basis of the limited distribution system we were undertaking previously. Now that it has become necessary to extend the public distribution system to larger areas in view of the drought conditions, the deficit will be much larger. It is keeping these considerations in view that we have pressed on the Government of India to allot to Tamil Nadu one lakh tonnes of foodgrains every month for the first 10 months of the year. It is gratifying to note that, in response to our request, the Government of India have allotted under the public distribution system 41,000 tonnes of wheat for the month of February and 51,000 tonnes of wheat for the month of March as against about 5,000 tonnes they were supplying to us last year. However, it is discouraging to note that the Government of India have not found their way to allot any quantity of rice so far. We have asked for an allotment of 5 lakh tonnes of rice for the first 10 months of this year. The public distribution system in our State can be kept going only if the Government of India respond

to our request favourably and make this allotment. Thus, two factors are essential for the efficient and smooth functioning of the public distribution system aimed at supplying at least a portion of the requirements of foodgrains to the people. Firstly, we should attain success in our efforts at procurement. Secondly, the Government of India should, in addition to the generous allotment of wheat they have made, allot at least 5 lakh tonnes of rice for the period till October.

Besides rice and wheat, the Government are taking vigorous steps to purchase coarse grains from other States and distribute them at reasonable rates to the rural areas. The Tamil Nadu Civil Supplies Corporation and the co-operatives are actively engaged in this task. We plan to purchase at least 2 lakh tonnes of coarse grains for distribution in the first 10 months of the year. The present prospects indicate that we will very soon be liable to reach under this purchase programme, one lakh tonnes. *

“WHY TEACH ME, NOT ?”

—: +:—

C. M'S Reply to C. P. I. Member About Welfare Tilt in State Budget

The following is a brief excerpt from Chief Minister's reply to Budget Debate :

“ That the Budget reflects more the intents of a Welfare Organisation and is bereft of any achievements is one of the points made by Thiru K. T. K. Thangamani. I would recall that even the ideology of communism prefers the State units to be Welfare States rather than to be Police States. I hope this is the fundamental principle underlying communism. This ideal so manifest in the budget could not become wrong merely because it comes forth from a non-communist like me.

“ Thiru K. T. K. Thangamani assails that apart from the Free Eye Camps, the Cycle Rickshaw issue scheme, the Beggars' Rehabilitation Scheme and the Rehabilitation of the Handicapped, we have no solid welfare achievements to our credit. The lowering of the minimum agricultural holding from 30 standard acres to 15 standard acres is not counted as a welfare achievement by him.

“ So also the fact that through an enactment, as many as two lakh agricultural labourers have acquired the title of ownership of lands where they reside, seems to have lost its significance on Thiru Thangamani.

“ Before 1967 only 17 percent of the total fleet strength of public transport were under nationalisation. Now 48 per cent of public transport buses have been brought under the nationalised sector. Further progress in this direction has been retarded by the fleet owners by taking recourse to legal proceedings. I am at a loss to understand whether Thiru K. T. K. Thangamani does not regard this as a welfare achievement.

“ The Slum Clearance Scheme, the work of the Tamil Nadu Water and Drainage Board, the Harijan Housing Scheme under which so far 15,000 residential quarters have been constructed for free issue to the Harijan Community, announcement of housing scheme for the fisherman community, Free Education upto P.U.C., Electric street light facilities for villages all over the State, laying of link roads connecting all villages having a population of 1,500 and even below and the copious increase in the electrification of pump sets from 2 lakhs to 7 lakhs pumpsets—all these do not appear to Thiru K. T. K. Thangamani as Welfare Schemes. On the other hand, if he is inclined to think of them as profligate activities of a capitalist State I feel sorry for this misconception. At the same time, Thiru Thangamani prefers to scorn us as a Government following the footstep of Anna. I take such scorn as an encomium coming from an elder politician and a public figure of repute. I think a new bill making the tillers owners of land will soon be introduced in this House for discussion and I submit that at that time we can have more detail discussion over this matter.” *

VIOLENCE AGAINST HARIJANS AND MOLESTATION OF HARIJAN WOMEN

INSTRUCTIONS TO STATE POLICE AND JUDICIARY

The Government of Tamil Nadu have issued detailed instructions to the Police and the Judiciary not to go allow compromise wherever untouchability cases crop up, particularly where violence or molestation of Harijan women have figured.

The practice of Untouchability in any form is a cognizable offence under the Untouchability (Offences) Act, 1955. The Untouchability (Offences) Act is a Central Act. It is enforced by the State Government through Police Department and the progress of enforcement is reviewed by the Director of Harijan Welfare monthly and quarterly.

The Government have already issued instructions to the Inspector-General of Police and to the Collectors to ensure strict implementation of the provisions of the Act and to prosecute the offenders for violation of the provisions of the Act. The Government have also issued instructions that the District Welfare Officers and Special Tahsildars (Harijan Welfare) should make surprise visit to small hotels, tea-stalls etc. in the villages to personally see the treatment meted out to Harijans and launch prosecutions against those violating the provisions of the Untouchability (Offences) Act, 1955, enlisting the co-operation of the Police during such visits.

The Government have further issued instructions to the Inspector-General of Police that while a compromise by Police over cases of clashes between caste Hindus and Harijans may be a good thing, the compromise should not, however, be

enforced especially in cases, where (1) violence is used against Harijans (2) Harijan women are molested and (3) Untouchability has been practised. The Government have impressed on the Police Officials and others concerned that the only effective way of discouraging the practice of untouchability would be for the Police to take action under the Act against the persons guilty of the offence regardless of their position, status, etc.

At the instance of the Government, the High Court of Judicature at Madras has issued circular instructions to all District Magistrates and Chief Presidency Magistrates to ensure that no delay occurs in the disposal of cases under the Untouchability (Offences) Act, 1955 in their Courts as also in the Courts of their Subordinate Magistrates.

The Untouchability (Offences) Act, 1955 has prescribed punishment with imprisonment which may extend to 6 months or with fine which may extend to Rs. 500/- or with both for ;

1. enforcing religious and social disabilities ;
2. refusing to admit persons to hospitals, educational, institutions etc.
3. refusing to sell goods or render services ;
4. Other offences arising out of Untouchability ; and
5. for abetment of offences.

Existing provisions. (1)	Amendment suggested (2)
1. All initial offences imprisonment upto six months or fine upto Rs. 500/- or both.	1. A minimum punishment of three months imprisonment and a fine of Rs. 50 for offences under the Untouchability (Offences) Act may be prescribed except for reasons to be recorded. (At present, no such minimum punishment has been prescribed in the Act).
2. For each subsequent offence (Both imprisonment and fine)	2. The maximum jail sentence under the Act may continue to be six months as at present but the maximum fine to be imposed under the Act may be reduced from Rs. 500/- to Rs. 200.
	3. For the second offence under the Act, imprisonment ranging from six months to one year and a fine ranging from Rs. 200 to Rs. 500 may be prescribed.
	4. For the third and subsequent offences, a minimum period of imprisonment of one year and a maximum imprisonment for three years and a fine ranging from Rs. 500 to Rs. 1,000/- may be prescribed.

With a view to ensure vigorous enforcement of the Untouchability (Offences) Act, 1955 this Government have recommended to the Government of India, the amendment of the Act in the following manner :—

In the Untouchability (Offences) Amendment and Miscellaneous provision Bill, 1972 introduced in the Lok Sabha on 13th April 1972, the Government of India have incorporated all the above suggestions except the one regarding maximum imprisonment of 3 years for the 3rd and subsequent offences under the Untouchability (Offences) Act. They have proposed 2 years imprisonment instead of 3 years.

This Government have ordered the constitution of Harijan Welfare Boards at Taluk, District and State levels for the purpose of reviewing the work done to enforce the provisions of the untouchability (Offences) Act and to undertake special measures for effective eradication of Untouchability.

This Government have further ordered that the Taluk Harijan Welfare Boards, if and when received representations from the aggrieved parties alleging that they are denied access to the water works in the villages by the caste Hindus, the Members of such Boards can visit the Villages for ascertaining the facts for appropriate action under the orders in force.

In addition, this Government have set up Mobile Police Squads to prevent atrocities committed on Harijans by caste Hindus and to eradicate the practice of Untouchability effectively. To start with, the Government have sanctioned Mobile Police Squads in 6 select Districts i.e. Coimbatore, Tirunelveli Tiruchirapalli, Madurai, Thanjavur and South Arcot. Each squad consists of one Inspector of Police, One Sub-Inspector of Police, two Head Constables and two constables.

At the instance of the Government, the Inspector General of Police has issued circular instructions that the staff of the six mobile Police Squads and the Police Personnel in other districts should make surprise visits to tea shops, temples, hostels etc. and take necessary action against those found to be practising untouchability.

With a view to enable the Mobile Police Squads to register cases and launch prosecution against the offen-

ces, the Government have since issued orders declaring all the Mobile Squads as a Regular Police Station with jurisdiction over the entire Revenue Districts and also declaring the Inspectors of Police or in their absence the Sub-Inspectors of the said Mobile Police Squads as Officers-in-charge of the Police Stations.

Besides the law, a change in the social outlook of the people is quite essential for the removal of untouchability. This Government have taken note of this fact and have implemented the following schemes for social development of Scheduled Castes :—

Award of Gold medals to inter-caste married couples

It is considered that eradication of caste differences could also be achieved by encouraging inter-caste marriages, where one of the couple should be a Harijan. Both the couple should be Hindus. The Government are awarding Gold Medals (1) sovereigns to such couples who contract such inter-caste marriages. A certificate of appreciation is also given to them. This scheme is being continued from 1968-69.

No. of Gold Medals awarded

Year	Number awarded.
1968—69	48
1969—70	35
1970—71	65
1971—72	20
1972—73	29
1973—74	80
Total ..	277

Normally, under the Petty Trade Loan Scheme, only Scheduled Castes are eligible for interest free loan to start petty trades. As a further incentive to inter-caste married couples, the Government have ordered that application for the grant of interest-free loan to start petty trades under the Petty Trade Loan Scheme may be entertained either from the husband or from the wife, who belongs to the Schedule Caste Community and the request considered in the usual manner. The Government have also ordered to provide 3 cents of house-site for each inter-caste married couple in an area already acquired for house-sites for Harijans subject to the condition that the inter-caste married couple

does not own house-sites already and also that the couple does not resort to the dissolution of the marriage after the assignment is made.

In addition to the above concessions, the Government have issued orders for the award of cash grant of Rs. 200/- to each inter-caste married couple. The cash grant is intended for the purchase of utensils and for meeting the incidental charges in setting up of a family. The orders sanctioning cash grant referred to take effect from 4-10-73. The Government have also issued instructions to the Collectors recently that the Harijan spouse of the inter-caste married couple should be given priority in the matter of grant of concessions intended for Harijans.

Award of prize to neatly maintained Harijan Colonies

There is a scheme for the award of a prize in the shape of 'Radio' or 'Ambar Charka' to the most neatly maintained Harijan Colony in each Taluk as neatness and cleanliness contribute greatly to the speedy removal of Untouchability.

Harijan Week Celebrations

'Harijan Week' is celebrated every year from 24th January to 30th January. During this week, meetings are conducted throughout the State to focus the attention of the public on the need for removal of Untouchability through various means and methods.

Two prizes are awarded to 2 Villages in each District (except Madras) which strive for the eradication of Untouchability. The value of first prize is Rs. 1,000/- and the second prize Rs. 500/-

Community Centres

There are 25 Community Centres in this State engaged in Social education. Harijan children and other children mingle freely in these Centre. Harijan Children are supplied with milk and Midday meals by these Centres. Play materials are kept in these Centres for the recreation of the children. From the year (1972), two sets of dresses, one for Deepavali and another for Pongal are supplied to the children attending these Centres. Each Centre is manned by one male Social Worker, one female Social Worker and one Women Attendant.

(v) Under the Madras Temple Entry Authorisation Act, 1947, Harijans have free access to all temples in this State.

Madras was the venue recently for the celebration of 25th year of CARE activities in India ; it was then that we learnt that the name CARE stands for Cooperative for American Relief Everywhere and that Tamil Nadu benefits to a "whopping" slice of one-tenth of CARE'S programme in the world. The largest beneficiaries are 20 lakhs of primary school pupils in Tamil Nadu through the popular Mid-day Meal in standards 1 to 8. On this programme alone CARE spends Rs. 6 Crores annually, while the State Government spends Rs. 4.5 Crores.

That American enterprise, whether in business or engaged in charity, likes nothing better than efficiency is proved by the nearly fool-proof system of providing cooked food from Central Kitchens in the three districts of Chingleput, South Arcot and North Arcot. In these three districts, at any rate, there can be no suspicion of diversion of the commodity assistance provided by CARE for the Mid-day Meal Programme. So ruthlessly wide angled is the vision and so efficient is the execution of the Central Kitchen Plan that it provides for effective control over the grains and fats from ship to the mouth of the infants for whom the relief is intended. The Central Kitchen Plan provides that the meals are cooked in modern ovens under hygienic conditions and transported to the surrounding schools in closed



vans. 97 Central Kitchens are functioning in these 3 districts. They were established with CARE assistance at a total cost of about Rupees two crores. They are serving about 3.75 lakhs of pupils in those three districts. These kitchens are having about 230 Tempo vans gifted by CARE for transporting the food from the kitchens to the schools. A workshop for servicing, repairing and maintaining these vehicles as well as equipments used for cooking at the kitchens has been constructed at Vikravandi in South Arcot district at a cost of about Rs 15 lakhs with the assistance of CARE.

To facilitate proper storage of the food stuffs required for this

programme, six regional godowns have been constructed in Tamil Nadu with the help of the CARE organisation at a cost of about Rs 29.4 lakhs.

CARE entered the Mid-day Meal programme in Tamil Nadu in the year 1961 at the behest of the Education Department, with its large resources of men, money and material. Today, about 30,000 schools are covered and 20 lakhs of children are provided with nutritious food. The first Central Kitchen was started in 1967 in Sekkadu, Chingleput, District.

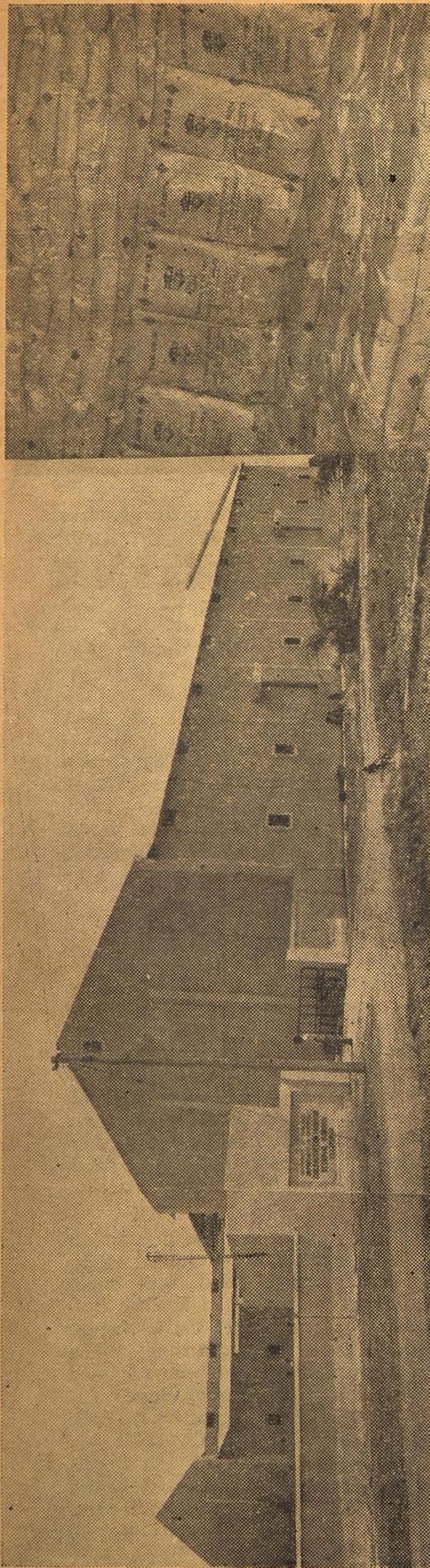
The Central Kitchen Project :—

Let us step inside a central kitchen. We are greeted by 8 giant cookers placed along one side of a long narrow room. 8 chimney pieces are attached to the cookers. Kerosene is used for fuel. Rice, uppuma and Rasam can be cooked in these cookers. One of them is a deep fry in which vegetables can be fried, in fatoils received from America.

The cooker is made of stainless steel which could be cleaned easily. The cooker is filled with water through hose pipes. A false bottom is placed inside the cooker to prevent rice from charring. When shredded Bulgar wheat is cooked vegetables fried in Soya Bean oil is added. To mix vegetables with the uppuma, long wooden spats are used. After cooking, the meals are placed in special containers for which huge laddles are used. These containers are then taken to the schools in vans.



The 25th Anniversary of CARE, Tamil Nadu was celebrated on 6th March '75, Thiru V.R. Neduncheziyan, Hon'ble Minister for Education, Thiru C.V.M. Annamalai, Hon'ble Minister for Social welfare, Thiru Lavelle, Administrator CARE and Tmt. Lavelle.



The rice thus cooked in all the seven cookers simultaneously is known as the "charge". After each "charge" is cooked, the cooker is washed well and the remnants of the cooking is drained out through a valve placed at the bottom. Thus meals are prepared hygienically, on a large scale and yet inexpensively with minimum wastage, and untouched by hand!

Cooking starts daily at 4.00 in the morning and is over by 10.00' clock. After cooking is over, the kitchen including the utensils are washed and cleaned and the containers, utensils etc. are stacked neatly.

**2450 Meals cooked at a Time!
and miles to go before
being eaten !**

In the Central kitchen of CARE there are 7 cookers each of 160 litre capacity capable of cooking 350 meals. Thus at a time 2450 meals get cooked. The meals have miles to go before they can be eaten and our children have a penchant for eating their meals while it is hot! The containers for cooked food are specially designed to keep the meals warm for 12 hours.

The central kitchen project is a unique feature for the whole country and Tamil Nadu can take just pride in being the first state to have launched this project.

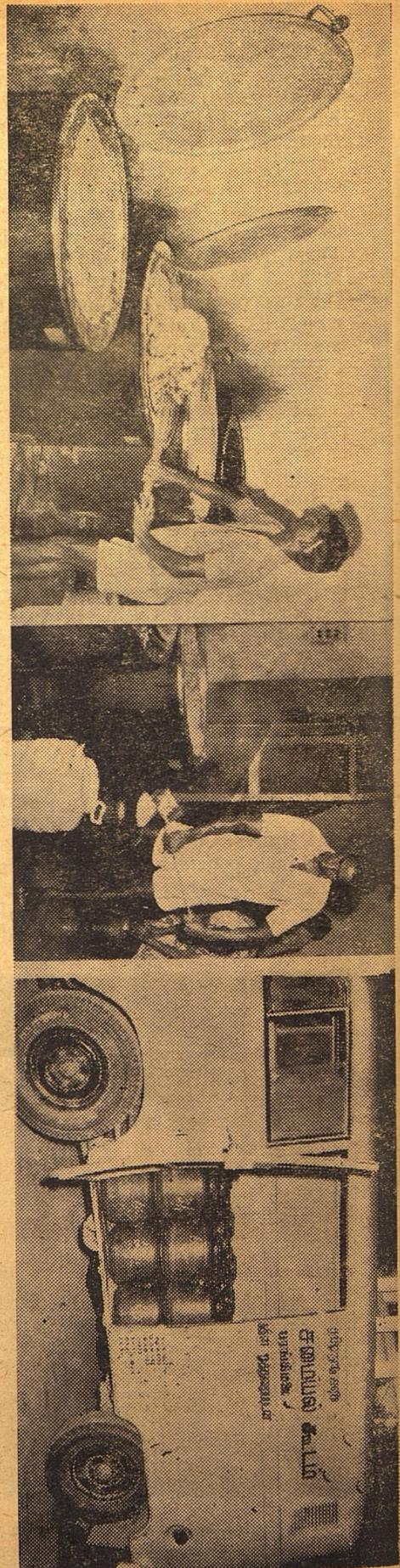
The mid-day meal programme operates 200 days per year, when the Government provides food for 100 days and CARE food is served for 100days. Rice is locally purchased and served, the expenses for cooking and purchasing commodities are met through contribution of the State Government and local Panchayats at 15 paise per head per day.

The City of Madras and Madurai Municipal Corporations have their own feeding programme.

Government of Tamil Nadu	Care
100 days	100 days
Rice—80 gms.	Balahar-80 gms.
Blended Food-20	Bulgar- wheat 8 gms.
Oil 7gms	Oil 7gms.

Left : Regional Godown at Vikravandi, S. A. Dist.

Right : CARE food being cooked and placed in special containers and delivered to schools.



Since 1974, the Education Department has been running a vehicle maintenance workshop. It is operating at Vikravandi in South Arcot District. It has a fleet strength of 230 vehicles. When one of the vehicles is sent to the workshop a spare vehicle is put on the road. If there is a breakdown, the mobile van is contacted and the repairs are attended to immediately. If the break-down is a major one, the vehicle is towed to the workshop and another vehicle replaces it. The workshop is a beehive of activity under the able guidance of a maintenance engineer.

Mid Day Meal for Harijan Children

From the year 1975-76 onwards, CARE and the Education Department will cover 1.65 lakhs of Harijan children. Previously these children were covered under a different programme through the Harijan Welfare Department. Thus the commitment will be for nearly 22 lakhs children.

This new programme will be rural oriented. This will help to increase the enrolment in the schools in rural areas and also help stabilize school attendance. Unless the schools in the rural areas progress there will be little or no real progress in the rural areas.

Godowns to Stock Commodities :—

To stock the food grains godowns are needed. The State Government and CARE have built six regional godowns at a cost of 29.4 lakhs. These have been built on modern lines. Each godown has a plinth area of 15,000 sq. ft. and is staffed by the Educational Department. The food could be stored hygienically and the food thus stored could be supplied to 9 revenue districts. These godowns are situated at Tiruvalam, Erode, Coimbatore, Vikravandi, Dharmapuri

and Tiruchi. During 1975-76, the Education Department and CARE will construct a godown in Madras City. This will ensure speedy movement of commodities from Madras Port to the villages beyond.

Reaching the Pregnant, lactating mother and the Pre-schooler :—

A healthy adult should have had a healthy childhood ; a healthy child should have had a healthy infancy ; and a healthy infant should have had a healthy mother.

In a developing country like ours which constitutes a major percentage of the population belonging to the poorer sections few mothers could afford to be healthy. Thus the children of ill-nourished mothers cannot be expected to turn up into healthy adults fit to take up the reins of the country in the future.

Malnutrition, as we all know, is a hydra-headed monster. One cannot cut off its heads and sit back. One has to strike at its very roots. Therefore, one has to reach the pregnant mother first. A pregnant mother has first to be educated on the nutritional value of foods she has to take during her pregnancy and lactating period. This will help her bring forth a healthy child into the world. Later, the mother has to be educated on proper child care like health and hygienic practices. In this, CARE plays a vital role with the cooperation of the Health and Social Welfare Departments.

Gramsevikas and Auxillary Nursing Midwives recruited and trained by different Governmental Departments teach mothers about proper child care. They have to look after the preparation of food, administering of immunisations and deworming medicines. During the past five years the State Government has taken on to this task with greater vigour.

The G. O. I. 's special nutrition programme supplies Modern bread in 20 municipal towns throughout the State. CARE has donated milk powder and defatted soya flour for use in the preparation of this enriched bread. The G.O.I. plan to subsequently take this up.

1,00,000 children are being fed daily with CARE food through Kuzhanthaigal Kappagams by the R.D.L.A. Department. 1,10,000 pre-school children and pregnant and lactating mothers are fed daily by the Health Department through its Primary Health Centres and Maternal child care centres. The Social Welfare Department is expanding its Balawadies. 50,000 infants are fed daily. About 122 industries sponsor feeding of 35,000 mothers and small children through industrial canteens.

115 Balawadies were constructed by the R.D.L.A. Department with the assistance of CARE/USAID. During the Fifth plan CARE will associate with the Social Welfare and R.D.L.A. Departments in the construction of 750 Balwadies and with the Tamil Nadu Harijan Housing and Development Corporation in the construction of 250 Balwadies in Harijan colonies. At the village level, these Balwadies will serve as focal points for the implementation of health and education objectives.

Indigenous food for the Pre-Schooler

In collaboration with the Government of India, CARE will produce a semi indigenous, highly nutritious food blend called Balahar. This will consist of 85% CARE supplied grain, and 15% groundnut cake or Bengalgram plus vitamins and minerals. Fifteen to 20,000 Metric tonnes of Balahar will be produced at Madras during 1974-75.



Vehicles maintenance workshop at Vikravandi where vehicles are attended to immediately.

MADRAS CITY SLUM CLEARANCE NUTRITION EDUCATION PROJECT

A nutrition education programme was launched in 1974. The objectives were to create an awareness of the concept of nutrition. 2. Promotion of the priority nutritional needs of the pregnant and lactating mothers and weaning infants and 3. emphasising the close relationship between nutrition, sanitation and health care.

16 nutrition workers have been selected and trained from the slum clearance areas. To get people interested in this programme, various media have been utilized like films, posters, van hoardings pamphlets and magic shows.

This project covers 6,200 families in 12 slum area zones. In 1975-76, 12 more zones will be covered.

An indigenous food mix unit has been set up at the Membalam Tank Bund. This will produce an indigenous highly nutritious food consisting of jaggery, cumbu and and groundnut. This will be sold to the local residents at a no loss no profit basis, through health clinics to members and their families.

Cooking demonstration is given and women, of these area are employed which will provide them additional remuneration.

The New Residents Welfare Trust, a private voluntary group, Church of South India, businessmen

and industrialists functioning on a Rotary type have formed a group. Funds come in from West Germany. The N.R.W.T. Slum Clearance Board and CARE have together started this project. Gradually this will be expanded to cover other cities also.

Health Care :—Health care is covered through the Primary Health centres. A complete coverage is expensive. It takes Rs. 10/- per child per year for health coverage, Immunisation and health check up. There are 16 lakhs of children and it will cost about Rs. 1.6 crores.

The scheme will have medico personnel and follow up. On a private basis the Government will carry it out for the 1st and 6th standard in the city.

In the rural areas, there are 384 blocks. Each block has a primary health centre. Each centre has six medical health care units. These are spread around the centre. Each primary centre has 2 doctors ; 1 General doctor and 1 family planning doctor.

The State Government has a proposal for an additional doctor. 2 general doctors and 1 family doctor will be there. They will look after pre-school and primary school children.

The Tamilnadu Dairy Development Corporation has initiated a project with the assistance of CARE to construct cattle sheds, installation of wells and pump-sets, to assist five milk societies in Chingleput.

Food For Work

The drought prone and drought affected areas in Ramanathapuram will be suitably aided through a new scheme.

The Food for Work scheme consists of partial payment of wages in kind such as grain to labourers who are employed in the intensive projects in the drought hit areas. 50,000 Metric Tonnes of Food stuffs will be used in the affected parts of Tirunelveli, Ramanathapuram, Coimbatore, Pudukottai and Salem. 474 million tonnes of Milk powder will be distributed for feeding purposes.

This scheme will also be introduced in the Harijan Housing Development Corporation. 12,000 million tonnes of Bulgar wheat will be distributed through partial payment of wages in grain. The financial savings will be remitted to a developmental fund. This will help sponsor a programme of economic uplift for Harijan Women and Children in 12 Harijan villages. 100 backyard kitchen gardens and poultry units will be established in every village. A milk cooperative in six villages will be set up. Education regarding nutrition, health and hygiene will be imparted to every project household. This scheme will help to bring the isolated villages into organised participating communities striving towards progress.

CARE with its unflagging zeal is spreading its multifarious activities to support projects which are directed towards the vulnerable sections of the population, in which it has the zealous support of the Government of Tamil Nadu. **RLB**



Hon'ble Minister for Education Thiru V. R. Neduncheziyan is tasting the CARE food.



Thiru Lavelle, Administrator, CARE, Tamil Nadu is handing over token drought relief grain to the Hon'ble Minister for Education, Thiru V. R. Neduncheziyan.

Dominant Role For Khadi Board In Providing Rural Employment

The Tamil Nadu Khadi and Village Industries Board constituted on the 1st April, 1960 functions for the development of Khadi and Village Industries Schemes with the object of providing large-scale employment to the unemployed and the under-employed in villages and to supplement the income of the farmers by spinning during leisure hours and encouraging Village Industries and thereby creating self reliant communities in rural areas. The Board is financed by the Khadi and Village Industries Commission by way of grants and loans for the implementation of Khadi and Village Industries Programmes. The State Government extends aid to the Board by way of Net Cost Grant to meet deficit arising out of the non-trading activities.

The schemes are implemented by the Board through departmental units as well as co-operatives. At present there are about 594 departmental units and 2,435 co-operatives engaged in the production of Khadi and Village Industries spread throughout Tamil Nadu.

Tamil Nadu Khadi and Village Industries Board has worked out a number of new schemes to widen the employment base and also to raise the earnings of traditional artisans. The misapprehension in minds of the people that Khadi Board is averse to use of power for production has been slowly removed as power is being introduced wherever it helps in increasing the wage-earning power of the artisans without throwing any existing artisans out of employment. It is introduced in carding and pre-opening of Cotton, Oil Pressing, Pottery Wheels etc. With the result, these village industries are in a position to attract a number of educated unemployed. With the help of financing institutions, it is hoped that a larger number of people will take up Khadi and Village Industries as their occupation.

KHADI

Khadi production is spread over 193 production centres and 5 co-operatives. Yarn is purchased by the Board from the spinners and distributed to the weavers to weave it in these centres. The cloth is

collected once in a week and the wages are paid. Six spindle new model charkha is mostly in use. 25 such charkhas with the pre-processing unit constitutes a Rural Textile Centre. The first centre was started in 1966. At present the centres provide employment to 7,528 artisans as against 4,494 during the previous year. The total earning capacity of each artisan engaged in these centres ranges from Rs. 2.50 to 3.00 per day.

Against 2,311 weavers engaged in the production during 1973-74 there are about 3,000 at present. They have produced Rs. 160 lakhs worth of Khadi this year against its Rs. 103 lakhs production during 73-74.

Steps have been taken to procure the additional quantity of cotton required, and to enlist more looms to convert the entire yarn into cloth.

Rural Fabric Centres

As a result of the research and development of new technology, improvements have been introduced by the use of power in these Rural Fabric Centres which are already functioning at Sular and Perumallur in Coimbatore District as Pilot Projects. In each R.F.C. employment could be provided to about 68 artisans and their earning capacity is from Rs. 2.50 to Rs. 8.00 per day. The advantages are that the investment is low and the people will get employment and this will arrest the tendency of migration of rural workers towards urban centres and mitigate existing pressure of population in such areas.

The Board also produces Khadi Silk by purchasing raw silk. The cloth produced by this Department is marketed through a net work of 188 khadi sales outlets, spread all over the State. There are 4 main Krafts two at Madras and one each at Tiruchirappalli and Coimbatore. The annual Khadi Sales is of the order of Rs. 243 lakhs. The Khadi Programme offers employment opportunities to nearly a lakh of people, such as Spinners, Weavers, Reelers, Dyers, Bleachers, Tailors, etc. who earn wages to the tune of Rs. 72.09 lakhs annually.

The policy of the Board is to produce goods readily marketable

in the Depots and Emporia in this State and reduce the purchases from other institutions and outside State as far as possible.

Village Industries

Village Industries Schemes are designed to alleviate rural poverty, to utilise locally available man-power and material resources and to supply the consumer needs of the people, especially in rural areas.

The Tamil Nadu Khadi and Village Industries Board is entrusted for implementing the following Village Industries Schemes departmentally and through Industrial Co-operative Societies :—

1. Khadi, 2. Palmgur, 3. Oil, 4. Leather, 5. Non-edible Oil and Soap, 6. Gur and Khandasari, 7. Pottery, 8. Hand Pounding of Paddy, Pulses and Cereals, 9. Bee-Keeping, 10. Handmade paper, 11. Brick and Tile, 12. Lime, 13. Fibre, 14. Carpentry and Blacksmithy, 15. Cottage Match, 16. Gobar Gas, 17. Fruit Canning, 18. Manufacture of Shellac, 19. Cane and Bamboo, 20. Aluminium Vessels manufacturing, 21. Collection of forest plants and fruits for medical purposes, 22. Manufacture of Tooth Powder, 23. Agar Bathi and 24. Soapnut Powder.

The Village Industries Programme at the State level is determined by the size of assistance received from the Khadi and Village Industries Commission. The State Government also provide financial assistance by way of net cost grant and short-term loans for special schemes.

There are about 4 crores of palmyrah trees in Tamil Nadu. This is a natural industry in Tamil Nadu mainly in Kanyakumari, Ramanathapuram, Tirunelveli and Salem Districts. About 2 lakhs people are employed in this industry. They are employed in tapping of Neera, manufacture of jaggery, making palm-leaf articles, extraction of fibre and brush making. A net work of primary co-operatives, is distributed throughout the State. These primary co-operatives are attached to the district and State Federations.

Monetary relief is given to those who meet with accident while

climbing the tree to tap neera. The extent of relief given is Rs. 100/- for one who meets with minor accident, and R. 500/- for one who meets with major accident and Rs. 1,000/- to the dependents of one who meets with death.

Rs. 1 lakh Prize for Tree Climbing Device

As the climbing process is a risky and tedious one, it has become essential to evolve a contrivance with which the artisans could climb the trees with ease and with less risk. Khadi Commission has also come forward with an offer of Rs. 1 lakh for any person who can evolve a contrivance for easy climbing of these trees.

In Jaggery making, the main of fuel necessary for condensing neera for making jaggery. In collaboration with 'Merrado' Khadi Board is making efforts to make an evaporator by which the neera can be condensed for making jaggery with minor expenditure on fuel. **The State Palmgur Federation, a Unit of Khadi Board, is exporting about Rs. 20 lakhs worth of fibre mainly to United Kingdom, Japan and West Germany etc. These fibres are made into brushes in these countries.** The Khadi Board is now running some brush making units so that Board can export brushes instead of raw-fibre.

Village Oil Industry

With the advent of oil expellers and rotaries the traditional village oil chekky was on the verge of extinction. Khadi Board came to their rescue by forming 191 oil societies engaging about 3,500 oil mongers. The societies purchase seeds at the appropriate time with the funds provided by the Khadi Board, give it to members for crushing and get it crushed and take back the oil. In some societies crushing is done on wage basis also. On an average during 1973—74 Rs. 260 lakhs worth of oil and cakes were produced by the societies. But now, the village oil mongers are slowly finding it very difficult to maintain bullock driven 'chekkus'. The cost of the maintenance has also become so high that in some places they are forced to leave this profession. The Khadi Commission has evolved a new type of chekku where pressing is done by power but at the same time care is taken to preserve the nutritive value of the oil. Here the electric motor rotates the pestle at the same speed as if it is rotated by a bullock. So

far 130 Power operated chekkus are erected or are under the process of erection. 100 more power-ghanis are expected in 1974—75 and they will be erected in 1975—76. Khadi Board has also programmed to produce these power ghanis in their units on a larger scale.

Bee-Keeping

The Board gives bee-hives at 50% cost to the farmers. The honey collected in these hives is purchased by co-operative societies formed for this purpose in various places. There are 32 such co-operative societies formed in various places where the bee-hives are concentrated. These societies purchase honey from the bee-keepers process it, bottle and sell it to the public. This year, the production is expected to exceed Rs. 60 lakhs.

Soap Industry

Khadi Board is running a programme for producing soap from non-edible oil. At present non-edible oil seeds are mostly wasted. Khadi Board gives some assistance to the societies interested in non-edible oil seed collection. There are about 29 departmental units for making soap and the production for 1973—74 was Rs. 41.30 lakhs. During 1974—75 it is likely to exceed Rs. 50 lakhs. There is a great demand for 'Gopuram' brand soap. Encouraged by this keen demand, Khadi Board has launched a Toilet soap unit at Thirukalukundram. The toilet soap unit has gone into production recently and the soap produced enjoys good demand.

Pottery Industry

There are 280 Industrial Co-operatives and 3 departmental units in Tamilnadu at present which provide employment to about 11,000 persons enabling them to earn wages annually to the tune of Rs. 13.76 lakhs. There is a steady increase in the earning of those potters over these years.

Hand-Made Paper

There are 7 Hand Make Paper Units run departmentally and 8 run on co-operative basis. There is great demand for hand-made paper and card-boards.

Paper and Boards produced in these units are mostly used for writing and for making boxes. Since the conventional raw materials like press cuttings, tailor cuttings and hosiery cuttings have become costly, they are being substituted with agricultural wastes like straw and husk. They are used as it is mixed with the conventional raw materials.

In all, there are 259 Departmental Units and 2,430 Industrial Co-operatives under the Board which produce goods worth about Rs. 1,032.61 lakhs and market them and in that process provide employment to about two and half lakhs of people.

SPECIAL SCHEMES

Employment Promotion Programme

With a view to provide employment to the educated unemployed, the Tamil Nadu Khadi and Village Industries Board has formulated the following five schemes for being implemented with 10% financial assistance from the Government of India under this Programme.

1. Setting up of 100 Rural Textile Centres.
2. Installation of 200 Power Driven Oil Ghanis
3. Establishment of 50 Palm Fibre Brush Units
4. Establishment of 20 Soap Units
5. Setting up of 20 Hand Made Paper Units.

The Planning Commission of the Government of India have approved the schemes and agreed to give financial assistance to the extent of Rs. 9.78 lakhs.

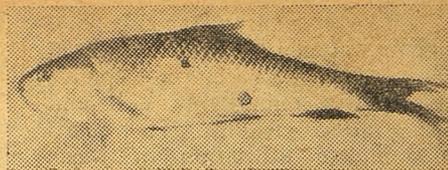
Leprosy Beggar's Rehabilitation Scheme

Khadi Board has started 25 Khadi and Village Industries Units in the various Leprosy Beggars' Rehabilitation Homes in the State. Water, Power, Building will be provided by the concerned Department, while the Board will provide raw-materials and technical know-how. The inmates of the house will be asked to work in these units and they will be paid regular wages by the Khadi Board. The finished products will be marketed by the Board. The Board's commitment for this scheme will be about Rs. 10.15 lakhs. About 700 inhabitants of Leprosy B. ggar Homes can be gainfully employed under this scheme.

Scheme for Rehabilitation of Physically Handicapped

This is another social welfare scheme in which Khadi Board participates. 600 physically handicapped have been allotted to Khadi Board and the Board will be training them for 6 months. After training, they will be absorbed on regular wages in these units, if found suitable. The State Government has sanctioned a sum of Rs. 40 per month as stipend to each trainee.

Utilization of Sewage Effluents for Fish Production



Fish grown in sewage effluent

Pisciculture in fresh water tanks has been practised in India from ancient times. Temple tanks were regularly stocked with fish and fishing rights leased out periodically. In recent years pisciculture has assumed economic importance in supplementing the protein content of food for the increased population. Fish is normally grown in fresh water tanks. It is desirable to utilise waste waters treated in stabilisation ponds for this purpose, as this low cost method of treatment is well suited to tropical regions. Sunshine during large part of the year make it an economically viable system. Treatment of sewage in stabilisation pond is simple and cheap requiring little skilled attention. Its cheapness makes it possible to bring sewage treatment within the scope of smaller communities and help reduce pollution of natural water courses. The effluent from the stabilisation pond is rich in nutrients and algae which can be beneficially utilised for the growth of fish. A rich crop of phyto and zooplankton forming the natural food of fish, can be profitably used for rearing the same. It is also necessary to make such a system economically viable so that it can be beneficially adopted in rural and urban areas to augment the revenue. By making the scheme remunerative the maintenance cost of such schemes can be fully met, in addition to make it a regular source of income to the agency concerned.

Effluents from sewage stabilisation pond carry away appreciable amount of nutrients such as nitrogenous compounds, phosphate, carbon, and potassium besides algae. This can be stored in a tertiary pond and with the primary purpose of introducing a wide variety of edible fish. A large variety of suitable indigenous species of fish are available in India for rearing in such ponds.

Field Studies

A well developed sewage treatment demonstration plant with a

stabilisation pond and fish pond forms part of the Public Health Engineering Department of the College of Engineering, Guindy, Madras (Fig. 1). The effluent from the stabilisation pond was led into a fish pond in which edible variety of fish was introduced (Fig. 2). Two series of studies were conducted to observe the growth pattern of fish and yield. The first series were undertaken during the period May—November 1972, by introducing 300 fingerlings each of *Chanos-chanos* and *Tilapia mosambica*. The average weight of each fingerling initially was about 0.3 gram. Periodical observations on growth (length/weight) were recorded. First catchMng was done at the end of one month and the average weight and length of fish were recorded and reintroduced. In each catching about 20 to 30 numbers were taken for observing the growth pattern.

Dr. B. B. Sundaresan
&
Dr. S. Muthuswamy

Although *Chanos-chanos* is known to be a fast growing species the relatively better growth of *Tilapia mosambica* may be due to mingling of these two species in the same pond. In a subsequent catching also it was found that the maximum weight attained by the *Chanos-chanos* was 25 to 30 grams. *Tilapia* multiplied profusely whereas the number of *Chanos-chanos* declined. Hence periodical observations were carried out only to study the growth pattern of *Tilapia*. During November, 1972 *Tilapia* was completely eradicated with a view to introducing other species. The total productivity of *Tilapia* was 55 Kg. in 5.5 months, which indicated a production rate of 1,600 kg/hect/yr.

The second series of studies was started during January, 1973 after allowing the pond to remain dry during November—December, 1972. Fresh stock of 500 numbers

of *Cyprinus carpio* fingerlings each weighing 0.3 gram, 2 cm long and 65 numbers of *Cirrhina mirgala* mixed with *Rohu* each weighing 65 grams and 18 cm long were also released in the fish pond. *Tilapia* netted during this period was cropped out during the periodical catching. The growth pattern of *Cirrhina mirgala* and *Cyprinus carpio* was observed. Cast netting method was adopted periodically and 20 to 30 numbers caught at random to find out the average weight and length. The observed growth pattern showing mean weight/length against time in days is indicated in Fig. 3.

At the end of 109 days a marked growth in length as well as weight was noted. This was due to the cropping out of *Tilapia*. It is desirable that *Tilapia* be eradicated to increase productivity of other species. A systematic examination of the fish was taken up by dissecting a few of them. It was seen that all of them attained reproductive stage. Both the male and female of *Cyprinus carpio* attained maturity in about four months with the males oozing milt and the females in the fifth stage having well developed ova. In normal fresh water tanks it would take about one year to reach this stage. During the next netting after 30 days a lot of small *Cyprinus carpio* fingerlings were also observed. This clearly showed that this pond was also suitable for the quick breeding of this species. After about 6 months, *Cyprinus carpio* had grown to 620 grams, 38 cm long, *Cirrhina mirigala* 420 grams, 30 cm. long, whereas *Rohu* had grown to 800 grams, 42 cm. long. (Fig. 4). All these are good marketable sizes.

On this basis stocking figure may be increased in this type of productive water to as high as 7,700 numbers per hectare. The growth rate achieved in these ponds could be projected to give an annual yield of 7,700 kg. per hect./year. This would yield an income of Rs. 10,000/-hect/year after allowing for maintenance cost including labour for fish catching.

The effluent from the fish pond is being pumped for irrigating about 200 coconut palms. These plants have grown remarkably well and have started yielding. This leads to complete utilisation of waste water which would have been otherwise discharged into open water courses causing environmental pollution. These field studies have indicated that a comprehensive system consisting of sewage treatment in stabilisation ponds, use of effluents for growth of fish in suitable ponds followed by coconut cultivation to be an economically viable system.

Model Sewage Utilisation Scheme

In Tamil Nadu there are several sewerage systems under operation, in which the sewage is discharged after partial treatment. Several other schemes are under execution where a large number have been given a low priority due to high cost of such system. In order to indicate the remunerative nature of sewage treatment plants, a small town of 5,000 population is taken as a model and a possible scheme has been indicated here.

Per capita supply ..	25 litres/day
Population ..	5,000
Total flow ..	6,000 Æ 25 —
	1,25,000 lpd —
	125 m
BOD load 200 mg/l ..	1,25,000 Æ 200
	/10
	25 kg/day

Stabilization Pond

BOD loading rate ..	200 kg/hect/day
Area required ..	125 hectares
	1,250 m
Assuming side slopes	1 : 3
Size at top ..	53 m Æ 24 m
Size at bottom ..	47 m Æ 17 m
Free board ..	1.0 m
Depth ..	1 metre
Volume ..	50 Æ 25 Æ 1
	1,250 m
Detention time ..	1,250/125 —
	10 days

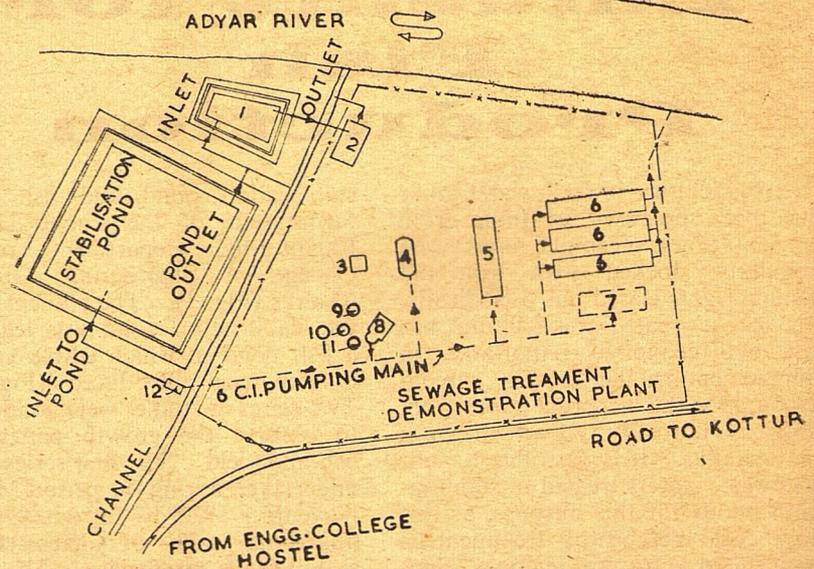
Fish Pond

Detention period ..	5 days
Area required ..	625 m
Fish pond area ..	40 Æ 16 Æ 1
	metre

Land Required (Stabilization and fish Pond and Coconut Palms)

Stabilisation pond	1,272 m
Fish pond ..	640 m
200 coconut palms	4,000 m
Marginal space ..	2,088 m
Total area ..	8,000 m
	2 Acres

SITE PLAN OF SEWAGE TREATMENT DEMONSTRATION PLANT



REFERENCE

1. FISH POND
2. SUMP AND PUMPHOUSE
3. TRICKLING FILTER
4. OXIDATION DITCH
5. SURFACE AERATOR
6. AEROBIC PONDS
7. PROPOSED AERATED LAGOON
8. PUMP HOUSE
9. IMHOFF TANK
10. EVAPORATION PAN
11. SUCTION WELL
12. INLET CHAMBER

Cost of the Scheme

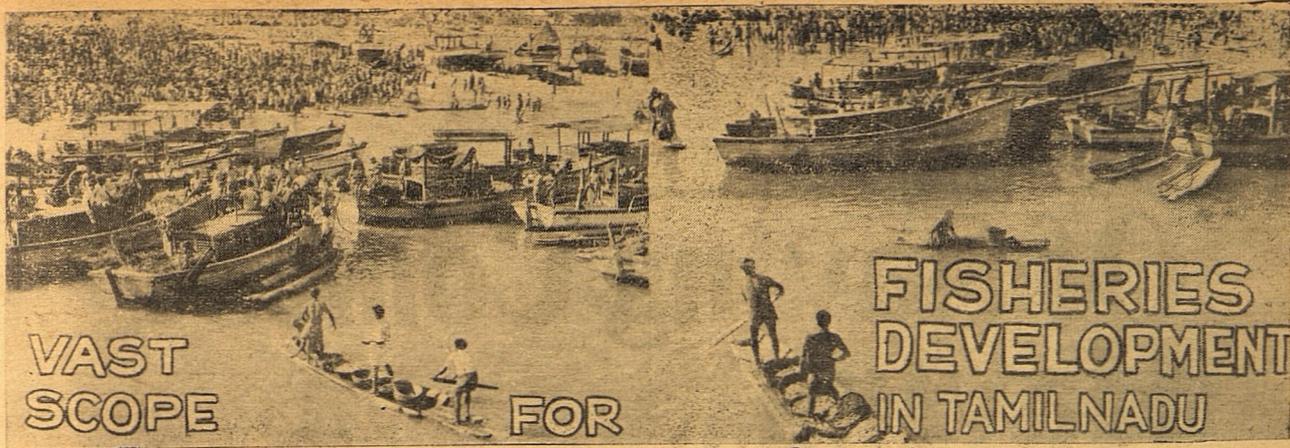
(i) Land area 2.0 Acres (Rs. 1,000/acre) ..	Rs. 2,000
(ii) Cost of stoneware pipe and specials including laying and jointing ..	5,000
(iii) Cost of pond construction including the P.C. C slabs for oxidation pond and fish pond and inlet and outlet chambers ..	10,000
(iv) Cost of coconut plants 200, Rs. 10/- each ..	2,000
(v) Cost of pumps (if required) (one for pumping to the inlet chamber and another to pump from outlet chamber) ..	6,000
Total	25,000

Revenue

(i) Fish production ..	3,000
(ii) Coconut Production Rs. 20 per palm per year	4,000
Total	7,000

Quick growing dwarf variety of coconut seedling may be planted which will start yielding in about 3 years, and fetch a good revenue. Similarly quick growing species of edible variety of fish such as *Catla catla*, *Cirrhina mirigala*, *Rohu* or *Cyprinus carpio* may be introduced in the fish pond. These species will grow to a size of 1 kg/year, which are good marketable sizes. By implementing the above sewage reclamation programme in rural areas, it should be possible to provide good environmental conditions to the community in addition to providing revenue for the village through the sale of fish and coconuts. In case voluntary labour force could be made available to carry out earth work then the initial cost will be considerably less.

The stabilisation pond effluent can be beneficially and profitably utilised for pisciculture in view of its high nutrient value, the maximum rate of the survival of the fingerlings, the high stocking capacity and the remarkable growth of fish in a shorter time. Effluent from the fish pond can be utilised for cultivation of coconut palms (or other suitable crops). The revenue that could be derived from fish and coconut production makes such a scheme an economically viable unit for adoption in smaller Panchayats and villages.



The fishing industry has come to occupy an important place in the economic development of Tamil Nadu. In view of the abundant fishery resources both in the innumerable inland water spreads and in the unexplored ocean extending over 1,000 K.Ms. length of the eastern boundary of Tamil Nadu, these resources provide subsistence employment to about 3 lakhs fishermen population, living in about 350 villages located all along the coast and also nutritious food for the population. The fishing industry which was all along in the hands of traditional fishermen has attracted a lot of private entrepreneurs and industrialists in view of the export potential particularly in shrimps. So much so, the State has developed a lucrative export trade and naturally earn a sizeable foreign exchange badly needed by the country. The Tamil Nadu Government have rightly recognised the importance of developing the fishery resources of the State for achieving mainly the following objectives :—

(a) to increase fish production by applying modern methods, so as to make available to the people nutritious fish food at economical cost ;

(b) to enlarge the scope of employment potential in the fishing industry and

(c) to help the State earn a decent revenue and the country's precious foreign exchange.

With the creation of the Tamil Nadu Fisheries Development Corporation most of the commercial activities hitherto carried on by the Fisheries Development, have been entrusted to the new body, which engages itself in enterprising fishery development schemes in consonance with the policies of the Government and the department.

The commercial units of the Fisheries Department, viz., the Boat Building Yards, Processing Plants, Fish Meal Plant, Canning Plant, etc. have been handed over to the Corporation in July 1974. Consequently, all related schemes like construction and distribution of mechanised fishing boats, deep sea fishing, processing, marketing, manufacture of fish meal etc., are being implemented by the Corporation with effect from that date. The Corporation has been making strenuous efforts for securing financial assistance from commercial banks for running these units on commercial lines and for venturing in new fields.

It has an authorised capital of five crores of rupees and has also taken over four Boat Building Yards, three Ice Plant Complexes, one Fish Meal Plant and one Canning Factory from the Department as fixed initial assets. The Government have given Rs. 50.00 lakhs as its share capital besides the aforesaid assets of the commercial units valued at about Rs. 80 lakhs. The Corporation has to plan and carry on its activities with the help of financial institutions. The Government have also been helping the Corporation by providing ways and means advances as well as loan for margin money in the programme for distribution of mechanised fishing boats to the fishermen.

The Corporation will be distributing boats to the groups of fishermen with the help of the Agricultural Refinance Corporation Banks who have agreed to meet 80 per cent of the cost as loan to the fishermen, 15 per cent margin money to be provided by the Corporation (with loan assistance from Government) and the balance from the allottees. It is proposed to construct and supply 250 boats in the first year and later

on, this will be increased to 300 to 350 boats annually depending upon the demand and the off-take.

The Corporation will be acquiring a fleet of light trawler 6 Nos. of 23.6 metre in length for deep sea fishing and the catches of fish from these trawlers will be utilised for export as well as for internal marketing. The Corporation has plans to pool up the catches surrendered by the hirers of the boats under the mechanisation programme towards hire charges of the boats for internal as well as for export marketing.

Country's Biggest Fish Meal Plant

The biggest Fish Meal Plant in the country is with the Corporation and this will be operated for its maximum output for supplying fish meal to the Poultry Development Corporation and Animal Husbandry Department and for export to other countries where it is in great demand.

In order to keep pace with the increased activities of the fishing industry, during the coming years the Corporation will be putting up integrated fish processing units at Tuticorin and Madras in the Harbour premises.

Some of the boats distributed in the earlier years require replacement of engines. The Government have issued orders permitting the supply of new engines for the second time to the original allottees subject to certain conditions. The Government have also permitted the supply of new boats to the allottees whose boats have sunk due to nature's fury, provided they are covered by insurance.

In response to the representations of the fishermen, the allottees of mechanised boats were permitted to select engines of their choice for

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9 months and above but less than 1 year	7.25%
1 year and above but less than 3 years	8.25%
3 years and above but upto and inclusive of 5 years	9.25%
Above 5 years	10.25%

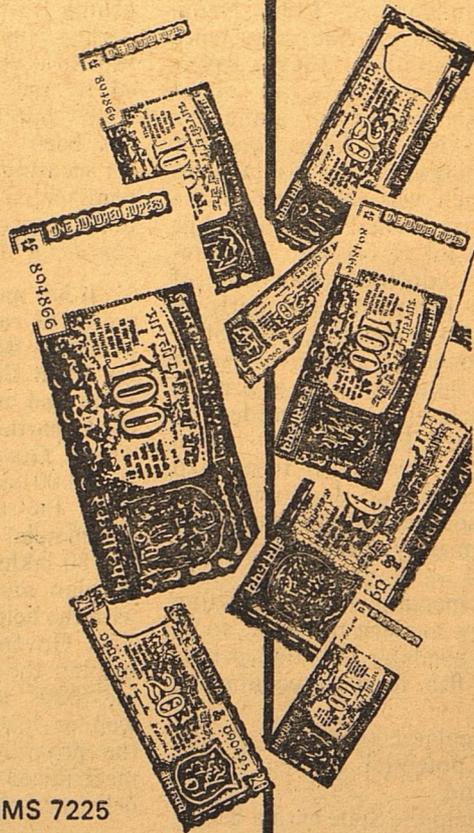
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installation in the mechanised boats allotted to them. On specific request, these boats were also equipped with winch and power take-off to improve the operating efficiency of these vessels and help to augment the catching efforts. The newly formed Corporation will now arrange to execute the above policies into action, now that the mechanisation scheme has been entrusted to it for implementation.

The Tamil Nadu Industrial Development Corporation has established the Great Sea Trawler Building Yard, Mandapam in April 1974 and taken over from the Department the dry dock, slipway and workshop facilities at Mandapam, and is taking further steps in this direction. It is hoped that in the not too distant future, medium size fishing trawlers will come out of the Mandapam yard, providing employment to technicians, crewmen, processors, artisans, etc., and also help to increase the fish production in the State.

1600 Mechanised Boats in Operation

Having parted with the most important schemes of mechanisation to the public sector Corporation, the Fisheries Department now confines itself to the problem of managing over 1,600 mechanised boats already distributed on hire purchase system and on research into the various materials that can be used for boat construction such as ferro cement, and also undertakes construction of boats from such materials. The Department is continuing its research scheme on the use of different materials for the construction of fishing vessels with a view to reduce the cost of hull and recurring maintenance charges. Pioneering works done by the Department in the construction of ferro cement hulls are well known. Design for construction of different sizes of ferro cement hulls have been obtained from abroad, and 5 numbers of 38' hulls have been completed, and work is in progress on 5 more hulls. In 1975-76, the yard will take up the construction of the following hulls:

- 1 No. 32' F.C. Boat.
- 1 No. 31' F.C. Boat ; and
- 2 Nos. Poontoons and barges.

In addition, the Ferro Cement Craft Research Project will also complete the construction of one No. 54 F.C. trawler for the Kottar Social Service Society, Nagercoil estimated to cost Rs. 14.80 lakhs, under Llyods supervision. The successful completion

of this hull would help the Department to undertake the construction of such bigger trawlers, as the personnel in the yard would have gained knowledge and experience in building such bigger trawlers.

Further, the Department proposes to acquire a 32' fibre glass vessel for experimental fishing and for study of suitability of different types of materials under varying sea and fishing conditions.

Tamil Nadu has almost achieved the physical target in the production of mechanised boats set for it during the Fourth Five Year Plan period. The essential component of the scheme, viz., the servicing facilities continues to be implemented by the Fisheries Department as a socio-economic measure. A huge fleet of 1,600 mechanised fishing boats are now engaged in fishing operations from a number of bases in the State. In order to attend to servicing and repairs to these boats, the Department has established Service Centres at important fish landing centres, viz., Madras, Cuddalore, Nagapattinam, Mandapam, Tuticorin and Colachel. The existing Service Centres at Cuddalore and Tuticorin are being expanded into Base Workshops and new Service Centres are being opened at Mallipattinam in Thanjavur district and Portonovo in South Arcot district. In the Fifth Plan period, four more existing Service Centres will be expanded into Base Workshops and 10 more Service Centres targetted to be established in suitable sites.

INLAND FISHERIES

The fish production from 0.36 lakhs tonnes at the beginning of the Five-Year Plans, has risen to 1.50 lakhs tonnes due to the sustained and systematic stocking of quality fish seeds by this Department in the irrigation tanks, reservoirs and other water spreads during the past 3 decades. The current level of production of fish seeds in Tamil Nadu is about 6.00 crores of fingerlings made up of 4.50 crores collected from the natural sources and 1.50 crores of fingerlings raised in the Induced Spawning Centres. There are 12 Induced Carp Spawning Centres in the State and one more centre is proposed to be established in 1975-76 at Chembarambakkam in Chingleput district. Our optimum requirement of fish seeds is estimated at about 10.50 crores in order to completely stock all culturable water spreads. There is thus a big gap of 4.50 crores.

SURVEY AND EXPLORATION

The survey of the off-shore region is the responsibility of the Government of India. The off-shore fishing station of the Government of India at Tuticorin has been making valuable contribution to our knowledge of the fishery resources in the off-shore regions of Tuticorin. This Station works in close co-operation with the State Fisheries Department. This Station has been experimenting with the use of various types of nets like purse-seine and the pelagic trawl. The Government of India have also opened another Station at Madras in the year 1972 to intensify the exploratory work in the Madras Coast. At the instance of the State Government, the Government of India have approached the United Nations Development Programme for undertaking a survey of fishery resources of the East Coast. It is hoped that with the continued efforts being taken by the State and Central Governments, in conducting the survey and exploratory fishing in the inshore and off-shore areas, our fishermen and established firms in the industry would stand to gain with the knowledge acquired about the resources of the sea.

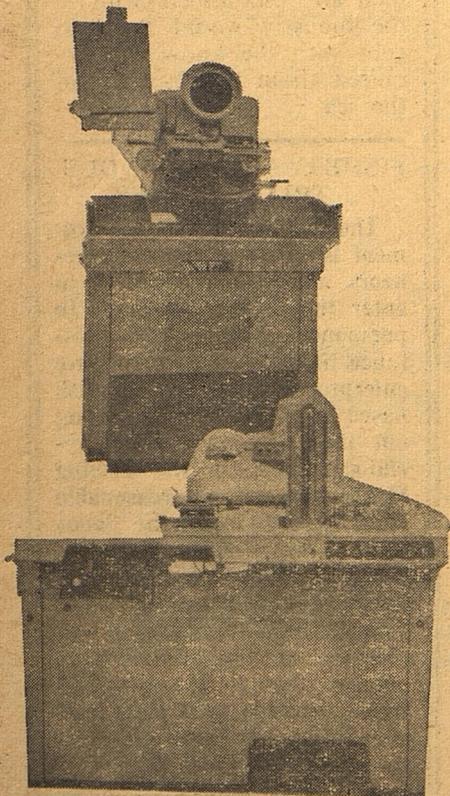
FISHERY BASED INDUSTRIAL ESTATES.

The policy of the Government is to assist the entrepreneurs and encourage them to enter the fishing industry. In pursuance of this policy, assistance is extended to private entrepreneurs to set up fish based industries also by leasing out the encompassed and reclaimed lands in the Fishing Harbours premises at reasonable rent. Apart from the lands within the harbour area of Tuticorin, Mandapam and Cuddalore even vacant lands at Ennore have been developed, plotted out for allotment to entrepreneurs to put up industries. Already such plots have been allotted at Ennore, Cuddalore and Mandapam.

WINDS OF CHANGE IN REVENUE ACCOUNTS

JAMABANDI REPLACED BY AUDIT SYSTEM

The Government accepted the recommendation of the Administrative Reforms Commission to instal Bradma Type Machines at the Taluk level for mechansing the Village Accounts and to primarily fix the correct demand on each holding. The scheme was introduced in 25 taluks, namely all the taluks of Thanjavur district and a few selected taluks in the districts of Chingleput, South Arcot, Tiruchirappalli, Coimbatore and Madurai with effect from July 1974. The Bradma equipments have been installed in all the 25 taluks. Suitable forms have been evolved. It has been decided that the Village Ledger and Annual Demand, Collection and Balance sheets will be got printed by the Bradma system during the current fasli and demand lists will be issued to the ryots. The demand list will contain the details of lands and amounts due from the pattadar. The Village Adangal sheets in these taluks will be got processed under Bradma system from the next fasli.



The Bradma Machine in Taluk offices

In 1970, the Government accepted, in principle, the abolition of jamabandi as an institution and directed that the decision should be implemented in stages. Accordingly, jamabandi was abolished in one taluk in each district with effect from Fasli 1379 and an audit system introduced instead. In 1973, the scheme of abolition of jamabandi was extended to one Revenue Division in each district except Kanyakumari district from Fasli 1381 onwards, the division being the one in which was situated the taluk where the scheme of abolition of jamabandi was in force. The present audit system is more or less similar to the old jamabandi system, with the exception of the receipt of petitions from the public.

The Government have examined the working of the audit system and also the question of extending the scheme of abolition of jamabandi to the remaining divisions in the districts in consultation with the Board of Revenue and ordered that the question of further extension of the audit system be deferred for two more faslis i.e., Fasli 1383 and 1384 and the question be taken up for consideration during September 1975.

Patta Pass Books

In order to enable the ryots to know the details of their holdings, the Government introduced in 1972 a scheme for the supply of patta books to each ryot. These patta books contain authenticated and detailed particulars of the holdings, such as survey number, extent, classification, assessment, remittance made and the loans obtained from the government or other financing agencies and their repayments. The scheme is in force in the entire State except in Madras, the Nilgiris and Kanyakumari districts where due to certain special problems it has not been introduced. Out of 109,01,696 patta pass books supplied to the Collectors for distribution, 1,02,29,382 have been distributed upto 15th February 1975. During 1974-75, this work was pursued vigorously and more than 90 lakh pass

books were distributed during this year upto the end of December 1974.

Intensive Sub-division Scheme

The Intensive Sub-division Scheme is being implemented on the suggestion of the Committee on Estimates, with a view to promote better utilisation of the credit facilities offered by the various Finance Institutions under the administration of the State Government, available to ryots for enhancing the agricultural production capacity of the land.

Initially the scheme was implemented in Kanchipuram taluk of Chingleput district in March 1965 on an experimental basis. The results of the Pilot Scheme were so impressive that the scheme has been extended to other districts, except Madras, the Nilgiris and Kanyakumari.

The scheme as on date, covers 3,365 villages, 18,90,154 cases of sub-divisions are involved in these 3,365 villages; 8,33,828 separate pattas have been issued as on 31st December, 1974.

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An important landmark in the administration of Land Reforms in Tamil Nadu is the enactment of the Tamil Nadu Occupants of Kudiyiruppu (Conferment of Ownership) Act, 1971. The Act confers ownership rights on agricultural labourers occupying any Kudiyiruppu (homestead) as on 19th June 1971 either as tenant or as a licensee. The Act has been extended to the districts of Thanjavur, Chingleput, North Arcot, South Arcot, Tiruchirappalli, Dharmapuri, Salem (excluding Yercaud sub-taluk), Ramana-thapuram (excluding Rajapalayam sub-taluk), Coimbatore, Madurai, Tirunelveli and Kanyakumari. Plantation areas in these districts have been excluded. The Municipal Corporation of Madurai and the Municipalities and townships in these districts have also been excluded, except in Thanjavur district where the Act covers Municipal areas also. **The Act has not been extended to the Nilgiris district, which is a plantation area and to Madras City, which is an urban area.** The Government have waived the recovery of the cost of the Kudiyiruppu, the stone value and subdivision fee from the agriculturists and agricultural labourers. The total number of pattas granted under the Act as on 31st December 1974 is 1,73,748. As on 31-7-74 1,03,470 pattas were issued to Harijans and 50,561 to Backward Classes. The implementation of the Act is in progress in those districts in which the Act has been extended. The question of extending the provisions of the Act to the plantation areas is under consideration of the Government to benefit the non-Plantation agriculturists and agricultural labourers there.

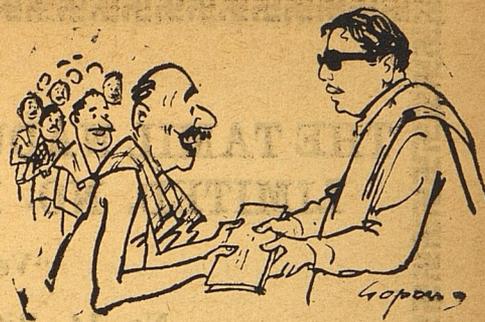
Tenancy Protection—

A complete and reliable record of tenancy rights is essential for the enforcement of legislative provisions which seek to provide security of tenure to the cultivating tenants. The cultivating tenants are unable to secure credit facilities from institutional agencies as they cannot establish their tenancy rights in the absence of written record of tenancy rights. The Tamil Nadu Agricultural Lands Record of Tenancy Rights Act, 1969 was therefore enacted for the preparation of record of tenancy rights at the village level. The total number of tenancy

HOUSE SITES. TENANCY RIGHTS AND LEGAL HELP FOR CULTIVATORS

registered as on 31st December 1974 is 3,99,350 involving an extent of 6,03,898 acres.

It was found that even after the implementation of the Tamil Nadu Estates (Abolition and Conversion into Ryotwari) Act, 1948, and subsequent executive orders liberalising the grant of patta, there were large number of persons who had been in continuous possession and enjoyment of the lands for years in the estates taken over under the Act who have not been granted patta either because they did not come under the eligible category for the grant of patta under the Act or under the orders of the Government, referred to above. The Government therefore, decided that patta should be granted to such persons on the basis of such continuous possession and enjoyment of the land. In G.O. Ms. No. 1300, Revenue, dated 30th April 1971, the Government, therefore, ordered the grant of patta outside the scope of the Estates Abolition Act to these persons who have been in continuous possession and enjoyment of land prior to and on the notified date. The time limit for making application for patta under the above orders expired on 30th June 1974. The question of extending the time limit is separately under consideration of the Government. In G.O. Ms. No. 370, C.T. & R.E., dated 3rd October 1974, the Government extended the concession granted in G.O. Ms. No. 1300, Revenue dated 30th April 1971 to the Inam Estates Villages and Minor Inams taken over under the Tamil Nadu Inam Estates (Abolition and Conversion into Ryotwari) Act, 1963 and Tamil Nadu Minor Inams (Abolition and Conversion into Ryotwari) Act, 1963.



As the intention of the Inam Abolition Acts is to abolish the intermediaries and to grant pattas to the cultivators, the Government considered that the ryots/cultivators should be given legal assistance in cases of disputes regarding grant of patta between the landholders and the ryots or the cultivators. In G.O. Ms. No. 504, C.T. & R.E., dated 28th October 1974, the Government, therefore, ordered that all disputes under the Inam Abolition Acts relating to grant of pattas where the settlement authorities have decided against the land holders and the land holders have gone on appeal and the department is also impleaded as a party, the lawyer engaged on behalf of the department be instructed to support the cases where the department is not impleaded as a party the local Government Pleaders be instructed to file petitions for impleading the department also as a party and then enter appearance in such cases and support the cases of the ryots or the cultivators. The question of extending this concession to the disputes under Estates Abolition Act, 1948, is separately under consideration.

The Gudalur Janmam Estates (Abolition and Conversion into Ryotwari) Act was enacted in 1969 for the abolition of the Janmam tenure in the Gudalur taluk of the Nilgiris district involving 80,087 acres and for the introduction of Ryotwari Settlement in this taluk. As the Supreme Court has declared void section 3 of the Act (vesting Government) was included in the IX schedule to the Constitution of India by the 34th Constitutional Amendment and has been brought into force with effect from 27th November 1974. Necessary Survey and Management staff involving an expenditure of Rs. 17,63,826 have been sanctioned. Survey and Settlement Operations are in progress.

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1. For Construction of new houses	—	Rs. 30,000
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(Through Rural Housing Societies)		

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Joint Registrar | Secretary.

Progress of Medicine

Research is conducted in our State at all levels in all Medical Institutions. Medical Research is an integral part for the furtherance of Medical Education. The involvement of all types of personnel at all levels is very essential for the continued progress in the knowledge and application of Medical Sciences to the benefit of Society at large.

Research is of two types, applied or clinical and basic or academic. The main agencies which finance research are :

1. State Government ;
2. National Agencies like Indian Council of Medical Research ;
3. International Agencies as World Health Organisation, UNICEF, etc.

(i) **Tamil Nadu State Research Committee.**—A State Medical Research Committee was formed in the year 1944 to encourage Research in Science and Art of Medicine in

THOROUGH RESEARCH PROJECTS

USEFUL WORK

IN TAMILNADU

Number of Research Schemes carried out during 1973—74 and 1974—75.	Number of Schemes during		Amount sanctioned during	
	1973—74.	1974—75.	1973—74.	1974—75.
(1)	(2)	(3)	(4)	(5)
			Rs.	Rs.
Old Schemes continued ..	23	24	30,500	34,300
New Schemes ..	40	59	50,530	1,19,820
Total ..	63	83	81,030	1,54,120

Tamil Nadu. This Committee considers requests for grants for research and aids deserving projects. At present a block grant of Rs. 1,00,000 per annum is available at the disposal of the Committee.

(ii) **Research Schemes.**—The number of Research Schemes and amount spent during the years 1973-74 and 1974-75 in the Medical Institutions in this State are as given above :

Under the auspices of the Indian Council of Medical Research the

following research schemes are in progress during the year 1974-75—

- (1) Incidence of Nerve abscess in Leprosy, its assessment and treatment.
- (2) Reconstructive Surgery of Deformities in Leprosy.
- (3) Preparation of Antigen for *Traponema Pallidum* Hemagglutination (TPHA) Test.
- (4) Investigation on the inter-relationship between thymus and most cells.

(5) Endemic Fluorosis in Human Enamel.

(6) Biofeed back study of higher nervous function and its application to therapy of nervous disorders.

(7) Regional Registry of Pathology (Multilesional).

(8) Studies on Biogenic Amines in Behavioural Disorders.

(9) The Incidence of Asymptomatic Urinary Tract Infection in Children of varying socio-economic status.

(10) Study of Endemic Fluorosis with emphasis on its incidence, clinical manifestation, prevention and treatment.

(iii) **World Health Organisation Project—Oral Cancer.**—The World Health Organisation has offered dollars 2,000 for conducting research on Oral Cancer Surgery at Government Royapettah Hospital, Madras. The World Health Organisation has also offered a grant of dollars 2,000 to conduct the Research Project on “A study on Control of Venereal Diseases by Education”.

(iv) **Belgium Grant.**—The Government have accepted the offer made by the Belgium Organisation for setting up of a Mycotio Diagnostic Centre in the Government Ophthalmic Hospital, Madras at a cost of Rs. 7.00 lakhs towards the supply of Scientific equipments and Rs. 30,000 per annum towards recurring expenditure.

(v) **Stipend to students.**—Further with a view to encouraging Research activities among the Medical Students the Government of Tamil Nadu sanctioned a stipend of Rs. 150 per mensem during the year 1973-74 to the deserving 2 students in each of the non-clinical departments of the Madras Medical College, Madras and Madurai Medical College, Madurai who have aptitude for Research work and who could be utilised to assist the Professors in carrying out research work during summer vacation.

(vi) **T.B. Research.**—The Indian Council of Medical Research has approached the State Government for the grant of land and buildings

where the T.B. Chemotherapy Centre is at present located (Government Chest Institute, Egmore) as outright gift or on a nominal rent of Re. 1 per year. The representatives of the Council have also had detailed discussions with our officers. Considering the importance of the work that is being done by the T.B. Chemotherapy Centre and the proposed research projects, assisted and aided by the I.C.M.R., we have decided to give the lands and buildings on a nominal rent of Re. 1 per year. The I.C.M.R. has also proposed to locate their Southern Regional Headquarters at Madras.

Grants-in-Aid to Private Medical Institutions—(b) Administered by D.H.S.—Grants-in-aid are paid to medical institutions under the control of Private bodies, Associates, Societies, Missionary bodies, etc. in deserving cases. The following are the different kinds of grants given in the State.

I. Recurring

- (i) Capitation Grants to Private Leprosy Institutions.
- (ii) Maintenance grants to other Medical Institutions.

II. Non-Recurring.

- (i) Building grants.
- (ii) Equipment grants.

I. (i) Capitation Grants to Private Leprosy Institutions.—Grants are paid at the rate of Rs. 25 per patient per month and Rs. 12 per healthy child who are dependants of Leprosy Patients per month. Grants are payable to the Voluntary Leprosy Institutions for the treatment of infective cases as well as cases undergoing re-constructive surgery and non-lepromatous patients for Tropic ulcer. There are 12 such Voluntary Leprosy Organisations in receipt of Capitation Grant from the Government of Tamil Nadu. An average of 5 lakhs is paid as Capitation Grant per year.

(ii) Maintenance grants to private Medical Institutions.—Maintenance grant is paid to deserving institutions. The grants are released on production of the audited statement of accounts and after the conditions governing the payment of such

grants are found satisfied by the inspecting authorities. There are 32 institutions in receipt of maintenance grant from the Government of Tamil Nadu and an average of Rs. 26 lakhs is paid as Grant-in-aid.

II. (i) Building Grants.—Grants are sanctioned to private bodies for the acquisition of lands and for the construction of buildings for medical purposes to the extent of one half of the total estimated cost of each work subject to a specified maximum fixed by Government in each case.

Institutions to which building grants were sanctioned during 1974-75 are as follows :

- (1) Voluntary Health Services, Adyar, Madras—Rs. 1,55,925.00
- (2) A.S. Palanichamy Nadar Health Co-operative Society Limited Hospital, Dhalavaipuram, Ramanathapuram District —Rs. 16,000.00

(ii) Equipment grants.—Equipment grants are paid to private Medical Institutions to the extent of one-half of the cost towards the purchase of equipments. The grants are paid after the equipments are purchased by the Institutions and after the production of the audited statement of accounts relating to the purchase.

IV. King Institute, Guindy.—The King Institute, Guindy, started in 1899 and originally designed to serve as Vaccine Lymph Depot to the State, has developed into a major Public Health, manufacturing, teaching and research centre in the East.

Its main contributions are the following:—

Augmentation of Production of Freeze-Dried Smallpox Vaccine.—The production of Freeze-Dried Smallpox Vaccine has been a part of UNICEF and World Health Organisation-aided programme. Equipments have been provided by these organisations and the recurring expenditure is met by the State Government.

The estimated total requirement of Freeze-dried Smallpox Vaccine for our State is 12 million doses. In 1970-71, 12 million doses were produced at this Institute and sup-

plied to the Corporation of Madras and the Public Health Department in the State.

Since this Institute is one of the 4 Centres in the Country, Government of India felt that the production could be increased to meet the demands of the country. Accordingly, with the assistance of the World Health Organisation and UNICEF, the production programme was increased to 24 million doses. We are happy to note that this Institute has been producing 24 million doses every year for the last two years.

Manufacture of Triple Vaccine, Diphtheria, Prophylactics and Antivenom.—In the year 1969, Government sanctioned the construction of the following building schemes for the production of Triple vaccine, Diphtheria Prophylactics and Antivenom :

1. Anerobic Block.
2. Snake House.
3. 25 stables for Horses.

The production of Anti-tetanus serum has registered an increase as indicated below :—

- | | |
|-------|-----------------|
| 1969— | 1.5 lakhs doses |
| 1973— | 3.5 lakh doses |
| 1974— | 5 lakh doses |

The production of tetanus toxoid was started in 1971 (as shown below):—

- | | |
|----------|-----------------|
| 1971-72— | 1.69 lakh doses |
| 1973-74— | 2.7 lakh doses |
| 1974— | 3.9. lakh doses |

At the moment, the entire needs of our State are met. This can be stepped up to 8 lakh doses in 1975.

The production of Triple Vaccine and Antivenom have not commenced.

The (combined) Diphtheria Tetanus Toxoid Prophylactic is expected to be produced during 1975.

Proposals for the III Final Phase for the purchase of equipment, construction of buildings and certain additional staff involving an outlay of about Rs. 5 lakhs is under consideration of Government.

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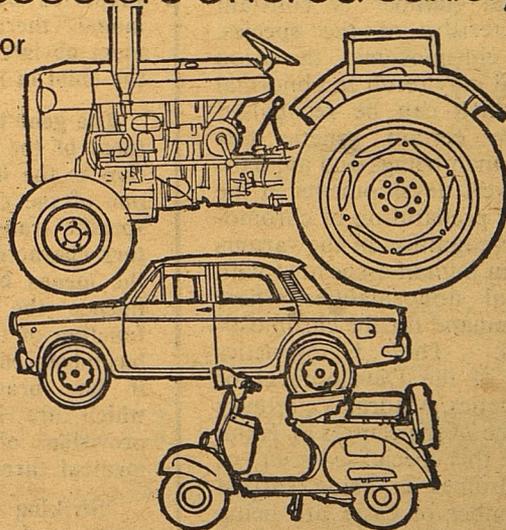
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CHROMOSOMES

Their Relation To Human Diseases

Heredity is the biological legacy of characters. Whether good or bad, these characters are derived from the ancestors from generation to generation. The hereditary elements which govern all the characteristics of an individual are known as the genes. Each character in the individual is determined by a pair of genes, one member of the pair received from the father through the sperm and the other from the mother through the ovum or the egg. Thus the child happens to possess half the heredity from each parent.

The nucleus in the cell is the vital component which contains all the hereditary potentialities that causes the development of nature human being. The hereditary units "the genes" are carried on the chromosomes that are present in the nuclear material of a cell. The chromosomes are microscopically visible structures situated inside the nucleus that can be seen during active cell division known as "Mitosis". The chromosomal number is constant and characteristic of the species. Thus any chromosomal deviation from normal may result in abnormal patterns, which can be recognised clinically in certain genetic disorders in human beings and animals. With the latest developments in the technique of preparation of chromosomes and recognition of the various syndromes in human associated with chromosomal abnormalities, there is a heavy demand for the chromosomal studies. The Cytogenetics Laboratory of the Department of Animal Genetics, Madras Veterinary College is one of the centres in Tamil Nadu where this specialised study of the chromosomes is being carried out. A number of cases are being referred to by the various medical institutions in the city for diagnosis of various genetic syndromes.

In 1956 it was discovered that there were 46 chromosomes in the normal human karyotype. Of these 22 pairs are of non-sex chromosomes or autosomes and a pair of sex chromosomes, XX in the female and XY in the male. Peripheral blood, bone marrow and skin are the common tissues used for the study of chromosomes. Usually, a few drops

DR. RATHNASABAPATHY,
Professor of Animal Genetics,
Madras Veterinary College.

THE GENE AND YOU

The gene in the individual is the latest diagnostic tool in the hands of the medical practitioner for the dramatic cure of some obscure diseases. The most dramatic of such cases of course the sex-change in adults. Now parents who have children who exhibit symptoms of both sexes in the same child can refer to what is called "chlorosomal" diagnosis and know which of the sexes is predominant in the child, making it easy for the doctor to decide upon surgical treatment supported by appropriate hormonal therapy. Such treatment obviate embarrassment to the child in its adult-life.

The gene is the major constituent of the chromosomes, and thus is the basis of life. It is one of the elements serving as specific transmitters of hereditary characters. Knowledge of the means by which genes influence the development and function of the living organism has advanced to the point where it has practical applications which are important for the provisions of the best possible medical care.

Striking progress has been made in developing techniques for the examination of human chromosomes under the microscope. The Cytogenetics Laboratory of the Department of Animal genetics, Madras Veterinary College is one of the centres where this specialised study of the chromosomes is being carried out. Chromosomal diagnosis takes not more than a pin-prick of the patient's blood and a week's time.

of blood obtained from a finger prick, is enough to culture the white blood cells by tissue culture techniques. The cells are grown externally in vials providing all the conditions stimulating those required for growth and multiplication within our body. With suitable techniques the chromosomal spreads are obtained on glass slides and it takes a week for the complete analysis of a karyotype.

The most common clinical condition caused by the chromosomal defect associated with the autosome is Down's Syndrome, commonly known as Mongolism or trisomy 21. This anomaly is due to the presence of 47 chromosomes and the karyotype reveals that there are three chromosomes instead of the normal two of the number 21 chromosomes. Mongolism is manifested by a great degree of mental retardation, with a very low I.Q. The anomaly is due to the faulty division occurring during the formation of the egg or sperm cells. The failure of the proper division called "Meiotic nondisjunction" results in one germ cell containing both of a pair of chromosomes and the other germ cell occurs with missing this chromosome. When a germ cell with an extra chromosome unites with a normal germ cell, the foetus will have 47 chromosomes. If a germ cell with a missing chromosome unites with a normal germ cell, the foetus will have 45 chromosomes.

The sex chromosomal anomaly also occurs resulting in several disorders associated with the sex of the individual. Failure of the Sex chromosomes to separate during production of sperm results in chromosomally abnormal sperms of types XY, and O. A normal X bearing ovum when fertilized by an XY carrying sperm, produces a male with XXY sex chromosomes. Such types of persons are clinically identified as having Klinefelter's syndrome. Although they appear normal until puberty, the testes fail to develop leading to sterility. Similarly when an X bearing ovum happens to be fertilized by a sperm carrying no chromosomes referred to as "zero gamete", the foetus develops into

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*** The gross assistance sanctioned unto 30th September, 1974 exceeds Rs. 96 crores.

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WITH A HEART

'XO' female and this condition is known as "Turner's syndrome" in women. Failure of the ovarian development is a primary feature resulting in sterility. Sometimes we come across men with XYY type of sex chromosomal constitution. Such persons are usually more than 6 feet tall, with aggressive and criminal behaviour.

Chromosomal anomalies account for twenty percent of these abortions. This is nature; device to put a stop to human aborrations :

Thus chromosomal studies are of immense value in the diagnosis of several malformations and disabilities in human beings. Indeed, it is

astonishing to note how these tiny sructures in the cell have such a profound influence, over the fertility, mental abilities and other social problems. With the advent of modern techniques, the chromosomal anomalies are accurately detected at an early age, and cure effected in a few cases. *

The determination of genetic sex in cases of ambiguous external genitalia in infants most commonly refered to this institution has helped to correct the sex of the individuals. If the genetic sex i.e. whether it is XY or XX is determined, surgical treatment supported by appropriate hormonal therapy helps to rectify the defect.

Specific chromosomal abnormalities have been the cause of a number of important diseases. It is reported that recognizable chromosome errors occur in approximately one out of 200 live births. It is estimated that atleast 100 percent of human pregnancies terminate spontaneously during the first three months of pregnancy and that

FACTS ABOUT HUMAN GENETICS

Except for identical twins and other identical multiple births, probably no two human beings have identical genes. Increasing realization of the importance of genetics to medicine has led to the establishment of courses of human genetics in many medical schools.

Genes contain the information, encoded in their chemical structure, which is translated into the development pattern of the individual in his embryonic, pre-adult and adult life.

Very recently, it has become possible to diagnose chromosomal disorders and some genetic diseases in the foetus before birth, through a procedure of transabdominal amniocenteses which seems to be harmless to the mother and foetus.

The consequences of inborn errors of metabolism can often be prevented if the affected persons are recognized either at birth or in the first days of life, and are put on an appropriate diet. Attention to this problem was often given by WHO, and a course on the methods for screening at birth is budgeted for 1975.

There are now more then 1500 recognized genetic defects that follow the Mendelian law of inheritance. These defects, but for exceptions, are individually rare.

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PALLIPALAYAM, SALEM DT., SOUTH INDIA.

Government give great importance to the prevention of adulteration of food articles to safeguard the interest of the consumers. Compared to the previous year, there has been an improvement in the detection of adulteration cases and in the implementation of Prevention of Food Adulteration Act, 1954. Since the Act has to be implemented mainly through the local bodies, still about 2/3rd areas comprising the rural parts in the State remains to be covered. The following three laboratories in the State are now rendering analysis Services :—

(i) Food Analysis Laboratory run by the Corporation of Madras.

(ii) Food Analysis Laboratory at King Institute, Guindy.

(iii) Food Analysis Laboratory, Coimbatore.

Up to 30th December 1974 all the three laboratories have analysed 18,341 food samples. Out of these, 4864 samples were found to be adulterated. Out of 4,321 prosecution cases launched, 3,088 cases ended in conviction and 38 persons were acquitted. Other cases are pending. The total fine realised amounted to Rs. 7,49,231.50 To augment the laboratory facilities in the State. Food Laboratories, one each at Madurai and Thanjavur sanctioned in the year 1974-75, are nearing completion. Two additional laboratories, one each at Palayamkottai and Salem are proposed for the year 1975-76. For effective enforcement of the Act, a Food Cell with a Health Officer is functioning at headquarters. It is closely supervising food inspectors besides surprise checks of food articles. Adequate publicity against adulteration is also given through the media of newspapers, posters and radio. Government have decided to reconstitute the State Advisory Committee on Prevention of Food adulteration by including three non-officials representing Consumers' interests and six non-officials representing the traders' interests in order to enlist their co-operation in preventing adulteration.

PREVENT ADULTE- RATION!



AND PRESERVE GOOD HEALTH!

The Tamil Nadu Scheduled Articles (prescription of Standards) Order, gazetted on Tuesday, prescribes standards for paddy, rice, wheat and wheat products, food grains other than paddy, groundnut and groundnut products, vanaspathi, sugar and kerosene, as a measure of enabling prevention of corrupt practice or abuse of authority in supply or sale of these articles.

The order stipulates that no dealer shall supply or sell sub-standard articles and authorises competent officers to inspect check or seize any stocks of sub-standard goods along with packings receptacles and with the animals or vehicles conveying them. The officers can undertake search without warrant but any person aggrieved by a seizure may, within 15 days appeal to the Collector. A Court trying the case of any such seizure can order confiscation of the seized goods and containers and vehicles.

On the grains, the order says, they should be dry, clean, wholesome of good food value, uniform in colour and size of grain and free from moulds, evil smell, discolouration, admixture of deleterious substances or colouring agents, permissible limits of foreign matter, broken, damaged grains and moisture have been specified.

For wheat products, groundnut products, vanaspathi and sugar the standards are the same as are defined in the Prevention of Food Adulteration Rules, 1955 and for kerosene it will be the same as specified in the Petroleum Act, 1934.

MOISTURE DIRECT TO THE ROOTS A NEW METHOD EVOLVED

Tashkent (USSR), Scientists in Uzbekistan, a Soviet Central Asian republic, have evolved a method for the subsurface irrigation of cotton plants. Water is supplied through a network of polyethylene pipes, laid in trenches, dug along the rows at a depth of 60 centimetres. Through holes in the pipes, pressured water enters the soil. In this way only the cotton plant roots get water, while weeds, the roots of which are shorter, perish. Thus there is no longer any need for weeding and inter-row cultivation: the soil on such plantations preserves its friability.

This technology spells other advantages: it has become possible to cut the distance between rows to a third, and accordingly increase the number of plants per hectare. As a result of this, there has been a tangible increase of cotton yield, which on individual plots runs into 70 centners per hectare.

Good Health is an Asset

Tamil Nadu Government has taken every possible step to prevent Communicable diseases. 1975-76 Budget has allotted a sum of Rs. 16,25,76,000 to launch Public health programmes.

Cholera.—Our State is considered to be one of the endemic States for Cholera in the country. The following 4 districts are the endemic areas :

1. Tiruchirappalli ;
2. Coimbatore ;
3. North Arcot ; and
4. South Arcot ;

The Special features of Cholera Control Programme are the existence of 7 Mobile Epidemic Control Units, 3 Epidemic Control Units and a Cholera Combat Team in Thanjavur, North Arcot and Tiruchirappalli districts. An additional team is to be formed during 1975-76 for the district of South Arcot. In addition, we have a reserve of 64 Inspectors who are to be utilised in the affected areas. Special cholera workers are employed in these four endemic districts. These workers are meant to gather epidemic intelligence, do water-supply chlorination and to take specimens for bacteriological examination. There is also an Epidemiological Unit attached to headquarters which has got a mobile laboratory also and this is used for investigation and control during outbreaks. Cholera combat teams are meant to carry out both treatment and extension of control measures in the affected areas.

The number of inoculations performed by the team is given below

1972—1,469,731
1973—1,430,616
1974—1,725,434
1975 (up to 8th February 1975)—65,221

(b) Smallpox Eradication Programme.—Smallpox Eradication-Programme was launched in our State in 1963-64. The objective of the programme was to cut down the transmission of smallpox cases in the community through (a) systematic primary vaccination of infants and re-vaccination of the population and (b) through active and prompt detection of every case of

STEPS TO PREVENT AND CONTROL COMMUNI- CABLE DISEASES

smallpox that may occur in the Community. As a result of sustained and effective work our State is declared as free from smallpox. This may be seen in the background of 9241 attacks and 2,559 deaths in 1963 as against 15 stray attacks and four deaths during the year 1974-75. Even these 15 attacks were largely imported from Bihar. With the assistance and collaboration of the World Health Organisation, intensive active search for smallpox cases was made in all the districts during 1973-74 to spot out smallpox. THE RESULT OF THE SEARCHES REVEALED THAT THE STATE IS FREE FROM SMALLPOX. Intensive searches will be continued every two months during 1975-76 also in all the districts. A Smallpox Special Surveillance Team with the aid of World Health Organisation is also functioning. This team rushes to districts as and when suspected cases are reported. During 1974-75 (up to November 1974), 1,136,265 Primary vaccinations and 5,027,708 re-vaccinations were performed. On a request from Government of India, two Assistant Directors of Health Services and Family Planning and one Health Officer were deputed to work as Special Epidemiologist for smallpox containment measures in Bihar and Uttar Pradesh.

(c) Plague.—This was a major problem in the past. As a result of intensive measures taken, the State is completely free from plague since 1964. However routine anti-

plague measures are carried out in the endemic areas in North Arcot, Coimbatore, Dharmapuri and the Nilgiris districts.

(d) Malaria.—In this State, a bureau for malaria and mosquito borne diseases exist at the Headquarters (viz) Madras with facilities for training, reesearch and investigation. There are two regional organisations for insect control at Thanjavur and Coimbatore with facilities for training, surveys and inspections.

Our State has been implementing the National Malaria Eradication Programme from 1958-59. For this purpose the State was divided into 31.45 Units. The Programme was implemented in three phases (viz) attack, consolidation and maintenance phase where intensive search for Malaria cases and their radical treatment are undertaken. 28.40 units where Malaria was eradicated are in the maintenance phase of the programme, under which vigilance activities are carried out to detect Malaria cases of imported or indigenous origin and anti-focal measures are undertaken to eliminate Malaria foci. The whole programme is now passing through a critical stage, and due to some technical and operational reasons, case occurrence has increased considerably. So far, during the year 1974 about 19,953 cases of Malaria were detected mainly in Salem, Dharmapuri, North Arcot and Ramanathapuram districts and in the towns of Salem, Rasipuram, Erode, Vellore and Madras City. Out of these, about 17,948 cases were recorded in maintenance areas, the bulk of which came from problem areas in Ramanathapuram, North Arcot and Dharmapuri districts. These problem areas where Malaria becomes re-established due to the importation of cases, posed operational difficulties due to poor communication, difficult terrain, widely scattered houses and movement of population. Best efforts were made by mobilising men and materials to control the situation. Government of India have also been appraised of these problems and they have promised to depute their experts to probe into the technical problems in consultation with our team.

Under consolidation phase, the Government of India meet the total expenditure on unit areas minus



the committed level of expenditure. In respect of supervisory staff as headquarters and zonal level, the Government of India meet 25 per cent of the total expenditure, and the balance 75 per cent is met by the State Government.

In the areas which have entered the maintenance phase, Basic Health Services have been set up from 1st April, 1969. As many as 353 Panchayat Unions are in the maintenance phase areas. The staffing pattern for the Basic Health Services is as follows :—

One Basic Health Worker for 10,000 population.

One Basic Health Inspector for every four Basic Health Workers.

One Laboratory Assistant for each Primary Health Centre.

The Basic Health Workers are multi-purpose workers catering to the needs of the vigilance services for Malaria and Smallpox Eradication Programme, in the maintenance phase areas.

The Basic Health Services was a Centrally Sponsored Scheme during the Fourth Plan. But during the Fifth Plan., the State Government have to meet the expenditure.

There are 3,199 Basic Health Workers, 738 Basic Health Inspectors and Malaria Health Inspectors and 353 Laboratory Assistants employed under Basic Health Services.

(c) **Urban Malaria.**—Four Local bodies, viz., Salem, Rasipuram, Tuticorin and Madras City are implementing the Centrally Sponsored Urban Malaria Schemes since 1972-73. The scheme sanctioned for Elampillai Town Panchayat is being taken up for implementation as a departmental scheme. These schemes are to be continued during the Fifth Five-Year Plan also.

The local bodies implementing these schemes (except Madras City) will be fully reimbursed by the Government of India with regard to their operational costs minus the committed level of expenditure. For Madras City being a cosmopolitan city, Government of India gives only material assistance. The materials and equipments required for these schemes will be supplied free by the Government of India.

(f) **Filaria.**—About 13 million people live in Filaria endemic areas in our State.

The National Filaria Control Programme launched in this State in 1957-58 with four control units in the districts of Chingleput, South Arcot, Thanjavur and North Arcot is being continued. Each unit has a Filaria Officer, one Entomological Assistant, six Health Inspectors, six Field Assistants, four laboratory assistants and 60 mazdoors. It carries out anti-larval operations. The mosquito larvicidal oil for these units is supplied by Government of India as Central Assistance whereas the operational cost is met from the State Funds.

In order to reorganise the programme to cover more areas eight new control units were established during the Fourth Plan period with concurrent augmentation of the existing four units. In all 4.5 million population are benefited by this scheme. During the Fourth Five-Year Plan period, full Central Assistance on operational cost and material and equipment was available for the reorganised units... But during the Fifth Plan period, Central Assistance will be available only in respect of material and equipment whereas the operational cost will be met from State funds.

In addition to the above 12 Control units, Government of India propose to establish additional components of one Survey Unit four Control Units and 81 Filaria Clinics during the Fifth Plan period in stages. Final clearance from Government of India is awaited.

To remove bottlenecks and to ensure smooth co-ordination between the Control Units and organisations like Municipalities, Co-ordination Committees have been formed in Cuddalore, Chidambaram, Villupuram, Kumbakonam. Nagapattinam, Thanjavur, Mannargudi, Tiruvarur and Pudukottai. The Committee would meet once a quarter and co-ordinate the operations.

(g) **Grants-in-aid Schemes.**—The National Filaria Control Programme is being implemented by the Health Department. The local bodies are also in charge of Anti-Filaria and Anti-Malaria Schemes. A portion of the expenditure on these schemes is reimbursed by the State Government. So far, 171 local bodies are implementing the scheme. More local bodies are expected to undertake this scheme during 1975-76. Two regional organisations at Thanjavur and Coimbatore inspect and evaluate the progress in the implementation of the schemes.

(h) **Yaws.**—This disease is a highly contagious, non-venereal tropical disease caused by a type of microscopic organism called "Treponema Pertenuis" which is identical to the organism which causes syphilis. Unlike Syphilis, Yaws is transmitted by non sexual contact. It spreads from person to person by direct contact and also by flies. Injured skin of a person or presence of minor skin disorders like boils, abscess, impetigo, etc., favour the growth of the organism thereby causing primary lesion in a person who has hitherto not suffered from Yaws. Poor environmental sanitation and lack of personal hygiene also contribute to the spread of Yaws

Yaws was found widely prevalent among the socio-economically backward people. During the year 1956, a survey of the prevalence of Yaws among the residents of Harijan population in Avanashi taluk of Coimbatore district was conducted. This resulted in the starting of a control programme in 1959, in Avanashi taluk. The Yaws Control Scheme, with two units at Uttukuli and Perundurai was in operation for one year from the middle of 1960 to May 1961. Under the Third Five Year Plan, a scheme at a cost of Rs. 8 lakhs to eradicate the disease was sanctioned. The Yaws Eradication Programme was implemented from 1st June 1961 with eight units with headquarters at Coimbatore, Perundurai, Pollachi, Gobichettipalayam, Sathyamangalam, Bhavani, Udumalpet and Dharapuram. The Yaws cases that were detected by the above units were treated then and there. During the middle of 1967, the work in Coimbatore district was completed and therefore the number of units was reduced to three units and shifted to the adjoining districts of Madurai and Tiruchirappalli.

The three units at Periakulam, Palani and Karur are functioning from 1966 onwards, manned by three Health Inspectors and under the direction of a Special Health Officer stationed at Dindigul. A new unit was started in Dharmapuri in 1971. A survey in Salem and South Arcot districts revealed that Yaws cases are prevalent. To check them, two more units were created and they are functioning at Cuddalore and Kolli Hills from June 1974. Up to December 1974 as many as 764 villages were surveyed, 220 cases recorded and 90 cases were treated.

(i) **Guinea Worm.**—The main sources for this disease in the State are “Step wells” and ponds. To combat this disease a Guinea Worm Eradication Programme has been functioning in all the Districts except Chingleput, Kanyakumari and the Nilgiris. The endemic areas are divided into six units. Each Unit has an Entomological Assistant, Health Inspector, Field Assistants and other Auxiliary staff.

The main object of the programme is to eliminate the guinea worm vector, namely, the cyclops, from the drinking water sources in endemic villages by treating the

drinking water sources with D.P.T. 50 per cent water wettable powder, at a dosage of 5 parts D.D.T. per million parts of water. By doing so, the vector population is completely destroyed or kept at minimum, thereby breaking the chain of transmission. Besides, all guinea worm patients are treated by dressing the affected parts with cotton soaked in 4 per cent carbolic lotion and they are supplied with A.P.C. tablets to alleviate the pain and sulphadiazine to eliminate secondary infection, if any.

Health Education is being conducted by the Guinea Worm Eradication Programme staff in the villages. During the year 1974 as many as 148 cases were detected and treated. The Programme will be continued during 1975-76 also.

(j) **Kala Azar.**—This disease was presenting initial problem to the State. During the National Malaria Eradication Programme, as a result of D.D.T. spray, the density of sand sees was reduced and the disease virtually disappeared for a number of years. When the National Malaria Eradication Programme entered the maintenance phase, D.D.T. Spraying was stopped resulting the reappearance of Kala Azar. The

Kala Azar Control Scheme is now functioning with a Unit at Ramanathapuram. The Unit consists of an Entomological Assistant, three Health Inspectors and fifteen Field Assistants. This Unit surveys the endemic areas in Ramanathapuram district to find out Kala Azar cases and to take remedial measures. The detected cases are sent to the Primary Health Centre or the nearest Government Hospital for treatment. Upto December 1974 as many as 2,478 villages were surveyed. Six cases were detected and 4,080 sand flies were collected.

The particulars regarding the amount spent on Public Health during each year from 1967-68 in our State are as follows :—

Year	Amount.	
	(1)	(2) (Rupees in Lakhs)
1967—68 ..		519.25
1968—69 ..		595.60
1969—70 ..		748.06
1970—71 ..		850.08
1971—72 ..		1,146.07
1972—73 ..		1,610.73
1973—74 ..		1,542.33
1974—75 ..		1,576.63 (B.E.)
1975—76 ..		1,625.76 (B.E.)

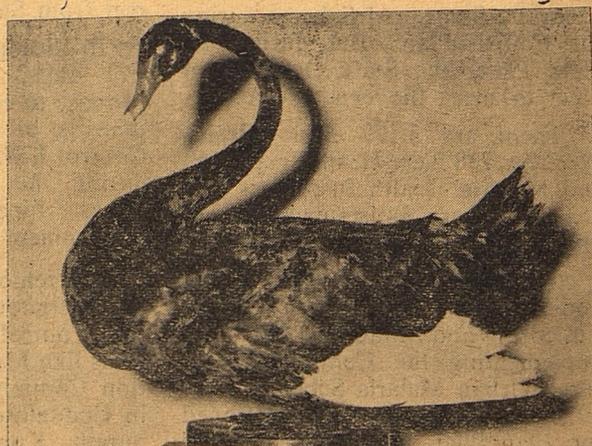
NEW ADDITION TO THE

MADRAS MUSEUM

A specimen of the Black Swan (*Cygnus stratus*) which was not hitherto represented in this Museum has been exhibited as a new addition in the New Bird Gallery of this Museum.

The Black-Swan is a large aquatic bird adapted for swimming on the surface of water. It is smaller than the white-swan and grows to a size of about 46 inches. Like any other swan, it feeds on aquatic plants and small mammals and also exhibits courtship and parental care. This Swan is found in Australia and Tasmania.

The dead specimen of this bird was received from the Madras Corporation Zoo as a free gift to Madras Museum.



The Haffkine Institute has added one more feather to its cap. Under the leadership of Dr. M.V.N. Shirodkar, a virologist trained at John Hopkins University at Baltimore, U.S.A., the world famous centre in virology, a team of scientists has succeeded in isolating and cultivating a micro-organism called hepatitis virus B or one producing a very similar picture of hepatitis. This micro-organism hepatitis virus B is the cause of one type of viral jaundice.

The scientists did this in the new-born domestic rabbit bred at the Haffkine Institute and named it as the Haffkine strain. Isolation and cultivation of this human virus, which has been achieved for the first time in the world, is expected

JAUNDICE VIRUS NAMED IN HONOUR OF HAFFKINE INSTITUTE

to have a far-reaching impact on virus research and public health. Viral agents are assuming a menacing role in starting serious diseases, including hepatitis, with high morbidity and at times high mortality.

A large number of people in Bombay suffer from viral jaundice, which has assumed an epidemic form from time to time. On an average, there were 2,693 proved cases of viral jaundice every year in the city during the period 1972—74. However, the vast majority of these cases were taken from the records of a single large infectious diseases hospital. Overall actual incidence of cases annually in the whole city must be very much higher.

Although the virus has been recognised as a causative factor of the disease, it has not so far been possible in spite of arduous research all over the world to isolate it and cultivate it in a common laboratory animal.

The original virus was isolated from a patient suffering from a severe attack of jaundice, after he was admitted to an infectious diseases hospital. The virus has been named

JAUNDICE VIRUS ISOLATED

Indian Scientists' Contribution Receives World Acclaim

HIBOMA-I in honour of the Haffkine Institute and its efforts in the service of the suffering humanity. The group of signs which this virus produces in the animal, closely resemble those seen in the patients with massive liver destruction.

Discovery of significance

It has long been recognised by scientists all over the world that the conquest of viral hepatitis has been a challenge in the field of virus research and it remained till today an unsolved global public health problem. The discovery made at the Haffkine Institute by the scientists of the Department of Virology therefore assumes a great significance in that it marks the beginning of a breakthrough towards the study of this virus in a common laboratory animal. Secondly it is the first crucial step taken in the direction of production of a vaccine, killed or live, for prevention of disease. The discovery may well lead to more benefits, such as preparation of a laboratory reagent for an accurate diagnosis of viral hepatitis B.

ATOMIC IRRADIATION HELPS COMBAT VIRUS

Dr. Shirodkar and his group has already gone ahead with the inactivation of this virus, using atomic energy-gamma irradiation. This is a shining example of the efforts of Indian scientists in the peaceful uses of the atom. In fact, in the last two years, the institute has been involved in studying the effects of atomic radiation

on bacteria and viruses so as to using this important source of energy for preparation of vaccines.

The present discovery of the scientists of the Haffkine Institute, which has a well-equipped department of virology devoted to research of viral diseases, has already been reported in the renowned scientific publication the **International Research Communications System Journal of Medicinal Science**, published simultaneously in the U.S.A., the U.K. and Japan. Its editorial advisory board consists of such Nobel Laureates as Drs. Linus Pauling of Stanford University and von Euler of the Karolinka Institute.

The Haffkine Institute, which celebrated its platinum jubilee in 1973, is principally involved in research in communicable diseases. One of the oldest institute of research, not only in the country but in the South-East Asia, it has accepted many a challenge posed by wars, epidemics, famines and many such national and international calamities. The institute is vigorously engaged in research and production activities. For academic purposes, it is affiliated to the University of Bombay and admits students for post-graduate training in various diseases and the master's or doctorate's degree in various fields such as biochemistry, biology, pharmaceutical chemistry, microbiology and other subjects. The institute has made significant contributions in the field of basic research, especially in immunology, pharmacology, biochemistry, microbiology, herpatology and entomology. —Source : Lok Rajya

W H I T H E R

MENTAL ILLNESS AND THERAPY

—:O:—

Is it good bye to Snakepit days at last ?



Patience ! And you can also sew

Situated in spacious grounds and surrounded by tall trees and green shrubs is the Government Mental Hospital. It is the home of 1,800 patients who are mentally ill. The rat race which goes on beyond the four walls of this isolated home will not affect the inmates. Their normal brethren outside remain passive as far as the hospital is concerned. The "normals" will not pause for a moment to give even a thought to them. It is immaterial to them of how they are situated, and housed. Their needs and wants go unnoticed. To inquire whether they are looked after properly and with care and to find out if their longings fulfilled are matters of no great importance to the public at large. No, they do not and perhaps cannot ; for if they do so, they cannot keep pace in their own race. Naturally, they cannot pause to think of their less fortunate brethren—the mentally handicapped. The mentally handicapped are but human beings. They also need all the care and attention bestowed on others. In fact, they need more of it and more of understanding. As one would take care of infants and the very old, these people too need more care and understanding. In fact half the cure lies in making the mentals to feel that they are wanted ; that they are needed ; not shunned

and cast away ; not considered as a burden by their kith and kin and as a liability to society.

In days of old, the treatment of a mental patient consisted purely of administration of drugs and tranquilisers. Today, the methods have changed. Various forms of socio-pathological methods of treatment have been devised. The scientific approach to an understanding of the nature of the individual's disordered behaviour requires thorough-going and objective study before a conclusion is reached or a decision for action is made. The mentally disturbed patient is studied through individual and family interviews, psychological examinations, laboratory reports, social investigations in a ward and whatever else contributes to complete the picture of the background of the disturbance. Thus a multi-pronged treatment is devised which ensures not only recovery but full rehabilitation of the patient with a corrected outlook on life. If the battle for normalcy is a stiff one, the battle for rehabilitation seems to be far more difficult for the mental patients.

Most of the patients in the mental hospital spend a major part of their lives here. With the adminis-

tration of drugs and the use of other forms of treatment, they generally show much improvement in their mental health. However, strangely enough, the cured patient is unwanted by the family. The family which has now become accustomed to live without this member, does not like to take the member back to their hearth and home. They are even hostile towards the patient and consider him as an unwanted person. It is likewise difficult for the patient to adjust himself in the family after a long stay in the hospital. Between the halting but eager hands of the former mental patient and the tigrinous and fearful hands of the patients family there is an inevitable chasm—a chasm which if not closed soon spells the doom of all the valiant efforts of the doctors and the miracles worked by the drugs. The case of many such patients is indeed pathetic. These patients, if not taken back by their family, have to be looked after in the hospital itself. Such persons are taken into the sheltered workshop.

Occupational therapy is very important to the progress of the patient. As part of the rehabilitation programme, the patients are given training and provided employment opportunities. Thus, the in-

dustrial therapy centre came into being, which is the only one of its kind in India. This industrial therapy centre could exploit the latent talent of the inmates and useful vocational guidance will be given to them under sheltered conditions, i.e., the mentally handicapped will work in sheltered workshops. This will create a self-confidence in these people and give them a satisfaction of being economically independent. This centre will not stop with providing employment opportunities alone but will establish a link between the inmates and the outside world.

The rehabilitation of a mentally ill person not only restores his self-respect, but also gives him an economic and social placement in society. In this, the society has a large part to play towards assuring success of the various rehabilitation schemes directed to the uplift of the mentally handicapped.

The industrial therapy centre has sub-units which manufacture items such as craft paper bags, soft toys, soap, towels, sheets etc., for marketing in the open market. Paper bag industry : starting with five patients in 1970, with 1 unit, the paper bag industry by 1974, had trained 125 patients and employed them in various units. Initially the paper bag industry had only 15 patients on its rolls, who produced 2 to 3 thousand bags per month. Today, the industry employs 100 patients with a turnover of hundreds of thousands of bags per month. There are regular orders from large business concerns and important temples for the supply of bags and the industry is humming with activity and poised for further expansion.

Latent Talents Developed And Patients Restored To Better Than Normal Life

Soft toy industry :—The soft toys were made of towelling material in the early days. But later, a switch over to rexine was made as this was found more durable and also washable. The soft toys are marketed through the Victoria Technical Institute. So far, 8 patients have specialized in this craft. More are expected to benefit from this training.

The centre has now begun to approach the industrialists to give these patients labour oriented jobs, simple in nature but remunerative nevertheless. The English Electric Company has been the first to respond. Metal is to be salvaged from waste strips of wire which could be reused profitably.

The Omega Insulated also gives suitable employment to some of these patients.

The standard pencil factory has employed some of these patients, whose only job was very simply to fix erasures to the back of the pencils.

Sleeve cutting work is being undertaken for Lucas T.V.S.

M/s. Keshavardhini products also make use of the services of the patients in packing their products.

The centre now employes 125 inmates. The inmates were not paid in the initial stages. But, today, the token system has been introduced for those who turn up good work and show marked improvement. Even as the centre became economically sound, it has started paying wages to the patients commensurate with their work. Out-



Paper Bag Unit & Toy making Unit providing occupational therapy to convalescing mentals

INDUSTRIAL THERAPY CENTRE		
MANUFACTURING UNITS	No. of Pts.	QTY. PER WEEK
1 CRACKY PAPER BAGS	37	48,000 NOS
2 SOFT TOYS	4	13 NOS
3 SOAP	5	330 BAGS
4 TOWEL SHEETS	3	30 NOS
5 SUB CONTRACT WORK		
1 READY MADE GARMENTS	10	30 NOS
2 WIRE STRIPPERS	10	40 NOS
3 BASKET COUNTERS	10	2,000 PYS
4 BUSH MAKING	25	1,500 NOS
5 PALMYRA MAT	10	800 NOS

PATRONS	DONORS
BADE BEARE LININGS	CANARA BANK
OMEGA CABLE	MRS. NAMA BARRIER
KHANA VILLAGE INDUSTRIES	MRS. SUDHA YEGASABAIAN
CHELLARAO	M. L. L. NARAYANAN
V. J.	B. C. HILLS
T. V. LUCAS	HYLAPUR ACADEMY
REKAVANDI	T. CYCLES
TEMPLES - THUTANI, THIRUVARUR	
T. U. S. L. D.	
KHADI BOARD	

Chart at Industrial Therapy Unit shows number of patients absorbed in local firms for regular work

patients are paid more, since the latter's daily needs are met by the hospital, and the wages remain as the patients' pocket money. 35 outpatients come to work in the hospital every day.

The crying need of the day is a great public consciousness of the responsibilities of the community. It is really tragic to find that there are only 30 employed psychiatric social workers who have to look after 1,800 patients. It is still more tragic to find that a majority of the patients are left high and dry by their relatives. The people should be made to realize that the mentally ill should not be entirely cut off from the contact with society. They should have some contact with the outside world. The idea, therefore, of voluntary social workers visiting the patients was thought of and the

psychiatrists themselves point out that this is essential for faster rehabilitation.

Supplementing the work programme, thus, a team of "Sponsors" visit the patients atleast once a week, individually and collectively and conduct group discussions, facilitate communications. They also take the patients out in groups to their homes and arrange programmes of entertainment, recreation etc.,

The visit of the sponsors is placed at a very high level by the doctors, as this brings the outside world to the patients who have less opportunities to go out or be recognised as members of society. The "Sponsors group" is the first of its kind in India.

The sponsors also visit the houses of the patients to study the family

environment to determine if there are disturbing conditions at home.

This scheme not only helps the patient but is to a great extent responsible for educating the society and increasing public awareness of the problems of the mentally handicapped.

Apart from individual persons acting as sponsors, organisations like the Y.W.C.A., W.V.S., members of Mar Thoma Church are also closely connected with the rehabilitation work.

Workshop :—This is an important unit playing an important role in rehabilitation, for this is a key source in providing work opportunities to the severely handicapped. The workshop operates as a forward moving dynamic facility with constant review and evaluation of its own part in promoting the well being of handicapped individuals and returning them as useful members to society.

The Future :—The part it plays in moulding the use of manpower and its role in the manufacture and distribution of goods is enormous and responsible. In order to gain support from the community, the workshop has to enlarge its image and stand as tangible evidence of the proper utilization of funds, of services to people, of property and of civic consciousness. It must project a picture of the integrity of the agency and the dignity of the mentally handicapped person. By engaging the interests of the industry and labour and society, it can contribute to a healthier understanding and acceptance of the mentally handicapped person and highlight the total process of rehabilitation. **RLB**



A day patient absorbed in her embroidery



Concentrating on mat weaving.

PROBLEMS OF

Administration and Implementation

The State Planning Commission, has identified the factors leading to failure in proper implementation of Plans, and has set forth correctives.

The objectives of the Perspective Plan *viz.*, doubling of per capita real income, providing full employment, reducing poverty, assuring social justice, accelerating social change, humanising development and decentralising planning — are set high. They are no less than the welfare of the common man in Tamil Nadu. **Bringing about a more just social order and reducing the privations of the poor, making them less unhappy and less discontented will, in part, depend on the rate, manner and style of the implementation of the Plan and the execution of its programmes and projects.** Here our past experience with the four Plans provides a clear warning ; the Plans were good ; the planning was not unsound. The failure lay in not implementing the Plans fully and in not executing the projects efficiently. Notably, the failures have been failures in achieving social justice. The gap between Planning and Implementation like that between pledges and performance has been wide and is widening. Hence, the forces making for failures or shortcomings in the implementation of the Plan must be identified and counteracted.

Causes for Failures

The causes for the failures in the implementation of the Plan are multiple. Some of them are built

The norms of centralised planning—that has been the order of our planning procedure in India all along these years—do contribute much to defeat all realistic planning and execution.

The non-too-clear and over-lapping responsibilities for programme execution and project approval as between the Union and the State Governments, the lack of delegation of responsibilities, the absence of annual operational district plans and machinery to execute them, contribute to the growing short-falls.

of Plans Schemes

into our pluralistic democratic society with its governance by consensus and compromise, which blunts the sharp choice and focus of development issues and delays implementation, and its tendency to intervene at the execution and operational stage. **There are five remediable major causes for failures in plan implementation.** The first group of causes arises from our unegalitarian society with its highly skewed distribution of factor ownership and the limitations which it places on the optimum utilisation of human capital. This leads to increasing production of non-priority/non-essential goods with short supplies of essential goods in relation to the requirements. This economy of scarcity also gives rise to the parallel economy with large unaccounted resources and the resulting corruption in many forms, widening the gap between the Plan and its achievement.

A second group of causes relates to shortages in and non-food crop production, limited skilled labour supply, poor R & D results,

declining savings, inadequate infrastructure and continuing industrial unrest.

A third cause is that we do not have adequate managerial, technical and expert staff to implement the fast growing development functions, programmes and projects of the State and the public sector. Administratively we are still living in the pre-independence regulatory social stage and have not equipped ourselves with the necessary expert staff ; nor do we have adequate training programmes for the administrative and technical staff or taken sufficient care to see that trained personnel are located in projects for their full duration.

Fourthly, we do not have the machinery and procedures which can ensure the full implementation of our Plan and its programmes and projects. Our administrative system needs periodic review to meet the changing face of the economy, our budget procedures including the lapse doctrine need revision, simplification, rationalisation and co-ordination. There is no information system to help the staff face new problems and situations that come up and the monitoring system, if any, is not alert enough to send up warning signals of implementation delays or errors. We are trying to execute the Plan with procedures never meant for economic development and we fill the gaps by creating a confusing array of *ad hoc* institutions and programmes to meet each new situation.

Fifthly, the whole system of plan formulation and implementation is highly centralised and for the second most populous country in the world and for a State whose size would place it tenth among the 132 members of the United Nations, such centralization is by itself enough to defeat all realistic planning and effective implementation. **The non-too-clear and over-lapping responsibilities for programme execution and project approval as between the Union and the State Governments, the lack of delegation of responsibilities to the local authorities for executing projects within their competence, the absence of annual operational district plans and machinery to execute them, the inadequate participation of universities, the private industrial and agricultural sectors, voluntary agencies and people generally in the execution of programmes and projects contribute to the growing short-falls between plan targets and physical implementation.**

The Remedial Action—Call to Political Parties

In the light of these factors inhibiting adequate and full implementation of the Plans, it is recommended that Union, State and Local authorities take corrective action on both a short-term and long-term basis along the following lines. **A continuing requirement is for the political authority including the political parties to require that its technical organs prepare and place before it, and through it to the public in clear and sharp focus the various plan options and implementation alternatives in the light of which it can decide on plan policies and strategies.** Having so decided on policies and strategies including the needed structural changes, the political parties should develop a convention not to intervene in project formulation and execution. The Perspective Plan strategy and programmes deal with the second group of substantive constraints. The other remedial actions refer to restructuring of the planning levels, district plan implementation, administrative reforms, monitoring and evaluation, people's participation and a programme of training.

Planning Levels

The Plan should evolve from the district level, to the regional level, State level and on to the

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National level. A start has been made in Tamil Nadu to develop District and Regional Plans simultaneously with the State Plan. By starting with the first two levels, the State Plan can be made into a comprehensive and integrated programmes of developments taking into account the needs and problems as well as the pattern of development envisaged at the lower levels. In some areas such as power, water and perhaps higher education, which should be treated as assets of the

nation as a whole, there could be a further intermediate level of Planning between the State and National Plans. For the Perspective Plan, as resources and needs in these areas cut across State boundaries and make the Southern Zone a natural zone, Zonal plans in these sectors should be developed and jointly financed and executed by the States through Zonal bodies. The National Plan should set forth the National goals and objectives as established by the National Development Council and should be essentially a co-ordinating and integrating instrument of plans developed at the various levels referred to above. The Central projects to be undertaken in a State should be notified to it so that they may be programmed in an integrated manner in the State Plan. This will also enable the States to contribute to their effective implementation. The Plan and non-Plan resources available to the State (if this distinction is maintained) should be fixed by legislation, so that the Planning exercise, though accompanied by applying the legislative provision to particular conditions, is freed from bargaining for resources. The machinery and procedures for Plan implementation are those used for the execution of the State's entire development programme. The responsibility for such implementation is that of the State Council of Ministers and its various subsidiary organs.

District Plan Implementation

Plan implementation requires that District Plans become the basis for execution of the Plan. For this purpose, the Perspective District Plans should be translated into operational Annual District Plans. It has even been suggested that the Constitution may be amended to establish a list of subjects which are within the competence of local bodies. Without going so far, the operational Annual District Plans should establish output targets for the programmes and projects, co-ordinate the functioning of the several agencies involved in each project and draw on all local agencies, the voluntary bodies and the people in the implementation of the Plan. This will involve delegating authority for implementation of the annual operational district plans, once they are reviewed and approved by the Government, to a

District Authority. This authority should be the District Development Corporation.

The question of making the existing districts smaller in size, with which the Administrative Reforms Commission is already seized, should be pursued. The District Authority, while being the executive body composed of District officials headed by the District Collector, will rely for advice and review of its operations on the District Development Councils. The functions of the District Authority will include drafting the operational district plan and the supervision of its execution which is the responsibility of the departmental officers and the Panchayat Union Commissioners. The financial resources accruing to the Authority must be examined with care in relation to any responsibility given to it in the matter of taxation and mobilisation of local resources. It can also act as banker to the Panchayat Union Councils and be helped financially by making available to it a part of the resources mobilised locally through an apex body like the proposed State Investment Trust. All these will also involve authorising the District Authority to make project changes and transfers within certain limits, setting apart district allotments in the State budget and equipping the District Authority with the necessary Secretariat including accounting services. To begin with, the Authority aided by the District Development Council may be entrusted with implementation of a category of rural development programmes. The entrustment of the functions to cover the rest of the District Development Programmes can be considered in the light of the experience.

Administrative Reforms

Plan implementation calls for the large investment and adequate manpower with new and varied skills, new organisations and new lines of control, adoption of new techniques of decision making and quicker and more effective lines of communication. Successful Plan implementation, thus, means that the administrative machinery must be under continuing review to facilitate its renovation and renewal through a standing Administrative Reforms Commission or department which should also be vested with responsibility for monitoring the

execution of its approved recommendations. The immediate administrative reforms should include (a) recruiting technical experts who will have the freedom to analyse and advise on problems from the technical point of view and finding and placing the best men required for each job, (b) making the secretarial and executive heads of Department function as a single self-contained unit for implementation, (c) adjusting the budget process and administrative cycle, to the agro-climatic requirements of the State involving in particular early notification of budget allotments/sanctions to the district officers and replacing the lapse doctrine by monthly letters of credit, (d) freeing the Finance Department from day-to-day expenditure sanctions so that it can concentrate on recommending investment priorities, and undertake performance audit, cost-effective and cost-benefit analyses, (e) speeding up decision making processes and setting up a system of audit and evaluation, (f) simplifying and reducing industrial licensing procedures, for large industries by the Union Government, for medium and small industries by the State Government, (g) co-ordinating the functioning of the Department of Agriculture and the Department of Panchayat Development at the State, district, block and village levels, (h) re-organising in a phased manner the department of Highways starting with a separate Department of Minor Irrigation and (i) strengthening the personnel and devising other means of increasing the efficiency and profitability of public sector enterprises.

Monitoring and Evaluation

A continuous monitoring of the rate and quality of the implementation of all Plan projects should be undertaken by both the Head of the Department concerned and a central non-executive organ, preferably the State Planning Commission using the services of the Data Processing Centre and the performance budgets of the Departments. The reform of the treasury system referred to earlier for simplifying procedures for remittances, payments, and vesting departments with financial authority will also facilitate implementation and monitoring. A core sector comprising of industrial production, irrigation, agricultural production, power generation and transmission and public transportation should be established for the preparation of

production-oriented or economically viable projects. Special cells of competent persons should be established in these departments to prepare project reports and evaluate their execution. A spot evaluation by a non-executive body like the State Planning Commission of selected projects as a double check is also necessary.

Participation by Political Parties in Plan Implementation

To ensure the wide measure of popular participation in plan implementation, the Universities, the proposed State Council of Educational Research and Training, and other research bodies may be called upon to contribute through their research, and Research and Development programme particularly in the neglected social sciences area, both to defining plan projects and improving their implementation. For this purpose, the financial allocations for research must be increased. Voluntary agencies can act as catalytic agents and undertake innovative programmes to speed up the realisation of Plan targets. The task of implementation is so vast and urgent that there is a question which should be given further consideration. If there can be consensus on the Plan among the political parties, could their cadres be mobilised to help in the implementation of some of the Plan programmes, particularly those involving land reform, housing, site for landless, adult education and literacy, family planning, distribution of essential goods to the poverty sector?

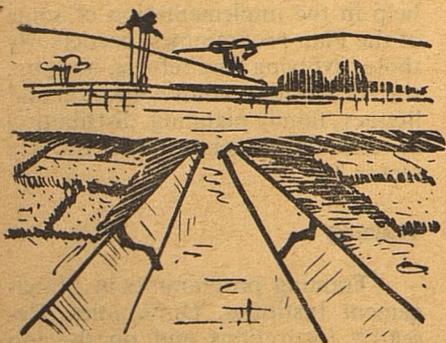
Training

Training programmes in Management Institutes, Universities, Research Institutions and on the job are needed to raise the level of competence, develop aptitudes and update the knowledge of persons involved in Plan implementation. In this connection, the proposal to set up an Institute of Management in this State is timely. All avenues of training in the State should be used and priority in the matter of training should be given to the senior staff. Such training should be both in-service and much more post-service and in-service for training like education is a life-long imperative in the context of the present exploding rate of knowledge, information and technological and scientific advancement.

Water is Impossible

STEPS TO ENHANCE WATER SUPPLY IN RURAL AREAS

Provision of protected water-supply in all rural areas has been a major objective of the State. In accordance with this policy and with the Government of India's aid, the State Government through the Tamil Nadu Water-Supply and Drainage Board executed a number of Rural Water-Supply Schemes in selected Districts of the State under the *Accelerated Water-Supply Programme*. Two hundred and thirty-seven villages have been covered under this scheme by the end of 1973-74. In Tamil Nadu there are 58,595 villages and hamlets, where 25.6 million people live. Four thousand nine hundred and sixteen villages and hamlets with a population of 3.8 millions do not have any public source of



water-supply. Two thousand two hundred and thirty villages and hamlets with a population of 1.9 million are situated in areas where diseases are endemic and require protected water-supply schemes. In order to solve this problem most expeditiously the State Government sanctioned the implementation of a Minimum Needs Programme for provision of protected water-supply both in the scarcity and endemic areas according to a phased programme, with a provision of a sum of Rs. 4

crores for the year 1974-75. Drinking water-supply will be provided to 646 villages in the scarcity area and 1041 villages in the endemic area during 1974-75. The programme will be continued with the anticipated coverage of about 1500 villages at a cost of 270 lakhs.

The year 1974-75 has been one of the worst as far as seasonal conditions are concerned for Tamil Nadu. The South-West Monsoon was late and rains were below normal also. Opening of the major reservoirs including Mettur, Amaravati, Vaigai, Kodayar was delayed. Mettur reservoir was opened only on 20th July 1974. Following this, we experienced the worst North-east Monsoon for the last 100 years. This created great pressure on the available supply from reservoirs because irrigation had to be maintained even during the period when normally the local rains meet the requirements. In spite of these difficulties, by careful regulation and enforcement of turn system, water has been provided for the entire cultivation in all the major river systems. Ayacuts under some of the reservoirs such as Manimuthar, Vidur and Manimukthanadi however, had to be denied supplies. Water was not released for the second turn in the Lower Bhavani Project also in order to divert the available supplies to save the standing crops in the Cauvery delta.

This year's experience has shown that optimum development of irrigation potential in the State by mobilisation of both surface water and ground water in the best interests of the State has to be pursued vigorously. Water is a scarce resource and the only aspect to be taken into consideration is the benefit to agriculture by way of additional irrigation. While allocating the scarce financial resources, priorities

have to be assigned with reference to the benefits in relation to the expenditure, but the objective will be to make use of every possible source of water in the long run.

Tamil Nadu relies to a large extent on minor irrigation from tanks. These mobilise the local rainfall mainly from the North East Monsoon. Special minor irrigation and desilting programmes are intended to maximise utilisation of this potential by new works and improvements to existing sources.

The unprecedented drought during the current year has led to a very grim situation in the rural areas following the failure of crops over large areas of tank fed lands. A large sector of the population has been left without any resources or employment. Government have therefore taken up a large programme of works which aim at creating permanent assets which will result in lasting benefits such as minor irrigation works and roads apart from meeting the immediate needs of the community such as drinking water supply. The departmental programmes are being accelerated in the drought affected areas in order to increase the employment opportunities.



The Drought and Flood

Due to the inconsistency in the rainfall during the season, some part or the other of the State is either affected by drought or flood which in turn affect to a significant extent the agricultural economy of the State. The administrative area of the district is considered for convenience in identifying these zones. Informations relating to the behaviour of the rainfall and the area affected by drought or flood may spell out the measures to be taken up for planning the method to tide over the situation arising from the drought condition or the flood.

It is aimed to provide the information of the behaviour of the rainfall and based on such information :

(i) to locate the districts of Tamil Nadu which are affected by flood or drought and

(ii) to indicate the degree of effect of drought condition.

The intensity of rainfall governs the pattern and intensity of agricultural operation in each district. The district average rainfall (season or annual) compiled by the Department of Statistics, from Primary data available from rain gauge stations in each district are the main source of data for the present report.

For comparison of the intensity of rainfall among the districts a measure of relative rainfall is a pre-requisite. It may be defined as the ratio of the difference in rainfall between the district and the State, to the standard deviation of the district rainfall.

Greater the measure of relative rainfall for a district higher will be the intensity of rainfall for the district as compared to the average rainfall for the State. As regards the inconsistency in the rainfall for the annum or season i.e., risk of uncertainty of rainfall, the statistics of co-efficient of variation (C.V. %) is considered.

The Statistics of CV provides the information that smaller the magnitude of CV, lesser is the risk of uncertainty of annual/seasonal rainfall. In other words, higher the measure of CV, greater the risk of uncertainty of rainfall i.e., more inconsistent in the rainfall.

PRONE DISTRICTS OF TAMIL NADU



A STATISTICAL STUDY

By

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Relative rainfall

Relative annual rainfall, cropping intensity and cropping pattern for the districts of Tamil Nadu are given in Table 1.

It may be seen that the districts of Kanyakumari and the Nilgris have more rainfall as compared to other districts and consequently they may experience flood. The Nilgris district is in the Western Ghats raising over 2000 m.a. It is mostly a mountainous district with the highest peak of Doddabetta at a height of 2637 m.a.s.l. in Ootacamund taluk. Kanyakumari district is a small district with two of the western Taluks having high elevation from sea level. So these districts are not at all affected by flood. Thanjavur district is the next district having more rainfall as compared to others. It is one of the coastal districts of the State having the high variations of less than 80 m.a.s.l. The river Cauvery goes through the districts before its confluence with the Bay of Bengal. Hence it is sometimes affected by flood.

TABLE No. 1

Sl. No.	Intensity of rainfall	District	Cropping intensity (Gross area Net area) as in 1968 —69	Cropping pattern (area under Paddy as % of the gross area) as in 1968—69
1. Poor (—46% & less)		Salem	.. 1.11	15.5
		Coimbatore	.. 1.16	11.2
		Tiruchirappalli	.. 1.10	23.0
		Madurai ..	.. 1.13	23.0
		Ramanathapuram	.. 1.02	30.3
		Tirunelveli	.. 1.17	25.3
2. Below average (—45% to —16%)		Dharmapuri	.. 1.11	9.4
3. Average (—16% to +15%)		Chingleput	.. 1.31	67.9
		South Arcot	.. 1.21	47.1
		North Arcot	.. 1.21	29.8
4. Above average (+16% to 45%)		Thanjavur	.. 1.41	73.4
5. Good above 46% and above		Kanyakumari	.. 1.40	51.3
		The Nilgris	.. 1.01	6.1

The cropping intensity for the districts with the relative rainfall, average and above average, excepting the Nilgris is more than 1.20 and area under paddy as compared to gross area under cultivation is more than 30%. It is no wonder therefore that cropping intensity and (proportion of area under paddy) cropping pattern have got good bearing on relative rainfall.

However, the distribution of annual rainfall has got closer bearing on the cropping intensity and cropping pattern. Thus, the flood or drought condition in Tamil Nadu depends on the seasonal rainfall. Therefore, its influence by season-wise, in particular South-west monsoon and North East Monsoon, throws more information on flood or drought condition.

South-west Monsoon

During this monsoon period i.e. June to September, preparatory operations of agriculture takes place. The relative rainfall of this monsoon for the districts are given in Table 2.

Under this Monsoon, the districts of Kanyakumari and the Nilgiris, as in the case of annual rainfall, receive more rainfall as compared to that of the other districts. But on account of the orography they are not affected by flood.

North-East Monsoon

This monsoon covering the period October to December brings more of rainfall to the whole of Tamil Nadu and hence it is more important for the objective referred to earlier. The relative intensity of rainfall of the season for all the districts is given in Table 3.

The districts of Thanjavur, Chingleput and South Arcot with the height variation of less than 80 m.a.s.l. are liable to flood as a result of good rainfall as compared to other districts while the districts of North Arcot, Salem, Dharmapuri, Coimbatore Thiruchirappalli and Madurai are experiencing poor rainfall. The North Arcot district has the relative intensity of rainfall of more than average during the South West Monsoon and poor relative intensity of rainfall during the North East Monsoon.

TABLE No. 2

<i>Sl. No.</i>	<i>Relative Intensity of rainfall</i>	<i>District</i>
1.	Poor (—45% and less)	Coimbatore Madurai Ramanathapuram Tirunelveli
2.	Below average (—45% to —16%) ..	Thiruchirappalli Thanjavur
3.	Average (—15% to 15%)	South Arcot Salem Dharmapuri
4.	Above average (+16% to 45%) ..	Chingleput North Arcot
5.	Good (46% and above)	The Nilgiris Kanyakumari

TABLE No. 3

<i>Sl. No.</i>	<i>Relative intensity of rainfall</i>	<i>District</i>
1.	Poor (—46% and less)	North Arcot Salem Dharmapuri Coimbatore Thiruchirappalli Madurai
2.	Below average (—45% to —16%) ..	Tirunelveli
3.	Average (—15% to 15%)	Ramanathapuram
4.	Above average (16% to 45%)	The Nilgiris Kanyakumari
5.	Good (46% and above)	Chingleput South Arcot Thanjavur

Risk of uncertainty of rainfall

The co-efficient of variation measures the variation in rainfall-season annual, is the risk of uncertainty. Due to the risk of uncertainty in rainfall, the agricultural output varies from year to year.

The risk of uncertainty of annual rainfall in the districts of Tamil Nadu is given in Table 4.

There is least risk of uncertainty of annual rainfall for the districts of Ramanathapuram and Kanyakumari whereas there is maximum risk of uncertainty of annual rainfall for the districts of South Arcot, Dharmapuri and the Nilgris. Consequently the agricultural output in the districts of South Arcot, Dharmapuri and the Nilgris is liable to more variation from year to year as compared to other districts.

But the principal rainy seasons having bearing on the agricultural output are South West and North East Monsoon. The risk of uncertainty of these seasonal rainfall as follows :

South West Monsoon

The risk of uncertainty of rainfall during the South West Monsoon in the districts of Tamil Nadu is given in Table 5.

The risk of uncertainty of rainfall during the South west monsoon is in the range of 11% to 40% and is lower than that of annual rainfall and other seasons. However, there is more risk uncertainty of rainfall during the season in the districts of Tirunelveli, and Kanyakumari and less risk in regard to Salem, Dharmapuri, and the Nilgris.

North East Monsoon

The risk of uncertainty of rainfall during the North East Monsoon for the districts of Tamil Nadu is given in Table 6.

TABLE No. 4

Sl. No.	Range in the risk of uncertainty of annual rainfall	District
1.	0 — 10%	Ramanathapuram Kanyakumari
2.	11% — 20%	Salem, Coimbatore, Tiruchirappalli and Madurai
3.	21% — 30%	Chingleput, North Arcot, Thanjavur and Tirunelveli
4.	31% — 40%	.. .. .
5.	41% and above	South Arcot, Dharmapuri and The Nilgris.

TABLE No. 5

Sl. No.	Range in the risk of uncertainty	Districts
1.	0 — 10%	.. .. .
2.	11% — 20%	Salem, Dharmapuri and The Nilgris
3.	21% — 30%	Chingleput, South Arcot, North Arcot, Coimbatore, Thiruchirappalli, Thanjavur, Madurai and Ramanathapuram
4.	31% — 40%	Tirunelveli and Kanyakumari
5.	41% and above	.. .. .

TABLE No. 6

Sl. No.	Range in the risk of uncertainty of rainfall	District
1.	0 — 10%	.. .. .
2.	11% — 20%	.. .. .
3.	21% — 30%	Tiruchirappalli, Madurai, Ramanathapuram and the Nilgris
4.	31% — 40%	Salem, Dharmapuri, Coimbatore, Thanjavur, Tirunelveli and Kanyakumari
5.	41% and above	Chingleput, South Arcot and North Arcot

TABLE No. 7

Risk of uncertainty of rainfall (W) Relative Rainfall

	0—10%	11%-20%	21%-30%	30%-40%	41 & above
1. Poor	..	Rama-nathapuram	Salem, Coimbatore, Tiruchirappalli and Madurai	Tirunelveli	..
2. Below Average	Dharmapuri
3. Average	Chingleput North Arcot	.. South Arcot
4. Above Average	Thanjavur	..
5. Good	..	Kanyakumari	..	..	.. The Nilgris

All Districts of Tamil Nadu have the same or higher risk of uncertainty of rainfall during this season as compared to that of South West Monsoon.

The districts of Chingleput, South Arcot and North Arcot have more risk of uncertainty of rainfall during the South West Monsoon compared to that of other districts, whereas the districts of Tiruchirappalli, Madurai, Ramanathapuram and the Nilgris have lesser risk of uncertainty of rainfall during the season.

Relative rainfall and risk of uncertainty of rainfall

The intensity of rainfall coupled with the risk of uncertainty causes either the flood or drought condition and consequently affect the agricultural economy. The combined effect of these measures, are presented below:—The combined effect in each district in regard to annual rainfall is illustrated in Table 7.

The Kanyakumari district has good rainfall with minimum risk of uncertainty of rainfall, as compared to other districts. Therefore, the agricultural output is least liable to any variations as a result of variations in rainfall. Further, the district is not liable to any flood inspite of best rainfall, because of its geographical position as mentioned earlier. Though the Nilgris district has good relative rainfall, it is subject to

maximum risk of uncertainty of rainfall. It, being a mountaneous area, is not affected by flood.

Thanjavur district is the only district having good rainfall next to Kanyakumari and the Nilgris, with the risk of uncertainty of rainfall of 21%—30% magnitude. Therefore, it, being the coastal area with the height variation of less than 80 m.a.s.l. is liable to flood. Next to this district, Chingleput, North Arcot and South Arcot are the districts having better rainfall with the risk of uncertainty of rainfall ranging from 21% and above. South

Arcot district has maximum uncertainty. Hence, it is liable, at interval, to flood. Locating the coastal area with low elevation from sea level. Dharmapuri district is the district having related rainfall of below average and maximum risk of uncertainty of rainfall is, at interval, liable to drought condition. Therefore, the district of Dharmapuri and South Arcot are, at interval, liable to drought even though the relative rainfall of the two districts are more than that of other districts namely Ramanathapuram, Salem, Coimbatore, Thiruchirappalli, Madurai and Tirunelveli.

But the flood or drought condition in any district is discernible in a particular season, particularly in North East Monsoon. The combined effects during the season are shown in Table 8.

The districts of Thanjavur, Chingleput and South Arcot are the districts having relatively good rainfall and risk of uncertainty of rainfall of 31% and above. Therefore, they are liable, at interval, to flood during the season of North East Monsoon.

Among the other districts of Tamil Nadu, the district of Coimbatore, Salem, Dharmapuri and North Arcot are the districts having relatively, poor rainfall and risk of uncertainty of rainfall of 31% and above. Consequently they are, at interval liable to drought condition during the North East Monsoon.

TABLE. No 8

RISK OF UNCERTAINTY

<i>Relative Rainfall</i>	0—11%	11%-20%	21%-30%	31%-40%	41% & above
1. Poor	Thiruchirappalli Madurai	Salem, North Arcot, Coimbatore, & Dharmapuri
2. Below Average	Tirunelveli
3. Average	Ramanathapuram	..
4. Above Average	The Nilgris	Kanyakumari
5. Good	Thanjavur, Chingleput, and South Arcot

Spotlight on Employment Situation in Tamilnadu During December 1974

ANNEXURE-III

Details of shortage occupations Exchange-wise experienced during the month of December 1974.

Occupations reported to be in short supply.	Details about the qualification and experience and the reasons for the shortage as furnished by the field offices.
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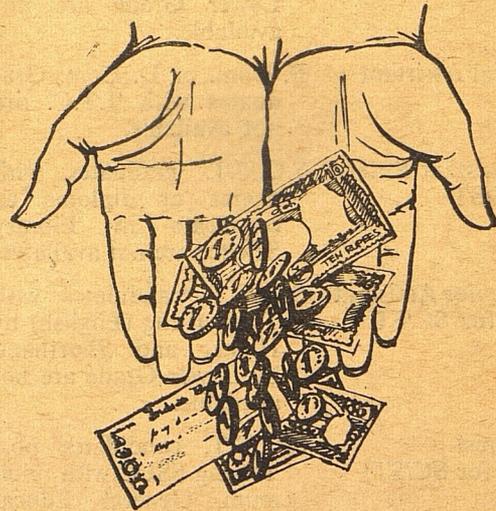
(1)	(2)	(3)
1. Junior Basic Trained Teacher		Candidates who have passed Junior Basic Teacher's Certificate course and willing to work out side in leave vacancies are not available.
2. Higher grade Teacher Reserved for S.C./S.T.		S.C./S.T. candidates trained as Secondary Grade teachers are not available.
3. Physical Education Teacher. Reserved for S.C./S.T.		S.C./S.T. candidates possessing physical Education Teachers Certificate are not available.
4. Crane Driver		S.S.L.C. passed candidates with 10 years experience in operation of Heavey duty cranes of 100 tons capacity and other connected duties and below 35 years of age are not available.
5. Fireman Grade II Reserved for S.C./Ex. servicemen.		S.C./Ex-servicemen passed Primary School Std., with previous experience as greaser or oilman on boardship or training as apprentice or fitter (desirable) are not available.
6. Dyer. Reserved for S.C. Priority and Non Priority		S.C. candidates passed middle school with 5 years experience in dying in a reputed firm or in Weavers Services Centre or diploma holders in dying are not available.
7. M.T. Driver. Reserved for S.C./S.T.		S.C./S.T. candidates possessing valid motor heavy driving licence with 5 years experience in driving diesel and petrol trucks and knowledge of motor mechanism are not available.

8. Scrang. Un. reserved Non priority		Candidates who have passed primary school Std., possessing Scrang's Certificate and previous experience are not available
9. Technical Assistant Reserved for S.T. Priority.		S.T. candidates possessing diploma in Civil/Mechanical Engineering or diploma in Architecture are not available.
10. Inland driver		Candidates who have passed primary School Std., with II Class motor Engine certificate and practical experience as a certified II Class on work launch are not available.
11. Tindal. Non reserved Open competition.		Candidates who have passed middle school Std., with experience as Tindal or inland master and knowledge of coastal area are not available.
12. Junior Assistant. Reserved for Scheduled		Priority candidates from S.C. with typewriting English and Tamil by higher grade are not available.
13. Pharmacist. Reserved for Scheduled Caste.		S.C. Priority candidates with diploma in Pharmacy are not available.
14. Sanitary Worker. Open competition.		Open Competition, Priority candidates with VIII Std. qualification are not available.
15. Pumpset operator (Open competition)		Candidates with previous experience in operating pumpsets and below 30 years of age are not available.
16. Meter Reader, Reserved for S.C./S.T.		S.C./S.T. candidates passed VIII. Std., with experience in operating meters etc. are not available.
17. Carpentry machine operator.		Candidates with experience in carpentry machine operating and below 30 years of age are not available.
18. Moulder. Priority and Non priority.		Candidates with 15 years experience as moulder and below 30 years of age are not available.

19. Dark Room Assistant. Candidates possessing Dark Room Assistant Course certificate are not available.
20. Maternity Reserved Assistant. for S.C./S.T. S.S.L.C. passed S.C./S.T. candidates with Auxiliary Nurse and midwife qualification are not available.
21. Telegu Pandit. Reserved for S.C./S.T. Non Priority. S.C./S.T. candidates passed S.S.L.C., and with T.T.C. in Telugu Pandit holding Vishadra Certificate of the Andhra are not available.
22. Rural medical Practitioner Non priority. Open Competition. Candidates possessing L. I. M., L.M.P., are not available.
23. Steno-typist. Reserved for S.C.S.T. S.C./S.T. candidates with Minimum General Educational Qualification and Short hand/Typewriting (English) both by Lower Grade are not available.
24. Electrician (Daily wages) Candidates possessing practical experience in automobile electrical works for not less than 3 years and below 30 years are not available.
25. B.T. Assistant (Maths) Reserved for S.C./S.T. S.C./S.T. candidates possessing the degree of B.A. or B.Sc., and B.T. or B. Ed., (Maths main Subject) are not available
26. Engine Driver (Open Priority) Candidates possessing the following qualifications are not available.
1. Certificate of competency of Engine Driver granted by the Board of Examiners constituted in this behalf by the State Government.
 2. Certificate of competency as Boiler attendant Class III issued by the Chief Inspector of the Steam Boilers, Madras.
 3. Must not have completed 26 years of age.
27. Craft Instructor. (Book Binding) Candidates with the following qualifications are not available.
1. N.T.C. in the trade of Book Binding with practical experience for not less than three years in a recognised concern.
- or
- Diploma in craftsmanship in the trade of Book Binding with three years experience in a recognised concern.
- or
- N. A. C. in the trade of Book Binding with 2 years practical experience in a recognised concern.
- and
- Ability to organise the proper distribution of work to the trainees in charge and to maintain discipline.
28. Shepherded. Reserved S.C./S.T. S.C./S.T. candidates with adequate experience in grazing of sheep and shepherding and ability to read Nos. and age upto 30 years are not available.
29. Optician. Reserved for S.C./S.T. S.S.L.C. passed S.C./S.T. candidates with diploma in optician course and adequate knowledge of Tamil and within 26 years of age are not available.
30. Assistant. Reserved for S.C./S.T. S.C./S.T. candidates possessing a first class B. Com., degree below 30 years of age are not available.
31. Lab. Attendant. Reserved for S.C./S.T. S.C./S.T. candidates possessing S.S.L.C. with Science subject and experience in a chemical Laboratory as attender are not available.
32. Secondary Grade Teacher Priority Priority candidates passed S.S.L.C. and Secondary Grade teachers Training (Senior Grade Trained) are not available.
33. Teacher. Candidates with Junior diploma for teaching the deaf are not available.
34. Secondary Grade Teacher (Women only) Women candidates possessing S.S.L.C. with T.S.L.C. in Gujarathi medium are not available.
35. Music mistress (Women candidates only) Women candidates passed S.S.L.C. and T.S.L.C. in Gujarathi medium and with higher grade certificate in music (North Indian Hindustan Music) are not available.

36. Gujarathi Pandit Grade-II Women-Gujarathi candidates possessing S.S.L.C. and T.S.L.C. are not available.
37. Physical Education Teacher (Women SC/ST) Women S.C./S.T. candidates possessing State Government Physical Education Certificate by Lower Grade are not available.
38. Secretarial Assistant B. Com. or D. Com. Graduates with T.T.C. are not available.
39. U.D. Assistant Reserved for SC/ST S.C./S.T. graduates with degree or diploma or certificate in Library Science are not available.
40. Camp Junior Assistant Reserved for SC/ST S.C./S.T. candidates with Typewriting (English) by Higher and Shorthand by Lower Grade are not available.
41. Steno-typist (Reserved for SC/ST) S.C./S.T. candidates possessing SSLC with minimum General Educational Qualification, Typewriting (English) by Higher Grade and Shorthand by Lower Grade are not available.
42. Steno-Typist (Reserved for S.C./S.T.) S.C./S.T. candidates possessing S.S.L.C. with Minimum General Educational Qualification, Typewriting (English) by higher grade Typewriting (Tamil) by Lower grade and Shorthand by Lower grade are not available.
43. Stenographer (Women only) Women candidates with S.S.L.C. or equivalent with Typewriting and Shorthand by higher grade and with 5 year's experience in a Commercial organisation as Telex and Telephone operator are not available.
44. Receptionist (Lady) Women graduates with 3 years experience as a Receptionist, pleasing personality and clear voice are not available.
45. High Grade Teacher Candidates, higher grade Teacher trained and residing in the Panchayat Union (Kattumannar - koil) area are not available.
46. Auxiliary Nurse and Mid wife (Reserved for S.C./S.T.) S.C./S.T. candidates, Auxiliary Nurse and Midwife course passed are not available.
47. Maternity Assistant. (Priority) Candidates with SSLC. and Auxiliary Nurse and Mid wife Certificate are not available.
48. Assistant Cane Officer. B.Sc. (Agri) candidates with atleast Two years experience in a sugar cane Development cannot below 30 years of age are not available.
49. Staff Nurse. Reserved for S.C. Scheduled Caste candidates trained in general Nursing for a period of not less than 3 years and in midwifery for not less than 6 months are not available.
50. Health Assistant. Reserved for S.C. S.C. candidates, passed S.S.L.C. and Sanitary Inspector course are not available.
51. Professor (Viyakarma) Candidates possessing diploma in Viyakarma Sirmammani are not available.
52. Junior Assistant (Trained in Bradma machine Operation) Priority—Reserved for S.C. S.C. candidates belonging to priority category with experience in Bradma machine operation and printing schedules in Bradma system and also possessing certificate issued by Bradma of India Limited., are not available.
53. Work Assistant. Reserved for S.C. Scheduled Caste candidates from priority category possessing diploma in Civil Engineering are not available.
54. Tap Inspector Reserved for S.C. Scheduled Caste candidates passed S.S.L.C. and Pipe line fitter course are not available.
55. Demonstrator in Physics Reserved for S.C./S.T. S.C./S.T. graduates with I and II (50%) division in Physics and below 30 years of age are not available.
56. Senior Draughtsman (Civil) Reserved for S.C. S.T. S.C./S.T. graduates in Civil Engineering or diploma holders in Civil Engineering with 8 years experience are not available.
57. Medical Officer. L.I.M. candidates qualified as (A) Class Practitioner and below 30 years are not available.
58. Lecturer in Textile Technology Candidates with a masters Degree in Textile Technology and with 2 years experience are not available.

EXTEND YOUR HELPING HAND, PLEASE!



You are all aware that the unprecedented failure of the monsoons, never before witnessed in the last one hundred years, has afflicted Tamil Nadu. As a result, many parts of the State are in distress and Tamil Nadu now faces the worst drought and deficit in food production. The Government of Tamil Nadu has undertaken and is implementing drought relief measures on a war footing. Indeed, many are the concessions provided by Government to mitigate the distress and difficulties of the people.

It is a welcome suggestion that the difficult food situation and drought conditions should not be exploited for political ends. I would appeal to all of you to join the fight against the fury of nature, extend your co-operation to combat the drought and provide relief to the suffering. In accordance with my request already made in the State's Legislature, I request all of you to contribute to the Drought Relief Fund.

C.M.'s

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- * All the State Ministers, M.Ps, M.L.As and M.L.Cs to contribute one month's salary.
- * Government employees, teachers and factory workers to contribute one day's emoluments.
- * Private undertakings to contribute liberally.
- * All bus transport organisations to contribute not less than Rs. 1,000/- per vehicle.
- * Temples to contribute from their surplus fund and the general public to contribute their mite.

*Till the rains do visit again
This land of Tamil Nadu—
I appeal to you all
Endowed with compassion
To extend a helping hand
Like a cloud-burst
And a sudden downpour!
To expel the
Gloom of our land.*

Contributions

Till 31-3-75

Rs. 35,39,795-00

N.B. Contributions may be sent in the name of
"Chief Minister's Drought Relief Fund" to
Senior Accounts Officer (Drought Relief Fund)
Finance Dept.,
Secretariat Fort St, George, Madras. 600009



Rapid Green Revolution



Welfare of Backward Classes



Free Education up to P.U.C.



CAN YOU NOT HELP THE STATE?

Legal Distribution of Land to the Poor



Slum Clearance



Despite these achievements
Rising Population Raises Problems

SURELY YOU CAN

By **PLANNING YOUR FAMILY**

DEPARTMENT OF HEALTH SERVICES AND FAMILY PLANNING

VISIT Poompuhar

FOR A REAL
INSIGHT INTO

Tamil Culture

Kaveripoompattinam, known as Poompuhar in its more fortunate days was a well laid out port town which boasted of a separate settlement for the foreigners. Much of the archaeological remains still are there for us to see.

In addition, the recently constructed art gallery is the first attempt, after many centuries, at group-sculpture for which Tamil Nadu is justly famous. In the form of group-sculpture and also in individual figures a remarkable edifice to recreate the life and times of the Tamil classic "Silappathikaram" Story of the Anklet has come up at Kaveripoompattinam in its art gallery.

FOR FURTHER DETAILS

CONTACT:

RECEPTION OFFICER,

Poompuhar, Art Gallery

(VIA) SIRKALI, THANJAVUR DIST.

