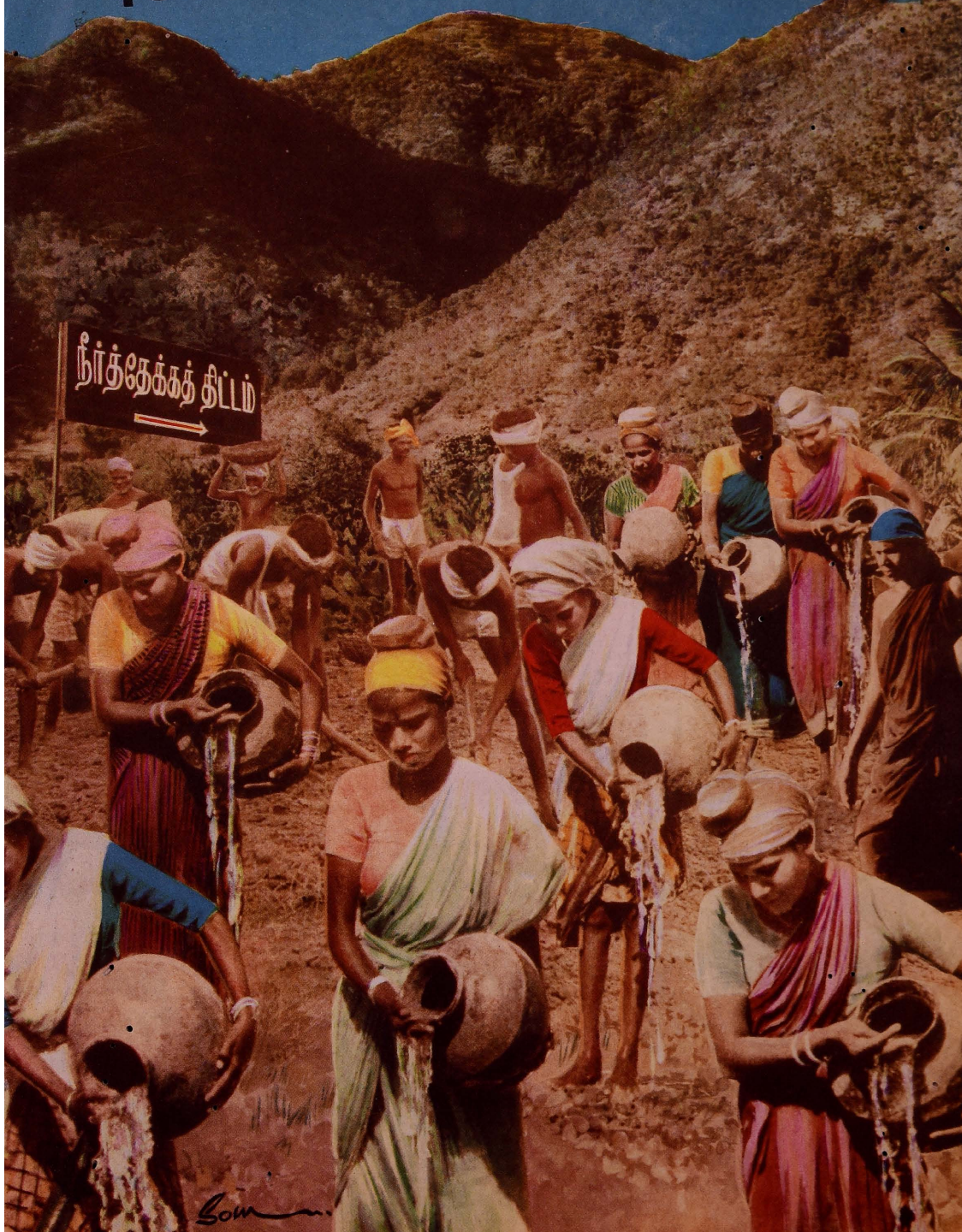


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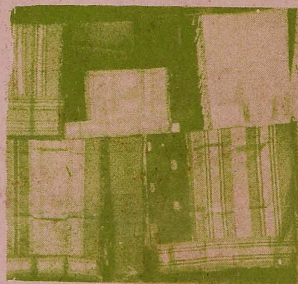
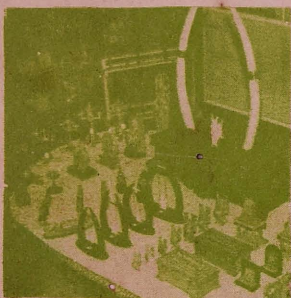
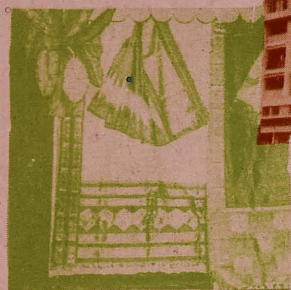
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MUTHU

A PROMISE REDEEMED

By S. RAMACHANDRAN,
Minister for Transport.

It may be recalled that during the historic mid-night session of the Legislative Assembly and the Council on the 15th August 1972 the Chief Minister had announced that this State would be taking active steps to enable the employees to participate in the equity capital of Public Sector Corporations of this State up to 24 per cent. As a first step towards implementing this promise, it has been decided to introduce employees' participation in ownership and management in the Transport Corporation step by step.

The scheme of employees' participation in ownership and management has been in the air for a long time. But so far in India neither the Union Government nor any of the State Governments have introduced a scheme for employees' participation in ownership and management in any of the public sector projects. Tamil Nadu Government have great pleasure in taking the initiative in pioneering this experiment.

The Tamil Nadu Scheme contemplates of convertible debentures to the employees. As per this scheme, the employee will get an interest of 8 per cent on his share capital. The advantage accruing from this is that the employees will get 8 per cent interest even if the company works on loss. If there is profit and a dividend of more than 8 per cent is declared, the employees have the option of converting these debentures into shares. Thus, they can get better returns on their investments. A period of 10 years is allowed for such conversion of debentures into shares. This is only an interim arrangement pending the amendment of the Central Acts. The important aspects of this Scheme are as follows :—

(1) This scheme is optional in the case of the existing employees. But, in the case of new recruits, it is made compulsory.

(2) Those who get a salary of less than Rs. 500 should purchase debentures worth Rs. 500 and those who get a salary of more than Rs. 500 should purchase debentures worth Rs. 1,000.

(3) In the case of the former this amount may be paid in 50 instalments of Rs. 10 each and in the case of the latter in 50 instalments of Rs. 20 each.

(4) On collection of 10 monthly instalments 100 shares to the total value of Rs. 500 will be given to the employees by endorsing Rs. 100 out of Rs. 500 as having been paid up.

Tamil Arasu

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We propose to implement this scheme as an experimental measure in the Transport Corporations. In the first instance, it will be implemented in the Cheran Transport Corporation. Subsequently it will be brought into force in other Transport Corporation in a phased manner. This is yet another opportunity offered to the employees to take part in the ownership and management of the Public Sector Corporations. I request the Hon'ble Members to come forward with their valuable suggestions so that we, in Tamil Nadu, could mould and shape the future of this concept which would be useful to the country as a whole.

CHIEF MINISTER'S REPLY TO BUDGET DEBATE



The following are some highlight in the reply to the debate on the Budget for 1973-74 in the Tamil Nadu Legislative Assembly given by Dr. M. Karunanidhi, Chief Minister, on 7th March 1973.

Finance Commission.

Some members of this House took exception to the statement in the Budget that the Finance Commission should be the primary channel for the flow of funds from the Centre to the States. But what I wish to explain to them is that the Finance Commission should be provided with the topmost authority only in the matter of allocation of grants to the States by the Union Government and that the Planning Commission should continue to be invested with the power to fix the quantum of financial allocation for States' plans. Thus it is clear from the above explanation that our stand is not to absolve the Planning Commission of complete responsibility in the matter of allocation of funds to the States by the Centre for fulfilling the Plans.

The Planning Commission allots funds for the State's plan which consists of 70 per cent aid and loan and 30 per cent grant. But I would like to insist here that this grant should be allocated on the basis of principles laid down by the Finance Commission. This point has been insisted upon by the Administrative Reforms Commission. This Government is also of the opinion that a Federal Loan Corporation should be created for lending to the States for implementing Plan Schemes, and the States should be given representation on it.

Land Tax.

Thiru Kasiraman of the Ruling Congress said that the total income derived from land tax, irrigation tax, land cess, and agricultural income-tax in 1966-67 was Rs. 8.40 crores and the income under the same head now also works out to Rs. 8.40 crores. By this he means to drive home the point that there has been no reduction in the land tax burden and that all our claims of mitigation of land tax burden on the peasantry are verbal myths.

We have abolished the land tax completely for dry lands and up to the limit of five acres in the case of

wet lands. Further we have imposed agricultural income-tax only on those farmers who take to commercial crops and are capable of bearing the additional tax burden. This has yielded additional tax revenue to the exchequer. All these additional taxation on the rich land-holders is reflected in the land tax.

Land revenue is a fluctuating source and it is judged best by striking averages for 5-year periods. If we take into account the average collection from land tax for the period from 1961-62 to 1966-67, the average year-wise collection comes to Rs. 8 crores whereas the average year-wise revenue from this source of income for the period from 1967-68 to 1973-74 it works out to only Rs. 6.3 crores. Thus on average the revenue on this account has fallen down by Rs. 2 crores benefiting a large number of small land-holders in the State with the abolition of land tax.

Share of the State in the Central Tax.

Thiru James of the Con. (O) party in the Assembly alleged in his speech that the revenue of the State has increased from Rs. 194 crores in 1966-67 to Rs. 465 crores this year and that the large revenue increase to the tune of Rs. 271 crores represents new and enhanced taxes imposed on the people afresh during the period of this Government.

His statement that the State's revenue receipt from tax collection in 1965-66 and 1973-74 are Rs. 194 crores and Rs. 465 crores respectively is completely misleading inasmuch as the total revenue receipt of a State Government includes many other items of receipts apart from tax collections. In 1966-67, the State derived a sum of Rs. 29 crores from the divisible pool of Central tax collection as against Rs. 96 crores the State is receiving from the same source in 1973-74. So also, in 1966-67, the total grants received from the Centre amounted to Rs. 23 crores whereas the same has increased to Rs. 54 crores this year. Further the non-tax revenue of the State was Rs. 46 crores in 1966-67 whereas the non-tax revenue of the State now stands at Rs. 89 crores.

After deducting all these receipts from the total revenue receipt of the State, the net amount derived from taxation in 1966-67 was Rs. 95

crores whereas the same works out to Rs. 225 crores this year. The increase in the taxation revenue is not due to undue imposition of new taxes on the weaker sections. All these increases in taxation revenue has been effected through some slight increase and simple rationalistic modifications made in the already existing taxes, through the accelerated growth in the industrialisation of the State and through the general economic growth in the State.

Is it wise to allow the taxation increase to such menacing proportions within a period of seven years? To put the matter in proper perspective let us go back to the past and analyse the matter in the background of the previous seven years' record before 1966-67. In 1959-60 the total revenue realised from taxation in this State was to the tune of Rs. 39 crores and it reached in the year 1966-67 the figure of Rs. 95 crores registering a spectacular increase of 2.45 times more or 245 per cent. But the increase in taxation revenue between 1967-68 and 1973-74 works out to only 2.36 times more or 236 per cent only. From this account it may be clear that comparatively speaking, the increase in taxation revenue between 1967-68 and 1973-74 is not so glaring as made out by the member.

Price Rise.

Almost all members who spoke on the budget for 1973-74 expressed grave concern over the price rise—and all the opposition members raised the point in an unanimous and universal tone as if this Government is not at all worried over this serious problem. Without seeming to be putting the whole blame on the Centre, I have to affirm that this is an All-India problem and we must look at and deal with it as such.

We have never thought nor do we wish to get away from the problem by shrinking form the burden of the problem and shying away from our duty to the society. But on the other hand, we reflect the same opinion that the opposition leader and the members in this House expressed on this problem. We must also bear in mind that we all have equal responsibility to put the people in proper perspective of this menacing problem.

As per the Economic Survey, 1972-73 of the Government of

India, the growth of National Income in 1968-69 was 7 per cent as against 8.1 per cent increase in the money circulation in the same year. The year 1969-70 registered an increase of 7.3 per cent in the National Income growth whereas the money circulation in the same year increased by 10.8 per cent. In the year 1970-71, as against 4.6 per cent increase in the National Income the increase in the money supply was 11.1 per cent. But in the year 1971-72 the National Income growth got down to between 1.5 and 2 per cent whereas the money supply in the same year registered an increase of 12.9 per cent. The same has been repeated in 1972-73. It is a common knowledge that when money supply exceeds that of the production growth of a country the prices of goods naturally get an upward trend. The power to keep the money supply under control lies with the Centre. Because the Centre is tied up with the responsibility of controlling the money supply, we say that the Centre should take needful and necessary action in this regard.

Nor is this all. There is another point to this problem. The black money holders contribute not a little to the spiralling up of prices. Their holding black money in large sums without letting it out in the open market adds to the price-kick in no small measure. The responsibility to unearth the black money is not with the State. That lies with the Union Government. None is unaware of the complications that black money is creating in the national economy.

As far as Tamil Nadu is concerned we produce rice in enough quantity and so we are in a position to keep the rice price under check by banning the export of rice to other States. But in the case of other food articles such as pulses, oil, etc. we, by and large, rely on the supplies from other States, and we are incapable of bringing their prices under control. Nevertheless, the State Government has started with added vigour and speed the work in the field to produce more such items of food articles that we are in short supply. This zeal and zest of the Government has been expressed in unambiguous and unequivocal terms in the Governor's Address and the Budget for 1973-74.

NO STAND-STILL IN POWER PRODUCTION IN TAMIL NADU

During the C.M.'s reply to the debate on the Budget the following points on Power Production Capacity in Tamil Nadu was brought out.

During the First Five-Year Plan period our State produced 110 M.W. power from its own sources. In the Second Five-Year Plan period, the addition to power production capacity was of the order of 315 M.W. and in the Third Five-Year Plan, significant addition was made to the tune of 510 M.W. In other words in a long period of 15 years, i.e., from 1951 to 1967 the total addition to power generating capacity in this State amounts to 935 M.W. whereas within a period of five years from 1967 to 1972, a total of 625 M.W. generating capacity has been added.

Not only this. There is another side of the problem. The daily requirements of power for Kerala, Mysore and Andhra are 60 lakhs units, 130 lakhs units and 90 lakhs units respectively. Thus the total requirement of power per day for all these three Southern States comes to 280 lakhs units whereas, because of the advanced stage of industrialisation and energising of agricultural pumpsets in large numbers making an All-India record, Tamil Nadu requires 225 lakhs units of power for its daily consumption.

NATURE'S FAILURE.

The present power crisis is the outcome of low storage of water in Hydro-electric Reservoirs which, in turn, is due to the nature's failure and nothing more. As nature has failed us unexpectedly, its regular quota of power from its Hydro-electric power stations has also gone down correspondingly.

Another question posed by the opposition is that this Government has not asked for any more new

power schemes from the Centre. Thiru Kumarasamy of the Ruling Congress, in his speech, went to the extent of saying "Why can't you start new power stations on your own volition and account and get the approval of the Centre after completion of the schemes?" This is a completely misleading statement. I hope at least the members belonging to the party which had been in power in the past would agree with me that even if a scheme is approved by the Centre for execution in the Fourth Five-Year Plan it could not be completed in so soon a time as now as some of the members in this House tend to think.

Further there are some other bottlenecks in the way to execute work without prior approval of the Union Government. First of all in such cases no factory in the country would come forward to execute orders on behalf of the State to supply boilers, generators, etc., which are the basic requisites for power generation. And the State could import such goods only with the approval of the Centre. So I wish to explain that the State has no option at its command except to execute such schemes with the prior approval of the Union Government.

NEW SCHEMES.

It is the general accusation of the opposition that the State has failed to ask for new power schemes from the Centre. But the fact belies the opposition allegation. During the past three years, viz., 1971, 1972 and 1973 we have submitted to the Centre fresh

proposals for ten new power schemes. They are (1) *The Servalaru Scheme*, (2) *The Nellidurai Scheme*, (3) *The Solattipuzha Scheme*, (4) *The Upper Amaravathi Scheme*, (5) *The Paraliyaru Scheme*, (6) *The Shanmuga Nadhi Scheme*, (7) *The Coonoor-Kallaru Scheme*, (8) *The Lower Melaru Scheme*, (9) *The Tuticorin Thermal Power Station* and (10) *The Mettur Thermal Power Station*. The total installed capacity of all these schemes as per plan works out to 1,035 M.W. The normal procedure laid down for the approval takes at least about two years. The Nellidurai scheme, the Servalaru scheme and the Paraliyaru scheme for which proposals were submitted in 1970-71, have not as yet been okayed and these are instances in point to prove the delay.

EFFICIENT USE OF POWER.

The other point of allegation raised by the opposition in this regard relates to the utilisation of the available power in the State, and the opposition has blamed the Government that the power has not been used in economical and equitable manner and that the element of corruption has raised its ugly head in this sphere also. They also demanded an enquiry commission to be set up by the Union Government.

In this regard I wish to quote a speech of Thiru K. L. Rao, Union Minister for Irrigation and Power, delivered in the Parliament and published in the *Hindustan Times* which runs "He (K. L. Rao) complemented Tamil Nadu for making the best use of power without wastage". In a seminar held at New Delhi on 23rd February 1973 he has also pointed out that "The power planning so far has been totally wrong. It should never have been linked to the general Five-Year Plan. Power Planning should be a continuous process".

POLICE IN 1972

“As many as 26,080 cases against property including murder were reported in 1972, as against 25,830 cases in 1971 which means an increase by 1 per cent. The investigation of these offences have received attention with particular emphasis on the application of scientific aids to investigation such as the Finger Print Bureau, Vellore and the Single Digit Finger Print Units, the Dog Squad, the Police Wireless Net-work, etc. Thus modernisation of Police Force in Tamil Nadu on scientific line is in full swing.”

The Tamil Nadu Police has maintained its reputation of being a very fine, effective and efficient organisation, with a total strength of 43,364 personnel.

In order to assist the Police Force with latest scientific aids, the Government sanctioned the formation of 16 Mobile Laboratory units in the districts in 1971. All these mobile laboratories were equipped during the year under review and they undertake visits to scenes of crime and are being put to good use by Police Officers in the districts. Each mobile unit is manned by a Sub-Inspector who has been specially trained for this work. However, the Sub-Inspectors of these units are being replaced by regular Scientific Assistants on a phased programme and to start with, the Government have sanctioned during this year four posts of Scientific Assistants to man the units in North Arcot, Madurai (North), Chingleput (West) and Kanyakumari districts.

At Headquarters the Forensic Science Laboratory is giving help to the Police on all cases.

The laboratory has acquired during the year a X-ray plant and Reichert Dia pan microscope. An equipment with electric timer to determine the muzzle velocities in fire arms cases has also been acquired by the laboratory.

The Government have issued orders merging the Tamil Nadu Forensic Science Laboratory and the Chemical Examiner's Laboratory into one integrated laboratory from 1st March 1973. The integrated laboratory is called the Tamil Nadu Forensic Science and Chemical Laboratory.

Crime and Detection:

26,080 cases against property including murder were reported in 1972, as against 25,830 cases in 1971, which means an increase by

250 cases or 1.0 per cent. The increase in crime, though very marginal, is in keeping with such increasing crime trends in developing and developed countries of the world. The investigation of these offences received attention with particular emphasis on the application of scientific aids to investigation such as the Finger Print Bureau, Vellore and the Single Digit Finger Print Units, the Dog Squad, the Police Wireless Net-work, the Tamil Nadu Forensic Science Laboratory and the Mobile Laboratory Units in the districts.

Dog Squad:

There are 3 Dog Squads at present functioning in this State, one each at Madras City, Madurai and Coimbatore. They have been working quite satisfactorily. The Government have also sanctioned the formation of a Dog Squad at Tiruchirappalli and the construction of kennel has been taken up. It will start functioning after the kennel is completed and dogs are procured. The services of the Detective Dog Squads were utilised in 359 cases during 1972, as against 315 in 1971.

Police Radio Branch:

All the District headquarters are linked with Madras, which has four control stations known as Central Range, Southern Range, Western Range and Northern Range control stations, in the Tamil Nadu Police Radio Net-work.

Besides the above, there are Madras City Police Radio Net-work and Tamil Nadu Special Police Radio Net-works. The flood emergency stations are in Madras City, Lower Anicut, Grant Anicut, Thanjavur, Bhavanisagar, Thekkady and Mettur, Upper Anicut, Ramana-thapuram, Madurai and Tirunel-veli which are used during monsoons and for communication regarding release of water from reservoirs, etc. There are 43 sub-divisional Stations which were utilised

during all important festivals, strikes, V.I.P. visits and in all other emergencies.

The establishment of Radio Stations at Avadi, Cheyyar, Nilakottai and Virudhunagar sub-division was sanctioned during the year. At present, Police control rooms are functioning at Madurai, Tiruchirappalli, Coimbatore, St. Thomas Mount (Chingleput East), Madras City, Tirunelveli, Salem and Vellore.

The four weather warning stations at Madras, Kancheepuram, Cuddalore and Thanjavur are functioning satisfactorily.

Microwave Survey

The microwave survey team began the survey work in February, 1971. A preliminary survey of the microwave route from Madras City to Nagercoil was conducted. A detailed survey was later undertaken. Major hill regions were surveyed and sites for microwave stations were tentatively chosen. The required technical data for the Microwave project has been collected. A project report has been prepared and sent to the Director of Police Tele-communications, New Delhi for inviting tenders. The clearance for the Project from the Electronics Commission, the Directorate of Technical Development and Wireless Planning and Co-ordination is awaited.

A major programme of expansion of the V.H.F. net-work is now underway. Work is in progress for installing V.H.F. sets in 120 Police stations sanctioned under the modernisation programme for 1971-72. V.H.F. sets are to be installed in another 270 Police stations under the same scheme in 1972-73. It is expected that by 1975-76 all Police stations would be linked through V.H.F. radio stations to their respective district headquarters.

The V.H.F. net-work which permits, voice, Teleprinter and Facsimile Communication, connects State headquarters, through five high altitude repeater stations with all the district headquarters towns and also with wireless equipped vehicles in eight such towns which have control rooms. Altogether there are 44 static and 112 mobile V.H.F. sets in operation.

Police Commission Recommendation Executed

As many as 122 recommendations of the 133 made out by the Tamil Nadu Police Commission have been accepted by the Government. They cost Rs. 3 crores non-recurring and Rs. 3 crores recurring. Accepted recommendations on which action has yet to be taken will cost Rs. 2,02,66,012 per annum and Rs. 4,64,60,550 (non-recurring). It is proposed to implement these recommendations in a phased manner. The recommendations, which have been accepted, fall into five groups, and their main features are set out below :—

Group I—Pecuniary conditions of Service.—Extension of the privilege of free supply of uniform and payment of feeding charges during bandobust to all non-gazetted Police Officers; enhancing the rate of uniform allowance from Rs. 5 to Rs. 7 per mensem to each Police Constable and Head Constable.

Group II—Reconstitution of Police Services.—Two new categories, namely, Police Constables Grade I and Deputy Inspectors of Police have been introduced and certain changes in strength of various categories have been accepted, in order to meet functional and workload requirements, while improving promotion prospects.

(b) The above changes provide for—

(i) One extra Sub-Division in each Police District.

(ii) Circles based on the following formula—

4 stations for a circle.	In rural areas.
3 stations for a circle.	In Grade III municipalities and adjoining areas.
2 stations for a circle.	In Grade II municipalities and adjoining areas.
1 station for a circle.	In Corporation and Grade I municipalities.

(iii) Transfer of responsibility for Sub-Jail and Sub-Treasury guarding with a man-power equivalent of 150 head constables and 900 police constables, from the Police Department to the Jail Department,

(iv) Augmenting District and City Armed Reserves by 16 Platoons of Armed Reserves in two stages.

(v) Opening of 24 Traffic Police Stations in Madras City and 98 in the districts.

(vi) Augmenting and providing of Traffic Investigation Teams in Madras City, Madurai, Coimbatore, Tiruchirappalli and Salem.

(vii) Augmenting State and District Crime Branches and District Intelligence Bureau for handling Crime with wide ramifications, and provision of one Deputy Inspector for each Circle for attending to local professional crime.

(viii) Augmentation to the State Special Branch.

(ix) Establishment of a Police Academy.

KEROSENE IN BREAD FOR HIGH ALTITUDE.

Kerosene is in easy medium of cooking and heating at high altitudes. The Defence Research Laboratory, Kanpur, has developed a process of micro-encapsulating Kerosene in resinous materials which can be subsequently cast into any desired shape. This spongy resinous material would neither be affected nor would it change the physical and chemical properties Kerosene oil. The enca-osulated oil known as "Kerosene Bread" contains 90 per cent by weight of Kerosene oil. The material is light and porous. The spongy material can also serve as a solid fuel when most of its oil has been squeezed out.

The raw materials used to prepare the kerosene bread are oil kerosene superior quality, Urea stock solution, Formaldehyde Phenol, Ammonium Sulphate, Triethanolamine.

The cost of production has been worked out at Rs. 1.15 per kg. and the total capital has been estimated at Rs. 75,000.

The experiments have shown that the kerosene bread can be successfully dropped by Air-Craft and supplied to the hilly terrains without any damage.



PURPOSEFUL AND EFFECTIVE IMPLEMENTATION OF LAND REFORMS IN TAMIL NADU

Thiru P. U. Shaamugam, Revenue Minister.

The Tamil Nadu Government takes pride in the purposeful land reforms measures introduced and effectively implemented in recent years with a view to usher in a socialistic order and to stimulate agricultural production through the elimination of exploitation of tenants by landlords, the provision of greater security of tenure to the actual tiller and the prevention of concentration of lands in the hands of a few big landholders. The following statement shows the extent of lands so far notified as surplus, extent taken possession, etc., upto 31st January 1973 under the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 :—

	ACRES.
(1) Extent notified as surplus.	39,253
(2) Extent taken possession out of item (i).	30,916
(3) Extent assigned out of item (ii).	23,557
4) Number of persons to whom assigned.	12,000

The following figures would indicate the progress under the Tamil

Nadu Land Reforms (Reduction of Ceiling on Land) Act, 1970 :—

	ACRES.
(i) Total number of cases taken up for verification.	75,104
(ii) Number of cases so far verified out of item (i).	54,394
(iii) Number of cases attracted by the ceiling limit out of item (ii).	6,508
(iv) Number of cases for which draft statement indicating the surplus has been prepared out of item (iii).	1,617
(v) Probable extent of surplus lands under item (iv) above.	20,476

In order to make the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 a more effective instrument, this Government had in 1970 brought into force, without any notice, necessary legislation to reduce the ceiling of 30 standard acres to 15 standard acres effective from 15th February 1970. With effect from 15th January 1972, Government had also revoked the exemptions granted to sugarcane lands and grassing lands.

The following are the important land reforms measures introduced during 1972-73 :—

(i) Section 59 of the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 originally provided that the provisions of Chapter VIII of the Act relating to the ceiling area for cultivating tenants should remain in force for a period of three years from the date of publication of the Act, viz., 2nd May 1962. The life of this Chapter was extended from time to time by legislation. By the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Amendment Act, 1972, the life of the Chapter has been made permanent.

(ii) By the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Second Amendment Act, 1972, the exemption in respect of lands in hill areas was withdrawn with effect from 1st March 1972. The overall ceiling for a family consisting of more than five members was also reduced from 60 standard acres to 40 standard acres with effect from 1st March 1972.

(iii) By the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Third Amendment Act, 1972, separate ceiling has been prescribed for various categories of charitable

or educational institutions of a public nature. It also imposes a ban on future acquisition of agricultural lands by such institutions on or after 1st March 1972. Though the exemption granted to religious institutions and religious trusts has been continued in respect of the lands held by them on 1st March 1972 future acquisition of agricultural lands by these institutions on or after 1st March 1972 was prohibited.

(iv) The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Fourth Amendment Act, 1972, gave effect to the following major changes :—

(a) The overall ceiling area for a family consisting of more than five members was reduced from 40 standard acres to 30 standard acres, with effect from 1st March 1972.

(b) The exemption granted for lands used for livestock breeding and dairy farming was withdrawn with effect from 1st March 1972.

(c) The rates of compensation prescribed in the Schedule III of the Act was revised so that the quantum of compensation would decrease with the increase in the size of the holding.

(d) The time-limit provided in various sections for filing returns, objections, etc., was reduced to 30 days. The time-limit provided under section 51 (1) for preparing claims by mortgagees of the land for compensation was reduced to 60 days. This was intended to minimise the delay in the implementation of the Act.

(v) By the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Fifth Amendment Bill, 1972, the exemption granted to co-operative societies under section 73 (iii) of the Act has been confined only to any land assigned by the Government and held by any Land Colonisation Co-operative Society. The assent of the President to the Bill is awaited.

(vi) By the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Sixth Amendment Bill, 1972, provision has been made for the following purposes :—

(a) Under the existing provisions no one can hold land in excess of the ceiling limit prescribed on or

after the date of commencement of the Act. However, since it takes some time for the Government to issue a notification under section 18 of the Act, enabling the actual take-over of all the surplus lands after following the procedure laid down, the owner continues to enjoy the lands even after the date of commencement of the Act. The Amendment Bill provides that the land should vest in the Government even from the date of commencement of the Act, and that the owner of the land or any person deriving benefit therefrom should pay to the Government an amount as compensation, for the use and occupation of the land during the period he was in possession of the land.

(b) In many cases, the owners of lands who have transferred the lands during the period mentioned in section 22, and which transaction has been held void, have indicated in their return their desire to surrender the lands so transferred as surplus lands to be taken over by the Government. Such land owners thereby get the double advantage of receiving both the value paid by the purchaser of the land as well as the compensation payable by the Government for the surplus lands. The Government decided that such unintended benefit should not ensure to the owner of the land and that the land declared as void should be included in the ceiling area of the transferor so that the purchaser may not also be affected.

Fair wages for Agriculturists :

In 1968, there was agrarian unrest in East Thanjavur district over the wages payable to the agricultural labourers. With reference to the recommendations of the Commission appointed by Government to enquire

into the connected issues, Government enacted the Tamil Nadu Agricultural Labourers Fair Wages Act, 1969. The Act is applicable to the six taluks of Mannargudi, Thiruthurai, Mayuram, Sirkali, Nagapattinam and Nannilam in East Thanjavur district. The life of the Act as originally fixed up to 4th August 1972. It has since been made a permanent Act by the Tamil Nadu Agricultural Labourers Fair Wages (Amendment) Act, 1972. Government have also taken powers to alter the rates of wages specified in the Act. Government have revised the rates of fair wages by issuing a notification on 14th December 1972. The rates of wages originally fixed under the Act and the rates of wages as revised by the notification are as in the table at the bottom of page.

Tenancy Rights :

The Tamil Nadu Agricultural Lands (Record of Tenancy Rights) Act, 1969, provides for the preparation and maintenance of complete and reliable records of tenancy rights which would serve as a documentation of tenancy and would go a long way in ending the many evils associated with oral leases. The work under this Act has almost been completed in all the districts. The number of tenants registered under the Act and the extent involved in each district are given in the table at the bottom of the next page.

Tenants to own lands :

In continuation of the progressive measures introduced by this Government for the protection of tenants who have been cultivating land owner's lands, Government have decided to bring forth legislation to confer on these tenants the right

		Original rates.	Revised rates.
Men	All kinds of work during cultivation season.	Rs. 3.00 or 6 litres of paddy plus Rs. 1.25 per day.	Rs. 3.70 or 6 litres of paddy plus Rs. 1.50 per day.
Women	All kinds of work during cultivation season.	Rs. 1.75 or 5 litres of paddy plus Re. 0.25 per day.	Rs. 2.25 or 5 litres of paddy plus Re. 0.50 per day.
Harvest	..	Six litres out of every 56 litres of harvested paddy.	No change.

to purchase the lands they cultivate from the land owners. It will be ensured that the poorer and small land owners will not be adversely affected by this legislation. Necessary legislation for this purpose will be introduced in the current session of the Legislature. Government have also decided to set up a Tenants Financing Corporation to assist the poorer tenants to purchase the lands from the land owners.

Pudukottai district.

In response to the long standing request of the people of Pudukottai area, Government have decided to constitute a separate revenue district for this area. The Board of Revenue has been requested to examine and make recommendations as to the territory that should be constituted into this new district and on connected issues.

Upgrading sub-taluk.

As part of a phased programme for upgrading sub-taluks as full-fledged taluks in order to facilitate

administration and to secure greater convenience to the public, Government have decided to upgrade Palacode sub-taluk in Dharmapuri district and Karaikudi sub-taluk in Ramanathapuram district as full taluks during 1973-74.

Patta Book.

A significant reform introduced by Government during the year was the scheme for the distribution of 'patta books'. The difficulties experienced by the ryots in obtaining timely information about the details of their holdings, the assessment thereon and connected matters are well known. It is in order to obviate these difficulties that Government have introduced the scheme for the issue of 'patta books' to every ryot. These books will contain authenticated and detailed particulars of the holdings of each ryot, the assessment thereon, the remittances made by the ryot from time to time and the loans disbursed to him and their repayment. The patta books are to be issued

at a concessional price of 50 paise per book. The scheme was introduced in Paramakudi taluk of Ramanathapuram district on 9th October 1972 and is being implemented in the remaining districts under a phased programme. So far, 17 lakhs of patta books have been printed and sent to the districts for distribution.

Expansion of Mental Health Service

Setting up of 21 psychiatric clinics in district and teaching hospitals in 1973-74 is under consideration. This will be in addition to 32 clinics already functioning in various States with Central assistance. The 53 clinics will cater to the increasing demand for psychiatric treatment necessitated by rapid industrialisation and urbanisation. Facilities to mental patients in initial stages and aftercare to the cases discharged from 38 mental hospitals in the country, will be available in these clinics.

Malaria Control Measure

Eighty more towns are being covered under the Urban Malaria Control Programme during 1973-74. These are: three in Andhra Pradesh, one in Assam, two in Bihar, eleven in Gujarat, seven in Haryana, nine each in Madhya Pradesh, Maharashtra and Uttar Pradesh, four in Mysore, three in Orissa, seven in Punjab, five in Rajasthan, three in Tamil Nadu, five in West Bengal and one each in Manipur and Tripura.

The scheme providing for 100 per cent Central subsidy was taken up by the Ministry of Health in 1971-72 when 22 towns in the country were covered. Six more towns were added this year.

The Ministry of Health have laid down the staffing pattern and scale of supplies of material and equipment in the selected towns.

<i>District.</i>	<i>Tenants Registered.</i>	<i>Extent in acres.</i>
(1)	(2)	(3)
1 Thanjavur	1,24,393	2,49,997
2 Tiruchirappalli	57,909	67,086
3 Madurai	35,880	40,893
4 Chingleput	11,738	18,088
5 Ramanathapuram	15,146	14,444
6 Coimbatore	12,574	34,066
7 Tirunelveli	64,891	41,185
8 Kanyakumari	3,891	3,364
9 North Arcot	31,559	55,279
10 The Nilgiris	1,189	4,652
11 Salem	8,883	18,712
12 Dharmapuri	8,804	25,646
13 South Arcot	11,626	15,752
Total	3,88,483	5,90,164

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Dennis R. White,
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24-10-1972

Managing Director **G. R. GOVINDARAJULU**

SOCIAL AND ECONOMIC JUSTICE THROUGH LAND DISTRIBUTION

Tamil Nadu can take rightful pride in its significant progress made in the assignment of 5.30 lakh acres land to as many as 2.65 lakh people within a period of five years thereby accelerating the pace of social and economic justice.

The Revenue Administraion in Tamil Nadu, by a judicious systematic use of all the instruments at its command to aid and assist the Government in its mission of securing the greatest social and economic justice for the greatest number, achieved significant progress in the year 1972-73 to assign the maximum extent of lands available to the landless poor for purposes of cultivation. It is a matter for gratification that during a period of only five years from 1967-68 to 1971-72, the Government have been able to assign 5.30 lakh acres of land benefiting 2.65 lakh persons. The magnitude of this achievements will be clear when we note that during the preceding period of 20 years, i.e. from 1947-48 to 1966-67, the extent of lands assigned was only 2.88 lakh acres benefiting 1.15 lakh persons.

During the current year 63,700 acres of land have been assigned up to the end of December 1972., against a target of 75,000 acres for year ending March 1973.

With a view to minimise the hardship to the persons who had encroached upon large extents of Government lands in Gudalur taluk in the Nilgiris district, Government had taken a very liberal decision in 1971 that all these encroachments which existed prior to the 30th of June 1971 should be regularised subject to the usual conditions. The progress so far made in this regard will be seen from the following figures at the bottom.—

In July 1972, Government issued orders raising the monetary limit for being considered a "poor person" for the purpose of assignment of land. This was done since the monetary limit was fixed several years ago and subsequently there has been a gradual erosion in the value of money. Government have, accordingly, raised the monetary limit of income from Rs. 100 to 200 per mensem in respect of a person whose family consists of five or less members and from

Rs. 150 to 250 per mensem in respect of a person whose family consists of more than five members.

Assignment of House sites.

The special drive launched in the year 1969 for assigning as many-house-sites as possible to houseless persons in the State, in both urban and rural areas, was kept up during 1972-73 also. As against a total of 4,98,718 cases of unobjectionable encroachments to be regularised 3,50,706 cases have been regularised by the issue of house-site pattas by the end of December, 1972. In the year 1972-73, alone (i.e. from April 1972 to December 1972), 34 839 pattas for house-sites were issued.

In 1971, Government had imposed a ban on the assignment/lease of Government lands in the city of Madras and within a periphery of 20 miles from the limits of Madras City and within the limits of Madurai City and the towns of Tiruchirappalli and Coimbatore. The ban was imposed so as to make all Government lands available for the housing programmes of the Slum Clearance Board. Government have recently reviewed the need for the continuance of this ban in its total form since this has resulted in hardship to persons who have been occupying Government lands for house-site purposes for a long number of years. Government have also considered the possibility that some of these lands may not *prima facie* be required for the purposes of the Slum Clearance Board. Government have, accordingly, ordered in Jaquary 1973 that all unobjectionable encroachments in Government poramboke lands in the above mentioned areas should be regularised without jeopardising the interests of the Slum Clearance Board. In order to expedite the regularisation of these encroachments through the issue of house-site pattas, Government have also sanctioned the employment of 11 units of special staff for Madras and Chingleput districts.

In continuance of the earlier decisions of this Government to waive the assessment on all dry lands and also the basic land revenue component of the consolidated wet assessment on all holdings of wet lands five acre or less in extent and irrespective of the size of the total holdings Government have, in July 1972, issued orders waiving the basic assessment on all lands registered as *manavari*. These orders took effect from the fasli that commenced on 1st July 1972.

	Total extent of encroach- ments and families involved.	Pattas issued as on 28th Feb- ruary 1973.	Pattas under issue.
	(1)	(2)	(3)
Area in acres	11,352	9,060	737
Number of families.	7,902	5,573	806

DROUGHT AND FLOOD RELIEF WORK IN

TAMIL NADU

Consequent on the failure of the South-West Monsoon in 1972, drought conditions prevailed in several parts of the State. Based on the report of the Members of the Board of Revenue, after their tour of the affected districts, Government sanctioned a sum of Rs. 125 lakhs in September-October 1972 for taking up relief works in the districts in the form of deepening of existing public drinking water sources including Uranis, sinking of new public drinking water wells including bore wells, improvement to minor irrigation works, road works, etc. The amount was earmarked for the various districts as follows :—

District.	(Rupees in lakhs.)
Dharmapuri ..	11-00
Salem ..	11-50
Coimbatore ..	15-50
North Arcot ..	12-50
Chingleput ..	8-50
Tiruchirappalli ..	12-00
Madurai ..	12-00
South Arcot ..	7-00
Ramanathapuram.	12-00
Tirunelveli ..	10-00
Thanjavur ..	6-00
Kanyakumari ..	2-00
The Nilgiris ..	5-00
Total ..	125-00

Government also postponed the collection of arrears of Land Revenue, Loans and Agricultural Income Tax due to the Government in the affected areas till 31st December 1972. In response to the State Government's request to the Government of India for assistance for the relief of drought affected areas and on the basis of the recommendations of a Study Team deputed by the Government of India which visited the State, the Government of India have agreed to grant financial assistance and have fixed a ceiling of Rs. 150 lakhs towards the expenditure under drought relief for the two months of October and November 1972 in this State.

The Centrally sponsored "Drought Prone Areas Programme" continued to be implemented in Ramanathapuram and Dharmapuri districts during 1972-73 also. The Government of India have conveyed their administrative approval to an expenditure not exceeding Rs. 131.31 lakhs (Rs. 66.03 lakhs for Ramanathapuram district and Rs. 65.28 lakhs for Dharmapuri district) under this programme during the year 1972-73.

The Government of India have selected Dharmapuri district for a drought prone area project to be implemented with the assistance of the World Bank. The intention is to start the project sometime in 1973-74 and to continue it for a period 3 to 4 years as part of the Fifth Plan. A project report with a tentative allocation of about Rs. 584 lakhs for the district has been prepared and sent to the Government of India.

Flood Relief :

As a result of the cyclone that hit the coast of the State in December 1972 and the unprecedented floods in Pennaiyar, Gadilam, Malattar, Palar, Vellar, Baminaiyar, Thirumanimuthar, Ayyar and Bhavani rivers, there were a number of breaches in 2,900 major and minor irrigation tanks which, in turn, resulted in breaches to highways and rural roads at 5,800 places. As many as 82 persons lost their lives because of the cyclone and the floods. Paddy crops were totally damaged in 28,000 acres and partially damaged in 170,000 acres. Other crops such as sugarcane, betel vine, cotton and redgram in about 90,000 acres were partially damaged. 1,70,000 families lost their houses. Damages were heavy in the districts of South Arcot, Thanjavur, Coimbatore,

Salem, Tiruchirappalli, North Arcot, Chingleput, Dharmapuri, Madras and the Nilgiris in that order. The total loss of property because of the cyclone and the floods was estimated to be of the order of Rs. 40 crores. The following items of immediate relief measures were ordered by the Government:—

(i) The usual cash grant of Rs. 40 towards reconstruction of damaged houses and clothing grant per victim affected by cyclone and floods was increased to Rs. 80. Cash grant at this rate has been disbursed to about 1,70,000 families.

(ii) Gratuitous relief was given at the rate of Rs. 2,000 to the families of sole bread-winners who lost their lives.

(iii) Cash relief ranging from Rs. 500 to Rs. 1,000 was given in other cases of deaths.

(iv) If due to the death of the father and/or the mother in the floods, any child had become an orphan, the Government took over the financial responsibility for bringing up such a child and also for the education of the child.

(v) Takkavi loans have been sanctioned for the replacement of plough-bullocks or milch-cows that died in the floods.

(vi) Full remission of Land Revenue, water cess, local cess and local cess surcharge were given in respect of lands totally affected by the floods for the current fasli, i.e., fasli 1382.

(vii) Takkavi loans at a rate not exceeding Rs. 250 per damaged house was granted to deserving poor families in order to enable them to rebuild the damaged houses.

(viii) Government have undertaken to reclaim the lands which have become either sand-cast or eroded due to the floods, so as to make them fit for cultivation. The entire cost of reclamation will be borne by the Government.

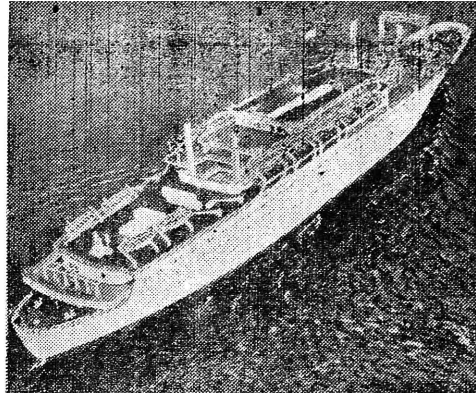
(xi) Financial assistance of Rs. 100 to each affected family of weavers has been granted to help them replace their equipments lost in the floods.

Government have so far sanctioned Rs. 731.125 lakhs towards repair and relief items on the following basis :—

(RUPEES IN
LAKHS.)

Gratuitous relief including items of expenditure such as free-feeding of the poor, transporting marooned people to places of safety, etc.	165
Repair to major irrigation tanks.	100
Repairs to minor irrigation sources.	250
Repairs to roads under the control of the Highways and Rural Works Department, Panchayat Union and Panchayat roads.	
Repairs to roads damaged in Municipalities and the Corporation of Madras.	60
Repairs to damaged water works in the Municipalities of Arni and Tiruvannamalai.	1.125
Takkavai loans ..	125
Reclamation of sand-cast and eroded lands.	30
Total ..	731.125

The Government of India have fixed an over-all ceiling of expenditure of Rs. 14.25 crores for purposes of Central assistance based on the recommendations of the Central Team which visited the State to assess the damage. In addition to this, there is a possibility of getting further assistance from the Government of India for the reconstruction of Thirukoilur anicut and Gomukhi dam. Out of the ceiling of Rs. 14.25 crores referred to above an expenditure of Rs. 7.25 crores will be incurred during the financial year 1972-73 and Rs. 7 crores during 1973-74. A loan of Rs. 3.50 crores has already been released to this Government towards cyclone and flood relief expenditure in the current year. Further assistance will be released in the light of the progress of expenditure as against the approved ceilings under the various items of repair and relief.



V. O. CHIDAMBARAM ON MADRAS—MALAYSIA SINGAPORE VOYAGE.

The Madras/Malaysia-Singapore passenger service was started by the erstwhile Eastern Shipping Corporation in 1950. SCI has been able to acquire a modern vessel recently which is named after the great patriot, architect of Swadeshi Shipping Company, late Thiru V. O. Chidambaram Pillai, who sacrificed and suffered for the country.

Built in France in 1966, at Ateliers and Chantiers De Dunkerque Et Bordeaux, Dunkirk, with two SULZER Diesel Main Engines, each of 12,000 BHP., the m.v. Chidambaram is having a speed of about 21 knots. Classified as the highest class of BUREAU VERITAS Society, this ship has been recommissioned by the Corporation to suit our requirements in this service.

This fully air-conditioned vessel can accommodate 152 cabin class passengers (146—1st class and 6 Deluxe class) and 1,526 Bunk passengers. Out of these 1,526, 504 are accommodated in 101 dormitories of various sizes of 4 to 10 passengers in each dormitory.

Beautifully designed lounge with tapestries such as those by the famous Picard le Doux, a cinema theatre with seating arrangements for 170 persons, large and decorated swimming pool, nursery for children, lounge with a dance floor, closed circuit television are the special features on this ship. On each deck, comfortable and well arranged berths have been provided for unberthed passengers. Dressing rooms with spacious toilets, and separate dining room for vegetarians and non-vegetarians are also provided.

The cargo carrying capacity is about 4,500 cu.m. In addition it has refer cargo space of about 1,700 cu.m.

The m. v. 'Chidambaram' would complete a round voyage in 18 days compared to about 24 days taken by the 'State of Madras'.

In conformity with modern trends, all non-cabin class passengers are provided with bunk accommodation in this ship, thus completely eliminating deck class travel which constituted a substantial portion of the accommodation in 'State of Madras'.

M. V. 'Chidambaram' sailed out on her maiden voyage from Madras on March 25, 1973, under the command of Capt. N. J. Kavarana.

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Thiru K. Rajaram, Minister
in Charge of Housing.



HOUSING AND SLUM CLEARANCE SCHEMES OF TAMIL NADU WIN HIGH ACCLAIM

In 1970, the Tamil Nadu Government decided to launch on a phased programme to eliminate completely the slums in the City of Madras within a period of seven years. The Government also decided that a new image should be given to the slum clearance programme. In pursuance of this decision, the Government constituted a Slum Clearance Board and entrusted to it the following items of work relating to Slum Clearance in Madras City :—

(1) To assess the magnitude of the Slum Clearance Work, emphasis being made on clearance rather than on Slum Improvement;

(2) To take effective steps to prevent the growth of fresh slums;

(3) To plan and co-ordinate all slum clearance activities with a view to eradicate the slums in the City of Madras within a period of seven years;

(4) To acquire and develop lands and construct tenements and undertake all other necessary works required for the clearance of slums;

(5) To maintain, allot, lease or otherwise use tenements, plots and other properties of the Board; and

(6) To do all other things to implement the slum clearance work in the City of Madras.

The Government have also enacted a legislation called Tamil Nadu Slum Areas (Improvement and Clearance) Act, 1971 to implement the scheme. Immediately after the formation of the Slum Clearance Board, a Socio-Economic Survey was conducted to gather particulars of slums with details covering the socio-economic aspect of each of the slum-dwellers. The Survey revealed that there were 1,202 slums in Madras City with a population of 9 lakhs (1,50,000 families).

Based on the preliminary survey the Board drew up a short term scheme for clearance of 87 worst slums and commenced work in slum areas.

NEW ENACTMENT FOR SLUM CLEARANCE.

The practical difficulties that are being faced in clearing the slums are recounted here to have better appreciation of the work done. When huts are cleared to make the site available for construction of modern dwellings alternate site has to be found near the original slum area for temporary rehabilitation of the slum dwellers as shifting them to a distant place would mean untold hardship for the slum-dwellers on account of their living far away from their places of work. The problem of finding vacant site in a City like Madras can well be imagined. Though the occupation may be for a temporary period, light and drinking water have to be provided and temporary latrines have to be constructed, with the

co-operation of the Corporation of Madras. A few semi-pucca structures have to be pulled down with the consent of the owners by making ex-gratia payment. The slum-dwellers have to be convinced of the necessity to live in storeyed tenements as most of them prefer single units. Hence the performance of the Slum Clearance Board in clearing as many as 75 worst slums and constructing twelve thousand tenements during the short period of two years is really impressive.

APPRECIATION BY DISTINGUISHED VISITORS.

Extracts from the certificates of appreciation given by some distinguished visitors, who had visited the Scheme areas of the Board, are given below:—

(1) "Consul Breckon and Lache and I are warmly appreciative of the excellent tour of projects and the fine luncheon hosted by dynamic Chairman, Rama Arrangannal. It was heartening to see first hand the splendid work being accomplished in Madras by the Tamil Nadu Slum Clearance Board. The problem of providing improved living condition for less privileged urban-dwellers is a world wide one. It may well be that the work done here will furnish new insights into the potentialities for resolving this problem elsewhere.

With the best wishes for further successes."

(Sd.) STEPHEN E. PALMER,
Consul-General, United States of America, Madras.

(2) "I am proud of the work being done."

(Sd.) TONSE ANANTH PAI,
Minister for Railways, Government of India, New Delhi.

(3) "I was taken round the work spot of Slum Clearance Board in Madras City by the Chief Engineer Thiru K. R. Ramaswamy and Superintending Engineer Thiru K. P. Logavinayagam. I congratulate the Government and the Chairman, Members and Staff of the Board for their devoted and patriotic work to rehabilitate the unfortunate section of our society, namely slum-dwellers. The efforts of the Government is a big leap in that direction and this is the only State in India which can be placed at the top. The work of the Government and the Board is worthy of emulation by other States even though it has long way to go to rehabilitate all the 1,200 slum-dwellers' areas in the City and elsewhere. I am really profited by my visit and I am thankful to them."

(Sd.) BASAVALINGAPPA,
Minister for Municipal Administration and Housing, Bangalore.

(4) "I am very much appreciative having had this opportunity to visit the Madras Slum Clearance Board, visit to some of its schemes and make the acquaintance of its Chairman. I am most impressed with the enthusiastic and imaginative way in which the problem of urban rehabilitation is being tackled in Madras.

Best wishes for further success of this venture which, I am sure, will set an example to other cities in India and abroad."

(Sd.) JOCHEN KRASKE,
1818, H. Street, N.W. Washington, D.C.
World Bank, India Division.

(5) "An unexpected and remarkable programme, I am sure that it will continue to be a success. How can anything fail when it has such dedicated and inspired people behind it. My best wishes to the Chairman and his staff."

(Sd.) BILSEL H. ALISBAH,
Deputy Resident Representative, World Bank, P.B. 416, New Delhi.

(6) "I have visited Madras in the course of a mission for the United Nations, to see national efforts to solve the slum problem. Few cities can have made such a sincere and effective attack on the slums. The contest between the slum huts and the new tenements springing up alongside there is astonishing and heartening. May your work prosper".

(Sd.) DR. RONALD MENDELSON,
Department of Housing, Canberra, Australia.

(7) "I have seen slums and Tamil Nadu Slum Clearance Programme. It was a great impression to me. I visited also the new flats, library and doctors practices. I hope that this programme of human welfare and education comes to full success. I wish the slum clearance staff the best for the great programme.

(Sd.) PROF. H. A. KOCH,
Academy of Medicines, Mycological Department, German Democratic Republic.

The magnitude of the problem can well be assessed if we bear in mind that not less than Rs. 150 crores would be required to construct 1½ lakhs of tenements to clear all the slums in Madras City.

PROGRESS OF WORK.

After the formation of the Board, lands were taken possession by the Tamil Nadu Slum Clearance Board from private parties and temple authorities. In addition to these, lands were also taken over from the Government for the purpose of construction of tenements within Madras City. During 1971-72, construction of tenements within Madras City was undertaken in 16 areas with a target of constructing 10,624 tenements in these areas in a phased programme. Now the number of schemes in progress up to December 1972 is 48 and the number of tenements likely to be completed before 31st March 1973 is 7,818. The total number of schemes sanctioned by the Board for execution is 87.

ENVIRONMENTAL IMPROVEMENT TO SLUMS.

All the slums in Madras City cannot be cleared overnight. It has to be done on a phased programme. Till

then, it is essential to provide basic amenities to these slums which may not be taken up for clearance within a period of five years. The Slum Clearance Board has taken up this Herculean task with the grant given by the Government of India.

The Government of India have made provision during the year 1972-73 for allotment of funds to the State for extending the basic amenities to the unimproved and congested slums which may not be taken up for clearance within the next 5 years with a view to enabling the slum families to carry on a peaceful and hygienic life. The aim and object of the scheme are to give immediate relief to the slum dwellers who are living in unhygienic areas without any basic amenities. The allotment of funds depends on the volume of work undertaken by the various States exclusively for this purpose. In pursuance of the above scheme, the Slum Clearance Board prepared proposal for Rs. 418 lakhs for giving basic amenities under XV Phases, covering over 162 slums in the City of Madras benefiting a slum population of about 1.13 lakhs. Based on this, the Government of India provided funds to the tune of Rs. 2.50 crores for the current year to this State.

The basic amenities provided to the slum families under this scheme are, (1) neatly paved path ways and access ways, (2) street lighting, (3) water-supply through public fountains, (4) provision of adequate number of bath rooms and latrines, (5) construction of storm water drains to relieve the areas from inundation and stagnation of rain water during rainy season, etc.

REMUNERATIVE ENTERPRISES.

In implementing the humanitarian scheme of clearing the slums and giving the slum dwellers a new life in hygienic surroundings, the Board is not guided by the economics of the project but considers it as a social service. However, it had drawn up schemes for remunerative enterprises to minimise, if not to offset, the loss by way of letting the tenements at subsidised rent. The rent at which tenements are let out is only nominal viz., Rs. 15 per month whereas the economic rent should be around Rs. 45. One important factor that weighed in fixing the low rent is the income of the slum dwellers. These people are mostly engaged in odd jobs involving heavy manual labour or petty occupations. In early 75 per cent of the households there is only one earning member. The census study had clearly shown that more than 80 per cent of the slum households had income ranging from Rs. 30 to Rs. 100 only per month and the per capital income was a small fraction of the minimum required for subsistence. To collect an economic rent from these people would perhaps defeat the very purpose of the programme. At the same time, the Board certainly cannot shoulder this heavy subsidy especially when it has still to go a long way in tackling problem and there is real shortage of funds. Such enterprises are proposed to be built up by borrowing of funds from Commercial Banks. After the complete repayment of such bank loans in 5-10 years from out of the rent from the remunerative enterprises, the buildings would yield a permanent source of revenue to the Board.

HIRE PURCHASE.

A certain percentage of the tenements is also earmarked for allotments to low paid Government and quasi-Government employees who happen to be slum dwellers and also to the slum dwellers who can afford to pay the instalments on hire purchase basis. Under this scheme, an initial deposit of Rs. 500 is collected and the occupant has to pay a monthly instalment of Rs. 40 for the first five years and Rs. 45 for the next 20 years to get the tenements for himself, subject to the following conditions :-

(i) The tenements allotted on hire purchase basis should not be resold to any subsequent purchaser but only back to the Tamil Nadu Slum Clearance Board.

(ii) Any improvements or changes effected in the tenements allotted on hire purchase should only be with the concurrence of the Tamil Nadu Slum Clearance Board.

(iii) Maintenance of these tenements should be the responsibility of the allottees.

OTHER ACTIVITIES.

The task of the Board is not confined only to housing the slum people in the new tenements. Rehousing of the slum dwellers in modern apartments alone may not improve their life unless the economic condition is improved and proper education on environmental sanitation is imparted. To achieve this objective, the co-operation of the various voluntary organisations as detailed below has been enlisted.

NEW RESIDENTS WELFARE TRUST.

Sponsored jointly by the Tamil Nadu Slum Clearance Board, The Madras Christian Council of Social Service and the "77" Society, The New Residents Welfare Trust, Madras, was registered on December 30, 1971, the first object of the society being :

"To provide expert social service and advice to families newly housed in the Tamil Nadu Slum Clearance Board Housing Projects".

Beginning with 3 projects on February 15, 1972, the work of the Trust has now been extended to 13 Housing Projects of the Tamil Nadu Slum Clearance Board.

The projects are as follows :-

Nochinagar and Nochikuppam, Visalakshi Ammal Estate, Brindavan, Mambalam Tank Bund Scheme, Subedar Garden, Venkatapuram, Ayodhyakuppam, Pallakkumanyam and Kapalithottam, Srinivasapuram (Foreshore Estate), Dommingkuppam, Kotturpuram, Cemetery Road (West) and Thandavarayapillai Chatram Schemes.

VOLUNTARY HEALTH SERVICES.

Voluntary Health Services have set up clinics in slum areas offering treatments to slum dwellers. For this purpose, the local slum dwellers have to enlist themselves as members of this organisation by paying a token

subscription. Members are given periodical medical check-up and wherever necessary even surgical aids are extended to the members. At present Mini Primary Health Centre Clinics have been set up at Kotturpuram and Mambalam Tank Bund.

GUILD OF SERVICE.

This association is doing the following services in slum areas mentioned below :—

(a) *Name of the Services.*—(1) Yeomen Service to the slum dwellers;

(2) Providing creache for the children of the working women;

(3) Teaching handicrafts to the womenfolk in slums;

(4) To start in stages nutrition on wheels breakfast feeding programme for the primary school children about 200, nursery class with 25 children; and

(5) Balwadis, creache for children.

(b) *Areas in which services rendered.*—(1) Thandava raya Pillai Chatram.

(2) Mohite Play Ground.

(3) Goyyathope.

(4) Ellispuram.

(5) Indira Nagar.

(6) Mangalapuram.

Y.M.C.A.

This organisation has arranged to supply bread and milk to the school children in some of the slum areas. Now a project has been formulated for running community centres at V.O.C. Nagar and Grey Nagar. They conduct games programme for the children in the vicinity of the college on Saturdays and Sundays. They visit C.I.T. Nagar slums periodically and do street cleaning and speak to the people about health and related problems.

MADRAS CHRISTIAN COUNCIL OF SOCIAL SERVICE.

This Council has undertaken the construction of Public Conveniences in slums where there is acute need for such amenity. Twenty-five schemes have so far been taken up. Storeyed latrines have been completed at Andimanyathottam.

SWALLOWS IN INDIA.

This is a Swedish Social Service Organisation which is doing social work in North Madras. They are conducting adult schools, nursery schools, catering 250 children, running a clinic, library and reading room and also a Basic Technical Training Centre giving vocational training to the local unemployed and unqualified boys. They are mainly concentrating at Cherian Nagar, Madras-81.

POLYGONS.

This Organisation has been rendering the following services in Andimanyathottam :—

(1) Attending, cleaning and sweeping once a week.

(2) Collection and disposal of garbages.

(3) Providing medical aid to the dwellers with the help of free medicines collected from the medical practitioners through Slum Clearance Board.

WOMEN VOLUNTARY SERVICES OF TAMIL NADU.

It has been proposed to run a nursery school for children of working women and a sewing class in Mambalam Tank Bund and Nochikuppam by this Organisation.

BEATITUDES.

This is a Social Welfare Centre run with the following Social Service Programmes in slum areas mainly in Vyasarpadi and Korukkupet :—

(1) Creache for babies.

(2) Daily Dispensary for 300 patients.

(3) Leprosarium for 300 inmates.

(4) Home for dying destitutes.

(5) Day school with 780 children.

(6) Night schools.

(7) Youth Club.

(8) Workshop for handicapped.

GERMAN LEPROSY RELIEF ASSOCIATION.

This Association is rendering the following services in the slum areas :—

(1) Conducting a slum survey to detect early cases of leprosy.

(2) Giving treatment to the patients suffering from leprosy at the initial stages.

One Leprosy Clinic has been started at Thandavaraya Pillai Chatram in the tenement allotted by the Slum Clearance Board. The Association has extended their services to the patients of Nochinagar two days in a week by running a mobile unit. It has also proposed to start clinics in V.O.C. Nagar and Vyasarpadi in the tenements allotted by the Slum Clearance Board.

THE MADRAS SCHOOL OF SOCIAL WORK.

The Madras School of Social Work has come forward to implement a scheme sponsored by the Government of India and UNICEF in Tondiarpet, Jeeva Nagar and Cherian Nagar. The details of the Scheme are as follows :—

(a) Cent per cent coverage of maternity and health service for children between 1 to 5 years.

(b) Day Care Services for children between 0 to 5 years.

(c) Cent percent coverage of primary education for children between 6 to 11 years.

(d) Nutrition to children between 0 to 6 years and expectant and nursing mothers.

(e) Education of parents for promoting the services of health, education and welfare for children.

SERVICE CIVIL INTERNATIONAL INDIA.

Lock Nagar Scheme area has been allotted to this Organisation to run Balwadi.

WOMEN'S CHRISTIAN COLLEGE, MADRAS-6.

Social Service League of Women's Christian College is doing the following services in Chetput Slum Areas :—

(1) Craft class, tailoring—specially children's garments, embroidery, toy making, plastic bags, crotchet.

(2) Nutrition talks and cooking demonstrations.

(3) Course on hygiene, personal and community.

(4) Entertainments, films, educational as well as pure entertainment, puppet shows, group singing and impromptu acting.

(5) Games—specially for children.

(6) Adult literacy programmes.

(7) Teaching of nursery rhymes and reading and writing to children.

(8) Help families to draw up budgets and device ways and means of conserving money.

(9) Simple elementary first-aid service.

WOMEN WELFARE DEPARTMENT.

The programme of the work of this Organisation is as follows :—

(1) To conduct pre-basic class. At present 40 children of the Venkatapuram area are studying.

(2) House to House visit to canvass women members to undergo training in tailoring class and also to guide them in children welfare.

(3) To conduct tailoring class, one sewing machine has been provided by the Women Welfare Department. 22 members are undergoing training in Venkatapuram area.

They are now concentrating in Venkatapuram, V.O.C. Nagar and Dommingkuppam Scheme areas.

Department of Social Welfare of the Tamil Nadu Government has implemented nutrition programme covering all the slums in Madras City.

Day Care Centres have been started in 11 tenemental areas to take care of children between age group of 2½ and 6.

With a view to creating employment opportunities to the slum dwellers, the Slum Clearance Board has proposed to start small industries in the newly built housing

estates with the aid of the SIDCO (Small Industries Development Corporation). As an experimental measure, printing press and a cover making unit has been started in Cemetery Road Estate. A tailoring class with seven sewing machines has also been started.

SLUM CLEARANCE IN THE MUFASSAL

The Slum Clearance work in the mufassal is attended to by the Tamil Nadu Housing Board. A provision of Rs. 35 lakhs was provided during each year, 1971-72 and 1972-73 for Slum Clearance Schemes in the mufassal areas. A similar sum has been proposed to be provided during 1973-74.

The Government of Tamil Nadu has taken up this gigantic work of slum clearance in a spirit of social service and the task of uplifting the poor on a motto of one house for every family. The Government welcome all social service organisations both in the country and abroad and other well wishers who are willing to come forward to offer their help in this gigantic work.

“GOD WE SHALL SEE IN THE SMILE OF THE POOR”.

LAND ACQUISITION AND DEVELOPMENT SCHEME.—(i) This scheme aims at large-scale acquisition of lands in advance, with a view to prevent speculation in land prices and to make lands available for housing purposes at a reasonable cost and also for easing congestion in large growing towns.

The Tamil Nadu Housing Board administers the scheme on a no-profit no-loss basis. It acquires vast tracts of lands in and around the town and develops them into self-contained small townships and/or neighbourhoods with good pucca roads, street lights, water-supply, drainage, play-fields, parks and other common amenities, like schools, hospitals, shops, playgrounds, etc. Under this scheme house-sites are allotted to public individuals, co-operative societies or, other institutions. Some of them are given houses, tenements and flats on freehold basis and they pay back the capital investments over a long period of 15 to 20 years. The conditions of sale under which sites are allotted or sold in public auction, prohibit their reselling, to any other person within a period of 5 years at least during which period the party is required to put up a house. Having thus created an interest, it is very unlikely that the party will sell the land or house and this checks the speculation of land value. The Tamil Nadu Housing Board sells the developed plots at the rate of Rupees 7,000 to Rs. 8,000 per ground. In addition, corner plots are sold in public auction. This scheme is financed from the funds given by the Life Insurance Corporation and also by ploughing back the sale amount.

(ii) *Plan achievement under Land Acquisition and Development Scheme :*

Extent of land developed during Second and Third Plans—2,759.54 acres.

Amount utilised during Second and Third Plans—Rs. 383.23 lakhs.

Extent of land developed during Annual Plans 1966-67 to 1968-69—796.15 acres.

Amount spent during 1967-68 to 1968-69—Rs. 419.14 lakhs.

Allocation for Fourth Plan—Rs. 500.00 lakhs.

Extent of land developed during 1969-70—251.90 acres.

Amount spent during 1969-70—Rs. 187.42 lakhs.

Extent of land developed during 1970-71—161.86 acres.

Amount spent during 1970-71—Rs. 284.50 lakhs.

Amount spent during 1971-72—Rs. 281.23 lakhs.

Extent of land developed during 1971-72—95.09 acres.

Budget Estimate for 1972-73—Rs. 25.00 lakhs.

Amount spent during 1972-73 (upto December 1972) Rs. 80.90 lakhs.

Extent of land acquired during 1972-73 (upto December 1972)—105.87 acres.

Budget Estimate for 1973-74—Rs. 25.00 lakhs.

Physical target for 1973-74—62.50 acres.

TAMIL NADU GOVERNMENT SERVANTS RENTAL HOUSING SCHEME.—(i) This scheme is intended mainly for the low-paid employees of the State Government to provide apartments on a purely rental basis. The State Government are collecting only subsidised rent of 10 per cent of pay of allottee and foregoing house rent allowance. The quantum of rent recovered on this basis is less than the economic rent and the Government Servants thus enjoy the element of Government subsidy as the difference is met by the State Government. The Tamil Nadu Housing Board is the agency for execution of the scheme and it also maintains the property after execution. The ownership of the buildings vests with the State Government. The houses under this scheme are generally constructed on Government lands.

(ii) Plan achievement under Tamil Nadu Government Servants Rental Housing Scheme.—

Number of houses constructed during second and Third Plans—2,228 houses.

Amount utilised during Second and Third Plans—Rs. 187.15 lakhs.

Number of houses constructed during Annual Plans 1966-67 to 1968-69—2,560 houses.

Amount spent during 1966-67 to 1968-69—Rs. 130.82 lakhs.

Allocation for Fourth Plan—Rs. 500.00 lakhs.

Physical target for Fourth Plan—5,000 houses.

Number of houses constructed during 1969-70—502 houses.

Amount spent during 1969-70—Rs. 53.10 lakhs.

Number of houses constructed during 1970-71—500 houses.

Amount spent during 1970-71—Rs. 75.78 lakhs.

Amount spent during 1971-72—Rs. 101.69 lakhs.

Number of houses constructed during 1971-72—929 flats.

Amount spent during 1972-73 (up to December 1972)—Rs. 57.45 lakhs.

Number of houses constructed during 1972-73 (up to December 1972)—432 flats.

Budget Estimate for 1973-74—Rs. 100.00 lakhs.

Physical target for 1973-74—500 units.

VILLAGE HOUSING PROJECT SCHEME.—(i) This scheme, is a State Plan Scheme for the development of selected villages in Community Development and National Extension Service areas of the State of Tamil Nadu, to encourage villagers to uplift their living condition on "Self-help basis" by advancing loan amount to a maximum of Rs. 3,000 (since increased to Rs. 4,000) in three instalments, to such of those persons who possess land of their own with repaying capacity of the loan with interest in twenty equated annual instalments. The loan amount of Rs. 4,000 per house is the 80 per cent of the estimated cost of the building. The rest of 20 per cent has to be contributed by the beneficiaries by way of labour, local materials and savings gathered in the course of his work. The house built under this aided self-help basis stands to his stead as a shelter and property acquired in the long run of twenty years.

In the State of Tamil Nadu there are more than 15,000 villages and the scheme is under implementation in 223 villages. Master Plans have been prepared for 1,640 villages. The scheme is very popular and there is demand from villagers for implementing the scheme in more number of villages.

The Government have allotted an amount of Rs. 50 lakhs from the Tamil Nadu Special Welfare Fund for the Village Housing Project Scheme. The amount is proposed to be spent during 1972-73 and 1973-74. The anticipated expenditure during these two years is Rs. 2.00 lakhs and Rs. 48.00 lakhs respectively. 1,100 houses will be constructed with this allocation.

The scheme also provides the villages with the amenities such as streets and drains in the villages, where houses are built, to a maximum of Rs. 10,000 per village. A sum of Rs. 0.50 lakh has been provided in the Budget Estimate for 1973-74 for laying streets and drains.

(ii) Plan achievement under Village Housing Project Scheme.—

Number of houses constructed during Second and Third Plans—2,053 houses.

Amount utilised during Second and Third Plans—Rs. 54.91 lakhs.

Number of houses constructed during Annual Plans 1966-67 to 1968-69—472 houses.

Amount spent during 1966-67 to 1968-69—Rs. 29.73 lakhs.

Allocation for Fourth Plan—Rs. 50 lakhs.

Physical target for Fourth Plan—1,500 houses.

Number of houses constructed during 1969-70—218 houses.

Amount spent during 1969-70—Rs. 7.75 lakhs

Number of houses constructed during 1970-71—240 houses.

Amount spent during 1970-71—Rs. 10.93 lakhs.

Amount spent during 1971-72—Rs. 15.38 lakhs.

Number of houses constructed during 1971-72—309 houses.

Budget Estimate for 1972-73—Rs. 16.50 lakhs.

Amount spent during 1972-73 (up to December 1972)—Rs. 10.05 lakhs.

Physical target for 1972-73—350 houses.

Houses constructed during 1972-73 (up to December 1972)—257 houses.

Budget Estimate for 1973-74—Rs. 28.99 lakhs.

Physical target for 1973-74—600 houses.

TAMIL NADU SUBSIDISED HOUSING SCHEME FOR PLANTATION WORKERS.—(i) The scheme was formulated by the Government of India to give loan assistance to planters for construction of houses to their workers. The scheme is now implemented as a subsidised one on the pattern of subsidised Industrial Housing Scheme with effect from 1st April 1966. The Government of India have decided to treat the scheme as a Centrally sponsored one with effect from 1970-71.

The ceiling cost of construction per house under this scheme is Rs. 3,200 for small two roomed houses. Planters are eligible for a loan of 50 per cent and subsidy of 37½ per cent of the ceiling cost under the revised Central scheme.

(ii) *Plan achievement under subsidised housing scheme for plantation workers—*

Number of houses constructed during Second and Third Plans—195 houses.

Amount utilised during Second and Third Plans—Rs. 3.72 lakhs.

Fourth Plan allocation—Rs. 10.00 lakhs.

Physical target for Fourth Plan—440 houses.

Amount spent during 1971-72—Rs. 0.05 lakh.

Number of houses constructed during 1971-72—Nil.

Budget Estimate for 1972-73—2.00 lakhs.

Amount spent during 1972-73 (up to December 1972)—Rs. 0.18 lakh.

Physical target for 1972-73—60 houses.

Houses constructed during 1972-73 (up to December 1972)—18 houses.

Budget Estimate for 1973-74—Rs. 3.11 lakhs.

Physical target for 1973-74—84 houses.

RURAL HOUSING SCHEME.—(i) The object of this scheme implemented from 1950 is to issue loans for construction of houses in the major panchayats and minor panchayats which have a predominantly rural outlook. The scheme is implemented through the Co-operative Wing of the Tamil Nadu Housing Board and financed from State funds outside the Plan. Under the scheme, loans are sanctioned up to 80 per cent of the cost of construction not exceeding four times the paid-up share capital and subject to a loan ceiling of Rs. 10,000. The estimated cost of house should not exceed Rs. 15,000. In cases where the members offer unencumbered lands twice the value of land owned by them as collateral security, the loan assistance will be given up to seven times the paid-up share capital subject to the ceiling of Rs. 10,000. It is programmed to construct 120 houses in 1973-74 for which a provision of Rs. 10 lakhs has been provided in the Budget.

(ii) *Achievement under Rural Housing Scheme—*

Number of houses constructed during I to III Plan period—906 houses.

Amount utilised during I to III Plan period—Rs. 56.87 lakhs.

Number of houses constructed during 1966-67 to 1968-69—324 houses.

Amount spent during 1966-67 to 1968-69—Rs. 26.16 lakhs.

Number of houses constructed during 1969-70—153 houses.

Amount spent during 1969-70—Rs. 10.41 lakhs.

Number of houses constructed during 1970-71—140 houses.

Amount spent during 1970-71—Rs. 10.27 lakhs.

Amount spent during 1971-72—Rs. 10.00 lakhs.

Number of houses constructed during 1971-72—150 houses.

Budget Estimate for 1972-73—Rs. 10 lakhs.

Amount spent during 1972-73 (up to December 1972)—Rs. 4.05 lakhs.

Physical target for 1972-73—120 houses.

Houses constructed during 1972-73 (up to December 1972)—80 houses.

Budget Estimate for 1973-74—Rs. 10.00 lakhs.

Physical target for 1973-74—120 houses.

URBAN HOUSING SCHEME.—This scheme was implemented by the State Government through the Co-operative Wing of the Tamil Nadu Housing Board and financed outside the Plan allocation. This scheme was discontinued from April 1968. Under this scheme the maximum loan limit per individual was restricted

to Rs. 12,000 and no income limit was prescribed. A sum of Rs. 483.73 lakhs was utilised towards construction of 7,473 houses.

MINI-COTTAGES IN HILL AREAS.—The Housing Board has drawn up a scheme for the construction of mini-cottages in the hill areas at Ooty, Kodaikanal, Yercaud and Jawadu hills. 10 cottages at Ooty and 10 cottages at Kodaikanal have been constructed under this scheme. Each cottage has a plinth area of 1,100 sq.ft. and the cost per cottage is Rs. 30,000. It is proposed to sell the cottages to the Tamil Nadu Tourism Development Corporation.

RESIDENCE-CUM-CLINICS FOR DOCTORS IN RURAL AREAS.—At the suggestion of the Chairman, Life Insurance Corporation of India, the Tamil Nadu Housing Board has proposed to construct some residence-cum-clinics for doctors in rural areas at costs varying from Rs. 15,000 to Rs. 20,000. The initial payment will be 20 per cent and the balance will be recovered in monthly instalments. Five doctors have applied for this scheme and is under the consideration of the Tamil Nadu Housing Board.

HOUSES FOR PERSONS RETIRING FROM GOVERNMENT SERVICE.—The Tamil Nadu Housing Board has proposed to frame a scheme for construction of houses for the employees who are due to retire in 5 or 6 years. Under this scheme, the employees will be asked to register with the Tamil Nadu Housing Board and pay monthly amounts varying from Rs. 50 to Rs. 100 till the date of their retirement. On retirement they will be assured of a house or flat anywhere in Tamil Nadu. The amount deposited in 5 years will be taken as the deposit and the balance will be recovered from the pensionary benefits accrued to the individuals. The scheme is under the consideration of the Government.

HOUSES FOR NON-GAZETTED GOVERNMENT SERVANTS.—There is yet another scheme for the construction of houses for the category of persons who are non-Gazetted Government Officers in the income group of Rs. 200 to Rs. 500. They will be asked to register with the Housing Board and deposit a sum varying from Rs. 20 to Rs. 50 per month. At the end of the fifth year, they will be allotted a plot. The scheme is under the consideration of the Government.

HOUSES FOR BURMA REPATRIATES.—(i) The Government in Revenue Department have entrusted to the Tamil Nadu Housing Board the work of construction of 407 catenary type twin houses for the repatriates from Burma, at Tanankulam village, Madurai South taluk, Madurai, at a cost of Rs. 16.28 lakhs. Out of this 407 houses, construction of 100 houses have been completed.

(ii) The Government have sanctioned another scheme for construction of 2,760 houses for the Repatriates from Burma at a cost of Rs. 1.131 crores at Vyasarpady tankbed and entrusted the work to the Tamil Nadu Housing Board, based on the representation made by the Repatriates for a spacious house, the design has been altered and a revised scheme has been proposed at a cost of Rs. 2.33 crores for the construction of 2,760 houses. Pre-fabricated slabs are proposed to be used in the construction.

SAVE A RUPEE A DAY SCHEME.—(i) A new scheme by name "Save a Rupee a Day Scheme" was introduced on Pongal day in January 1972. The scheme requires a person to save a rupee a day in special Hundi Boxes to be kept with individuals which will be supplied by the Housing Board. At the end of each month, the money deposited in the Hundies will be duly credited to the account of the individual kept with the Housing Board. The accumulation of such deposits will be utilised for the purchase of plot and construction of house after a period of five years.

(ii) The Tamil Nadu Housing Board in collaboration with the Syndicate Bank has made arrangements for the collection of the regular deposits at the doors of every depositor who joins the scheme. The object of the scheme is to provide houses/flats/house-sites to the masses and at the same time make them save regularly. Nine hundred and four persons have been enrolled as members of the scheme and the amount involved from the collection from 904 members will be Rs. 25 lakhs on which the Syndicate Bank will give a sum of Rs. 100 lakhs including the collection amount at the end of the five year period.

(iii) Indian Bank has come forward with a similar scheme and the Tamil Nadu Housing Board has resolved to approve the proposal.

PROVISION OF HOUSE-SITES TO LANDLESS RURAL WORKERS.—(i) The Government of India have formulated a scheme for provision of house-sites to landless workers in rural areas as a Central-Sector Scheme under which 100 per cent grant is made available to State Governments outside the State Plan Scheme. The salient features of the scheme are as follows :—

(a) The scheme aims at assisting the State Government to provide house-sites free of cost to families of landless workers in the rural areas who do not already own house-sites or a built-up house or hut on land of their own ;

(b) The Government of India will give 100 per cent grant for acquisition and development of lands outside the State Plan Ceiling ;

(c) Financial assistance under the scheme will be admissible only if the State Governments have enacted legislation conferring homestead rights on which their houses/huts stand at present and provided the State Government should have utilised the available lands owned by it in the Districts proposed to be taken up the scheme for providing house-sites, free of cost to families of landless workers ;

(d) All administrative expenditure connected with the implementation of the scheme will have to be borne by State Governments ;

(e) The size of the house-sites should not exceed 100 square yards (The question of enhancing the extent is under correspondence with the Government of India) ;

(f) The average cost of development of house-site should not exceed Rs. 150 per house-site ;

(g) The term 'development' will cover clearing and levelling of land and provision of paved streets and storm water drains on the lands proposed to be utilised for giving house-sites to eligible families ;

(h) In case where an adequate supply of potable drinking water is not already available, a covered masonry well may also be provided to serve cluster of, say, 40—50 house-sites ; and

(i) Priority should be given only to those districts having sizeable concentration of landless rural labourers, particularly of those belonging to Scheduled Castes and Scheduled Tribes.

(ii) Since the Government of Tamil Nadu have enacted the Tamil Nadu Occupants of Kudiyruppu (Conferment of Ownership) Act, 1971, and have introduced it in Thanjavur district, and the assignment of all the available lands in Thanjavur district to landless people have almost been completed, the Government have introduced the scheme in Thanjavur district in the first instance. The scheme is being implemented through the State Housing Board, with the help of the Collector and the other district Revenue Officials. The implementation of the scheme is in progress in this district. Under this scheme 1.15 lakhs families will be benefitted in Thanjavur district. A sum of Rs. 75.51 lakhs has been sanctioned by the Government of India out of which a sum of Rs. 18.87 lakhs has been released. The Kudiyruppu Act has since been extended by Government in Revenue Department to the districts of Chingleput, North Arcot, South Arcot, Tiruchirappalli, Dharmapuri, Salem (excluding Yercaud Sub-taluk) and Ramanathapuram (excluding Rajapalayam Sub-taluk). The question of extension of the above scheme in these districts also is under consideration of the Government.

CELLULAR CONCRETE PLANT.—After the devastation of town and cities during the second world war, the affected European countries began to make a search for alternatives for the conventional type of building materials to hasten the pace of dwellings. In the process a new building material in Cellular Concrete was invented and made use of in the building techniques and constructions. The special feature of this novel building material is that while it is light in weight (1/3 or 1/4 that of brick or dense concrete) it can withstand high stress and pressure. So it reduces the dead load of the structures. It is also as workable as wood, i.e., sawing, drilling, driving of nails are possible. These characteristic features of celcrete not only result in sizeable financial economy but also reduces the normal construction period to one half, thus enabling to reap the benefit of quick returns for the amount invested. The East and North European countries are widely making use of this novel building material for the past more than three decades.

The scheme to establish the first Cellular Concrete Plant in India was sponsored by the National Building Organisation, New Delhi. The Union Government entered into an economic co-operation agreement with Poland under which, among other items, the establishment of a Cellular Concrete Plant at Ennore near Madras at a cost of Rs. 3.65 crores forms part.

The task of erection and running the Cellular Concrete Plant was entrusted to Tamil Nadu Housing Board in the public sector, which is catering the major housing

needs of the masses. The funds for the establishment of the project have been granted by interest charged refundable loans by the Union Government through the Tamil Nadu Government.

The plant was commissioned for trial production in February 1972 and the first finished product which conformed to specifications rolled out of the autoclaves on 8th February 1972 and from then onwards the plant is being worked in single shift. After the power position cases the plant will be worked for the second and third phase of production. With a view to reduce the production cost considerably without sacrificing the qualities or rare characteristics of this novel product, there is a proposal to switch on the use of fly ash of the adjacent Ennore Thermal Plant, an industrial waste and which is at present let into the sea. The clearance and orders of the Government of India as also the necessary funds for the switching over are awaited from the Union Government. By using the fly ash technology it is expected to have some savings in the production cost.

With the total designed output of the plant, it will be possible to construct about 11,000 flats per annum with an area of 30 square metres each and the total production value of celcrete per annum will be the order of Rs. 1.5 crores.

BRICK PLANT.—A proposal to start a Mechanised Brick Plant by the Tamil Nadu Housing Board with the collaboration of Czechoslovakia was considered. A letter of credit was also opened for Rs. 18 lakhs with the suppliers towards the cost of machinery. The investment cost of the Project and the foreign exchange were estimated at Rs. 98.30 lakhs and Rs. 21.09 lakhs respectively. It was however, decided to transfer the Plant to the Industries Department in stages. All the machineries have been imported and most of them have been handed over to the Industries Department.

CO-OPERATIVE HOUSE MORTGAGE SOCIETIES.—The Tamil Nadu Co-operative Central House Mortgage Society and its affiliated primaries were under the control of Registrar of Co-operative Societies, till 15th June 1972. The Government in May 1972 have issued orders to the effect that the administrative control over the Tamil Nadu Co-operative Central House Mortgage Society and primary house mortgage societies should be transferred from the Registrar of Co-operative Societies to the control of the Chairman, Tamil Nadu Housing Board (Co-operative Wing), with effect from 15th June 1972, from when the Chairman, Tamil Nadu Housing Board (Co-operative Wing), is the Registrar for House Mortgage Societies also.

The borrowings of the Tamil Nadu Co-operative Central House Mortgage Society are from the Life Insurance Corporation of India, Bombay. So far a sum of Rs. 8.42 crores has been obtained from the Life Insurance Corporation of India on Government guarantee and the Tamil Nadu Co-operative Central House Mortgage Society was issued loans to the Primary Co-operative House Mortgage Societies to the extent of Rs. 13.42 crores from its inception.

In order to infuse confidence among the public and make them invest in Fixed Deposit of the Tamil Nadu Co-operative Central House Mortgage Society, Madras, Government have guaranteed the Fixed Deposit to the

tune of Rs. 50 lakhs and have so far invested a sum of Rs. 85 lakhs in the share capital of the society to enable it to increase its borrowing power. During 1973-74 it is proposed to invest a sum of Rs. 20 lakhs in the share capital of the above society by the Government.

HOUSING AND URBAN DEVELOPMENT CORPORATION.—The Tamil Nadu Housing Board forwarded schemes costing Rs. 984 lakhs to Housing and Urban Development Corporation for approval and sanction of loan assistance from its Revolving Fund. Against this, the Housing and Urban Development Corporation approved one scheme, i.e., Korattur Neighbourhood Scheme and sanctioned a sum of Rs. 238 lakhs during 1971-72. Out of Rs. 238 lakhs, the Tamil Nadu Housing Board has drawn Rs. 92 lakhs during 1971-72 and Rs. 20 lakhs during 1972-73.

Subsequently, the Tamil Nadu Housing Board forwarded six project proposals costing Rs. 1,524 lakhs to Housing and Urban Development Corporation for financial assistance from Revolving Fund. The Housing and Urban Development Corporation however sanctioned a sum of Rs. 625 lakhs for construction of houses in the following scheme areas :—

- (1) Kalignar Karunanidhi Nagar.
- (2) Arignar Anna Nagar.
- (3) Kotturpuram.
- (4) Seniamman Koil Scheme.

All the above projects are to be implemented by the Tamil Nadu Housing Board in and around Madras City. The redeeming features of these schemes are that the required lands are already available with the Housing Board and the funds will be utilised for the construction of houses, to satisfy the different income groups. The rate of interest is 6.75 per cent per annum for the loan given by Housing and Urban Development Corporation. The Government have guaranteed the repayment of principal and interest in respect of the loan of Rs. 625 lakhs. Out of Rs. 625 lakhs, the Tamil Nadu Housing Board has drawn Rs. 52 lakhs during 1972-73, thus bringing the total amount drawn from Housing Board so far to Rs. 164 lakhs. A further sum of Rs. 72 lakhs is expected to be drawn from the Housing and Urban Development Corporation by the Tamil Nadu Housing Board before the end of March 1973. As a result of executing these schemes, 3,733 dwelling units would be constructed by the end of 1975-76.

Dr. M. Karunanidhi, Chief Minister is seen declaring open the Celcrete Plant.

PUBLIC LOAN.—The Government of Tamil Nadu authorised the Tamil Nadu Housing Board to float public loans to the tune of Rs. 100 lakhs during 1968-69, Rs. 200 lakhs during 1969-70, Rs. 100 lakhs each during 1970-71 and 1971-72 by issue of Stock Certificates and Promissory Notes and they were all subscribed fully. For the year 1972-73 also the Government authorised the Tamil Nadu Housing Board to float a loan of Rs. 100 lakhs in December 1972 and the loan was fully subscribed. The State Government have guaranteed the payment of interest and the principal on the Stock Certificates and Promissory Notes.

HOUSE BUILDING ADVANCE TO GOVERNMENT SERVANTS.—Advances are sanctioned to Government servants for constructing houses, including purchasing the plots, and also for purchasing ready built houses and enlarging living accommodation in houses already owned by them. All Government servants who are permanent members or who have put in a continuous service of five years under this Government and also the All-India Service Officers serving in this State are eligible for this advance. The Government servants are sanctioned advances up to 60 times their pay or Rs. 55,000 whichever is less, the actual amount in each case being fixed with the due reference to their repaying capacity in their service period, calculated according to rules. This is a scheme welcome very much by all sections of the Government servants, as the scheme affords liberal assistance to provide themselves with a house of their own. The budget provision for the scheme for the year 1973-74 is Rs. 65 lakhs.

In conclusion the main bottle-neck in carrying out the ambitious programme under various housing schemes is the inadequate financial aid. The funds for the schemes are too low compared to actual requirements. With a view to increase the housing activities, the Tamil Nadu Housing Board has been striving to obtain loan finance from other sources and has succeeded in getting its schemes sanctioned by Housing and Urban Development Corporation. The Tamil Nadu Housing Board has obtained a loan of Rs. 100 lakhs from the Syndicate Bank during 1971-72 repayable in three years. The Life Insurance Corporation has given in February 1973 a package loan of rupees one crore for financing many of the Housing Schemes intended for lower income and low-income group persons. It is also proposed to approach Nationalised Banks for loan assistance to Tamil Nadu Housing Board for construction of houses with Government guarantee.



VEGETABLES ARE RICH FOOD

No doubt, vegetables are rich food, but its richness depends upon how you handle them while cooking.

Vegetables have a few qualities which other foods lack. They help in neutralizing the acids produced in the body during the digestion of meat, cheese and other foods.

As a roughage they promote digestion and help to prevent constipation. They are also rich in vitamins and minerals, especially vitamins A, B and C, and the minerals calcium.

Although many vegetables are not good source of proteins, carbohydrates and fats, dried seeds of peas and lentils are quite rich in this food element.

Potatoes, sweet potatoes and carrots are rich in carbohydrates. Sag, spinach, carrots, coriander leaves, cabbage, beet greens, turnip greens, mustard, broccoli, sweet potato, pumpkin, etc., are very good source of vitamin A which prevents night blindness and helps in orderly development of teeth and beautiful skin. About 100 grams of the above said vegetables provide enough vitamin A for daily requirement of our body.

Whole grain cereals, fruits, pulses and green vegetables like peas, lentils and dry beans provide enough vitamin B.

Amlas and tomatoes are rich in vitamin C. This vitamin cannot stand prolonged heating and is lost during heating, drying or even prolonged storage. Therefore, you must take fresh fruits or vegetables to get this vitamin. Use of soda (sodium bicarbonate) also destroys this vitamin. Cook vegetables in closed vessels to preserve this vitamin. Its deficiency in the body leads to weakness, fatigue, aching of muscles and bleeding in the gums. Wounds do not heal easily.

Cereals and vegetables are minor sources of vitamin D. Sunshine is the main source of it. Its ultraviolet rays act on the skin and produce vitamin D in the body. Deficiency of this vitamin leads to rickets where bones become soft and curved in babies.

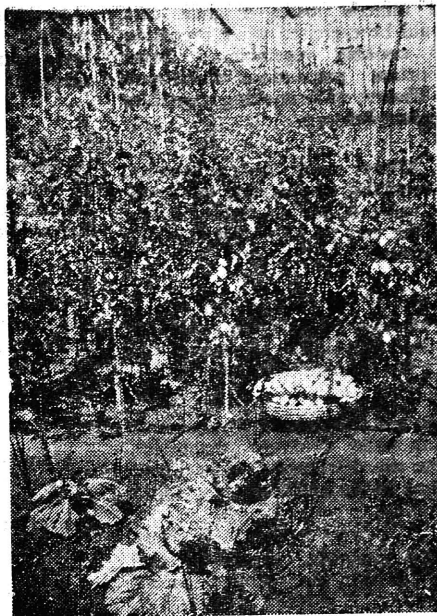
Green beans, green peas, potato and matured onions are rich sources of phosphorus. Phosphorus is necessary for the working of muscles as it helps in maintaining normal acid-base balance in the body. It is also essential in building healthy teeth and strong bones.

DHARAM PAL
AND
L. D. SHARMA,
College of Agriculture,
H.P. University,
Palampur, Kangra.

Turnip green, mustard, potato and broccoli contain appreciable amount of calcium which is necessary for muscle and nerves. For efficient working of phosphorus and vitamin D in the body, the intake of calcium is a must.

Iron is contained in drum-stick leaves, spinach, green beet, mustard and turnip. It is essential for red blood corpuscles which carry oxygen in the blood.

Leafy vegetables like celery, cabbage, spinach and lettuce contain high percentage of cellulose and fibre. Because of their succulence and large bulk, the leafy vegetables and most of the root crops probably



Vitamin C—rich tomato

aid in the digestion of more concentrated foods and prevent constipation.

The tissues of the human body are alkaline in nature and a balanced reserve is to be maintained in the body. Green vegetables like spinach, cabbage, etc., counteract the harmful action of proteinous foods like eggs and meat and maintain a proper balance in the body.

Cabbage, sweet potato, spinach, turnip greens, lettuce, carrots, tomatoes, peas and other green vegetables should be consumed in roughness of skin, night blindness and stunted growth in children. For loss of appetite, constipation, lack of stamina, intestinal and nervous disorders consume spinach, turnip leaves, cabbage, peas, beans and lettuce. For diseased and decayed gums or teeth and loss of appetite take tomato, spinach, cabbage, cauliflower, potato, peas, cucumber, onion and lettuce. For strong bones, take spinach, beans and potato.

Excluding a few vegetables like carrot, cucumber and lettuce, most of the vegetables are consumed after cooking. As already mentioned, some vitamins are water-soluble and in order to avoid vitamin

and mineral losses a great care should be exercised while preparing and cooking vegetables. Some important precautions which you can observe while cooking vegetables are given below :—

Always prefer fresh vegetables. After wilting and drying, the nutritive value of the vegetables is lost and the very purpose of using them is defeated.

Most of the vitamins and minerals lie just beneath the outer skin of the vegetables; so prefer to cook the vegetables with the skin.

Do not add soda or strong condiments while cooking vegetables. These are detrimental to health as well as to the nutritive value of the vegetables.

First wash the vegetables and then cut into the required pieces.

Do not cut vegetables unless to be cooked immediately. Just before preparation, cut them into big pieces as it will expose little surface to water and air. In this way, vitamins and minerals can be better preserved.

Never soak or dip vegetables in water for long as water dissolves and removes many valuable vitamins and minerals.

Add only a minimum quantity of water while cooking vegetables. If vegetables have been kept in water before cooking use that water. Do not throw away the water.

For better cooking, pleasing appearance and more food value, add vegetables in boiling water so that they take minimum cooking time.

Many vitamins cannot stand prolonged heating and are destroyed by heat. Therefore cook vegetables for a minimum period of time.

Avoid reheating the cooked vegetables as far as possible.

Vigorous stirring, sieving and straining of vegetables when they are still hot, results in loss of nutrition as air gets mixed and vitamins are lost.

GIRL GUIDES GARDENING

It is surprising to note that a twelve year old girl has knocked away the prize for best farmed kitchen garden. In Salem, the Agricultural Department organised a Competition on Kitchen Garden. Kannamma bagged the first prize among 98 participants who raised their kitchen garden in a small area of 100 sq. ft. area in their houses.

On the day of harvest, the small plot gave an yield of 4.25 kg. of Tomato fruits. On her part Kannamma got the seedlings and technical advice free of cost from the Agricultural Department besides devoting her leisure hours in bringing up the kitchen garden. She has been adjudged as the best, kitchen gardener for the year 1972-73 in this district. Besides Tomato, brinjal and Bendai are also under kitchen garden cultivation. Kannammal, the young, girl, thus guides gardening. F.P.O. Salem.

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MAXI- MISING CHILLIES PRODUC- TION IN TAMIL NADU

Chilli, otherwise known as Red Pepper, is an important cash crop grown in an area of 80,020 hectares in Tamil Nadu with an estimated production of 1,15,450 tonnes.

It is rich in vitamin 'C' and consumed both as green chillies as well as dry pods. About 2 per cent of the total production of chillies is also exported to Ceylon, Malaysia, Indonesia, etc. The main season crop is sown in September-October and harvested in March-May.

K1, a pure line selection from an Assam type is released as a strain. The fruits are shining dark red, with more capsaicin (2.27 per cent). It yields 18 per cent more than the local cultivators. The calyx is strongly attached. Comparatively tolerant to pests and diseases. Four promising types are under study at Regional Agriculture Research Station, Koilpatti.

The crop is mainly grown as an irrigated crop. However in places like East Ramanathapuram, Vilathikulam and Ottapidaram area in Tirunelveli district, in western pockets of Hosur in Dharmapuri district and Ariyalur in Tiruchirappalli district, it is cultivated under rainfed conditions.

Chilli is raised in black and red soil areas. Well drained fertile soil is essential for its cultivation. The distinct seasons are :

The main season is September—October and picking is in March—May.

Important package of practices

1. Nursery should be in an elevated place facilitating perfect drainage.

2. Three to four ploughings to get a fine tilth.

3. One cent area may be marked for transplanting one acre.

4. One cart load of well rotten compost may be applied.

5. Raised beds 120 cm x 180 cm (4' x 6') may be formed.

6. Chilli seeds may be treated with 'Agrosan' or 'Ceresan' before sowing at the rate of one gram of the chemical per 500 gms. of seed so as to prevent seed-borne diseases.

7. 750 grams of chilli seeds may be sown in one cent area to produce sufficient seedlings to transplant one acre.

8. After sowing, the seeds may be covered with a thin layer of compost powder.

9. Irrigations may be given on alternate days, but should be adjusted considering the receipt of rainfall and moisture availability in the soil.

10. The nursery beds may be drenched with wet ceresan (1 gm per litre) at fortnightly intervals; the first drenching may be given 10 days after sowing.

11. Two rounds of spraying with Rogor may be given for the control of 'Chilli thrips' (one milli litre in one litre of water).

12. The seedlings may be kept in the nursery for about 40 to 45 days.

Main Field

1. Two to three ploughings.

2. The following manures may be applied as basal dressing:—

(1) Compost . . 20 Cart loads per acre.

(2) Superphosphate. 150 kg. per acre.

(3) Muriate Potash. 40 kg. per acre.

3. Beds and irrigation channels may be formed with bund former.

4. When the seedlings are about 40 to 45 days old, they may be pulled out without damaging the root system.

5. The seedlings may be transplanted with a spacing of 30 cm (1 foot) between plants in the row and 30 cm (1 foot) between rows.

6. Three rounds of hand weeding and four rounds of hand hoeings may be given.

7. Nitrogenous fertilisers such as Ammonium sulphate may be applied as top dressing. 48 kg. of Nitrogen per acre may be applied in three equal split doses, on the 30th, 60th and 90th day from planting.

8. The ring method of application of nitrogenous fertilisers may be followed for top dressing.

9. Irrigations may be given once in a week, but should be adjusted considering the receipt of rainfall and moisture availability in the soil. About twenty to twenty-five irrigations will be required for the crop.

Increasing the yield of chillies by planofix spraying

In chillies the setting percentage of fruit is only 11 per cent at Koilpatti condition.

Two rounds of spraying with planofix increases setting. The details are given below :

Number of sprayings of Planofix—2.

(a) 0.5 ml. in 4½ litres—65 days after planting.

(b) 1 ml. in 4½ litres—95 days after planting.

(c) Teepol—1 ml. in 4½ litres to be added as adhesive.

An extra yield of 39 per cent valued at Rs. 408 per acre is obtained by the two planofix sprays which involves a cost of Rs. 24 per acre, inclusive of spraying charges.

By

*Crop Specialist, Regional
Agricultural Research Station,
Koilpatti.*

PLANT PROTECTION.

<i>Name of the Pest or diseases.</i>	<i>Symptoms.</i>	<i>Control measures.</i>
1. Leaf-Curl (Thrips) Throughout crop period & severe till productive phase).	The chilli thrips will suck the juice and thus the leaves will get curled. The thrips are abundantly found on the bottom surface of the leaf.	Six round of spraying with Rogor (100 milli litres in 100 litres of water) at fortnightly intervals. The first spraying one month transplanting.
2. Mite (severe during some years throughout the crop period).	The leaf will become pale in colour with elongation of petioles, in severe incidence, clustering of tender leaves also will be noticed.	Spraying with wettable Sulphur at 3 gms. per litre.
3. Die-back and fruit rot diseases (from the flowering phase).	In the affected plants the drying will start from the tip of the plants. The leaves will drop and the colour of the affected fruit will turn to white.	200 gms. of Diathane M. 45 or Zineb in 100 litres of water at fortnightly intervals. Four rounds and the first spraying may be given one month after transplanting.
4. Fruit borer (in the productive phase).	The caterpillar will bore inside the fruit and the fruits will drop down.	Spraying with sevin 50 per cent at 2 gms. per litre. The spraying given late in the evening.
5. Powdery mildew (Severe in winter in the productive phase).	In the affected leaves ashy out growths will be seen on the bottom surface of leaf and thus the affected leaves will wither away.	Spraying with wettable Sulphur at 3 gm. per litre. The bottom surface must be well sprayed.

ASSIGNMENT OF LAND IN KANYAKUMARI DISTRICT.

The Government of Tamil Nadu has decided to assign the lands under Kuthakapattom and Kandukrishi Thanathu and Kandukrishi Pattom lands in Kanyakumari district and Shencottah taluk of Tirunelveli district, to the present holders of the lands in partial relaxation of the conditions and restrictions as applicable elsewhere in the State. This information was given by the Revenue Minister Thiru P. U. Shanmugam in the Legislative Assembly on 6th March 1973. The lands were given for cultivation purposes by the erstwhile Travancore Cochin Government.

Persons in possession of lands under Kuthakapattom, and who are eligible for assignment of Government lands, would be assigned these lands upto five acres of dry or three acres of wet, free of land value. Land in excess of these limits in their possession may be assigned to them on collection of single market value provided they have effected very valuable improvements to the lands and provided the lands in excess of the limit prescribed could not be independently assigned to any other landless poor.

Persons who are in possession of these lands and who are normally ineligible for assignment of Government lands may be assigned five acres of dry lands or three acres of wet land, provided they have effected valuable improvements to the land. Such assignment will be on collection of single market value, if their annual income from all sources is less than Rs. 15,000 and on collection of double market value if their annual income from all sources is Rs. 12,000 or more.

Lands held under Kandukrishi and Kandukrishi Pattom would be assigned free of land value to the holders irrespective of the extent held by them and irrespective of whether or not they are normally eligible for such assignment.

IRRIGATED MILLETS IN TAMIL NADU

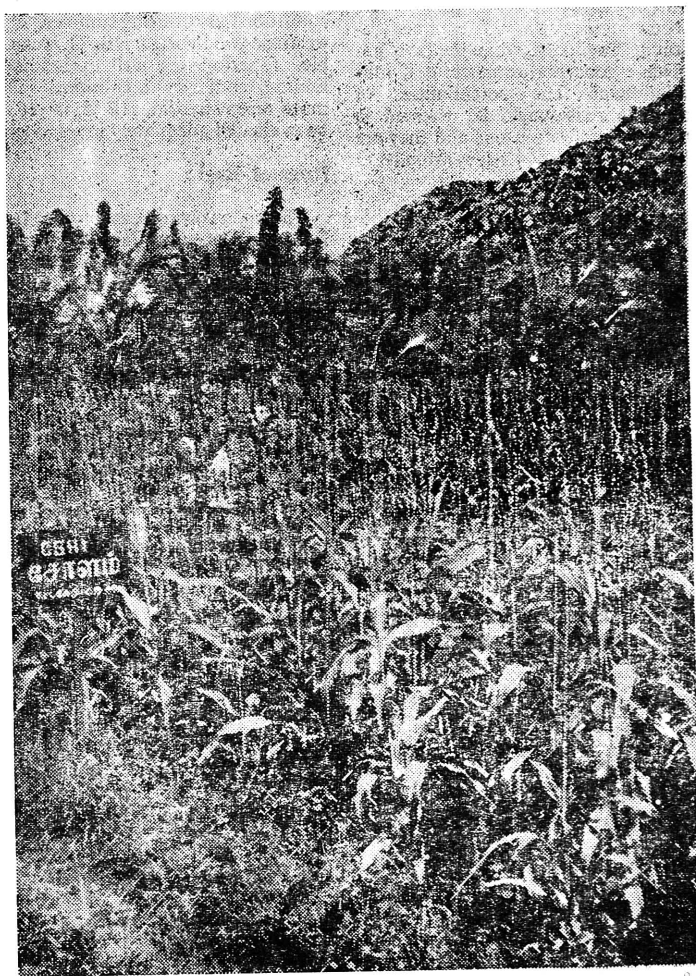
Millets under irrigation is a common feature in the cropping patterns of tracts with red loamy soils. Except in project areas where flow irrigation may be available, these crops are raised under the command of wells, in garden lands. Barring cumbu which has poor fodder value, all other irrigated millets are utilised for both grain and fodder. The seasons of cultivation vary among the different millets in different tracts, but the main season is summer when the best expressions of the crops are realised. Phenomenal grain yields of over 7,000 kg./ha. became realisable with the hybrids (particularly of cholam), but the genetic systems of these varieties demanded proper agronomic handling and intensive attention, to give the best returns. This situation generated the 'package' approach in the cultivation of elite irrigated millets, leading to the organised extension of the high-yielding varieties at present.

Irrigated Cholam :

Irrigated cholam is raised in a major portion (144,000 ha.) and is concentrated in the districts of Coimbatore, Madurai, Tirunelveli, Tiruchirappalli and Salem. The season for the crop is summer and sowings are done from February to April, according to the preferences in different localities. For Coimbatore tract, studies have shown that sowing at the end of February (**Masi pattam**) brings out the best response in the crop, compared to later sowings. Similarly, it has been observed for North Arcot tract that April-sowing (**Chithirai pattam**) is the best compared to earlier sowings. In the southern tract sowings at the end of January (**Thai pattam**) and in April (**Chithirai pattam**) are in vogue. However, the earlier-sown crop has been observed to be prone to pests like mite in this tract. Strains which have current demand are Co. 4, Co. 12, Co. 18 and K. 4. Among these, Co. 4 serves the tract where red-grained cultivars are desired. Strain Co. 12 has the reputation of withstanding water-stress to some extent while Co. 18 is a high-fertility strain with juicy fodder.

Strain K. 4, a recent release, serves the southern region and is gaining spread in Tirunelveli district. This strain was developed to combine the agronomic base of K. 2 with the superior yield potential and the juicy fodder quality of Co. 18. The replacement of traditional cholam cultivars and of conventional strains from most of irrigated cholam areas was visualised with the introduction of the high-yielding hybrids like CSH. I. However, the yield poten-

tial of this hybrid (over 7,000 kg. of grain/ha. under optional conditions was offset by its high susceptibility to pests and diseases and comparatively poor returns of fodder. It was also not adapted for the southern region, where strain K. 2 (a parent for K. 4, released later) performed better. The genetic superiority of the hybrid was thus weighed down by agronomic weaknesses and many farmers continued to bank on elite conventional strains like Co. 18. Hybrids



The irrigated hybrid Cholam.

released subsequently also did not completely provide solutions to problems identified in hybrid CSH. 1. The release of elite variety Swarna, which had nearly as high an yield potential as CSH. 1, was not found adapted to all irrigated millet tracts in this State, and the strain comes up poorly in the southern region during summer. Notwithstanding these drawbacks, hybrids like CSH. 1, and CSH. 3, (CSH. 2 is more suitable for kharif than summer) and varieties like Swarna are being raised. Ratooing is also practiced in the irrigated summer crop of these varieties, as it saves the seed-bill, and brings forth grain returns nearly equal to that of the seed-sown crop.

Among the current lines of work in irrigated summer Chulam, there are studies on the possibilities of exploiting elite inbreds IS 2508 and IS 3541. The former comes up well in summer season at Kovilpatti, while the later has given a good performance at Kudu-mianmalai. The potentialities of these inbreds would be assessed in the ensuing few seasons and they are likely to be exploited eventually in suitable tracts.

Irrigated Cumbu :

The main sowing season is March-April. In Coimbatore it has been

observed that March-sowing gives the best returns. In the middle of the last decade, superior hybrids like HB 1 (developed through a different technique using male-sterile lines) began to be introduced. The synchronous tiller-maturity and delayed senescence of the leaves of these new hybrids were particularly of agronomic value for irrigated cultural conditions. The yield potentials of these hybrids (up to 4,500 kg/ha.) were also superior under high-fertility conditions.

The hybrids that are presently recommended in the State, are HB. 3 and HB. 4, which are better than the earlier hybrids and are also less susceptible than them to diseases. Both the hybrids are primarily developed for unirrigated conditions, but have been found suited for irrigated conditions also during summer. Between the two hybrids, HB. 3 is capable of performing well even under limited, moisture conditions. The more recent hybrid, HB. 5, is yet to be evaluated adequately in our State.

Irrigated Ragi :

The main sowing seasons are May-June and December-January in most parts of Tamil Nadu, except southern region, where July-August is the

common season. The strains currently under distribution are Co. 2, Co. 7, Co. 8, Co. 9, Co. 10 and K 2 and 'Saradha'. Among these, Co. 7 is an unique strain, having a grain yield potential around 5,000 kg/ha. under high fertility conditions, within a short duration of 100 days from seed to seed. This strain proved for the first time in ragi, that high yield is not dependent on a long growth period. The strain is adapted to most districts of the State, except in the southern region, where K. 2 and 'Saradha' hold the field. Strain K. 2 matures in 120 days, and is non-lodging besides being somewhat resistant to blast. This is being gradually replaced by Saradha which matures earlier by 15 days and yields better, by 25 per cent. Strain Co. 2 with fifty earheads is one of the best of the earlier releases, and has a continuing demand in many areas. Strain Co. 8 is a moderate yielder, but matures in 89-90 days only (including nursery age) and is suitable for the eastern districts where an early-maturing variety is desired. Strain Co. 9 is a white grained variety and is more proteinaceous (about 11 per cent) than the common brown ragi (having about 7 per cent only). Strain Co. 10 is a short-duration strain released recently and has a good yield potential.

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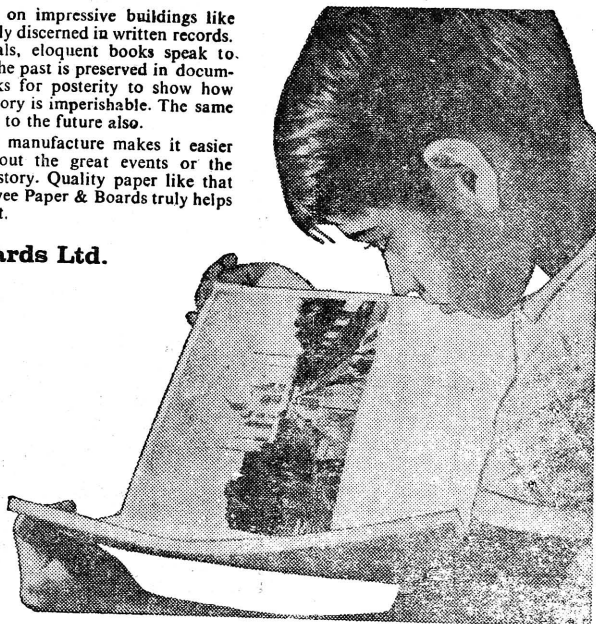
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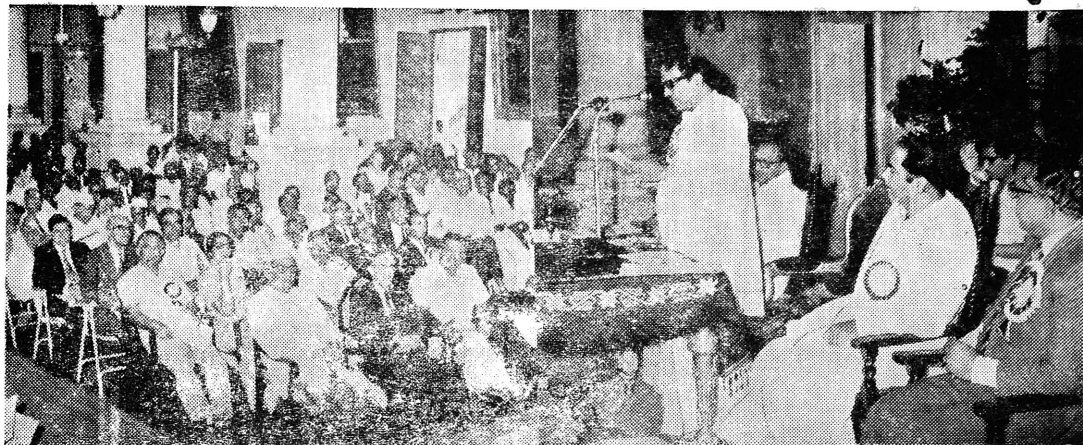
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THE TENTH ALL-INDIA DAIRY INDUSTRY CONFERENCE

The five-day 10th All-India Dairy Industry Conference commenced at Rajaji Hall in Madras on 8th March 1973 and it came to an end on 12th March 1973. Experts on dairy science, cattle development and milk production administration as well as co-operators took part in the deliberations on the technical, commercial and biological aspects of dairy development advancing valid and valuable suggestions for the development of dairy industry in this country under the condition and circumstance obtaining here.

Thiru K. Anbazhagan, Minister for Public Health, presiding over the function, in his speech put the stress on the need for employing progeny-tested exotic bulls which could impart high-yielding traits to the local breeds. He went on to say that quick progress in improving cattle could be achieved if 500 such bulls were available because with artificial insemination using frozen semen, about 5,000 cows could be covered with one bull of high breed imported category. He further observed that "apart from what the Indo-Danish and Indo-Swiss projects are providing as elite breeding stock, we will have to import a number of such good breeding bulls".

Releasing a souvenir on the occasion, Thiru M. Kannappan, Minister for Religious Endowments, suggested a crash programme for cattle improvement and for production,

collection and distribution of milk. He further said that research on livestock feed and fodder should have a practical bias and be immediately applicable in the field by farmers.

Thiru P. Sabanayagam, Chief Secretary and Chairman of the Reception Committee, welcoming the delegates, put out a suggestion that to have a periodical assessment of the implementation of the recommendations of this conference a permanent executive body might be set up to follow up with proper action in time.

Addressing the delegates of the conference Thiru Dr. P. Bhattacharya, President, Indian Dairy Science Association, outlined in his speech that development of dairying should be constructed on the line to ensure social justice and equal opportunities, particularly for weaker sections of society in the rural area. He went on to say that "co-operatives are best suited for organising milk production" and that they should be strengthened in right earnest. In case of co-operatives failing in their duty, he suggested Public Sector Corporations should be developed.

Inaugurating the Conference Dr. M. Karunanidhi, Chief Minister, said :

"You are quite aware, that in most languages, and in most parts

of the world, the word "milk" is associated with purity. It is not because of its whiteness only, but because it is the thing that sustains life and gives nourishment to the new born infant and it gives strength and energy to the growing child and health to the weak. When a baby is a few hours old, it is the mother's milk—pure and sterile—which keeps it going. Here in Tamil Nadu, milk is inseparable from festivity. All happy occasions, from marriages to birth, are celebrated with milk and milk products. Life in a new house can start only after the milk is boiled. Hence in all languages, the idiom makes use of the word "milk" to describe that which is pure and essential.

"The task before all dairymen all over the world is how to keep up the good name and reputation of this thing called milk. How to keep it pure and clean? How to produce more milk and make it easily and equitably available to many? These issues are simple but the solutions are not so simple

"I am sure that all of those gathered here today will pool their wisdom and vast experience in order to find concrete and workable solutions to the problems facing this country.

"I think this conference is of particular importance in the context of certain new truths emerged

in the course of our efforts to improve the rural economy. It is increasingly realised that if the farmer must increase his income, thereby ensuring the way for a better life for himself and the Society around him as well his excessive dependence on food crops must go. This may be achieved by a certain amount of mixed-farming, be it dairy, poultry or any other animal husbandry practice. It depends all on the area, the climate, the soil conditions and the market. I do believe that a small farmer having even one acre of land can improve his income if he keeps two or three good milch cattle provided he can feed his animals economically. This can be done if he could set aside even a few cents of land for growing fodder intensively. For those having two or three acres the task becomes easier. It is for this conference to suggest ways and means of making this practice more economical and more profitable to the farmer in an atmosphere of an easy and viable manner.

"Now, let me deal with a few of the problems facing the milk industry in this country. The average consumption of milk in India came to 105 grams per person per day in 1970-71. According to experts, the minimum nutritional requirement is about 300 grams per day.

The figure for Tamil Nadu is 63 grams per person per day which is far below in comparison to the national average.

More cattle but less yield.

"We have more cattle in India than any other country in the world. We have 229 million heads of cattle. Of these, 80 million are breedable ones. But the average yield of an Indian cow is the lowest in the world, a mere 200 litre per lactation, whereas a Danish cow yields 3,700 litres, and an American cow 3,200 litres on average. They say that our milk problems can be solved if, by 1980 we have 25 million cattle yielding an average of 2,500 litres per lactation. How can this be done? Can this be done at all?

"It seems to me that the only solution to the problem of cattle development is an intensive programme of cross-breeding concentrated in some select milk pockets where the chances of success are the highest. Such a programme will have to take breeding facilities to the

door of the farmer. I understand that our Tamil Nadu Dairy Development Corporation has taken up such a programme. This programme has just commenced and it will take some time before the results are known. But if all goes well, there will be remarkable increase in the milk production in the areas selected under this programme within a period of 5 years. I am sure you will keep the aspect of cross-breeding in your view during your deliberations.

"The next important problem is that of Cattle feed and fodder. There has been a remarkable rise in the price of cattle feed in the past few months. This has led to great hardship to cattle keepers all over the country. Urban cattle keepers are the worst affected since they depend entirely on purchased cattle feed and fodder. I hope you will consider the problems of computed cattle feed manufacture and distribution and suggest some speedy measures for removing the present difficulties.

Ultimatum to the farmers.

"With regard to green fodder, the position is precarious all over India. As I said earlier, ultimately the solution to this problem lies with the farmers. There must be massive programme for assisting farmers to divert a portion of their cultivable land for growing green fodder. I think the success of the entire milk production programme will finally revolve round this crucial point, namely whether the farmer can be persuaded to devote some of his land to grow fodder. Green fodder has a direct impact on the production of milk. Indeed, it is felt that if concentrates are not available or are too expensive, it is possible to sustain the cow entirely on green fodder. I understand that new strains of grass are being developed by our scientists. I call upon the delegates to make suitable suggestions for popularising the cultivation of green fodder; and the scientists to evolve new and better strains of green fodder.

"While we plan for more production of milk, we should simultaneously set up the capacities to handle the increased milk which will flow into the market. I do hope you will have a free and frank exchange of views on this subject. There are certain controversial issues in this field not only in our

country but in other countries also. What sort of plant capacity should be installed for handling the milk? What sort of packaging is most convenient and economical for the consumers? What should be our system of distribution? How can we ensure that milk reaches the masses of our people at a reasonable price? What are the ideas on milk products and so on. I trust that you will arrive at some sound decisions on these subjects.

Role of Co-operatives.

"In the milk industry, it is very desirable that marketing be channelised through strong and viable co-operatives. The basic objective of the entire co-operative programme is to strengthen the economic condition of the farmer, offering him all necessary facilities to market his produce. In the milk industry, the co-operative was intended to eliminate the middleman and thus fetch a better price to the farmer. The co-operatives would also assist the farmer with finance and technique. Whatever measures the Government may take, there is nothing to replace these democratic institutions at the village level. I do hope the milk industry will grow on co-operative lines all over India so that the farmer gets his legitimate share of the milk price and the consumer gets good milk at a reasonable price.

Competition between man and beast.

"This is not a conference on family planning, but I would like to draw your attention to the population explosion. To-day there is a bitter competition between man and beast for the limited space available in this sub-continent. Let me take the example of Tamil Nadu. Today we have a human population of 41 million which will reach 48 million by 1980. Our total land area is 13 million hectares of which only 6 million are cultivable. This limited land area has also to support cattle population of 13 million. The land available for free grazing is shrinking year after year due to unavoidable human occupation. When the people of this country have been looking forward to a break-through in various fields, it is for you to consider whether in the present state of affairs, we can provide the minimum 300 grams of milk per day to every citizen."

Thiru L. M. Menezes, Milk Commissioner, proposed a vote of thanks.

WHAT IS MILK?

What is milk? Milk consists of fat, non-fat solids which include many of the vitamins, lactose which is milk sugar, minerals and water. Dairymen simplify this break up into fact, solids not fat (SNF) and water.

An ounce of milk supplies you with about 30 calories as compared to 31 in an ounce of chicken, 32 in an ounce of pork, 10 in brinjal, 13 in carrot and 9 in cabbage. Hence milk is known as the most perfect food and is the sole source of animal protein for million of our people.

So if milk consists of fat and SNF can these constituents be separated? Yes. Not only separated but also conserved. This is what the milk powder plant does. It separates the fat which is butter. We are then left with milk without fat which is known as skimmed milk. This skimmed milk is dried, which is milk powder.

Can these two elements be re-constituted into milk? Of course. They have simply to be mixed together and homogenized and we have milk again. This is milk in all respects except the absence of that flavour which is usually associated with freshness. Freshness is important, no doubt, but not at the cost of the essential ingredients which can often be diluted by adulteration.

Milk is being collected in stainless steel milk tankers.

L. M. MENEZES, I.A.S.,

*Managing Director,
Tamil Nadu Dairy
Development Corporation.*

What is this thing about high fat milk and low fat milk? Milk as it comes from the animal can be of various types. Roughly the milk we received at our dairy tests is as follows :—

	Fat. PER CENT.	SNF. PER CENT.
1 Jersey and Jersey crosses.	5.0	8.5
2 Fresian and Fresian crosses.	3.5	8.5
3 Red Dane and Red Dane crosses.	4.5	8.5
4 Swiss Brown and crosses.	4.5	8.5
5 Sindhi and crosses.	5.0 to 5.5	8.5
6 Ongole ..	5.0 to 5.5	
7 Kangayam over	5.5	8.5
8 Ordinary buffalo over	6.5	9.0
9 Murrah buffalo over	6.0	9.0

Except for whitening of coffee perhaps, most people these days, would naturally like low fat content milk. Many people in western countries even go in for skimmed milk which has all the protein without the fat. Due to the high incidence of heart diseases low fat milk is strongly recommended by medical authorities. Only a few days ago there was news about some Australian research team which has discovered ways of keeping down the fat content in milk by regulating the diet of cows. The report says that the scientists have been trying to find ways and means of keeping down the chloestrol intake from milk and meat.

It is for this reason and also in order to cater to different income groups that the dairy puts out 3 types of milk as follows :—

Type of milk.	Fat. PER- CENT.	SNF PER- CENT.	Price PER. ½ LITRE. RS.
1 Standardised milk.	4.5	8.5	0.65
2 Toned milk	3.0	8.5	0.50
3 Double toned milk.	1.5	9.0	0.35

In all we sell 83,000 litres of milk each day in Madras City of which about 20,000 is in cans and the rest in bottles.

The process of toning down the fat content in milk as per the requirement of the consumer is normal practice in most dairies the world over. The impression that the dairy steals the most nutritive portion of the milk by way of fat and creams and proteins and passes on the residuary liquid to the poor customer is almost too funny for words.

MADHAVARAM FARM

Milk for Madras City is all produced at Madhavaram? Wrong!

The Madhavaram farm run by the Dairy Development department has 340 milch animals producing 1,900 kgs. of milk only. The cattle colony which is a scheme to resettle the city cattle keepers by offering them some facilities at



Studies in Concentration.

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the pests to reap a
bountiful harvest....
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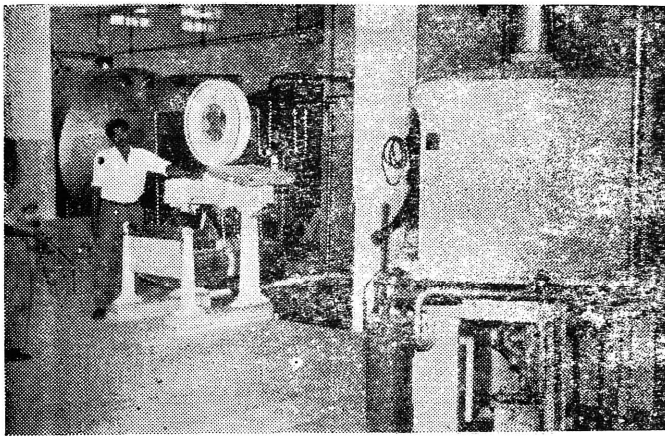


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Pasteurisation of pure Milk.

Madhavaram has 628 milch animals and produces 2,390 kgs. only. The rest of the milk comes from the districts of the Nilgiris, Coimbatore, South Arcot, North Arcot, Salem and Chingleput, occasional supplies are received from Trichy, Thanjavur and Madurai. This milk is collected through a net work of co-operatives and individual farmers, chilled, pasteurised and transported to Madras City by a fleet of 25 stainless steel milk tankers which ply day and night to get the milk to the City. At the Madhavaram Dairy the milk is repasteurised, bottled and sent out.

PASTEURISATION OF PURE MILK.

What is pasteurisation? It is named after Louis Pasteur, discoverer of the process, by which milk is heated to 165° F. thus killing most of the bacteria and ensuring longer shelf-life.

What are "lean" and "Flush" seasons? The lean season is apart climatological, part seasonal, part geographical and part genetical feature by which calving takes place during a particular period. This period is November in Tamil Nadu. The result is that during two months before November, most of the animals go dry. Production of milk falls by 50 per cent or more. Our procurement also falls by the same percentage. It is during this period that the dairy has to resort to reconstitutions of milk by the use of butter and skimmed milk powder. This is a common practice in many parts of the world where fresh milk is not readily available or where there is short supply for various reasons. Similarly during the two months after calving, that is after November, there is a

flood of milk. This is the flush season. This season poses equally serious problems to the dairy since we get more milk than we can actually handle. Such seasonal surpluses can be taken care of by a milk product factory like a milk powder plant. We intend setting up such a plant at Madurai by December 1973 to handle 100,000 litres of milk per day.

OPERATION FLOOD.

What is 'Operation Flood'? It is a massive programme sponsored by the Government of India, in collaboration with the World Food Programme of the Food and Agriculture Organisation, to increase milk production in India and step up the sale of good, wholesome, reasonably priced milk in the main consuming centres. The concerned agencies are the Indian Dairy Corporation, Baroda, which finances the project, the National Dairy Development Board, Anand, which gives technical guidance and the State Government which implements the scheme.

1. Madras City will have a second dairy with a capacity of 200,000 litres of milk per day.

2. A skimmed milk powder plant with a capacity of 100,000 litres per day or 10 MT of milk powder will be set up at Madurai.

3. Two large feeder dairies in our milk shed area, one of them having a milk powder plant with a capacity of 5 MTs. a day, will be established.

4. A technical inputs programme to farmers supplying milk to the project, which will consist of personalised services, will be introduced.

PANEL TO STUDY BEEDI AND COIR WORKERS' CONDITIONS.

The Tamil Nadu Government has appointed a 17 member committee to go into the living conditions of workers belonging to the following industries.—Beedi, Road and building works, sultans, scented, tobacco, coir, match and fireworks, brick and tiles, laundry, sago, saw mill, cashew, boat building goldsmithy, weaving, flour and oil mills, chank and toddy.

The Committee headed by the Labour Commissioner will suggest steps for providing improving the housing medical and other facilities needed by the workers in these industries. It has been asked to give its report within six months.

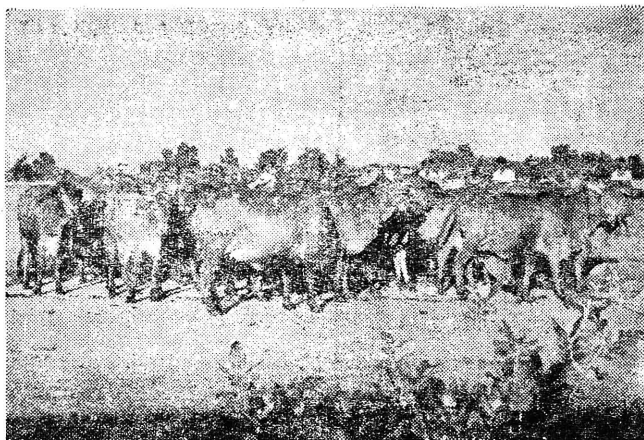
Majority Union Recognition : Chief Minister's Call to Labour

The Hon'ble Chief Minister, Thiru Dr. M. Karunanidhi said that the Tamilnadu Government favoured one union for one industry and that a system of secret ballot could be adopted to decide which union had the support of the majority of the workers.

Addressing the 15th Annual State Conference of the Tamil Nadu Electricity Workers' Federation, he said that if the workers unions of the Electricity Board agreed to hold such a secret ballot, recognition would be granted to the union enjoying the support of the majority. The special leave facilities sought by the Federation for three office bearers would also be granted to the majority union, he said.

The Chief Minister announced that housing facilities demanded by them would be provided in a phased manner. He appealed to the workers to co-operate with the Government in enforcing the power cut and to strike their utmost to minimise loss in transmission.

He said the Government would keep its word to confirm all the daily rated workers who had put in more than four years service as on December 31, 1972 and already 9,000 of them had been made permanent.



MORE MILK FOR TAMIL NADU

The per capita availability of liquid milk in Tamil Nadu is 62 grams per day. Nutritional norms require the per capita level to be about 300 grams. The major problem is, therefore, to make our buffaloes produce 4,950 million kg. of milk per day.

The Dairy man has only to confine himself to the production of 4,950 million kg. of milk in the shortest time possible considering that the present lactation yield of a cow in Tamil Nadu is 1.6 kg. and of buffalo 2 kg. a day. This can be tackled by increasing the number of breedable cows and buffaloes and increasing the milk yield per animal.

The rate of growth of the bovine population at 2.33 per cent per annum, nearly outstrips the rate of increase in human population in Tamil Nadu. The available area of cultivable land per head of population works out to less than one acre. Practically, therefore, no land is available to support any further increase in bovine population without causing adverse repercussions on general agricultural economy.

A Single Solution.

This practically leaves a single solution to the problem, namely, increasing the lactation yield of cows and buffaloes. In the case of buffaloes selective breeding employing Murrah bulls alone is possible. This will take 70 years or 16 generations to double the existing yield. This time-bound programme is also out of question.

In the case of cows exotic bulls with tested germ plasm capacity to produce 4,000 litres of milk could give the F-1 generation of crosses and milk potential of 2,133 plus 20 per cent extra for hybrid vigour, i.e., 2,500 litres per day which represents a twelve fold increase within a period of 4 years. The ultimate object of cross-breeding is to develop a breed with 3,200 kg. of milk per lactation of 305 days, in effect putting 15 times the present yield into each single cow. At this level of production only 22.0 lakhs

5,000 cows could be serviced per bull. In order to produce 22 lakhs F-1 crosses in four years only 500 pedigreed and progeny—tested bulls are required. Of course the A-I programme has to be geared up to the requirements namely to get 22 lakh cows successfully in seminated within a year. Granting that 50 per cent of the calves born under the cross-breeding programme are male, the full complement of 22 lakh cows will become available within the next Plan period. Apparently this is easy enough.

Optimum Farms:

The difficulty of maintaining cows which produce 3,200 litres of milk over a lactation is the crux of the problem. Such a cow, at present market rates, will fetch a price of Rs. 3,500. This business of keeping milch animals provides returns every day, if the farmer so wishes, which will provide for the cost of his inputs.

A farmer with 3 acres of irrigated land would be an ideal person to start a dairy farm with 10 cross-bred animals. This would mean a minimum investment of Rs. 35,000 for the stock and Rs. 10,000 for the cattle stalls and other buildings. If this farmer has free hold land free of encumbrance, he will be automatically creditworthy to absorb a loan for this investment. If he has to venture into this business he has to be assured of adequate veterinary coverage, A.I. and balanced cattle feed, all to be supplied at the farm-site on an as-and-when required basis, besides being assured a reasonable price for his

By
Dr. U. K. MENON,
Deputy Milk Commissioner
(Dairying).

cows will be required to produce the 5 million litres milk required, (even granting that 1/3 of the number will remain dry). When this is achieved, 20 lakhs cows and buffaloes will become surplus is even among the existing cattle population. This will release 36 lakh tonnes of fodder and 6 lakh tonnes of concentrates now consumed each year by these uneconomic cattle. Besides, there will be a corresponding saving in man hours now consumed to look after these cattle.

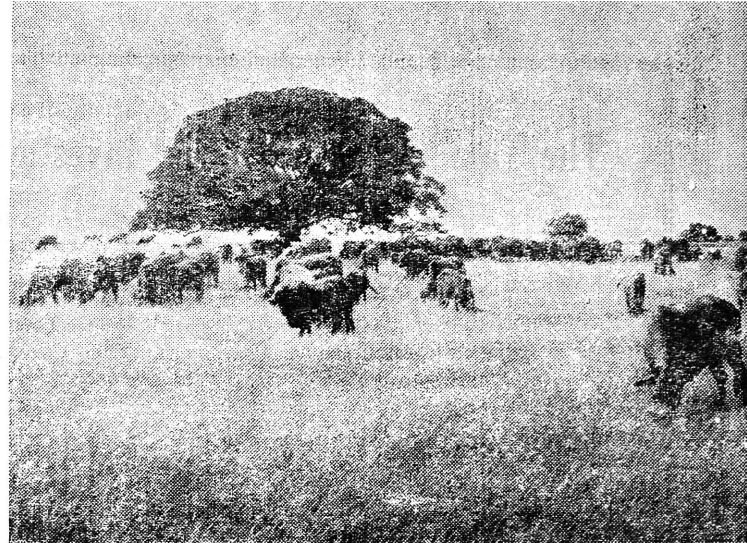
Cross breeding is, therefore, the only solution to the problem of producing enough milk. Under AI,

milk at farm site. An insurance cover will also help to increase his confidence. It is this organisation which presents difficulties to the dairy administrator.

Incidentally, such farms could be organised in a compact area around our principal cities. The cities will provide the market for milk besides acting as convenient centres for the programme. For example, the daily milk requirement of Madras City is estimated at 4.5 lakhs litres a day. This could be supplied by a herd of 45,000 cross-bred cows. It is easy to start 4,500 such 10-cow units within a 50 mile belt round the city and organise the necessary inputs and insurance cover under a package programme. Adequate and assured production to meet the city's requirements within a fifty-mile belt around the city would effect considerable savings in transport and processing costs when it is reckoned that the Government Milk Project now secures its supplies even at a level of well under one lakh litres from such far away places as Ooty, Erode and Madurai.

Steady Production :

There is another advantage in instituting such farms. The animals now available have well-defined calving seasons. Rainfall in Tamil Nadu occurs principally during September-October. The buffalo calving season correspondingly falls between these months and the cows calve a little later in January. This causes very wide seasonal fluctuation in the volume of milk produced. For e.g., the milk produced between November-December is almost thrice the quantity produced during the lean season. Cross-breed animals do not have a 'calving season' and calve throughout the year. They also have the advantage of early maturity and come to production within three years. In order to utilise the seasonal surplus milk it has to be converted into skim milk powder, butter and ghee. Till recently, imported skim milk powder was sold in Tamil Nadu at a price of about Rs. 2,000 a tonne. At this level of prices, it was uneconomic to establish balancing plants for seasonal spray-drying of milk. The Government of India has recently controlled prices with reference to the internal costs of production at nearly Rs. 6,000 per metric tonne. At this level, balancing plants could work profitably despite restricted seasonal



manufacture. One such balancing plant is to be established at Madurai shortly and yet another is planned for Erode.

Milk being a perishable commodity, processing is necessary to increase its life. Tamil Nadu has processing facilities for 3,00,000 litres of milk a day.

These plants are working out to less than half their rated capacity. Dairy machinery is capital-intensive and has to be worked to full-rated capacity in order to cover operational costs. Planning has, therefore, to be directed towards the utilisation of these plants to their rated capacities. The difficulty in achieving this quickly has been the seasonal surpluses which necessitates the fixation of quotas on producers. The producers are, therefore, forced to sell at least part of this milk to other agencies and they are committed to continue to do so even during the deficit season thereby starving the plants during the lean season.

Incentive to the Producer :

The prices realised by producers will ultimately determine the popularity of 'dairy farming' as an occupation. This trade requires a margin of 35 per cent to cover costs and provide incentives.

The cost of production in belt areas around cities would be a little higher and prices paid should be correspondingly higher. Such realistic pricing policy is the first step in planning for increased milk production.

At the low levels of purchasing power of the bulk of our population, it is too much except the vast majority of our populace to purchase in advance coupons for their requirements of milk. If marketing is to cater to the needs of the populace milk must be made available in retail even in fractions of a litre. The lowest capacity that could be tackled economically by a bottling plant is the 1/2 litre bottle. Lower fraction cannot be bottled. Smaller denominations have, therefore, to be vended by other methods. For this purpose, the Mexican system of vending machines is now being tried out on an experimental scale. If the results are satisfactory Tamil Nadu will be getting its vending machines shortly.

Neo-Technology :

In Western countries technological developments have resulted in a new process called Ultra High Temperature Pasteurisation which considerably increases the shelf life of milk without any apparent or recognisable change in constituents or taste. Milk processed by this method has a shelf life of one to two months against 24-36 hours in case of conventional pasteurisation. The advantage of the new process is that milk could be retailed from retail shops without any refrigeration and will be available for the sale not at fixed hours as at present but throughout the day. Many dairy factories in the West are switching over to U.H.T Pasteurisation. Tamil Nadu will be wise to follow suit.

The Tamil Nadu Industrial Investment Corpn., Ltd.

The Tamil Nadu Industrial Investment Corporation is sponsored by the Government of Tamil Nadu to provide all types of financial assistance to industrial units in the State of Tamil Nadu and Pondicherry. The financial assistance is given to all types of units including proprietary, partnership and Joint-stock companies. Special schemes have been framed to help Technocrats and Rural Medical and Veterinary Practitioners. Concessional terms have also been offered to backward areas and backward districts.

The terms and conditions of assistance

Minimum: Rs. 1,00,000 (for small-scale industries : Rs. 25,000).
For Technocrats and Rural Medical Practitioners: Rs. 10,000.
Maximum: Rs. 25,00,000 (Rs. 2 lakhs and Rs. 1 lakh in the case of Technocrats and Rural Medical Practitioners respectively).

Rate of Interest

9.75 per cent in the case of major and medium-scale industries.
7 per cent in the case of units in backward areas and for Technocrats and Rural Medical and Veterinary Practitioners.
8½ per cent in the case of other small-scale industries.

Initial repayment holiday

2 years in the case of ordinary industries.
Up to 4 years in the case of units in backward districts.

Amortisation period

Ranging from 8 to 10 years.
Special concessional terms are available to small-scale industries, technocrats, rural medical and veterinary practitioners.

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10th ALL-INDIA DAIRY CONFERENCE

RECOMMENDATIONS FOR INTEGRATED

The five days All-India Dairy Industry Conference conducted in Madras from 8th to 12th March 1973 has suggested fuller utilisation of co-operatives for the dairy industry and insurance coverage for milch animals.

The other important recommendations of the conference are as follows :—

(1) Ensuring a fair price based on production cost to milk producers ;

(2) Channelling the inputs required by the milk producers through one agency on co-operative lines ;

(3) Taking up steps to eliminate uneconomic cattle to make the best use of land and vital inputs available ;

(4) Adoption of simple and reliable methods of quality control in milk distribution to secure the confidence of consumers ;

(5) Training of farmer producers in the fields of procurement, processing, distribution and management ;

(6) Procurement of milk from only the Co-operative Milk Societies or Unions as an impetus to boost the activities of co-operatives in the line ;

(7) Improved supply of fodders and concentrates ;

(8) Radical changes in agricultural practices in mixed farming or crop rotations involving fodder crops, etc.

Alternative feeds have been suggested by the conference such as tree leaves, monsoon and forest grasses which could be preserved in the form of hay or silage for the lean season by setting up dehydration plants. Agro-industrial by-products like polasses should be used to the maximum extent as cattle feed. An innovation suggested is the use of urea in dairy concentrates in place of the now scarce oil cakes. The Fertilizer Corporation of India should market feed-grade urea for this purpose. The conference urges that export of groundnut cakes and other raw materials useful for feed should be banned.

DEVELOPMENT OF DAIRY INDUSTRY

To ensure adequate health of cattle it would be necessary to appoint one veterinary surgeon in charge of every 10,000 heads in intensive areas and locate diagnostic laboratory or centres at the State as well as district levels. Mobile veterinary clinics have also been laid on regular compulsory vaccination of animals.

Installing vending machines in metropolitan cities for retail distribution of pasteurised milk and use of single service containers are some of the sophistications proposed by the conference for modernisation of milk distribution considered to be must to ensure low distribution cost, minimum quality impairment and consumers' satisfaction.

Milk supply to Factories.

An unfailing supply of quality milk must be ensured to the factories by setting up multiple milk processing units. In addition, cheap methods of chilling milk at producer's point should be adopted. All milk schemes, according to the conference, should take steps to supply low fat standardised toned milk and particular attention should be paid to distribute low cost milk with high protein and low fat content to the weaker sections of the population.

The conference has urged that sufficient funds to the tune of Rs. 30 crores should be made available for research during the Fifth Plan Period. The investigations should find the way to develop indigenous technology to replace at least 95 per cent of the imported technology during the plan period. Extensive research on consumption of pattern of milk and milk products in various parts of the country is considered essential as this can offer guidelines for product diversification and expansion of the Dairy Industry.

Arbitration Promotion Board For Tamil Nadu

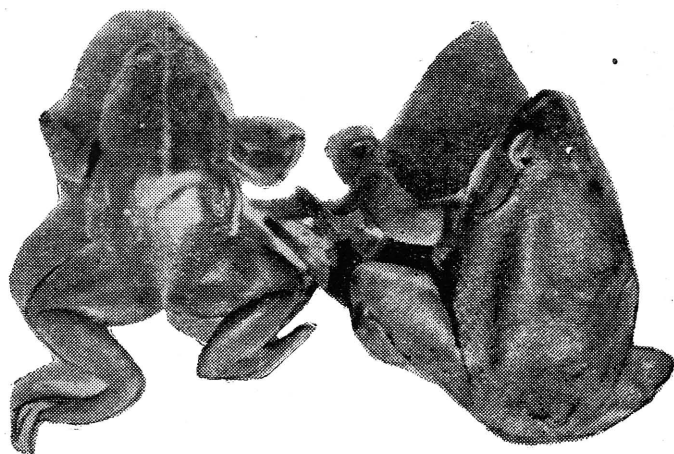
An Arbitration Promotion Board at the State level has been constituted by the Tamil Nadu Government to popularise the use of the voluntary arbitration in settling industrial disputes.

The Board will review periodically the extent of acceptance of voluntary arbitration by employers and workers, compile and maintain up-to-date panels of suitable persons to serve as arbitrators for different areas and industries and lay down scales for their fees, evolve principles, norms and procedures for the guidance of arbitrators and parties, advise parties in important cases to accept arbitration for resolving differences or disputes, thereby avoiding adjudication or litigation in Courts, look into the difficulties experienced by parties in securing speedy settlements of disputes by arbitration and expedite arbitration proceedings wherever necessary, specify from time to time the types of disputes which would normally be settled by arbitration in the light of tripartite decisions and in particular lay down norms for deciding which disputes should be considered as, of local nature or of having wide repercussions or creating new rights or involving large financial stakes and advise Government to promote voluntary arbitration.

Thiru K. Ramasami Gounder, retired High Court Judge, will be the Chairman of the Board.

The Special Deputy Commissioner of Labour, Madras, will be the Secretary of the Board.

FROG LEGS FOR FOREIGN EX- CHANGE



The common amphibian creature which used to make a hell of noise in all low lying marshy places and paddy fields during the south-west monsoon was uncared for by the human beings till recently except by the students of animal science in Colleges and Universities. Such a common creature now has created a sensational warm welcome in the markets of America and France on account of its palatability.

It is a common sight that during the rainy season this frogs will come out of their hibernation to enjoy the freshness of the season this and it also happens to be their mating season. Now it is a regular feature in almost all swampy and low lying water spreads in Kerala, Madras, Mysore, Maharashtra and Andhra States to see people during night times with bright petromax lantern, scopping nets tied to poles and gunny bags on their shoulders moving about in search of these frogs. These frogs get stunned by the dazzling light of the lanterns and remain stationary when they are either scooped out by net or caught by hand if they are within the reach and deposited in the gunny bag. Early morning, the frogs thus collected are delivered to the processing factories where they are butchered and frozen for export. The common and most suitable Indian species for this industry caught in our country is the bull frog, i.e., *Rana tigrina* and *Rana hexadactyla*.

Butchery and Freezing

Only the pair of hindlegs from the frog is utilized by the freezing industry for this purpose, the rest of the body which contains comparatively little eatable flesh portion being thrown as a waste.

Legs thus obtained are washed well in a clear water, each individual pair of legs wrapped in a polythene daper and tied by a rubber band. Before there are put into the storage room, the products are precooled and then individually quick frozen in a blast freezer to a temprature of 40°C and finally graded according to size and weighed quantities packed in card board or plywood rectangular boxes.

In the case of the smallest varieties, sometimes block (in bulk) freezing as in the case of prawns is adopted. Usually the washed, cleaned and packed frog legs weighed to a quantity of 2.27 kgs. is filled into freezers, ice water is added to level (glazing) and quick frozen at 40°C in a tunnel or contact freezer. After freezing, the frozen block is taken out of the tray, dipped in ice water (reglazing) and packed in wax impregnated cardboard cartons with a polythene lining inside. They are then stored at 23°C , shipped in holds at the same temprature which is maintained until its reaches the buyer.

By

S. SARAVANAMUTHU,

LFT. AND N. DRAG,

*Senior Instructor, Fisheries
Technology and Navigation.*

External Markets for Foreign Exchange

Frog legs are frozen and shipped from Cochin, Mangalore, Goa and Bombay. Among all the top ranking place is only Cochin. Almost considerable portion of our frozen quantity is consumed by the U.S.A. and France where they are considered to be a good table delicacy. But in our country frogs leg consumption is practically nil. Frog leg meat is considered to be equal in taste as Chicken meat. Processing and sending of frog legs meat to abroad from India was started only five years before. Even though this industry was in an infant stage at the beginning it has risen up to a considerable magnitude on account of its high standard quality.

Need to conserve the Creature :

It plays an important part in the national economy. It is the frog legs by which the foreign exchange is earned to a considerable proportion. We can realize from the fact that I.S.I. (Indian Standard Institute) has recognised this product for its quality control test. As such the Government of India has introduced a compulsory pre-shipment inspection for it from 1st March 1966. People nowadays have started to take this as a profession on account of the ever increasing demand in the external markets to this product. Therefore, it is felt with fear that there may be a depletion of this creature due to the continuous hunt. Now the Government of India has taken it up as an important aspect in their programme of work and made a policy from the last 3 to 4 months of June and July, which I have already mentioned as a season for breeding. It is needless to stress that there is a vital necessity to develop this trade because it is more connected with economy. So special attention must be paid to culture frogs just like any kind of farming. Government of India has launched a scheme through I.C.A.R. under which a specialist was posted and now it is effectively running in Kerala.

Scope at Madras :

Being a common species, the frog Ranasp can be cultured in almost all our waste water areas,

swamps and the ponds where there is no scope for the culture of major carps. If possible artificial breeding can be done to increase the population of this creature.

As said earlier, the body portion of the frog is now being thrown away. But if the fatty tissues from the body are separated and boiled with water a golden yellow oil rises to the top which can be removed by a laddle. The oil as well as the leg meat are said to be specific cure for the lung disease like asthma, bronchitis, etc. This type is noticed by me in Thanjavur district where such type of treatment is given to babies suffering from Whooping Cough. The rest of the body can be used for making poultry and cattle feed.

Sentimental prejudice

While cutting the froglegs the manufacturers insists on having them cut from the live ones, as otherwise the meat happens to be highly contaminated by micro-organism. When the legs are severed they make a hue and big cry and the whole body and legs struggle a lot before they die. The society for the Prevention of Cruelty to Animals has, therefore, requested the Government of India to find out a means of killing them without feeling the pain. As a result method of paralysing the frog by electrocution was implemented in fulfilling the object. It has now been reported that if alive frogs are taken in a net and immersed in 10 per cent of Sodium Chloride (Common salt) Solution for about 10 minutes, they become narcotised and do not revive again. The legs can be cut easily without any such struggling on toe part of this creature. Common salt appears to be toxic to frogs.

The Bacteriological problem

It is quite natural that the surface of the frog is highly dominated

with bacteria due to their marshy habitat. The whole body is completely contained by micro-organisms including the pathogenic types like Escherichia Coli, Faecal Streptococci and Salmonella. If the product is manufactured without proper precautions, these bacteria spoil the flesh to carrying degrees.

This sometimes ultimately can spoil the finished product. So the remedy for this is more essential to produce a quality product. Fortunately enough, all these bacteria are of the type what we can say "Terrestrial" which cannot survive in salinemia. As such, the common salt solution can be used to kill such bacteria. Therefore, it is better to treat the frog before butchery, with a common salt solution for few minutes.

Impact in Society *

Eventhough export of frog legs does not apparently affect the human society in India and is all the more desirable from the point of view of earning valuable foreign exchange. It certainly disturbs the nature to some extent and the recent spontaneous multiplication of mosquitoes in this part of the country is attributed to the large scale of capture of frogs which otherwise feed voraciously on them.

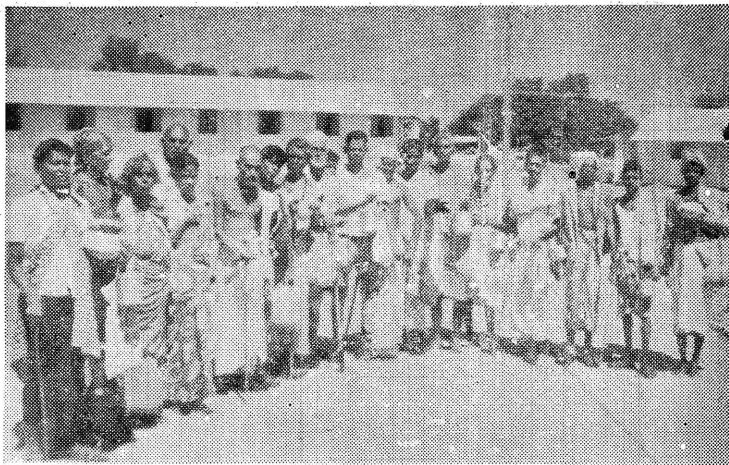
If it is true, on the other hand, it will certainly affect the health of human being and the net result would be spread of water borne disease to a great extent.

Therefore, a through investigation in this line is more essential keeping the view of national economy on one hand and health of human being on the other to have a better way of restoring the loss of life. This could be achieved by imposing a legislation and turning our attention towards the artificial culture of such frogs in large scale.

LEPROSY BEGGAR REHABILITATION HOME AT ULUNDURPET COMPLETES THE FIRST YEAR

By. S. SRINIVASAN,

*Superintendent, Leprosy Beggar
Rehabilitation Home, Ulundurpet.*



The Leprosy beggars who come forward to join the Rehabilitation Home on their own volition.

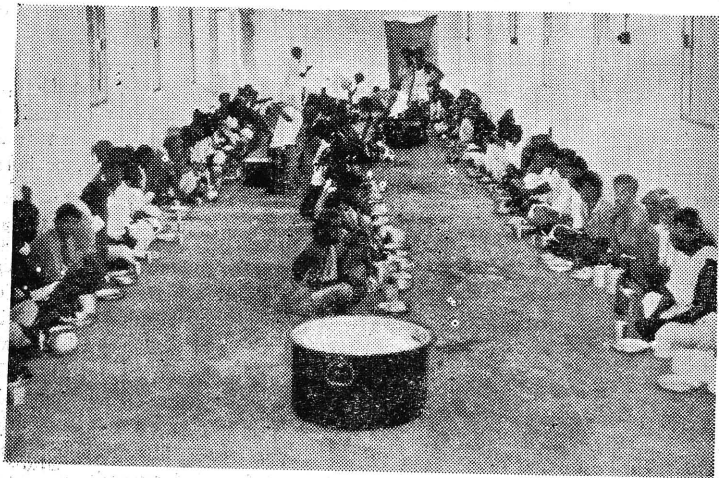
The Government Leprosy Beggar Rehabilitation Homes are neither mere hospitals for the treatment of leprosy patients nor are they asylums or sanatoria for keeping leprosy beggars endlessly. The prime object of these Homes is to help rehabilitate the habitual beggars suffering from leprosy and hence the duration of the stay in these Homes of each inmate is determined by the nature of the disease, his aptitude to pick up a trade or occupation and also his desire and anxiety to settle down in society as an honourable and decent citizen. However, in spite of all these, there has been an erroneous impression among the leprosy beggars outside

that these Homes are patterned on old-fashioned Jails and to belie this false impression it is worthwhile to mention here that out of the 824 inmates admitted during the year 1972, as many as 80 were allowed to leave this Home at their own request on their undertaking that they would rejoin their families and not resort to begging again, thereby achieving the cherished goal of rehabilitating 80 leprosy beggars during the first year of existence of this institution.

The Ulundurpet Leprosy Beggar Rehabilitation Home is the second of such Homes and was inaugurated on 22nd January 1972 by Dr.

Kalaigamar M. Karunanidhi, Chief Minister of Tamil Nadu. With only 103 inmates at the time of the inauguration of this Home, the institution has grown from strength to strength and today we have 300 inmates, including 33 families, anxiously looking forward for their rehabilitation in society.

There are 24 spacious and well-ventilated dormitories where the inmates live. Four of the dormitories are modelled for the families, with separate rooms and ample privacy. The inmates are admitted voluntarily and also on the recommendations of sub-Inspectors of Police or the Medical Officers of the Government Leprosy Control Units.



Balanced diet is being served to the inmates of the Home.

The inmates, on admission, are given a thorough medical check-up and they are allotted to convenient and suitable dormitories according to the nature of their disease and also their ability to attend to particular type of work. The inmates are given free food (two times tea, a breakfast and two meals a day) and on days of National and other importance, functions special diet is being given including non-vegetarian dishes. The inmates are given two sets of dress a year and they are also given a pair of micro-cellular rubber chappals to enable them to be more active and at the same time to protect their feet from any possible damage. They are also given coconut oil and washing soap once a week and toilet soap once a month. For those who have crippled fingers, tooth brush and tooth powder are being supplied in addition to spoons to enable them to take their food. Facilities are also given for the periodical free hair cutting and shaving by the Home barber.

Production Figures

The aim of these special Care and Rehabilitation Homes for beggars suffering from leprosy is to get them cured or arrested of their disease and also to spectacularly transform the once wandering beggars into useful, decent and honourable citizens. Facilities are being given in this Home for vocational training such as Agriculture and Gardening, Mat-weaving, Tailoring, Scavenging, Dohby work, Cooking, Para Medical work, etc., and steps are being taken to have a poultry farm and a weaving section and also a shoe making unit. Wages are also being paid to the inmates according to the nature of the work ranging from Re. 1 to Rs. 2 a week and those who are incapable of doing any work, are paid 25 paise a week as pocket

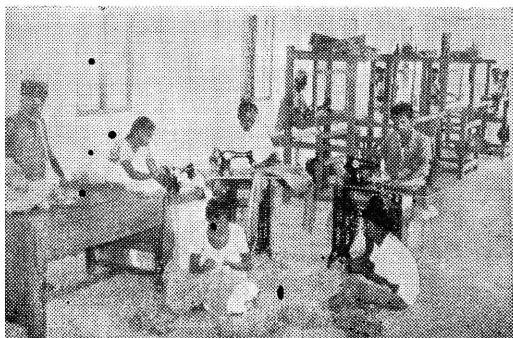


Married couples whose marriages were solemnised by the Superintendent of the Home.

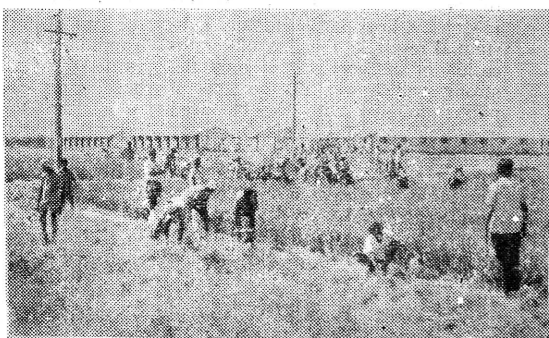
money to enable them to purchase their personal requirements. For this a Co-operative Stores and Canteen are being run by the inmates themselves in the campus. During the year 293 Kora Mats were woven, 406 garments were stitched and with the little water available by waste from the bath rooms, kitchen, etc., vegetable gardens were raised and 431 kilo grams of vegetables were produced by the inmates.

Though the inmates are not usually allowed to go out of the campus as a rule, individual inmates are given permission to visit their relatives and friends on their undertaking that they return on the due dates. Apart from the vocational training given to them, the inmates are also encouraged to engage themselves in some simple Games such as Volley Ball, Tannicoit, Carrom, etc. There is also a reading room where the inmates are given Tamil Dailies and Weeklies and for the illiterate inmates an adult literacy campaign is being organised by the help of the few inmates who have experience in teaching and free books on adult literacy are being supplied. Provision is also being made for the

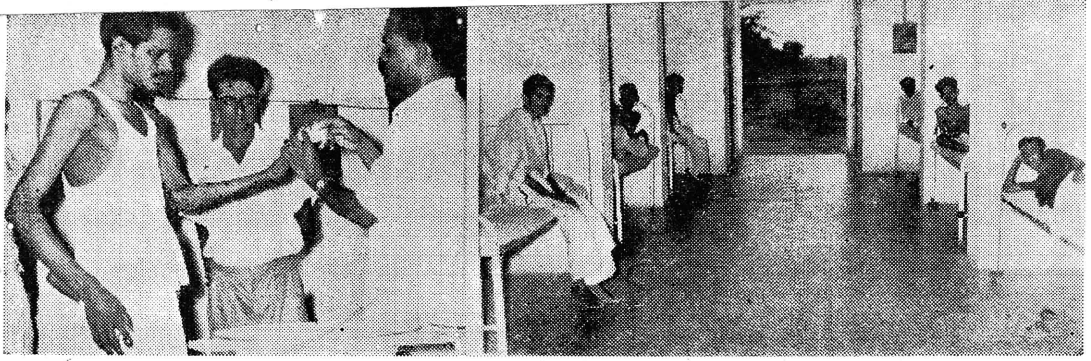
screening of Films and through the good offices of the Collector of the District, the Rotary Club of Pennadam, makes arrangements for the screening of Tamil Cine Films twice a month. Children of the leprosy beggar inmates are being got admitted in the Free Boarding School attached to the Leprosy Mission Hospital at Vadathorasalur, which is nearby, and during vacation, such children are being taken back to their parents in this home. During the year 1972, two marriages among the inmates were solemnised in the presence of the Superintendent of the Home and the couples live happily as before. With these and more facilities offered by the Government, the inmates respond well to the treatment and rehabilitation programmes and the authorities leave no stone unturned to make life in the Home most happy, useful and purposeful. Since Family Planning is one of the primary methods in the treatment and control of leprosy, a mass campaign was launched in this Home and as a result nearly 164 males (approximately 90 per cent of the eligible fathers) were operated upon for vasectomy, which is a unique achievement for this Institution.



Inmates trained in Tailoring and Weaving.



Inmates engaged in agricultural occupation.



Medical Ward in a Rehabilitation Home.

INSIDE STORY OF A LEPROSY BEGGAR' REHABILITATION HOME IN TAMIL NADU

Tiruvalluvar, the notable bard in Tamil, in one of his couplets, has condemned in unequivocal and absolute term that begging is the most degraded and despicable way of living that a man should resort to. Likewise, throughout the ages beggary has been an object of absolute contempt and condemnation. In spite of it, as our Chief Minister Dr. M. Karunanidhi observed in one of his valuable address at the time of inaugurating a Leprosy Beggar Rehabilitation Home, begging has become an inseparable part and parcel of living of some people in this land and many more have developed a shameful sense of obsession with begging.

All over the world, only a few socialist countries have succeeded in putting an end to begging in their lands. But most of even the most affluent countries, both in the West and in the East, could not eradicate beggary completely from their society, notwithstanding the good efforts made by them in that direction. This shows mere affluency in the midst of glaring social and economical inequality does not yield any substantial result in the line of eradication of beggary. It is only the strong will power of the general public coupled with the balanced economic progress and prosperity of the country on the basis of economic equality and social justice plus the earnest endeavours and efforts on the part of the power-that-be that could provide a complete panacea to this age-old evil practice among mankind.

But the case of leprosy beggars is a different one. They are pushed to begging and even in begging they have to put up with heavy odds against them such as the wrath of the public on account of their filthy and ugly appearance, etc.

Nearly one-fifth of the world's 15 million lepers live in India, and their present figure is estimated at about 26 lakhs. They are generally spurned and treated as a class apart, and their plight would have worse but for the crusade for centuries by missionaries and others to eradicate the disease and to give relief to those afflicted.

A kind person who throws a coin or two into the outstretched palms of a leper squatting on the way-side will not much help remove the stigma of the unfortunate people afflicted by leprosy. As the problem is a monumental one requiring the collective efforts and endeavours of the society as a whole, the individualistic effort on the part of some missionaries and 'philanthropists' in the past could touch only the fringe of the problem. So the Tamil Nadu Government, in its earnest zeal and zest to eradicate begging in the State, has chosen to alleviate the lot of the leprosy beggars at first.

In this light the Tamil Nadu Government chalked out a scheme based on the willing participation of the public to eradicate beggary in Tamil Nadu. Dr. M. Karunanidhi, after assessing in proper

perspective all the aspects of this deeply rooted malaise in our soil from time immemorial, put out an appeal to the public on the occasion of his 47th birthday in 1971 to contribute their mite in a generous and liberal way to the Beggar's Rehabilitation Fund set up solely for this purpose, thereby making the people to take part in this noble scheme on their own volition. The people responded well to Chief Minister's birth day appeal and the public contribution amounting to more than Rupees one crore in a period of less than a year outstripped all the expectations of the Chief Minister himself. This instance points out to the fact that the Tamilians are never lacking in philanthropic spirit.

Construction of Homes.

After proper planning, the Government divided the work of eradication of beggary into phases. As the first phase of work, the construction of 10 Rehabilitation Homes for leprosy beggars before the end of 1972-73 was taken up for implementation. Accordingly, four homes have been constructed so far. They are at Paranur in Chingleput District, Ulundurpet in South Arcot District, Bargur in Dharmapuri District and Pudukottai in Tiruchirappalli District. And six more homes are to be built at Tiruvannamalai in North Arcot District, Manaiyeripatti in Thanjavur District, Vinnapalli in Coimbatore District, Deviakurichi in Salem District, Selliampatti in Dharmapuri District and Pudukpatti in Madurai District.

before the end of the financial year 1972-73.

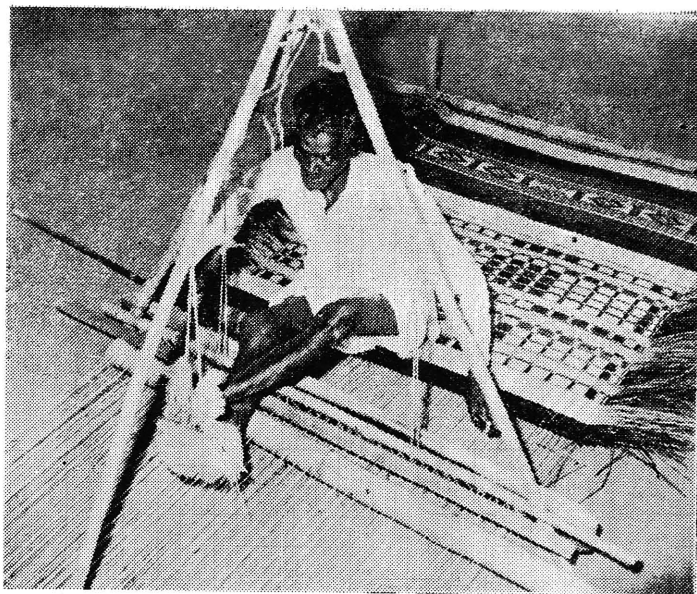
Beggar Rehabilitation Homes are accommodated in spacious area. Four blocks, each capable of accommodating 125 leprosy beggars, are constructed in every home. Each block is parted into small rooms to provide privacy in life for each and every leprosy beggars with their kith and kin. In each home, there is an administrative office, a hospital with ten beds and a surgery block, a research block and a residing block to the administrative staff of the Home.

• FACILITIES TO INMATES.

The inmates of the Homes are looked after well. The rooms and the inside precincts of the Homes are kept in highly hygienic condition. Free boarding and lodging are provided at Government cost for which a sum of Rs. 1.50 for each grown-up and Re.0.75 for each children are being spent on every day. The inmates are provided with balanced diet. On occasions of national festival days and other important days connected with the Home, sumptuous food is served to all inmates of leprosy beggars.

FREE MEDICAL HELP.

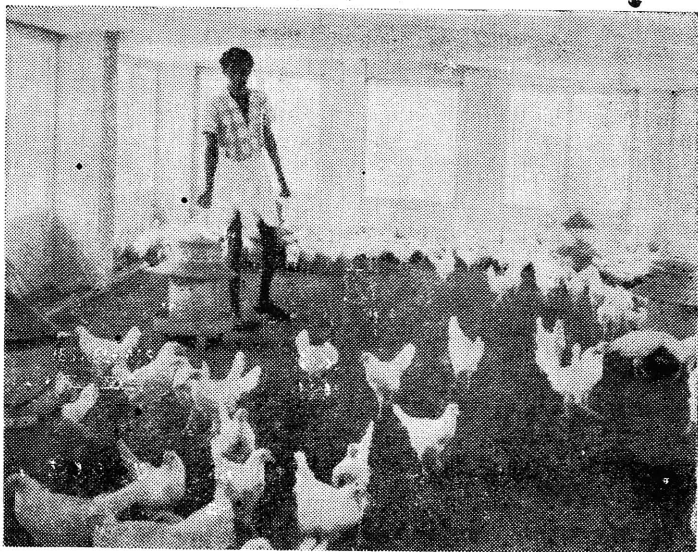
In each and every home there is one hospital with 10 beds attached to it. The hospital is provided with



An aged leprosy beggar engaged in Mat weaving.

enough medical staff. Complete medical treatment is given to the inmates at free cost. Those who are afflicted with serious type of leprosy, which can be cured only by surgery operation, are taken either to the leprosy hospital at Dharmapuri or to the leprosy hospital at Polampakkam where they are atten-

ded to by the medical officer for leprosy at State level or by the special Medical Officer at the Leprosy Beggars' Rehabilitation Home. Thus all the inmates afflicted with Leprosy are properly given medical treatment so that the inmates are able to live in comfort free from trouble of their deadly disease.



A Poultry farm maintained in a Rehabilitation Home.

Nor is this all. Apart from these facilities provided to the inmates in the home, they are also given training in some avocation or occupation of usefulness and utility to them in the latter course of their life. They are engaged in agricultural activities. Training in poultry, gardening, etc., is also provided to them. Further they are put in the occupations already known to them. In short all the inmates are taught to stand on their own legs by learning and doing whatever work they like to adopt for their livelihood in future.

OTHER FACILITIES.

The inmates are provided free clothing at free of cost. Each and every male is given two dhotis, two towels and two shirts per year and the each female inmate is provided with two sets of sarees, jackets, and pavadai. Further each inmate is given a mat and a pillow for sleeping and an aluminium plate and jug for eating purpose—R.N.

KNOWING THE DEVIL BEHIND. THE OLD WORLD DISEASE

Leprosy—the “old world disease” as it is commonly known—has been a curse on mankind down through the ages. Today, more than eleven million people throughout the world suffer from leprosy. Scientists and medical men have been unable to tell us how exactly it spreads. Some hold the view that it is transmitted by close contacts with leprosy — afflicted persons. This contention of late is disputed because of a few others who attribute the spread of leprosy to arthropods or insects. But they have not yet proved their case.

To ascertain the role that insects may play in the spread of leprosy scientists at the Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER) at Pondicherry are presently involved in a five year research. The United States Government is helping them financially from PL-480 funds.

The Pondicherry scientists, according to Dr. M. Balasubrahmanyan, Principal of JIPMER, have taken up blood-sucking insects like mosquitos, bed bugs and scabies mites for their experiments. “We are doing this”, says Dr. Balasubrahmanyan, “because the leprosy bacilli are found in the blood of persons suffering from this disease and these insects which feed on blood should be the first ones to pick up the bacilli.”

The JIPMER scientists are conducting their probings in co-operation with Dr. W.F. Kirchheimer of the U.S. Public Health Service Hospital in Carville, Louisiana, U.S.A.

Dr. Balasubrahmanyan says that the researchers at JIPMER are carrying forward their experiments in three stages. In the first stage, they collected the blood-sucking insects from the houses of persons suffering from lepromatus leprosy. The insects were crushed in the laboratory and the crushed material was injected into the footpads of mice.

Source : USSI

But why mice ?

Dr. Balasubrahmanyan notes that scientists recently established that lepra bacilli (which cause leprosy) multiply on the footpads of mice. They have not come across any other animal which breed the bacilli. Though the bacilli multiply on the footpads, the mice are not afflicted with leprosy.

“It has been a slow process and we have had to wait for almost a year to know the results of this initial experiment”, says Dr. Balasubrahmanyan. But after experimenting with over 600 batches of insects, the JIPMER scientists have found that two types of mosquitos carry lepra bacilli. “We also

By

BHASKERAN THOMAS

found that two types of these bacilli survived for about 48 hours”, he adds.

Having identified the mosquitos which carry the lepra bacilli, the search began for the source of the insect-borne bacilli. So in the second stage of their studies, they examined the blood of persons suffering from lepromatus-leprosy and found a large number of bacilli in the venous blood flow of patients. “Our studies showed that the number of bacilli was higher before treatment than after treatment”, Dr. Balasubrahmanyan notes.

Now, another problem cropped up for the Pondicherry scientists.

Mosquitos also contain organisms other than the lepra bacilli. Hence Dr. Balasubrahmanyan and his colleagues had to make sure that the bacteria they had located in the mosquitos were indeed lepra bacilli. This took them to the third stage of their experiments. They collected female

mosquitos and preserved them in the laboratory till they laid eggs. These mosquitos were destroyed after they laid their eggs to prevent the hatched eggs from becoming contaminated.

The laboratory-born mosquitos were then allowed to feed during the night on the blood of leprosy patients. They were collected in the morning and crushed for further examination. The crushed material was injected into the footpads of mice. “We found”, said Dr. Balasubrahmanyan, “that the bacetria were lepra bacilli since they were able to multiply on the mice footpads.” Similar results were obtained with bed bugs also.

The next most difficult task, says the Indian scientists, still lies ahead to find out whether these mosquitos and bed bugs can transmit leprosy to humans. Medical experts hold the view that the disease is not hereditary. Hence there must be some source of primary infection.

To establish this possibility, Dr. Balasubrahmanyan says that his reaserch team is in search of a suitable animal on which to conduct their experiments. “No human being”, he points out, “is going to offer himself for the experiment”.

However, he goes on to say that the project's collaborating scientist Dr. Kirchheimer recently discovered an ant-eating animal in Mexico called the “armadillo” which is susceptible to leprosy. A similar animal is not available in India for the experiments. “So on the basis of this findings, we are conducting our tests on animals skin to the armadillo to achieve our objective”, he adds.

“It is too early”, concedes Dr. Balasubrahmanyan, “to conclude that insects like mosquitos and bed bugs spread leprosy. We have still a long way to go. But with the knowledge gained and the techniques evolved during the studies, we are confident of finding a solution to the transmission of this old world disease”.

AMOEBIIC INFECTION— A CURABLE AILMENT

Amoebic infection is one of the commonest ailments in India which affects mainly the large intestine and liver. This common disease is carried from one to another by carriers. This infection either runs an acute or a chronic course. If left untreated the infection may form an abscess in the liver and may lead to serious complications including loss of life. This condition is curable but the problem is re-infection. The cause of the infection is mainly poor hygienic conditions. The commonest carriers of the infection are servers and cooks who can infect the food easily.

AMOEBIIC INFECTION

Amoebic infection is caused by an organism *Entamoeba histolytica*. Having been swallowed with food, etc., the amoeba prefers to settle down in the large intestine (colon). These amoebae burrow underneath the mucus membrane of the intestine and forms an elevation of the surface. Later, such an elevation bursts upon and forms an ulceration. Depending upon the severity of the infection there may be membranous ulcers extending from right side of Colon (Caecum) to anus or there may be only a few ulcerations. Sometimes, instead of membranous ulcers there may be elevations of mucus membrane forming a tumour named as amoebic granuloma. Depending upon the severity it may produce severe dysentery or mild symptoms. When the infection is severe such amoeba sets into the circulation through a vein and reaches the liver. Liver forms an ideal site for it to multiply and cause inflammatory changes. Such changes only produce abscesses in the liver. If the liver is already damaged due to alcohol such persons are prone to develop amoebic liver abscess rather than a person with a normal liver. Occasionally one of these ulcers may lead to severe bleeding or rarely it perforates leading on to peritonitis.

Sometimes if there is a granuloma causing intestinal obstruction (intussusception) it may necessitate surgical treatment, i.e. removing the diseased portion. Sometimes the large intestine may get thickened and

form a mass in the abdomen. Such a mass will be on the right side of lower abdomen (Amoeboma).

CLINICAL COURSE.

Usually the patients come with the Chronic Course rather than with acute disease, complaining of loose motions on and off with mucus and blood. This condition alternates with a few days of constipation. The motion at such times is offensive in odour and patients also complain of passing foul smelling gas frequently. Due to passing blood and mucus, they complain of weakness and loss of weight also. If the bowel symptoms are not severe he may have vague abdominal pain in right or left side, lower abdomen or above the umbilicus. So this condition is mistaken for duodenal ulcer or appendicitis.

On examination these patients have pain in the right and left side of lower abdomen and the affected portion of the Colon is thick due to spasm.

Dr. N. Rangabashyam,
M.B.B.S., F.R.C.S., F.I.C.S.,
F.A.C.S., F.A.C.G.,

If the infection is controlled at this stage no problem arises. Mainly the infection spreads to liver and produces pain on the right side of the upper abdomen (below the ribs). The patient is not able to digest fatty foods. Later he has swinging temperature, sweating, and rigor. On examination he has enlarged liver and in some jaundice also occurs. Such an abscess if left untreated, may burst inside the abdomen and form peritonitis or may burst inside the chest. This leads to fatal complications. Recovery at this stage is unpredictable.

DIAGNOSIS.

Diagnosis is made mainly through examination of the patient. In addition to repeated examinations of the motion for amoeba, examination of the rectum by Sigmoidoscopy reveals the typical ulcers. Smear from them also show active amoebae.

The treatment is mainly medical unless complications like obstruction of intestine, abscess in the liver, etc., ensue. In severe cases when the patient is not having any heart trouble he is given injections of emetin hydrochloride (1 Gr.) daily for 6 days. Along with this patient gets metronidazole tablets (Flagyl) 200 mg. tab. 2 tab three times a day for 5 days. Chronic patient gets DILOXANIDE furoate (Furamide) tablets for 10 days. For liver abscess in addition to the above drugs he is put on Chloroquine. If the abscess has formed, it needs aspiration of pus or removal of pus by operation. One should not resort to self-medication unless examined and advised by your family doctor. Though ailment due to amoebiasis in early stages is minimal, one should not ignore it. The minor ailment may lead to major complications. Detection of carriers, prevention of water and food contamination form the main protective barrier against amoebic infestation.

"Prevention is better than Cure." ☺

DIRECTOR OF SOCIAL WELFARE AGENCIES.

The Central Social Welfare Board, New Delhi is preparing a Directory on Social Welfare Agencies working in India. The Tamilnad Social Welfare Board has undertaken the work in connection with collection of data in this regard for the State of Tamilnadu as a whole. The Central Social Welfare Board contemplated to complete the work at the earliest possible time. The Chairman of the State Social Welfare Board requests all the Social Welfare agencies in the State to send the details relating to these institutions in the State to send the details relating to their institutions together with their correct addresses to the Tamilnadu Social Welfare Board, Central Office Buildings, Madras-600006 in order to enable the Board to collect data from the institutions to be included in the Directory.

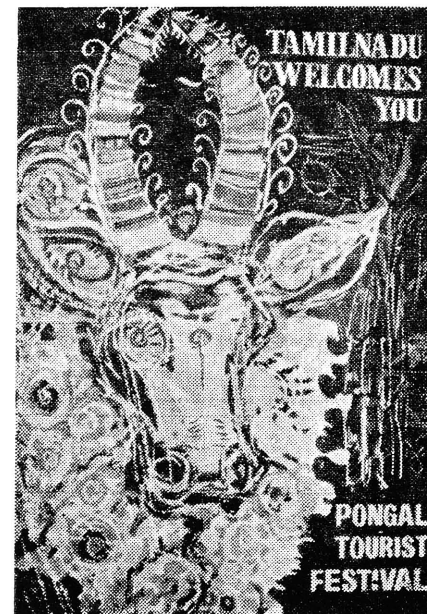
THE MAMALLAPURAM SHORE COTTAGES

Twenty New Shore Cottages at the India Tourism Development Corporation Travellers Lodge at Mahabalipuram were formally inaugurated on Monday, March 19. This expansion is part of India's bid to capture a share of the enormous international tourist traffic in search of holiday by the seas. Mahabalipuram affords travellers a unique opportunity of combining a beach vacation with visits to some of India's greatest archaeological attractions.

India Tourism Development Corporation Shore Cottages at Mahabalipuram follow the inauguration last December of Kovalam Grove, a beach village at Kovalam, Kerala which is being developed into India's first major planned resort.

At Mahabalipuram the New Shore Cottages have been added to the India Tourism Development Corporation Travellers Lodge which has also been renovated and provided with additional facilities. The Shore Cottages accommodate 48 beds. Each unit includes an air-conditioned room, attached bath, kitchenette and a sit-out which command a panoramic view of the sea-beach and the great Shore Temple. Interior decor utilises local crafts, fabrics and designs. A few cottages have two storeys providing accommodation for four persons. Three architectural modules provide a pleasant variety within the Mahabalipuram complex, while harmonising with its sea-side setting.

New facilities at the India Tourism Development Corporation Tra-



vellers Lodge (which has 8 double rooms) include an air-conditioned restaurant, bar and an open-air barbecue. The new restaurant offers Indian and continental cuisine as well as South Indian specialities. Facilities for parties and meetings are also included.

Apart from visits to the Pallava Temples at Mahabalipuram, India Tourism Development Corporation Travellers Lodge offers car and coach trips to nearby Kanchipuram, Thirukalikundram and the unique water-birds sanctuary at Vedanthangal. Traditional entertainment is also organised for visitors, including special moonlight events with the Mahabalipuram beach and Shore Temple providing a spectacular setting.

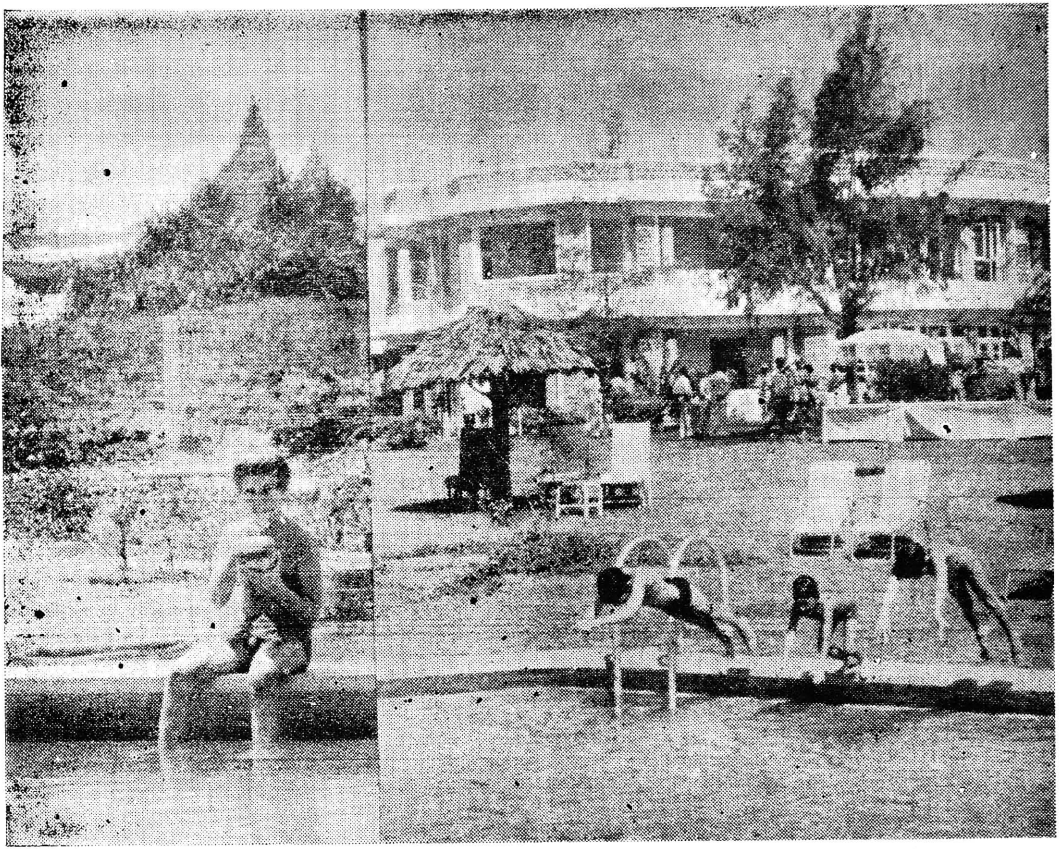
The Department of Tourism of Government of Tamil Nadu has received a certificate of merit and the Allan Currimbhoy trophy from the Travel Agents Association of India at its 22nd annual convention in New Delhi on March 25 in recognition and appreciation of meritorious efforts for promotion of tourism.

The Pongal tourist promotion poster of the Tamil Nadu Government depicting a decorated cow was adjudged by a panel of Indian and foreign travel agents as one of the best display materials brought out by a Government. A copy of the poster is reproduced above. It is the work of Thiru R. Bhaskaran, Instructor in Painting in the Government College of Arts & Crafts, Madras.

The Shore Cottages of the India Tourism Department Corporation at Mamallapuram Combine the charms of local exterior and the convenience of Western Type Hotel.



TRAVEL
AGENTS BODY
COMMENDS
TOURISM
STEPS
IN
TAMIL NADU



The fresh-water swimming pool at Mamallapuram beside the Pallava monuments makes it an idyllic holiday resort.

The Tamil Nadu Tourism Development Corporation arranged a truly Tamilian welcome to the Millionaire Tourists.



WHEN MILLIONAIRES ARE ON THE MOVE

TAMIL NADU TOURISM CORPORATION SMOOTHS THEIR WAY

Wander lust and the urge to explore is an ancient instinct of a man. It has blossomed into the gigantic concept of Tourism in modern times with far reaching socio-economic repercussions. In the present Jet Age, there are a class of people wanting to do the world in a easy cool deck chair comfort on cruises by Luxury Liners. The Madras port is being patronised increasingly in the recent years by this type of tourists. We have had the honour of receiving the "FLOATING UNIVERSITY", "FLOATING LIBRARY" and recently the famous Luxury Liner "SS. MARI POSA" and the equally famous "SS. ROTTERDAM" both carrying the American Millionaires and rich tourists.

On 1st March 1973, a white, gleaming, two funnelled floating Luxury Hotel "SS. ROTTERDAM" carrying about 500 American Millionaires and rich tourists anchored at the Madras Harbour. The

Tamil Nadu Tourism Development Corporation welcomed them in a traditional Tamilian way playing Nathaswaram, sprinkling of rose water, application of vermillion and sandal paste. The foreign tourists appreciated the reception accorded, so much that they were actually dancing and swinging to the music as they passed through the welcome reception line.

The cruise which left New York on 18th January 1973 will return to New York on 16th April 1973 covering 89 days, after touching several countries. Curiously enough the Luxury Liner anchored at three ports, Bombay, Cochin and Madras, in India.

"SS. ROTTERDAM" is as large as a small town with two differences. For one thing it is a small town devoted to the pleasures of select band of passengers. For another, almost half of the populations made up of crew members to smooth the way, every moment of 89 lovely voyage days. The flagship "SS. ROTTERDAM" is 748 feet long, 94 feet wide, 101 feet high with eleven passenger decks, eight passenger elevators with indoor and outdoor swimming pools, automatic stabilisers, with all the latest navigational and operational instruments. On board there is also a theatre auditorium capable of seating 620 passengers.

Excursions :

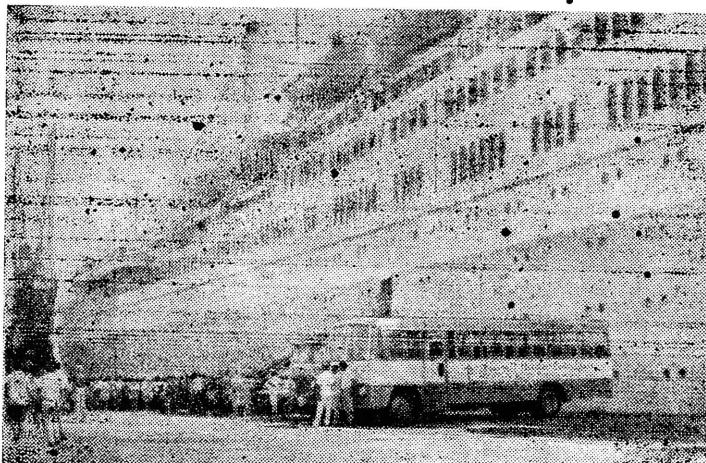
At every port of call the American Express, the renowned Travel Agents, or their Accredited Agents arrange for local sight seeing and extended tours. Tours ashore are optional

at extra expenses. At almost every port of call an attractive selection of tours in and around the ports is featured. The programme often includes performance of national dances and music as well as evening tours featuring dinners of national cuisine. Some of them leave at one port and take inland tours which encompass the attractive tourist spots around and join the cruise later at the next port of call, using the air transportation. In India they had arranged conducted tours in and around Bombay City and to Elephanta, Agra, New Delhi, Benares, Jaipur, Udaipur, Darjeeling, Nepal. While at Madras, the Tamil Nadu Tourism Development Corporation Limited arranged for their sight-seeing of the City and also to Mahabalipuram in their Luxury Coaches and in air-conditioned limousines. A few passengers disembarked at Madras to take pleasure tours in South India and to join the cruise at Singapore, the next port of call.

It is estimated that the five hundred tourists who disembarked at Madras only for a few hours would have spent on an average \$ 50-00 Dollars, per head. This would have earned us \$ 25,000 U. S. Dollars in Foreign exchange. In Indian currency it is Rs. 1,88,000 (approximately). This would ultimately generate Rs. 5-50 lakhs of economic activity. Economics apart, the visit has brought us enough good will and tourist publicity.

(Contributed by D. S. Dheena-dayal, Assistant Director, Tamil Nadu Tourism Development Corporation.)

The Luxury Liner at Madras Harbour.



RESERVOIR ACROSS THE PONNANIAR

The Tiruchirappalli District is the second granary of Tamil Nadu next to Thanjavur District. This District is fed by Cauvery and its tributaries and irrigation is being done by Cauvery water in addition to rainfed tanks.

In Tiruchirappalli District an extent of 1,71,334 acres are being fed by Cauvery Channels, Amara-vathi Channels and system tanks.

- Apart from Cauvery and system tanks there are about 2,510 tanks (rainfed) irrigating an extent of about 85,750 acres.

During the last 5 years from 1967-68 to 1972-73 excepting

Cauvery system, a Medium Irrigation Scheme has been sanctioned for constructing a reservoir across Ponnaniar near Maghavanur village in Manapparai Taluk to irrigate an ayacut of 1,830 acres in addition to stabilising 271 acres of existing ayacut under the stream. Apart from this Medium Reservoir Scheme, 32 Nos. S.M.I.P. tank formation schemes are being executed at a cost of Rs. 186.66 lakhs to bring under plough an ultimate ayacut of 12,000 acres. Existing sources are being repaired and brought to standard at a cost of Rs. 84.67 lakhs. Attempt has also

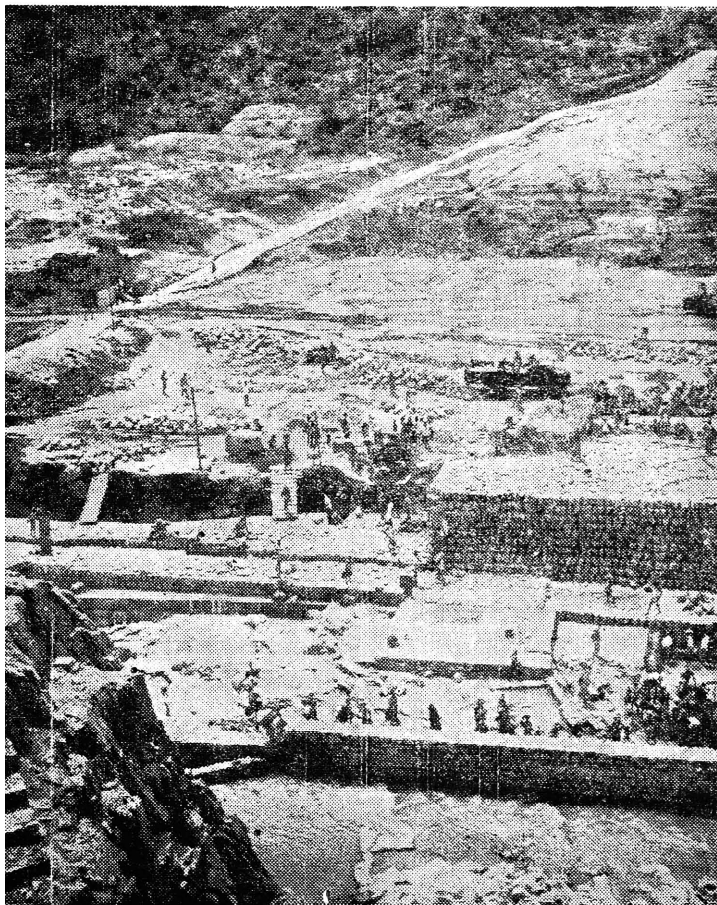
been made to desilt the existing major tanks at a cost of Rs. 5.11 lakhs to improve their efficiency.

The Ponnaniar Reservoir Scheme is a first medium project in this district sanctioned under the Fourth Five-year Plan. The Ponnaniar River takes its origin in the Kadavoor hills in Manapparai Taluk, runs about 20 miles in Tiruchirappalli District and joins with river Ariyar which in turn joins river Cauvery. The Ponnaniar River is irrigating an extent of 271 acres at present.

This source has not been tapped so far in a large scale. In order to utilise the surplus water a reservoir is being constructed across Ponnaniar near the village Mughavanur in Manapparai Taluk. This reservoir will get an yield of 362 M.cft. of water from its catchment of 33.60 sq. miles. The capacity of reservoir is 175 M. cft. and it will store 350 M. cft. of water in two fillings. This reservoir is proposed with a dam of 810 feet in length of which 614 feet will be earthen dam and the rest of 196 feet being masonry dam. The height of dam at full reservoir level is about 70 feet from the bed of river.

When this scheme is completed, an extent of 1,830 acres of new ayacut will be irrigated in addition to the existing ayacut of 271 acres. The ayacuts will be irrigated by canals, taking off from the left abutment of this dam. The main canal of this scheme together with distributory reaches for about 19,650 feet is proposed to be lined with concrete to reduce seepage loss in transmission. By this Ponnaniar Scheme, an additional food production of 909 tons is expected.

For the construction of this scheme a separate division with two sub-divisions was formed from 1st September 1970. The headquarters of this division was located initially at Tiruchirappalli and later on shifted to Manapparai to facilitate quicker execution of the project.



Ponnaniar Scheme under progress.

S. RAGHUPATHY, M.A.,
Regional Public Relation Officer,
Tiruchirappalli.

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The headquarters of the two sub-divisions has been fixed at dam-site itself. A small colony has been constructed at dam-site and in this colony quarters have been constructed for two Assistant Engineers, eight Section Officers/Junior Engineers, six Clerks and Draughtsman and six Peons.

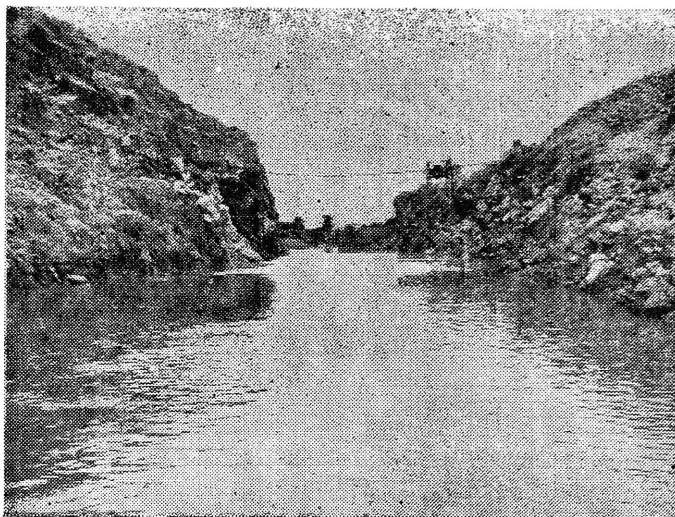
In addition-38 Nos. of quarters have been constructed at the dam-site for the workcharged members such as Drivers, Cleaners, Work Inspectors, etc., engaged in this Project.

Amenities such as protected free water-supply and electricity have been provided at dam-site for the staff engaged in this Project.

In addition, free transport facilities for the school-going children of the staff and for medical attendance at the nearest Government Hospital at Vaiyampatti have also been provided. Certain other project concessions by way of additional emoluments are also sanctioned by the Government for the staff engaged in this project.

By this scheme about 1,200 to 1,500 labourers around this dam, site are being benefited and they are having continuous employment. This scheme having been ordered to be got executed on piece work system, small job workers and petty contractors in large number are also getting benefited.

By the construction of this dam, an area of about 150 acres of land get submerged under water. However no hamlets got affected by this submersion. The full Reservoir level has been fixed in such a



Original course of the river before construction.

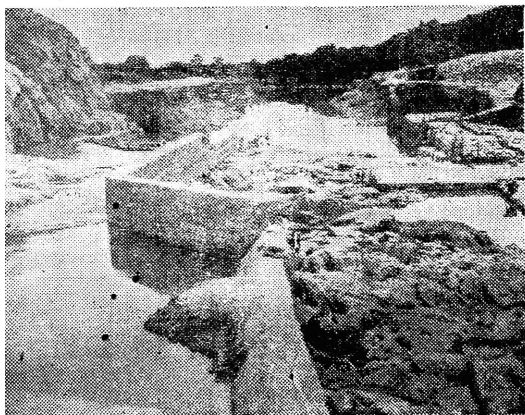
way as not to bring under submersion any of the hamlets or villages situated inside the catchment area. Arrangements have been made for making compensation to the affected land owners and a Special Tahsildar has been appointed to look into this aspect.

In order to obviate the difficulties of the villages in the submergible area due to submersion of an existing cart-track, a new earthen road of 3.55 kilo metres length has been formed on the left side hill slope above the full reservoir water level, according to the existing catchment upstream and the water spread area.

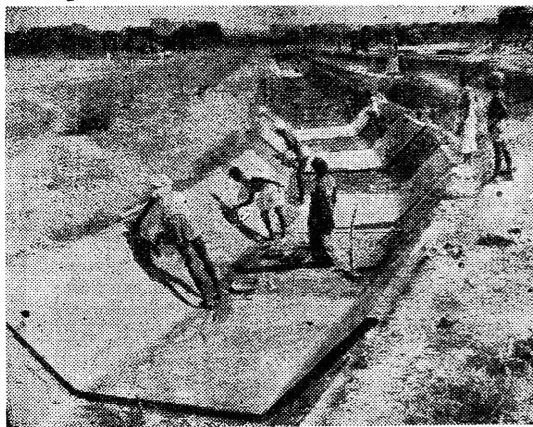
The scheme is in an advanced stage of construction and is expected to be completed by end of February 1974 at a cost of Rs. 99.97 lakhs.

So far about 60 per cent of earth dam works and 25 per cent of masonry works have been completed.

It must not be forgotten that this scheme is the brain-child of Thiru Anbil Dharmalingam Minister for Agriculture and he had pursued the idea with single-minded tenacity of purpose till the scheme got going.



Work under execution.



Canal from the dam for irrigation.



On the next day, Chamundi arrived at the appointed time, and the sculpturing commenced in right earnest. Portraying the requisite dance-postures whenever he wanted, she helped Iniyan to carve the first sculpture in a splendrous manner. Expressing his confidence that one sculpture could be completed every day, Iniyan did leave to Chamundi.

The next day too saw the creation of another sculpture as scheduled by them.

Fifty days passed thus. Everytime Chamundi arrived, Iniyan would welcome her in monosyllable. For the rest of the working day, there would be no attempt at speaking. It was Art-consciousness and Art-consciousness alone that dominated him throughout.

No one was allowed access to the spot of sculpturing work ; and no one other than Iniyan and Chamundi used to be present there.

Once in a while Azhagi would come there to admire the artistry of her daughter's dancing and kiss her in pride and joy. The old lady would also embrace Iniyan and bless him. "It is true that Chamundi dances even better than the Lord. But are you not carving out sculptures more resplendent than she !" After expressing her sincere praise in this manner, Azhagi would leave.

Pangs of Separation :

One day when Iniyan was working on a particular section of rock with care and concentration, it so happened that the cutting edge

of his chisel came into contact with the tip of his finger. He was of youthful age and so blood oozed out copiously from the wound. Chamundi was agitated at the sight. Tearing the pallau of her sari she bandaged his finger. As a result of this minor mishap the sculpturing work was held up for two days, during which Chamundi did not come in the direction of the temple. Not seeing her, Iniyan experienced some undefined sadness in his heart. What was the cause for this melancholy ? A feeling that had not arisen all these days, whence did it spring now ? Could it be that wrong intentions in regard to her had infiltrated into the bottom-layers of his heart ? Were those intentions surfacing and taking to the air, now that she was not to be seen ? Was it not a fact that all these days the sculptor had appreciated and admired her only through the eyes ? None but Chamundi ! Had there been any special meaning in her glance ? No, he had not noticed any till then. He had been intoxicated by it.

But now, for some reason, his thoughts were dwelling on her charms and he was a prey to the pangs of separation. Until then, during every delineation of her dance, he had but been thrilled by the elegance of the deity of Art. But now as he recalled the movements of her comely figure, every limb of hers started an upheaval in his mind and he was literally being tortured.

Perhaps it was nothing more than a spell of disquiet occasioned by the absence of a familiar face. Even then, why should some other emotion persist in rearing its head from the bottom of that perturbation ? He was certainly not prepared to conceal that emotion, behind the veneer of Art.

After allowing him to wander about, like one demented, for a day or two, Chamundi turned up as usual at the hall of sculpture. He too

welcomed her in the customary manner but there was a tremor in his voice which he himself was conscious of. She, however, did not seem to have noticed it. She enquired about the wound on his finger ; and in a rush of words he blurted "I did not apply any medicine but would not the wound heal of its own accord, after it had come into contact with the *Pallov* of your sari?" Having said this, it took some time for him to control his nerves. She looked at him minatorily and Iniyan tided over the confrontation by saying in an unusually loud voice, "H'm, this is exactly the posture for to-day's sculpture". Then he busied himself with chisel and rock.

Passion Mounts :

Contrary to practice, the sculpture that day had not been completed even at dusk. "Only a little bit is left and we might as well finish it", explained Iniyan as he set up some flares and returned to the carving that day. Chamundi was in ignorance of that. Iniyan's one eye only was on the sculpture and the other was riveted on Chamundi. In the fluctuating light of the flares, Chamundi's golden complexion was still more resplendent and relishing the spectacle

to the full. Iniyan somehow managed to complete his work for the day. Chamundi did praise the sculpture before she left, but for some reasons the compliment that day did not give him total satisfaction.

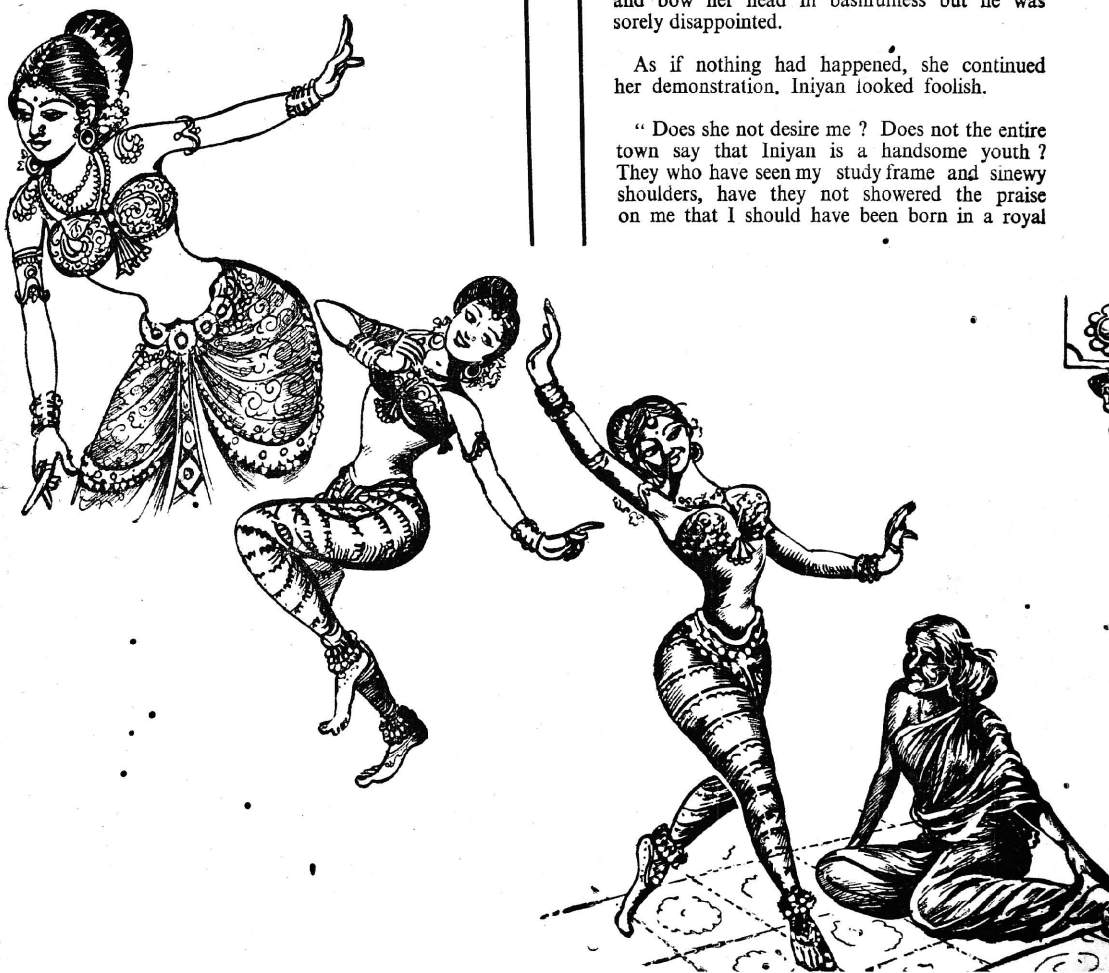
A few days passed in this manner. There were constant symptoms in Chamundi's expression, testifying to the fact that some confusion in regard to Iniyan had arisen in her mind too.

That day Iniyan was asking Chamundi to portray the dance-posture for the eighty-first sculpture. "Delineate the stages of that Dance of the Lord with two pairs of shoulders and sacred thread, with the deer held aloof and brandishing the battle-axe", directed the sculptor. Chamundi proceeded to carry out his bidding and she demonstrated the sequence in separate stages, emphasising the movement of each limb.

Suggesting casually, "would it not be more bewitching if you were to stand with this hand of yours lifted a little higher?", Iniyan sought to touch her arm and raise it. All she did thereupon was to move away from him with a stare. He had anticipated that she would blush and bow her head in bashfulness but he was sorely disappointed.

As if nothing had happened, she continued her demonstration. Iniyan looked foolish.

"Does she not desire me ? Does not the entire town say that Iniyan is a handsome youth ? They who have seen my study frame and sinewy shoulders, have they not showered the praise on me that I should have been born in a royal



face? How is it that Chamundi alone does not seem to be attracted by me?"—Questions such as these were piercing his heart through and through. But the work of the day proceeded apace. In the grip of fear and agitation, he stepped up the tempo of his activity. Completing the day's carving well in advance of the evening, Iniyan told Chamundi that the eighty-second sculpture would be commenced on the morrow.

Chamundi was more lavish than ever in her praise of the eighty-first sculpture. "Through the prowess of your chisel, you have brought to life finer delineations than what I could actually portray", she said smilingly and at these felicitations from her, his heart became cool as a flower-pond. She took leave of him and he kept gazing at the receding beauty.

He turned back to view the eighty-one sculptures he had created. The sculptures vanished all of a sudden and in their place were dancing eighty-one Chamundis. He lost himself in the splendour of that dance. The sculptures that had been chiselled in pure Art-consciousness were now transformed into the form and figure of Chamundi and they stocked the fire of passion in his heart, even as they danced in gay abandon.

The flames rose high and he could no longer withstand the temperature. He offered elaborate council to himself but it was of little avail. You may chase the cat away from the milk-pot any number of times, but it would only crouch and hide and circle the spot. The uncontrolled power of love that spurted from his heart was in that category.

BEAUTY TURNS CHAOTIC:

The next day he was ready to carve the eighty-second sculpture. When Chamundi arrived he welcomed her with his eyes since his tongue would not do his bidding.

"Is it not the eighty-second sculpture today?" she asked.

"Yes".

"There are still twenty-seven to go"!

"What are you weary? Is even Art cloying"?

"Oh, no, I just counted the days ahead, that is all".

"I am thinking, would not there be a hundred more sculptures yet to be carved? Would I not be pleased enough to view Chamundi's artistic beauty for as many days"!



"My thinking is, why has the Emperor stipulated 108 sculptures? Could he not have put the ceiling at eighty-two"?

"Are you mocking, Chamundi"?

"Certainly not... well, let us turn to work. Why this persiflage"?

Chamundi got ready to portray the dance-posture. Iniyan too picked up his chisel and went to the rock. He, however, felt jaded, as if he did not have adequate stamina to lift the tool even.

"The Dance of Beauty"! He uttered in a weak voice. His tongue stuck to his plate even as he said this.

Chamundi commenced the dance. She herself was a treasure-house of beauty and so what would be the effect if she were to do the Dance of Beauty? He felt dizzy and Raja-Rajecharam himself seemed to swirl before his eyes. But despite his transient infirmity the chisel in his hand was hard at work.

She did not dance on solid ground but on the dais of his gentle heart. She danced in the pupils of his eyes and in his nerves and capillaries. She kept dancing in every drop of his blood. He felt as if her silken feet were dancing on his head and he felt as if her crystalline arms were drawing him into an embrace. In his wild fancy her eyes and her lips were approaching.

The phantasy was cut short as a fleck of hard rock flew into his eye. Writing in pain and agony, he flung aside the chisel and cried out for help.

She was distressed. Running to him she held him from falling. Lifting his face in her beautiful hands, she removed the speck of rock from his eye with her finger in an adroit manner.

A flash of lightning as it were! He held her close to his heart with all the force at his command. Following the lightning came thunder, gale and the semblance of deluge. Chamundi threw him off and he fell to the ground with a wild groan. For a while he did not get up at all. His eyes swirled, as also the hall and the eightyone sculptures he had carved.

The deer danced and then it ran off in fear. Later it was metamorphosed into a tiger and it came in a ferocious leap. The snakes that had been carved around the neck of the Lord, multiplied rapidly and raised their hoods to strike. The flame held aloft by the Lord leapt up and became a conflagration raging in all directions. Iniyan strove to steady his vision and rise from the ground, but he could not.

WHO WAS CHAMUNDI?

Just then someone called "Devi" and Chamundi turned. She could hardly believe what she saw when she found Rajendran striding towards her in agitation. Behind him came the Emperor Raja Rajan himself and also Kundhavaiyar. Rushing to Rajendran, Chamundi cried out "Oh my lord!" as she fell into his prospective arms and sobbed her heart out.

"Enough, my lord, enough of my services in the cause of Art", she wept and Rajendran consoled her, "Panchavan Madevi, do not revile the service to Art. All because of the wrongdoing of a stray artist, would it be fair or proper to cultivate aversion towards Art? Iniyan has erred unknowingly and we can afford to forgive him!"

This conversation shook up Iniyan.

Who was she? Panchavan Madevi? Not Chamundi, the daughter of Azhagi of Charapalam? Panchavan Madevi, Yes, Panchavan Madevi! Rajendran's consort! Raja Rajan's daughter-in-law!

"Oh, what an error have I committed!"—Iniyan knew not where he was. Was he dying? He could not be certain.

The Emperor Raja Rajan came near his sobbing daughter-in-law and said in a voice throbbing with emotion and grief, "Panchavan Madevi, I shall never forget the sacrifice that you so willingly took on yourself at the behest of your husband Rajendran with a view to fulfilling my desire in the matter of Art. I have no words to command the old lady Azhagi who was of such help to you in this endeavour. She not only sent you to the hall of sculpture, she was also alert and vigilant in her task of protecting you. Only on the basis of the news communicated by her yesterday did we come here, our suspicions having been aroused in regard to the intentions of the sculpture. Do pardon us, Panchavan Madevi, for all the harassment that we have caused you!"

"Please do not seek my pardon, Emperor", said Panchavan Madevi as she fell at the Monarch's feet, "Who is to pardon whom?"

"Let us all pardon the sculptor Iniyan", said the Emperor. But as they turned towards the spot where the sculptor had been standing, they found that he had made himself scarce.

Iniyan was on the run and he would not even look back. Very soon he was beyond the reach of any pardon!

This tale has been written on the basis of the following historical note—The Chola Emperor Raja Rajan had commissioned the carving in sculpture of the 108 dance-poses of the Lord, on the lower tier of the ceiling of the Big Temple at Thanjavur. The work proceeded according to plan, but for some reason it had to be abandoned on the completion of the eighty-first sculpture and soon after the eighty-second had been commenced.)

(Concluded).

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RURAL INDUSTRIES PROJECT PROGRAMME

The Planning Commission recognised that while, for many years, the largest scope for utilising the manpower resources in rural areas would lie in the programme of agricultural development, road development, village housing and provision of rural housing, a lasting solution of the problem of unemployment and under-employment would require not only the universal adoption of scientific agriculture but also the diversification and strengthening of the rural economic structure. In the report of the Third Five-Year Plan it was pointed out that although several industries such as Village Industry, Khadi Sericulture, Coir and to an appreciable extent, Handloom were already located in rural areas, the development of Small Scale Industries had so far been, by and large, in or near the cities and larger towns. One of the main aims of the Plan, therefore, was to encourage the growth of Village and Small Industries in rural areas and Small towns. The Rural Industries Planning Committee of the Planning Commission accordingly proposed to introduce a scheme for the intensive development of small Industries in Rural Areas as Pilot Projects in 40 selected areas in the whole of India, out of which three were allotted to the State of Tamil Nadu as detailed below during the year 1962-63 :—

1. Sriperumbudur Rural Industries Project in Chingleput District comprising Sriperumbudur and Tiruvellore Taluks and Pennalurpet Sub-taluk.

2. Omalur Rural Industries Project in Salem District comprising Omalur and Mettur Taluks.

3. Nanguneri Rural Industries Project in Tirunelveli District comprising Nanguneri Taluk. Now the programme has been extended to the entire districts of Chingleput, Salem and Tirunelveli and the programme will be imple-

mented in two more districts viz. Dharmapuri and Ramanathapuram from the beginning of the Fifth Five-Year Plan.

The primary objective of the programme is to bring about a Co-operative agro-industrial economy, by an all-round development of agriculture, irrigation, communications, industries, social services, etc. and by stimulation and mobilisation of the initiative and efforts of local residents to the fullest extent. In other words, the purpose of the programme is to develop small scale, cottage and village industries in the rural areas excluding towns having more than 15,000 population. Under this programme, General Purpose Engineering Workshops, Common Facility Service Centres, Training Centres and Departmental Production units have been started according to the availability of raw materials and other things in the Project areas. Loans at concessional rate of interest at 3 per cent per annum are given from Rural Industries Project Funds to private entrepreneurs and for industrial co-operatives at 2.5 per cent per annum in order to give enthusiasm for starting Small Scale Industries in the Project areas. The State Bank of India is also giving loans under its Liberalised Credit Facility Scheme to private persons who intend of starting Small Scale Industries in the Project areas.

In the Five Rural Industries Project districts mentioned above, it has been decided to merge the District Industries Officers Organisations with that of the Project Organisation and a Regional Deputy Director of Industries and Commerce with the designation "Project Officer, Rural Industries Project" will be the head of the new set up in these districts. Certain consequential arrangements such as the redistribution of the jurisdiction of the existing Regional

Deputy Directors of Industries and Commerce have also been ordered. With a view to give an impetus to the programme in the Rural Industries Projects and to provide sufficient technical support and participation in the work, a post of a Joint Director of Industries and Commerce has been created in the Office of the Director of Industries and Commerce and he is mainly in overall control of all the Rural Industries Projects.

The entire expenditure on the programme is met by the Government of India by way of grants and loans under a specified pattern of financial assistance. It is hoped that as a result of these measures, there will be a phenomenal growth of small industries in the areas covered by Rural Industries Projects providing ample employment opportunities as well as living to a large number of people in the rural areas.

CONVERSION OF PHC's TO 30 BED HOSPITALS.

In a centrally sponsored job-oriented scheme of the Ministry of Health, 200 Primary Health Centres will be upgraded to 30 bed rural hospitals all over the country during 1973-74. It will give jobs to 4,400 medical and para-medical personnel, comprising 800 specialist doctors, 1,400 nurses and 2,200 para-medical staff.

These hospitals will provide specialist services in medicine, surgery, gynaecology and obstetrics including X-ray, operation theatre, ambulance and anaesthetist facilities. The upgraded units will serve as Referred hospitals for the rural population served by 4 or 5 Primary Health Centres.

This Scheme will also meet some of the objections of the Medical graduates to serve in the rural areas as that availability of special services and facilities of X-ray and laboratory will help them improve their professional ability.

Requirements of tribal/backward areas will be given consideration while selecting P.H.C's for upgrading.

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