Tamil Arasu

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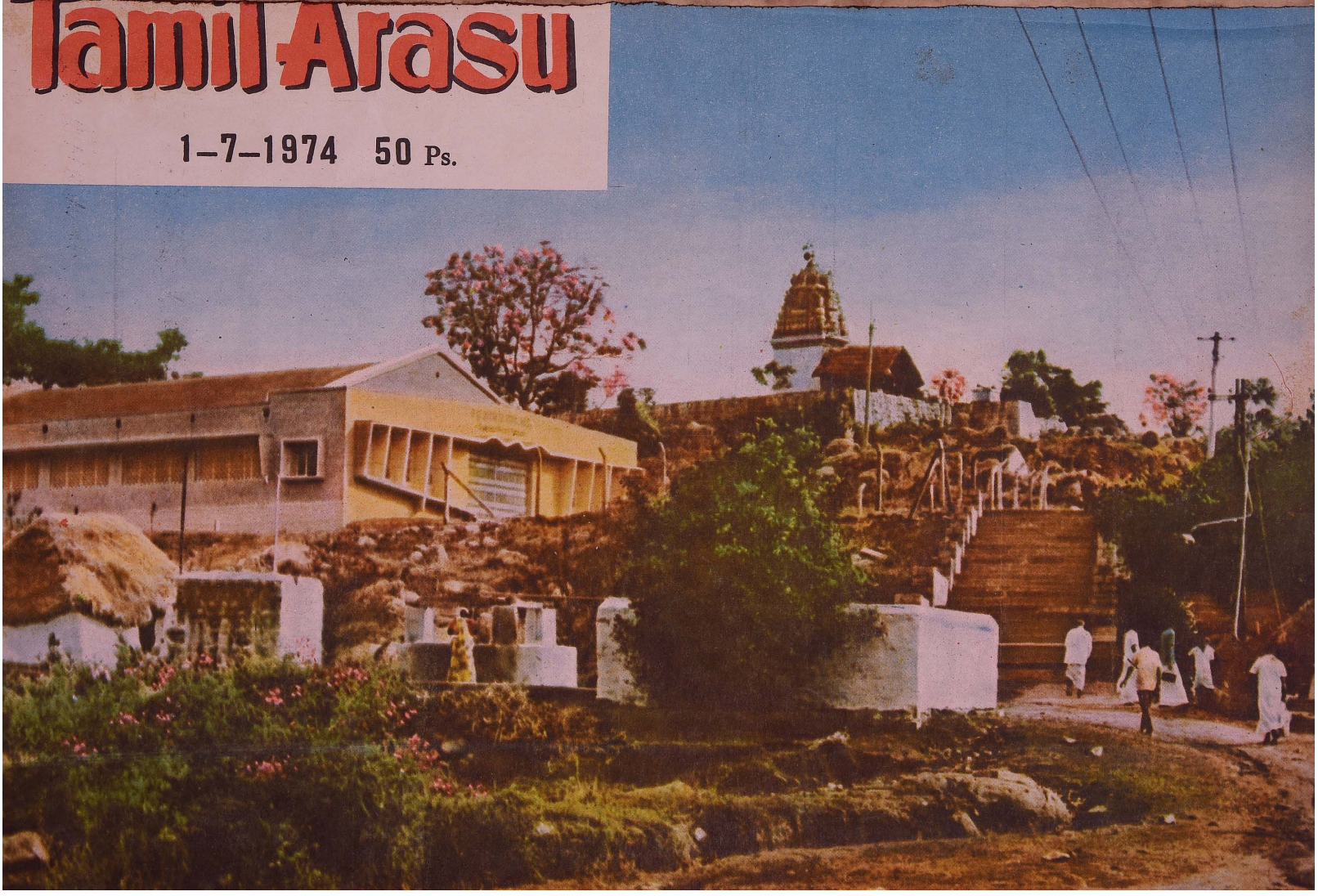

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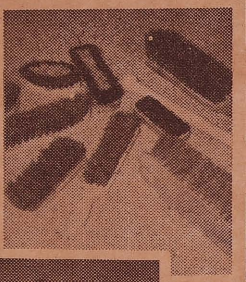

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Tamil Arasu

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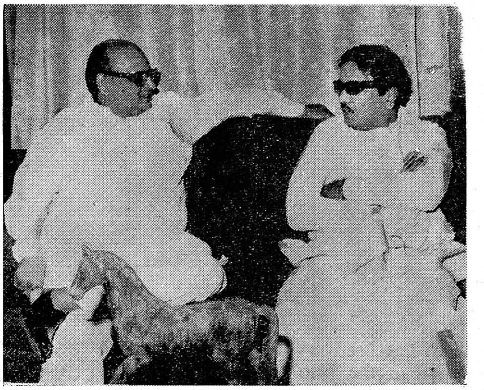
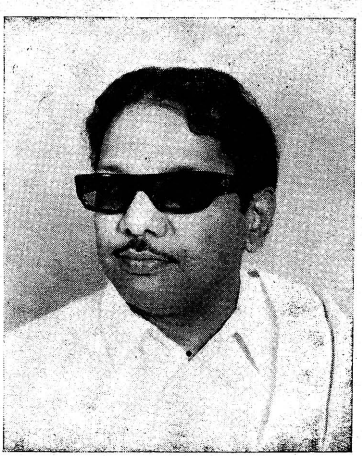


Mr. Chimanbhai Patel of Gujarat called on Chief Minister during Birthday Celebration.

The 51st Birthday of Chief Minister on 3—6—74 began with the Chief Minister laying wreaths at the graves of his Mentors, Anna and Periyar.



It is State Autonomy That'll Ensure Political Justice

Dr. M. Karunanidhi,
Chief Minister of Tamil Nadu.

It has been my unique privilege to move the resolutions on 'State Autonomy' in both the Houses of our Legislature and the two Houses have adopted the resolutions. Our demand for State Autonomy is only a logical step towards the long-felt need of the State. We believe strongly that the present economic crisis is the result of over-centralisation. We also believe that the democratic freedom will be meaningful only when we attain 'State Autonomy'. Many politicians, particularly in our State, out of frustration and ill-will towards D.M.K., describe this move for 'State Autonomy' as unpatriotic. I would make it very clear to them that patriotism is not the monopoly of any single political party in this country.

Recently, an All-India Seminar was held at Bangalore on 'Federalism in India' where it has been resolved that :—

> " In order to make the States more effective, greater autonomy should be given to the States and administration should be brought close to the people and should be made accountable to them. To achieve this, decentralisation was considered to be an important step and greater participation should be ensured."

This was the resolution. Here, I would like to emphasise that 'State Autonomy' is something more than the decentralisation. Autonomy will enable the State administration to formulate and execute the policies effectively and purposefully to the people to whom the State Governments are nearer.

AUTONOMY IS MEANT TO BRING THE ADMINISTRATION NEARER TO THE PEOPLE

Though the slogan of State Autonomy has got a long political history in his country, we the D.M.K., in charge of the State administration, experience everyday, how we are not able to function more effectively and our election programmes are hampered because of this concentration of powers at the Centre. It is only in this background, our party—the D.M.K.—had raised the **"Clarion call"** of State Autonomy.

The problems of handloom weavers ; the problems of sick mills and its nationalisation ; distribution of sugar, fertilisers and foodgrains ; starting of new industries ; issue of licenses and letter of intents ; particition of labour-management in public sector companies and making provisions for dividends; changing the name of a village and cutting across National highways for laying the pipes for waterway—all these and several other urgent and minor problems, we in the State, are not able to solve them effectively and timely, because the Centre comes in at all levels.

The inordinate delay in executing and implementing various essential schemes hamper the national progress and economic well-being. The only remedy is 'State Autonomy'.

The Administrative Reforms Commission in its report on Centre-State Relations has rightly observed that

> " Concentration of administrative powers at a distant Centre tends to breed inefficiency and resentment, which in turn sets the minds of the people against the Centre."

Perhaps, just to see the people's minds are not permanently turned against the Centre, we see at regular intervels, the Central Ministers visit various States and speak to the people as if their sufferings are due to the State Governments and the Central Government is not respon-

sible in the least. This inefficiency due to the concentration of power at the distant Centre has almost paralysed our administration to such an extent that those in charge of the State Administration feel more often frustrated owing to the helplessness. Of course, when the same political party was ruling both in the State as well as in the Centre, they were able to adjust and accommodate and even then there were instances when the State Chief Ministers raised their voice for more powers for the States.

The D.M.K. has taken this message of 'State Autonomy' to every nook and corner of the State and the people have been educated. The people of the State have now come to know that there are two Governments and the interests of these two are often at variance and ultimately the affected party is the people. Therefore, it is wrong to say that the people have not accepted this demand. On the contrary not only in our State, but even in other States, indications have been there that the seeds of Autonomy have just began to sprout.

One of the peculiar arguments advanced against the demand for 'State Autonomy' is that if more powers are given to the States, **the Centre would become weak.** As a reply to this argument, I would like to say that a demand to build a strong Centre on the foundation of weak States is like an attempt to build a strong building on the foundation of sands. Strong means in this context, ability to perform adequately and properly the duties assigned to the States. **The argument that if State Autonomy is granted the Centre would become weak is just meaningless and runs counter to the true spirit of Federalism.**

As a matter of fact, constant frictions between the Centre and the States which are very likely when different political parties are in power, will endanger the country's solidarity. The actual evolution of political parties in India, especially one-party dominance, has been the single and most important factor for the over-centralisation. This has facilitated the frequent misuse of Constitutional provisions by the ruling party of the Centre, which has resulted in a strained Centre-State relations on certain issues. Thiru K.V. Rao, in his 'Parliamentary Democracy in India' has made a significant observation in this context as—

> " It is obvious, it is the particular weakness of the Constitution that will create constant friction between the Centre and the States, **not on the legal plane but on the political plane** and that this constant friction will weaken the solidarity of the country much more a real federation with greater provincial autonomy could have done."

What the D.M.K. now wants is just to remove the weakness in our Constitution and to really strengt-then the political structure of our country.

The Preamble of the Constitution of India begins with the following memorable words—

> "**We.** the people of India having solemnly resolved to constitute **INDIA INTO A SOVEREIGN DEMOCRATIC REPUBLIC** and to secure to all its **CITIZENS JUSTICE, SOCIAL ECONOMIC AND POLITICAL"**

Can any one of us here say, even though we have celebrated the Silver Jubilee of our Independence, that we have secured **Social Justice** or **Economic Justice** to our people ? This has not been feasible because our Constitution itself has not enshrined **Political Justice** that is necessary to secure **Social and Economic Justice. The Demand for State Autonomy is a demand for Political Justice.** For, after all, the State is a political instrument to secure Social and Economic Justice and this instrument is not effectively functioning owing to the inbuilt defect in our Constitution and to remove the inbuilt defect we demand 'State Autonomy'. This demand is a **Demand for Political Justice.**

Excerpts from Speech while inaugurating Forum for State Autonomy on 20-6-1974 at Kalaivanar Arangam, Madras.

IT IS MEANINGLESS TO SAY STATE AUTONOMY WILL WEAKEN CENTRE

WE REALLY WANT TO STRENGTHEN THE POLITICAL STRUCTURE OF OUR COUNTRY

THE MANY FACETS OF Dr. M. Karunanidhi

BIRTHDAY TRIBUTES BY LEADERS FROM ALL PARTS OF INDIA

The 51st Birthday of Chief Minister of Tamil Nadu Dr. M. Karunanidhi on 3rd June, 1974 sparked off a State-wide effort to collect the Rs. 1 crore fund for the rehabilitation of the physically handicapped, which he declared earlier as the cause dear to his heart. The voluntary collections for the Fund has gathered such momentum throughout the State that by the end of June it has totalled several lakhs.

Innumerable public meetings were organised by well-wishers to felicitate the Chief Minister on the happy occasion. The first such felicitation function was held in the spacious parade grounds of Fort St. George by the State Civil Services, when the Governor Thiru K.K. Shah eulogised the Chief Minister for his uncanny gift of keeping the Civil Services personnel always in good humour by redressing grievances before they became bitter issues. At other programmes in the City, leaders from other States gave eloquent expression to their support to the State Autonomy crusade of the Chief Minister.

Excerpts from their speeches are given below.

SERVANT OF THE PEOPLE

Thiru K.K. Shah, Governor.

" If the party system is basic to functioning of democracy, leadership of political parties is a *sine qua non* of the existence of democracy. And if leadership does not create the ability to appreciate others, I would ask "do you go to public life to continue to fight all the 24 hours of all the days of your life and finding fault and not appreciating anybody in your life" ? Is that the essence of party politics ? And as Governor of Tamil Nadu, I am proud to say that Tamil Nadu plays the real game of democracy. In fact if anybody wants to see how democracy functions, he must come here.

" I want every political party to remember that the administration is the asset of every party. And anybody who contributes to the efficiency of the administration deserves the gratitude of all political parties. What will you do in a hurry if the administration has gone down, if the efficiency has sunk, if the moral stature, if the catholicity, if the feeling for the common man is not reflected in the administration ?

" And this great demonstration of the love and affection the services staff associations have showered on Dr. Kalaignar Karunanidhi stands as a proof of his capacity to ensure devoted cooperation of the Services. This is a great achievement, of which as I have already said, he can be legitimately proud, of which other parties also can be legitimately proud.

"Some times, people ask : what is common between K.K. Shah and Kalaignar Karunanidhi. I said the only thing that is common between us, is that he believes that he is the servant of the people and that I believe that I am the servant of the people. What greater affinity do you want, than the fact that both of us look upon ourselves as servants of the people ? "

Karunanidhi Must Lead India

GORAY

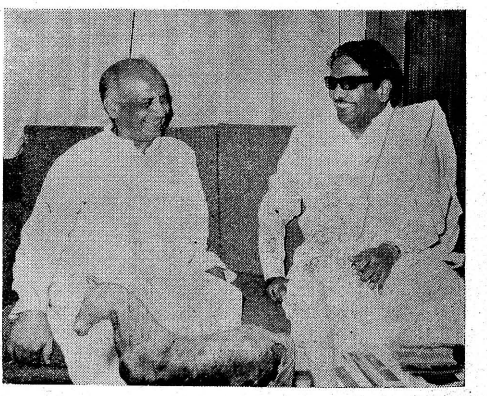
"I do not look upon Dr Karunanidhi only as a person but I look upon him as an institution. I look upon him as a man with vision, and I try to understand what that vision is. Two things are very clear to me, one is that he is undoubtedly the Champion of the under-dog.

" The other field in which he has distinguished himself is his championship of the cause of the States' Autonomy. This is a very important aspect and I think that, for this Dr. Karunanidhi's name will be remembered by posterity. It will be for this single thing, posterity will say that he was the man, he was the leader, his was the party, who dared to say that the States will have to be given more and more autonomy.

" Tamil Nadu has been the first to ask for more autonomy ; it means that Tamilnadu has developed to that extent. It has matured and now it is said that Delhi is not. Delhi wants to exercise remote control over Tamil Nadu but says let us manage our affairs ourselves.

"Under the leadership of Dr. Karunanidhi, Tamil Nadu will develop to a stage where it will be able to give a lead not only to the people of Tamil Nadu but to the people everywhere in India.

"There will be a time when Dr. Karunanidhi becomes an All-India leader not only the leader of Tamil Nadu but for India. Therefore, before concluding let me wish him, let him live long and let him give a lead not only to Tamil Nadu but to the entire India."



KARUNANIDHI HAS GIVEN NEW DIMENSION TO THE NATION

PATNAIK

" You in Tamil Nadu have raised a torch of reason,. Delhi at the moment has neither eyes nor ears. It does not see anything ; does not hear anything. It is absorbed and immersed in its own sense of great power and authority over the poorest nation on earth. Once I told Mrs. Gandhi when we were all still on friendly terms not many years ago. Once we proposed that she be the Prime Minister after Lal Bahadur's death and she became party-elect and a Prime Minister. I told her: Madam Prime Minister, 'You are a Prime Minister for 4 million tonnes of steel. Try to become a Prime Minister for 40 million tonnes of steel before you retire. You see, a nation's strength does not lie in a mere nuclear explosion. A nanation's strength lies in its economic viability and a scientific development like the nuclear explosion or the delivery system or whatever it is, is only an outcome of it. A militarily strong nation with starving millions cannot hold its head high. This has been the teaching of history. The great Roman Empire had disintegrated because people started starving. This is nothing new in human history. Therefore, the first concern along with every scientific development which must go apace is to create a sense of belonging in the whole nation, a sense of rapport right from the Panchayats and Taluks to Delhi and that will only happen when each one of them feel a sense of participation in the power and authority of Government. Without responsibility there is no meaning in power and by the same token, without power, there would not be any responsibility. If you have not given these people any authority, do not expect rapport, therefore I say, let us reconsider the whole thing. Let us review the whole thing. Out of our experience, without abusing each other, without accusing each other, as planners, as thinkers, as administrators, as legislators, let us examine it. And then, come to a conclusion by the combined intelligence of India and reach the right conclusion about the right manner of governing this great country of ours.

In Mr. Karunanidhi, you have a relentless fighter for reason, I hope his struggle would be successful. And he would have great many years left to him to continue this struggle and use his energies to give a new dimension to the Indian nation.

CHAMPION OF LINGUISTIC MINORITIES

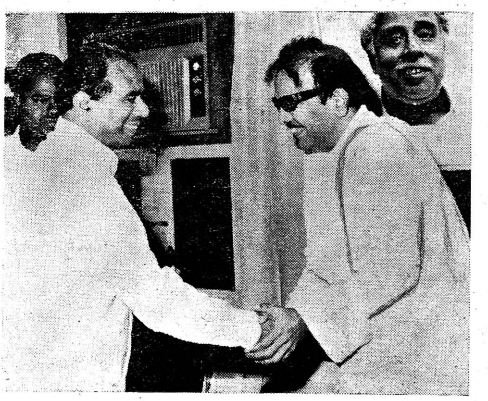
VEERENDRA PATIL

I do not like to dwell on specific points as I am on a platform to eulogise his services on his 51st birthday. But I am tempted to refer to his recent crusade to get full autonomy to the States. There is so much to be said for and against this issue. But having regard to the position of States in the federal structure of India I, personally, feel that the States should have more financial powers and more autonomy in various sectors so as to feel secure and safe from an erratic Centre.

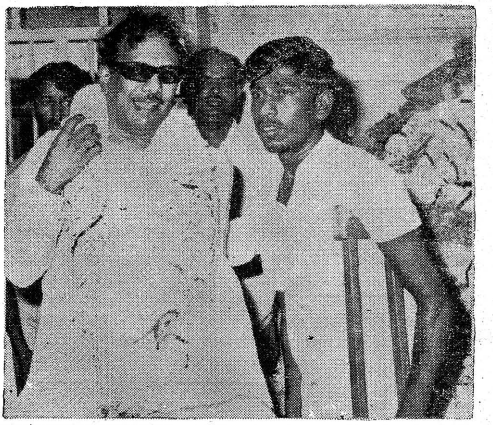
Towards this I fully agree with his arguments and I hope he will achieve success in his crusade. Thiru Karunanidhi is a trusted friend of the poor and downtrodden. In various capacities, he has done his best to ensure social justice to the backward and depressed classes. He is virtually a crusador against caste domination and is determined to prevent exploitation of the helpless masses.

The party to which he belongs is wedded to the principles and programmes of social justice. To carry forward these programmes following the footsteps of his leader Shri Annadurai, Shri Karunanidhi has spared no pains to ameliorate the conditions of the poorer sections of the community. A grateful Tamil Nadu will always cherish his achievements as Chief Minister.

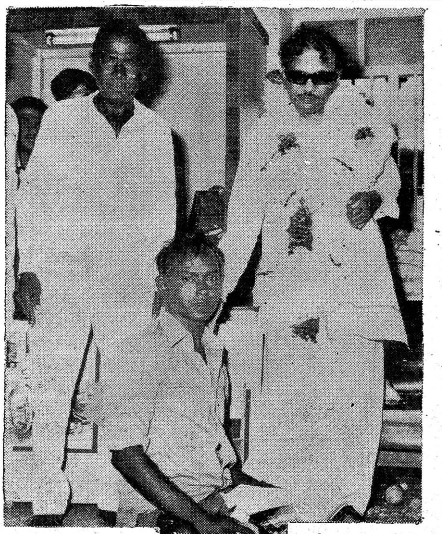
It is a matter of satisfaction to me that our Chief Minister of Tamil Nadu has extended a helpful hand to the linguistic minorities to live in peace and tranquility. His recent forth-right statements on the subject has engendered hopes in the linguistic minorities that their interests are safe in his hands. In Tamil Nadu there are thousands of Kannadigas living in Salem, Dharmapuri, Coimbatore and the Nilgiris districts. There is no doubt that these linguistic minorities will get all the legitimate perquisities for their happy and contented life at the hands of the Government.



Heart-warming Birthday Scenes



Top (Left, Right and Alongside:) ThePhysically handicapped went on a pilgrimage to the C.M.'s house on 3—6—74 marking it as their Day of Redemption.



Bottom (Left and Right) Transport Minister Thiru Ramachandran made a handsome contribution to Rupees One Crore Fund for Physically Handicapped.

A band of Narikoravas (the Tamil Nadu Gypsies) called on Chief Minister on his Birthday.

Divisional Development Officers Come into Their Own

"From 1.7.74 the Divisional Development Officers will function independently in charge of all items of rural development programmes, in all the districts of Tamil Nadu. This has opened a new chapter in the history of rural development", said Thiru A.P. Dharmalingam, Minister for Local Administration, addressing the Divisional Development Officers at Rajaji Hall on 29-6-74.

There are 48 Revenue Divisions in the 14 rural districts of Tamil Nadu and each Revenue Division will be in the charge of one Divisional Development Officer, who will be working directly under the control of the District Collector concerned. In addition to these Divisional Officers, each Collector will be assisted by his Personal Assistants (Panchayat Development), to supervise the development items of work at the district level. Consequent on this new set up, the Revenue Divisional Officers, who were in additional charge of supervision over the work of Panchayat Union Commissioners in all blocks will be relieved of the development items of work and will be in charge of only revenue and other general administrative work at the divisional level.

It may be recalled that the Administrative Reforms Commission, which was appointed by the Government of Tamil Nadu, had a number of suggestions in re-organising the administrative set-up at various levels, with a view to improve the quality of work at different levels.

According to a recent Government Order, the Panchayat Development work should be separated at the Divisional level and entrusted to a new class of officers of Panchayat Development designated as Divisional Development Officers who will function independently of the Revenue set-up.

All the Divisional Development Officers who will be in charge of development work at various Revenue divisions and the P.As. (Panchayat Development) to Collectors, met at Rajaji Hall on 28-6-1974, for an informal discussion, regarding their role. Thiru T.V. Vasuvedan, I.A.S., Director of Rural Development, initiated the discussion.

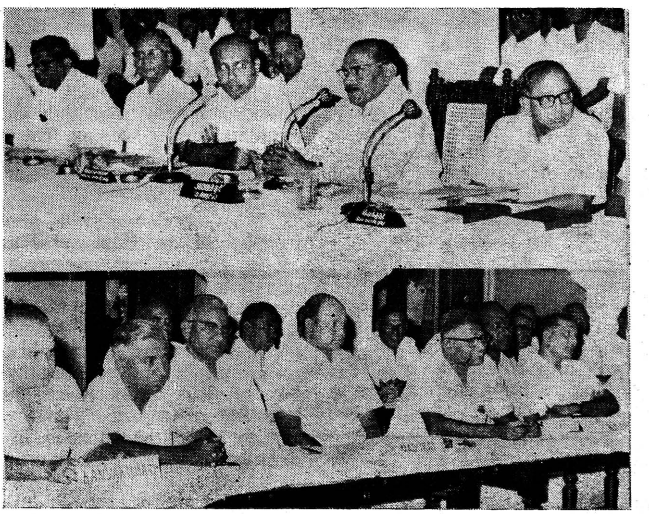
The Hon'ble Minister for Local Administration briefly summarised the practical difficulties in implemementing development programmes in rural areas and pleaded for a concerted and co-ordinated action on the part of Development Officers, who are placed in charge of the work in the new set-up. He described the separation of development functions from the Revenue Divisional Officers, as setting up of a new family. He also recalled the basic views of Dr. Anna regarding the provision of amenities to rural people and wanted dedicated action in this regard. He also reminded them of Crash Programme for rural development initiated by the Chief Minister by providing about 10 crores of rupees towards rural development schemes with special reference to link roads and minor irrigation works.

This new development of reorganising the department at the divisional level is a most important achievement next to the implementation of Tamil Nadu Panchayats Act, 1958.

The statutory and non-statutory powers that are necessary for the Divisional Development Officers have been given to them, and the rest of the powers which require amendment of the Act will be taken up shortly.

Regarding the implementation of rural development programmes, care will be taken to see that the investment on all these programmes should bring maximum benefit for the people. The policy should be that with the minimum amount, there should be maximum return—a social return for the villagers.

Another important achievement is that powers to spend the surplus general funds have been delegated to the Collectors and at present 274 Panchayat Unions are availing the benefit.



THE 1971 BIRTHDAY GIFT

LEPROUS BEGGAR REHABILITATION
PRESENT POSITION

Under the inspiration of the Chief Minister, Dr. M. Karunanidhi the revolutionary rehabilitation programmes of the leprous beggars was pioneered on the occasion of his 48th birthday, i.e., on 3rd June 1971. Out of the funds donated by the public on the above occasion, 10 Leprosy Beggars' Rehabilitation Homes were established in the following places :—

1. Paranur (Chingleput dist.,).
2. Ulundurpet (South Arcot dist.,).
3. Bargur (Dharmapuri dist.,).
4. Pudukottai (Pudukottai dist.,).
5. Manayeripatti (Thanjavur dist.,).
6. Pudupatti (Madurai dist.,).
7. Mallavadi (North Arcot dist.,).
8. Vinnapalli (Coimbatore dist.,).
9. Deviakurichi (Salem dist.,).
10. Selliampatti (Dharmapuri dist.,).

The main philosophy underlining the establishment of these Homes is to cure the beggars suffering from leprosy and rehabilitate them so that when they are discharged from the Homes, they can lead a life of dignity and self-reliance without being an unwanted burden either on the society or on their families.

FACILITIES IN THE HOME

Each Home has accommodation for 400 adults and 25 children. If in a married couple one spouse is suffering from leprosy and took to begging, the other spouse also will be admitted in the Home. In such cases, arrangements have been made for admission of the children in the nearby hostels and schools. Each Home provides free boarding, lodging and clothing to inmates. Facilities for medical treatment and for vocational training and rehabilitation have also been provided. For recreation, each Home has been provided with a radio, indoor games like carrom, chess and outdoor games like volley ball, etc. Arrangements have also been made for screening of films twice a month in all the Homes. Newspapers and magazines are also being supplied to the inmates.

DIET AND CLOTHING

The daily budget for diet per adult is Rs. 1.80 and Rs. 0.90 per day per child below 12 years. Provision has been made in the diet schedule for the supply of mutton on four days in a month (i.e.) every Sunday and butter-milk twice a day on all days. The inmates are, in all, provided with one breakcfast, two meals and evening tea every day. Special diet is provided to sick and T.B. patients. Each inmate is provided with free clothing—two-sets per year. Besides free clothing, the inmates are given free bedding. The inmates are also given coconut oil, soap for washing, tooth brush and tooth paste. They are also provided with special type of shoes.

MEDICAL FACILITIES

Each Home has been provided with excellent medical, surgical and physiotherapy treatments. Out of the 10 Homes, 8 Homes except the Homes at Ulundurpet and Bargur have surgical operation theatres and thus they provide facility for surgery. On the medical side, each Home has two Medical Officer, Staff Nurse, Pharmacists, Physiotherapists and para-medical staff. Besides, an Occupational Therapist will be in charge of 3 or 4 Homes.

REHABILITATION ACTIVITIES

The philosophy of the "Rehabilitation" is that after medical and surgical treatment, the beggars will first be cured and at the same time they will either be strengthened in the skill which they already possess (like agriculture, weaving, etc.) or will be taught a new skill. The rehabilitation activities mainly include farming, poultry keeping, mat weaving, tailoring, shoe making, carpentry, etc.

The powerlooms will also be installed in the Home at Paranur as an experimental measure. The intention is to weave, besides bandage and other coarse cloths, art silk and zari cloths. A modern factory-*cum*-workshop will also be set up in the above Home by the Swedish Red Cross Rehabilitation Industries, Katpadi, which will employ only the inmates in the workshop. There is also a proposal under consideration to establish a Binding Unit in the Pudukottai Home.

For the purpose of rehabilitating the cured leprosy beggars back in their families, each Home will have a social worker with academic qualification in social work so that contacts will be maintained with the families of the patients and eventually the families will accept the patients back.

The policy of the Government so far as is admit the leprosy beggars on a voluntary basis. The position under the Law, however, is that begging is an offence, and therefore, recently all these Homes have been notified as "Committal Homes" for those leprous beggars who will be convicted for begging. In connection with this a proposal is under active consideration of the Government for bringing in a legislation to secure indefinite detention of the reluctant beggars suffering from leprosy in the Homes after conviction.

ADMINISTRATION.

One Superintendent from the Probation Department/Deputy Collector with the following staff is in charge of the administration of each Home :—

1. Two Medical Officers,
2. Staff Nurse,
3. Auxiliary Nurse,
4. Physiotherapist,
5. Laboratory Technician,
6. Pharmacist,
7. Male Nursing Orderly,
8. Female Nursing Orderly,
9. Sanitary Workers,
10. Cook,
11. Cook Matties,
12. Office Superintendent,
13. Store-keeper-*cum*-Accountant,
14. Junior Assistant,
15. Police Guards,
16. Social Workers and
17. Last Grade Government Servant.

At the State level, the Director of Health Services and Family Planning is the head of department and is assisted by a Special Officer, two Assistant Special Officers, one on the medical side and the other on the rehabilitation side. An Occupational Therapist has also been appointed at the headquarters in Madras to assist the Special Officer in working out the detailed rehabilitation methods in all the Homes.

CONSTRUCTION AND MAINTENANCE

The average cost of construction of each of these Homes works out to about Rs. 10.00 lakhs. The recurring expenditure for running each of these Homes will be Rs. 5.00 lakhs per annum.

Leprosy Work Outside Government Fold

There are also many Voluntary Institutions engaged in Leprosy Control Work in Tamil Nadu and Sacred Heart Leprosy Hospital, Kumbakonam, is one among them.

The Sacred Heart Leprosy Hospital is situated at Kumbakonam —Karaikal Road, about 2 kilo meters from the Kumbakonam Railway Station. In 1916 the Bishop of Kumbakonam initiated a Leprosy Home. From the very beginning the Salesian Sisters of Mary Immaculate have been in charge of the management of the Institution. In those days no specific treatment was known for leprosy and the Home was giving shelter to leprosy patients expelled from their houses. With the discovery of Sulfone drugs a new era for both the Institution and the patients started. Since then the activities of the Home were fastly changing and today the Institution has reached the status of a modern hospital. The hospital is equipped with almost all the facilities which are necessary for the treatment of leprosy patients.

The sanctioned bed-strength of the hospital is 750. Most of the in-patients are from Thanjavur district and surrounding places. The hospital is run on charitable lines. Very little amount of money is earned by the hospital as income from the patients. The hospital is managed by private donations from India and abroad. The Tamil Nadu Government gives a Capitation Grant of Rs. 25/- per month for positive, reconstructive surgery and ulcer cases. Grants are also received from the Government of India, Ministry of Health for Leprosy Control Work and State Social Welfare Department for the maintenance of children affected by lepsory.

There are six doctors working in the hospital. During the year 1973 a total number of 2,262 patients were admitted in the hospital. The strength of the hospital as on 31st December, 1973 was 740. The Out-Patient Department of the hospital is attended by about 100 patients per day. Two thousand seven hundred and four cases were referred to the Government SET Centres and Leprosy Control Units. The hospital is maintaining good co-operation with the Government SET Units and Leprosy Control Units and other Govt. General Hospitals in this district.

One hundred and fourteen cases were referred to Leprosy Beggar Rehabilitation Homes during the year 1973. Importance is given for domiciliary treatment and admission into the hospital is restricted to those who have acute complaints.

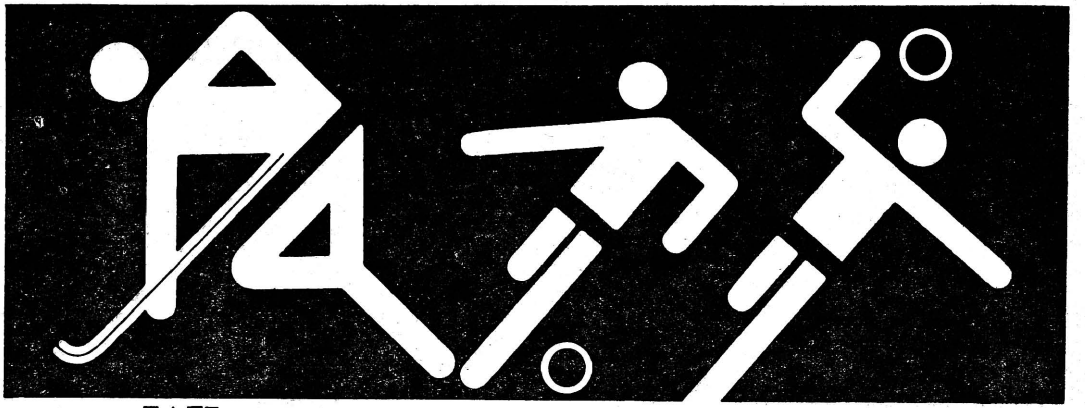
The hospital has treatment facilities for reconstructive surgery. The whole procedure of surgical treatment is evolved in such a way that the patient goes back to the society to lead a normal life. A team of medical personnel including Physiotherapist, Occupational Therapist, Social Welfare Officer and Surgeon assess each surgical case and determine the procedure and necessity of treatment, which would be suitable for a particular patient.

The hospital has various rehabilitation activities. Almost all the patients in General Wards are engaged in some kind of work inside the hospital. These General Wards are like Half-Way-Homes. The various works inside the hospital include shoe-making, cloth and mat weaving, tailoring, building construction, carpentry, painting, spinning, baskets making, agricultural work, etc. Special care is shown to instruct the patients on how to prevent injuries to anaesthetic limbs while doing these work. With these training many of the patients, after their discharge from the hospital, were able to continue to earn their livelihood in the society. The hospital is self-sufficient in producing clothes, bandages, mats and special-shoes required for the patients.

In 1973 a total number of 1,391 patients were helped through the Social Welfare Department of the hospital. Social and emotional factors are studied and evaluated for the patients in order to expedite the restoration of their health. There is a library for the patients. A 'Night School' is conducted for the patients. There are about 45 patients attending the School. Patients have found it very useful for them.

In addition to the in-patient and out-patient treatment provided at the hospital, Leprosy Control Work is also carried out in three taluks (Kumbakonam, Nannilam and Papanasam) of Thanjavur district with an estimated population of about 8,05,120. There are about 16,000 patients taking treatment in our Leprosy Control Unit Clinics. Every day one vehicle goes to the villages with Medical personnel, drugs, etc., to conduct 'roadside clinics.' There are 40 Para-Medical Workers stationed in each zone in these taluks to detect the cases of leprosy, to bring them for treatment to the Mobile Medical Unit Clinics and to do necessary follow-up work.

On 24—3—1974 the Honourable Minister for Health, Thiru K. Anbazhagan, M.A., visited the hospital and declared open the newly constructed Special Wards (Emmaus Block). After that, there was a public meeting inside the hospital which was presided by Prof. T. N. Jagadeesan, Hon. Secretary, Hind Kusht Nivaran Sangh, Tamil Nadu Branch. The Honourable Minister distributed prizes to the students who won in the oratorial competition held in connection with the World Leprosy Day. The Superintendent of the Hospital Rev. Mother Anne, while delivering the welcome address, thanked the Government of Tamil Nadu for its various assistance to the hospital as well as for its keen interest in solving the problems of leprosy in Tamil Nadu.



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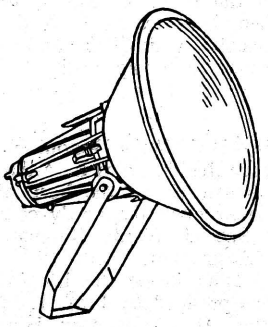

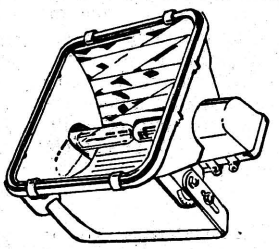

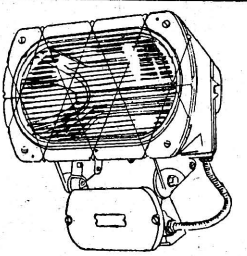

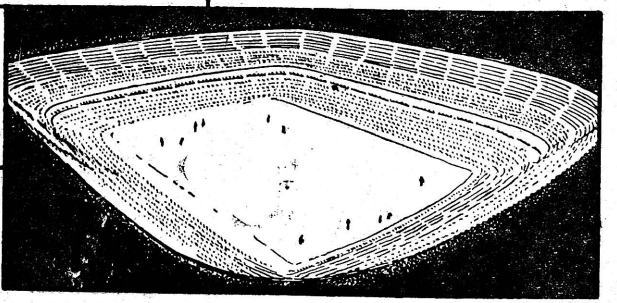

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What is Glaucoma ?

It is a disease marked by increased pressure in the eyeball. This pressure is caused by the acccumulation of the aqueous matter in the eye. This fluid, which nourishes the lens and cornea, has to be in constant circulation. When the circulation is blocked, the fluid accumulates in the front of the eyeball and puts pressure on the fluid in the rear. The fluid in the rear of the eyeball pushes in turn against the retina.

At first the increased fluid pressure damages only those retinal nerve cells and fibres which facilitate side vision. As a result the person's side vision is gradually lost. But in the final stages of the disease, the pressure destroys the nerves which permit central vision as well and all sight is gone !

If glaucoma is diagnosed early, treatment can halt its progress. However, the sight once destroyed by glaucoma cannot be restored. For each month that a glaucoma victim postpones treatment, he may lose a small but priceless percentage of his sight, which he can never reclaim.

The Eye Department at the Government Erskine Hospital in Madurai, Tamil Nadu, is presently involved in educating people, especially those in the rural areas, to the seriousness of glaucoma and the importance of periodic eye examinations when there is a sign of ailment. The Erskine opthalmologists have set up a comprehensive glaucoma demonstration centre at this hospital.

The United States government is financially supporting the effort of the Madurai opthalmologists.

"Our aim", says Dr. G. Venkataswamy, Director of the centre, "is to make the people aware that a serious disease like glaucoma can affect their eyesight and that they should be alert enough to have their eyes examined rather than wait to become blind. This message is spread by the Erskine eye doctors through lectures and radio talks and articles in the newspapers. The centre also distributes pamphlets on the dangers of glaucoma in English and Tamil to the public."

Dr. Venkataswamy feels that the Tamil Nadu government-sponsored eye camps have played an important role in the Madurai doctor's efforts to educate and treat sufferers from glaucoma. "Because of these eye camps", he notes, "we have been able to reach people in the remotest villages and examine more patients at one time than is possible in one single hospital."

BHASKARAN THOMAS

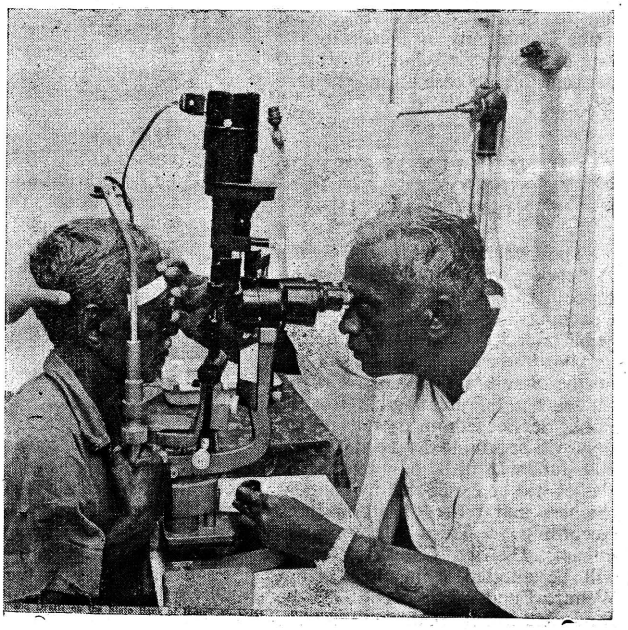
According to Dr. Venkataswamy, most villagers are not having their eyes examined because there are no adequate medical facilities in rural areas. Further most of the rural folk attach superstitious stigmas to disease.

Dr. Venkataswamy says that even in urban areas, people often fail to distinguish between glaucoma and cataract, which affects the vision of persons above the age of 50. In the case of cataract, the patient is advised to undergo an operation only after the cataract matures. "Hence glaucoma patients are sometimes under the impression that they have cataracts in their eyes and delay medical treatment, with the result they lose whatever vision they still have when they finally come for treatment," he adds.

The reason for this confusion, Dr. Venkataswamy feels is, that both glaucoma and cataract generally affect the vision of middle-aged people. A survey conducted by the Madurai Glaucoma Centre showed that the incidence of glaucoma was high among persons above the age of 40.

The opthalmologist believes that the best defence against glaucoma is eye examination at least once every two years after the age of 35. In treating glaucoma, Dr. Venkataswamy notes, the physician's primary aim is to reduce the pressure within the eyeball. The treatment may take the form of surgery or drug application, depending upon the condition of the patient's eyes.

A highlight of the Madurai Glaucoma Centre's efforts is the special course it conducts for medical personnel to make them more conscious of the glaucoma problem. The centre also trains technicians, hospital compounders and nurses to examine patients and conduct certain preliminary tests like measuring the patient's eye tension.



Dr.G. Venkataswamy, Director of the Glaucoma Centre at the Government Erskine Hospital in Madurai, examines a patient's eye with a Slit Lamp.

News AT A GLANCE

PRE-MATRIC SCHOLARSHIPS TO GIRLS BELONGING TO SCHEDULED CASTES/ SCHEDULED TRIBES INCREASED.

The Government have increased the rate of Pre-matric Scholarships for girls belonging to Scheduled Castes/Scheduled Tribes, by 50 per cent during the year 1974-75 with a view to avoid dropout of these girls at pre-matric stage.

The rate of dropout in the case of girls in the pre-matric stage is more than that of the boys for obvious reasons. The social and economic reasons prove a damper on their enthusiasm to continue post-matric courses. Government have considered that emphasis should be laid on girls' education by preventing the increased tendency on the part of girls to drop out from schools.

Government have, therefore, sanctioned Rs. 10 lakhs (Rupees Ten lakhs only) for grant of Pre-matric Scholarships to girls belonging to Scheduled Caste/Scheduled Tribe Community by increasing the rate of pre-matric scholarship by 50 per cent in their case during the year 1974-75.

TAMIL NADU PUBLIC SERVICE COMMISSION COACHING CENTRE IN TIRUCHI

The Coaching Centre for Group IV Services will be started in Tiruchirappalli from June 15, 1974. The Coaching Centre, of Tamil Nadu Public Service Commission, first of its kind in the State, will be situated in the Stadium Grounds, Tiruchi. Students, who are eligible for the Public Service Commission examination, will be admitted. To start with, 100 students will be admitted. The classes will be conducted by eminent teachers and retired head masters. According to Thiru M. Vaithiyalingam, District Collector, funds will be allotted from the District Welfare Fund. The classes will be conducted from 6-30—8-30 p.m.

REMODELLING OF KALINGARAYAN CHANNEL IN COIMBATORE DISTRICT.

Tamil Nadu Government have sanctioned the scheme for the remodelling of Kalingarayan channel in Coimbatore District, at an estimated cost of Rs. 60 lakhs, as a Medium Irrigation Scheme.

The scheme contemplates the following :—

(i) By carrying out the remodelling proposals, equitable supply of water would be ensured for the entire ayacut by re-grouping the ayacut under the sluices, reducing the number of sluices and providing regulating arrangements with shutters for all the sluices.

(ii) The channel's duty will be increased from 25.8 acres/cusec to 40 acres/cusec.

(*iii*) A savings of 130 cusecs of water to irrigate an additional extent of 5,200 acres can be effected.

(iv) The canal banks will be brought to standards and made motorable.

(v) The drainage will be improved by carrying out modifications to the existing structures and constructing additional structures wherever necessary.

(iv) The existing average cultivation of 13151.21 acres will be stabilised and the total ayacut under the channel will be increased to 17,766 acres ultimately including the unauthorised baling.

((vii) The anticipated additional food production is 10,224 tonnes, the cost per tonne being worked out at Rs. 585/-

MUNICIPALITIES IN TAMIL NADU—TERM OF OFFICE EXTENDED

The Government of Tamil Nadu has promulgated on the 4th June 1974 an Ordinance called "the Madras City Municipal Corporation and Tamil NaduD istrict Municipalities (Amendment and Extension of term of office) Third Amendment Ordinance 1974, extending the term of office of the councillors of Municipalities upto the first day of November 1974.

The Ordinance has been promulgated to achieve the following object viz. Section 40 of the Madras City Municipal Corporation and Tamil Nadu District Municipalities (Amendment and Extension of term of office) Act, 1971 (Tamil Nadu Act XXII of 1971) provided for the extension of term of office of councillors of Municipalities upto the 1st day of August 1974. It is proposed to print the ballot papers with counterfoils in the case of ordinary elections to municipalities also, as this procedure was adopted in the recent by elections to Coimbatore West Assembly Constituency and Coimbatore Parliamentary Constituency. The proposed adoption of the new system would entail extensive amendments to the conduct of Election of Municipal Councillors' Rules and also the setting up of additional polling stations, drafting of additional polling personnel, procurement of additional polling materials, posting of additional police bandobust, etc. It will also be necessary to allow sufficient time to the Government Press for printing of ballot papers with counter-foils. It will not be possible to complete the arrangements specified above, if the elections are to be conducted in July 1974.

It has therefore been decided to extend the present term of office of the Municipal Councillors of all the Municipalities in Tamil Nadu upto the first day of November 1974.

PENSION FOR 1937 ANTI-HINDI MARTYRS ALSO

The Government have now decided to entertain applications received from those who took part in the Anti-Hindi Agitations from 1937 onwards and courted imprisonment to that cause for 3 months and more instead of restricting the eligibility only to those who took part in the Anti-Hindi Agitations in "1965" for the grant of the above pension.

The Government have recently introduced, on the analogy of Freedom Fighter Pension Scheme, a Scheme for the grant of pension of Rs. 75 per month to those who were imprisoned in connection with the **Anti-Hindi Agitation in 1965** and in the Agitations held for the merger of Tamil speaking areas in Kanyakumari and Tiruttani with the then Madras State.

The Anna Pannai, the proud creation of Dr. Anna of our beloved memory, is living up to its name. It is recognised by the National Seed Corporation for raising foundation seed stock of bajra and sorghum. It is an inexhaustible supplier of all primary seeds to the State's Breeder Seed Multiplication Programme. It is an outstanding Agricultural research station now entrusted with research on Tropical Fruit Horticultural Dry Crops. Lastly it is blossoming into a first rate in-service training ground for all agricultural personnels of the State. The I.C.A.R. has entrusted it with several vital projects. With barely six years behind it, it has made history and has earned all-India renown in a vital field-a field vital to the survival of the nation.

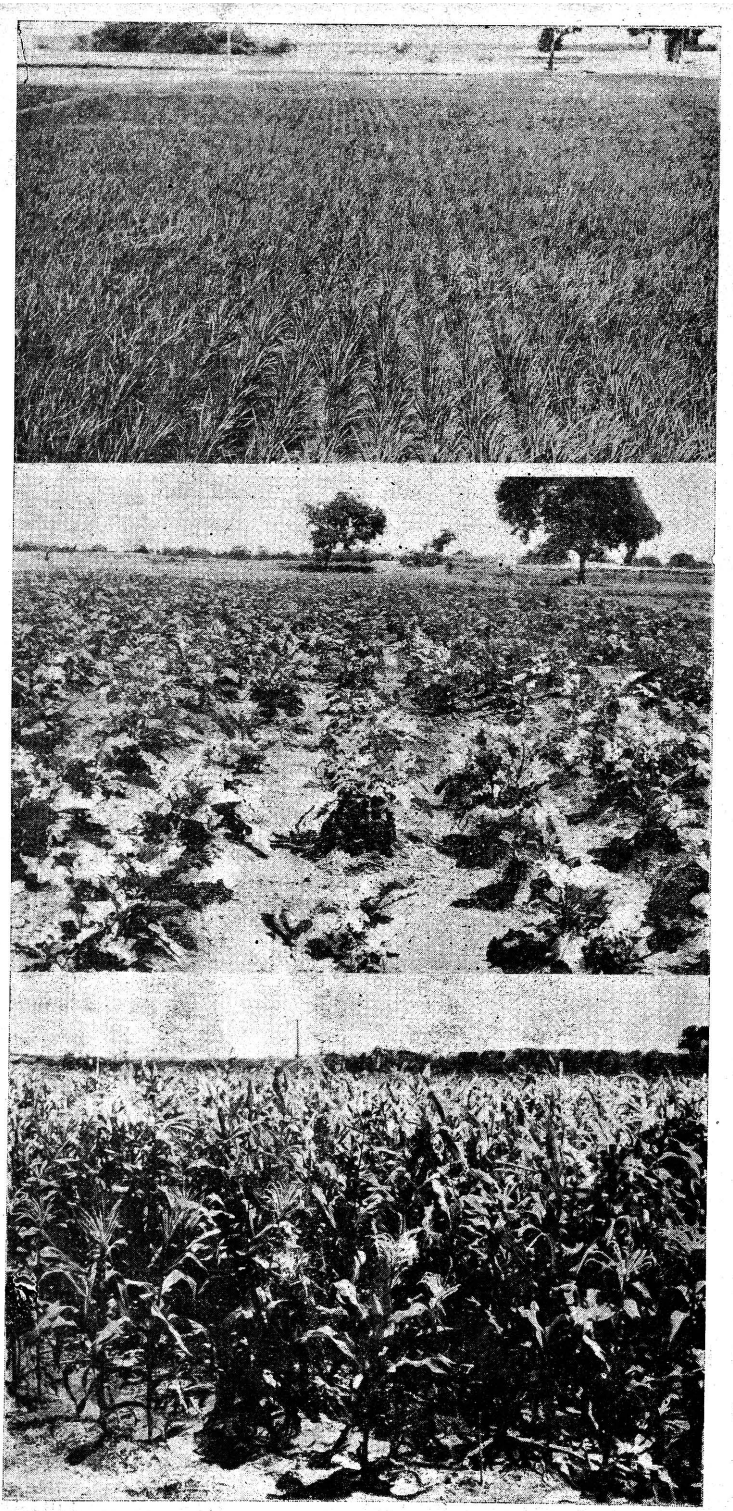
Now it produces as many as 65 hybrid seed varieties comprising pulses, cereals, vegetables, etc which are in high demand from all over India because of the high quality ensured in the production of hybrid seeds at the Anna Pannai. The National Seed Corporation has entrusted the Farm with the all-resposibility of producing the Foundation seeds for a large variety of crops. This is a signal honour to the Farm. In addition to this, since its inception, except in the first year, this Farm has never been in the red as far as its profit and loss accounts of each financial year is considered. As such it has set a fine example for such institutions both in Tamil Nadu and India. If genetic evolution of seed varieties has been resposible for the very large increase in the foodgrain production in India, the importance of seeds becomes crucial to the Food Front.

The phenomenal break-through in food production in Tamil Nadu is not a little due to these high-yielding varieties. Tamil Nadu now produces enough and more food than its actual needs, thereby wiping out once and for all the deep rooted chronic scar of deficit from its map of food production. For this creditable and shining success in this field by the State. the contribution of the Anna Pannai at Kudimiamalai and other Seed Farms in the State which number about 55 is not of little measure or magnitude. Some of the hybrid seeds that come out of this Farm for cultivation are Anjugam PS7, Greengram T9, Blackgram, Prebath Dhoordall, K1 Chillies etc.

The Anna Pannai at Kudumiamalai located in Kudumiamalai-Vaylogam Reserve Forest area on the trunk road from Pudukkottai to Kodaikanal and started on 6th September, 1967 with the blessings of the late Chief Minister Dr. Anna who evinced keen interest in the development of the farm and visited it twice during his tennure as Chief Minister, comprises an area of about 3,000 acres of Reserve Forest, of which as many as 1017.45 acres have already been cleared, reclaimed and brought under cultivation. The cost of reclamation works out to Rs. 258 per acre including soil conservation. A net area of 806 acres are available for cultivation and the balance of 211.45 acres comprise lands devoted to buildings, roads, wells and tanks and also gravelly lands unsuitable for cultivation purposes.

At present the farm has been divided into dry, garden and wetlands as follows and intensive cultivation has been taken up by introducing three crop sequences in most areas.

	in Acres
1. Wetlands ..	20.00
2. Drylands ..	486.45
3. Garden lands ..	160.00
4. Mango orchard ..	140.00
5. Un-cultivable waste, (Buildings, roads, well,s tanks etc.) ..	211.00
Total ..	1,017.45



The soils of the farm have been studied and classified into four ranging from categaries medium to low fertility level requiring adequate manuring, proper crop rotation and careful management. The pH of the soil varies from 5.6 to 7.5 with some patches showing 8.0 and above.

Irrigation.

The average rainfall in the area is about 36". One disused tank called "Pullupoorankulam" was found during the course of jungle clearance and this tank has been renovated with the help of "Prosperity Brigade" volunteers. A giant of a well in this tankbed is now being dug to increase its irrigation capacity. In addition, 33 open wells have so far been dug and energised. Three more wells are in various stages of progress. Besides, there is a proposal under the consideration of the State Government to get water from the nearby Vellaru.

There is a special 'Public Works Department Sub Division attending to all the civil works in the farm. The permanent assets of the farm consists of 33 Wells fitted with Electric Motor and pumpsets with other necessary accessories, 9 Tractors, 1 Lorry, 1 Jeep, 3 Godowns, 2 Implement sheds, 4 Threshing floors, 26 Power sprayers, threshers etc, 1 Seed Processing Unit with complete set of machineries with necessary attachments and 1 Maize cob sheller.

THE YEARWISE PROFIT AND LOSS ACCOUNT FROM THE INCEPTION OF THE FARM

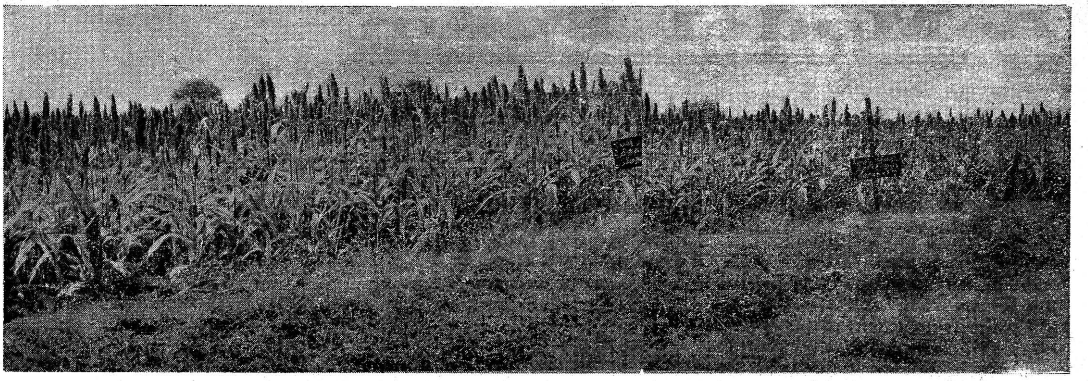
Year	Expenditure	Receipts
67—68	20,444	23,702
68—69	1,89,381	1,99,474
69—70	2,79,190	2,90,278
70—71	3,87,684	4,43,284
71—72	3,97,338	4,75,957
72—73	4,34,659	5,74,267

(Un-audited)

During the year 1974-75 the profit is expected to exceed Rs. 2 lakhs.

Photo Shows

Top : High yielding paddy varieties.
Middle : Vegetable variety.
Bottom: Short duration Hybrid Maize



Short duration hybrid C.S.H. 1 variety cultivated extensively for seed production at Anna Pannai.

Staff

The farm is managed by a District Agricultural Officer (Farm Management) with an Administrative Officer, a Farm Manager and other requisite staff. And on average the Farm is providing employment opportunities to as many as 225 persons. In the ensuing years, the employment opportunity is expected to double.

Current Activities of the farm

The main activity of the farm is to produce hybrid millet seeds, high yielding varieties of Paddy and Millets and the seeds produced in the farm is being distributed to various Panchayat Unions and other local bodies. Introduction and multiplication of new high yielding varieties like Tiruveni, Kannagi, IR. 20, Bhavani, Palman and culture 1251 have also been taken up. New cultures are also being tried to find out their adaptability to this locality.

Foundation seed production and search for new lines

The production of foundation seeds of Bajra and Sorghum which involves high technical skill, has been taken up in this farm. This is an unique activity of this farm and nowhere in Tamil Nadu is the production of foundation seeds undertaken by the Department. The foundation seeds for the production of certified Hybrid Bajra and Sorghum seeds are being distributed to the State Seed Farms and Private Seed producers in Tamil Nadu. Besides taking up the production of foundation seeds, various new varieties of parental lines to replace the existing ones in Bajra are also being tried at present to fix up suitable parent lines. 253 varieties of Bajra from Indian Agricultural Research Institute, New Delhi, has also been brought and are under observation trials. The foundation seeds produced in the farm have also been sent to Indian Agricultural Research Institute, New Delhi for further observation and multiplication. Several co-ordinate trials with Sorghum, Bajra etc. have been taken up to fix up a suitable variety for high yields with desirable characters.

Pulse Production

Another important item of work undertaken in this farm is the introduction and multiplication of newer varieties of pulses to boost the production of pulses in Tamil Nadu. Short duration varieties like Anjugam, PS. 7, IARI greengram, Prabhat Redgram, T9 Blackgram and Pusa Dofasli and Pusa Barsathi cowpea are being multiplied on a large scale to cope up with the demand from all over Tamil Nadu. Introduction of these short duration varieties on a large scale will definitely go a long way in increasing the production of pulses and vegetables in our State.

Vegetables

Production of good quality seeds of vegetables like Bhendi, Brinjal, Tomato, Cluster beans, french beans, etc. have also been taken up on a large scale, besides cultivating all hilly vegetables like Cabbage, Beet root, Carrot, Capsicum, Peas, Cauliflower etc., for marketing at competitive price to the public in and around Pudukkottai.

Zonal Nucleus Farm

Breeder's seed multiplication in an extent of about 200 acres has also been taken up in this farm for the production of high quality seeds of Groundnut, Castor, Gingelly and Sunfllower. Two Deputy Agricultural Officers guided by a Assistant Crop Specialist (Oil seeds) are in charge of this work. The main object of running this (B.S.M.) farm is to produce nucleus seeds for further multiplication of primary and secondary seeds in private holdings throughout the State by the extension wing of the Department. New varieties like TMV, 9, TMV. 10 Groundnut etc. are being multiplied at present in the Zonal Farm.

Agricultural School

An Agricultural School to train young farmers on the new technique of crop production is attached to the farm. Twenty students are provided training for one year in this School. One Deputy Agricultural Officer (Instructor) is incharge of the training school. The students are given practical training on the new techniques adopted in the farm. The training is merely skill-oriented.

In the near future, two different types of research institutions-the Tropical Fruit Research Station and the Horticulture Dry Farm Research Station—are to be set up in the Farm in addition to the Dr. Kalaignar Karunanidhi Agricultural Research Institute which has already come into being just opposite the Anna Farm. Further the Indian Agricultural Research Institute has selected this Farm for its testing purpose. The Farm, on its own intiative, is seriously engaged in the development of a new culture of cumbu from out of as many as 4,500 varieties of hybrid cumbu seeds obtained from all over the world.

—R. N.

A Model Farm

At Chengam

The Farm is located in an area of 10,500 acres of forest land including Anandavadi and Melchengam forests. The site is about 2.4 to 3 miles from Chengan on either side of the Chengam to Krishnagiri road. The land is leased by the State Government to the State Farms Corporation of India for a period of 30 years at one rupee per acre per year.

The Farm was inaugurated on 2—10—1971. Three Honourable Ministers of the State Government, Thiru P. U. Shanmugam, Thiru Anbil Dharmalingam and Thiru K. Rajaram participated in the function. Thiru M. R. Krishna, Chairman and the Managing Director of the Corporation, was also present on the occasion. The Director took over charge in November, 1971 and the work of clearance started in January/February 1972 after the receipt of required machinery and implements.

During 1972—73 about 1,500 acres were cleared and sown with crops like Hybrid CSH—3 Cholam, Sunflower, Ragi, Horsegram, Groundnut, etc. The year 1972—73 can be said to be a bad year for the Farm. From June to September there was severe drought and no sowing could be done though normally June/July is the sowing season. Rains started on September 7th 1972 when sowing of crops like CSH-3 Cholam, Sunflower, Ragi and Horsegram were taken up which were not usually grown in this year. General Agronomical studies indicated that the above crops can be sown late in the Kharif season. The crops came up well but unfortunately damaged heavily in the first week of December 1972 due to unprecedented rains. The farm has incurred a marginal loss of Rs. 1,700/- during 1972—73 which itself is creditable when the project report envisaged loss for the first 3 years.

During this year 1972—73 four temporary sheds were being constructed to store the inputs and the produce. 15 oil engines were purchased to serve for irrigation and digging of wells and necessary implements such as tractors etc., were also procured for operation.

There are 2 Bulldozers of 100 H.P. each in the Farm for cleaning of jungle. From State Government 3 Bulldozers were taken on hire to speed up the clearing operation. Over and above we are having a fleet of 18 tractors with different H.P. with matching implements to carry out reclamation work and cultivation operation such as ploughing, harrowing inter-cultivation, spraying and seed drilling by machineries. Workshop machineries are under process of procurement and it will be established so as to make the Farm self-contained unit in regard to repair and maintenance of machineries.

During the year 1972—73 building construction at an estimated cost of Rs. 10 lakhs was sanctioned and iron materials valued over one lakh of rupees were also purchased for the buildings. Due to shortage of cement the building work has not been taken up and it will be taken up early. The soil conservation works like contour bunds is also under execution. The soil survery of about 2,000 acres has been completed.

During 1973—74 it was programmed to cover 3,500 acres under Kharif and 1100 acres under Rabi 1974. But due to insufficient rain only 3,350 acres were brought under Kharif and another 450 acres were brought under Rabi 1974. Further due to power cut the area under irrigation was restricted.

Besides producing quality seeds, this Farm is giving employment to nearly about 1,000 labourers daily in different categories of work with the result the standard of living in the surrounding villages has been improved.

A large number of farmers from different Panchayat Unions have visited Farm.

Well Work : It is programmed to sink about 150 wells of standard dimension 68′×38′ and depth ranging from 30 feet to 45 feet depending upon the topography of the land for irrigation purposes. So far 33 wells have been completed. Work in another 21 wells is in progress. One bore well of size 6′′ dia. to a depth of 146 feet has been drilled and tested to ascertain the possibility to have more bore wells. But the discharge from the bore is very poor and hence no bore well will be sunk.

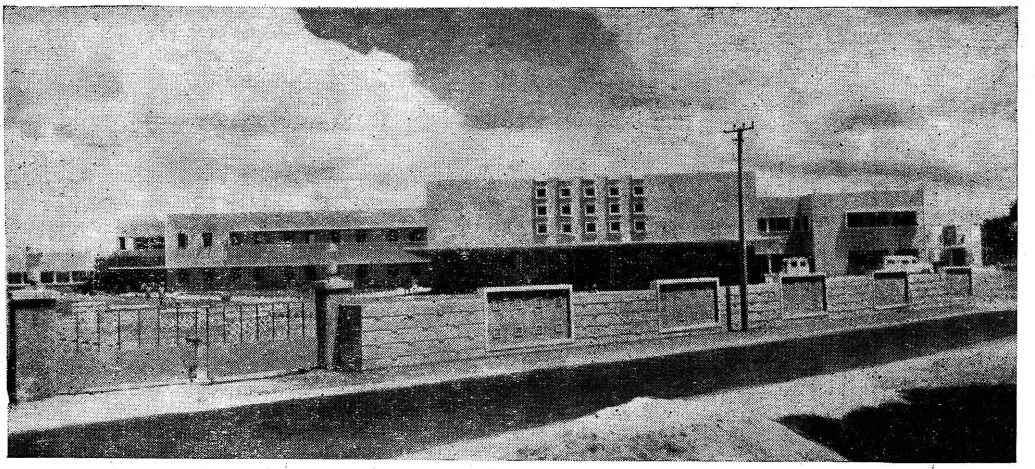
Cement Concrete Pipe Line : Most of the wells are at low levels but the areas to be irrigated are on high level. Therefore, water is carried through cement concrete pipes. So far about 14,000 feet length of pipe lines have been laid.

Soil Conservation Work : Contour Bunds have been formed after taking levels and about 500 acres have been completed to conserve the soil. Further work is in progress in about 1,000 acres.

Diesel Supply : Diesel tank with a capacity of 15,000 litres has been installed and commissioned recently to have our own supply. During 1974—75 it is proposed to clear the complete Anandavadi forest of over 8,000 acres and about 6,000 to 7,000 acres are likely to be available for cultivation which will be sown.

During 1974—75 another 40 wells are also programmed to be sunk and every year at least 1,000 to 2,000 acres will be brought under soil conservation measures.

We are thankful to the various Departments like Agriculture, Electricity Board, Town Planning, Ground Water Board, Forest Department etc., of Tamil Nadu Government for having helped in the development of the Farm in their own sphere of work.



The Employees State Insurance Scheme

WORKING IN TAMIL NADU

The Employees' State Insurance Scheme has made rapid progress covering 39 Major Industrial Centres in this State, having concentration of 1,000 or more employees. There are at present three Employees' State Insurance Hospitals, 94 State dispensaries, 8 Mobile dispensaries, 3 part time clinics and 3 Employers' Utilisation dispensaries covering 15,65,600 beneficiaries consisting of 4,03,500 family units in this State. The insured persons and their family members in Madras City and suburbs, Coimbatore Town and suburbs, Madurai City and suburbs, and Koilpatti are provided with full medical care, including hospitalisation. In all the rest of the implemented areas, the insured persons are provided with full medical care while their family members are provided with expanded medical care short of hospitalisation.

The Employees' State Insurance Corporation originally fixed a ceiling on expenditure on medical care under the Scheme from 1st April, 1970 at Rs. 50 per employee per annum. Any expenditure over the ceiling will have to be met entirely by the State Government. After repeated representations made by this Government to the Government of India, the Corporation raised the rates of ceiling thrice. With effect from 1st April, 1973 the rates of the ceiling on medical expenditure are as follows :—

Restricted Medical Care :—Rs. 63 per employee per annum.

Expanded Medical Care:—Rs. 67 per employee per annum.

Full Medical Care :—Rs. 80 per employee per annum.

Any expenditure on medicine, drugs and dressings incurred by the State Government over Rs. 30 per employee per annum but below Rs. 45 will be shared in the usual ratio by the Corporation outside the ceiling. The extra expenditure of Rs. 111.00 lakhs over and above the ceiling borne by this Government in the year 1972-73 is consequently anticipated to be reduced to Rs. 80 lakhs in 1973-74. While commenting on the Report of the Committee on Perspective Planning of Employees' State Insurance Corporation, this Government have expressed the view that the ceiling should be removed and that if at all the ceiling is to remain, it should be fixed at Rs. 103 per family unit at the current price level and that this limit should be reviewed every year with the rising price level.

The Employees' State Insurance Scheme will be extended to the following six new areas during 1974-75.

(*i*) Madras Subrubs (Adyar and Nandambakkam),

(*ii*) Melur in Madurai District.

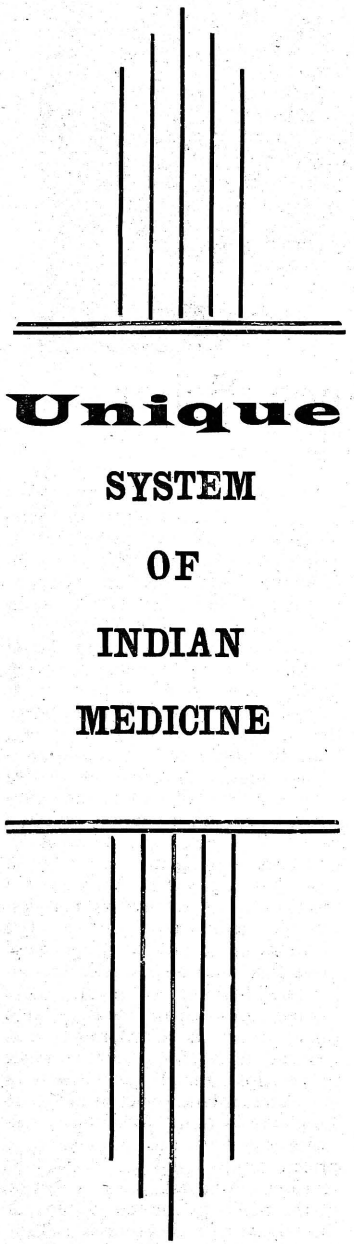
(*iii*) Karur in Tiruchirappalli District,

(*iv*) Athur in Salem District,

(*v*) Ambur in North Arcot District and

(*iv*) Karamadai in Coimbatore District.

The General Purposes Sub-Committee on the working of the Employee's State Insurance Scheme in Tamil Nadu constituted by the Employees' State Insurance Corporation has submitted its report on the working of the Employees' State Insurance Scheme in Tamil Nadu. The Committee among other things has remarked that there is an urgent need to improve the facilities provided in Employees, State Insurance dispensaries in rented buildings and look for alternative arrangements and that in few cases where alternative accommodation cannot be found construction of buildings may have to be allowed even though the State has exceeded the per capital expenditure permissble for capital construction. The position in regard to Employees' State Insurance dispensaries located in rented buildings all over the State has been reviewed and the Employees State Insurance Corporation has been addressed for its concurrence in principle, for the acquisition of two acres of land for each of the 46 Employees' State Insurance dispensaries now accommodated in private rented buildings. For the revision of the estimates in respect of the buildings for the Employees' State Insurance dispensaries at Tambaram, Thallakulam, Usilampatti and Perambur III for which lands have already been acquired and the construction of buildings had to be deferred due to stringent financial position of the Employees' State Insurance Scheme.



Unique SYSTEM OF INDIAN MEDICINE

Special interest in reviving the Indian Systems of Medicine is evinced by the Government of Tamil Nadu. At present, 370 Siddha, 102 Ayurveda and 15 Unani Dispensaries are functioning in the State. Homoeopathy will get an impetus when the two private Homoeopathy Medical Colleges at Kumbakonam and at Madurai get started. The Government is also earnest about starting a Government Homoeopathic Medical College with an attached hospital at Madras for which the 1974—75 Budget provides a sum of Rs. 3 lakhs.

Siddha wings with 10 beds are now functioning in all the District Headquarters Hospitals. During the year 1973—74 Siddha wings were started in ten Taluk Hospitals, and over the next five years 100 such Taluk level Siddha dispensaries will come up.

In addition to the two existing Annexe Siddha dispensaries of Arignar Anna Government Hospital of Indian Medicine, a third one was started on 1st February, 1974 at Saidapet.

M.D. IN SIDDHA

The demand for admission to the College of Indian System of Medicine is on the increase year after year and so far 151 B.I.M. Degree holders have come out of our Colleges of Indian Medicine. With a view to provide employment opportunities to the B.I.M. Degree holders, the 100 Siddha wings in the Taluk and Non-Taluk Headquarters Hospitals spread over the next five years will come in handy. There is so much of specialisation in this system that the State offers a 3 year course of study for M.D. (Siddha).

The second batch of M. D. (Siddha) course commenced from April 1974 ; 10 students for Siddha Maruthuvam and 10 students for Siddha Gunapadam being admitted. During the course the students will be given a stipend of Rs. 200 per mensem each.

The existing 100-bedded hospital attached to the Government College of Indian System of Medicine, Palayamcottai (Tirunelveli District) is inadequate to meet the ratio stipulated for giving clinical training to the students. Moreover, beds are to be allotted for Post Graduate students for research study. So, the Government have decided to increase the bed strength from 100 to 200. To cater to the increasing need arising out of the increase in bed strength and research work, the Government have also decided to mechanise the Pharmacy attached to the Government College of Indian System of Medicine, Palayamcottai.

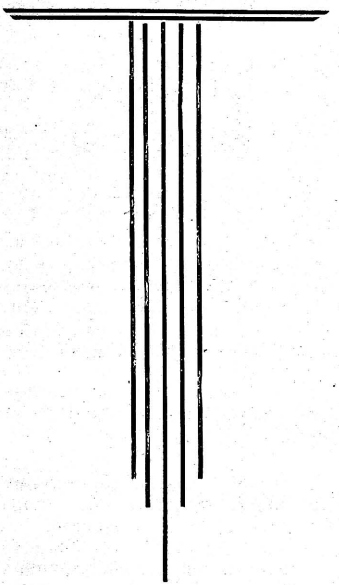
SIDDHA PHARMACISTS

The Government have recently converted the existing one year Siddha Pharmacist course into 2 years diploma course, which will be started in April 1974. The salient feature is that we are going to give this training for Unani and Ayurveda also at Madras. This apart, the Pharmacist course of training for Siddha, which was hitherto imparted at Palayamcottai only, will henceforth be conduct at Madras also. This would facilitate students in and around the city to take up this course. The stipend amount has been enhanced from Rs. 20 to Rs. 30 per month.

To augment the source of supply of rare medical herbs, and to have them at short notice, the Government have decided to bring under cultivation, the medicinal farm opposite to Arignar Anna Government Hospital of Indian Medicine, Madras at a cost of Rs. 2.33 lakhs. The Government have also taken about 5 hectares of land from the Forest Department for the establishment of a Medicinal Farm in Veerapaul Reserved Forest in Alagiapandiyapuram in Kanyakumari District.

The Siddha Science Development Committee has collected so far nearly 400 rare books and 23 written manuscripts from various Siddha Physicians. Some of the philanthropic physicians of Indian Systems of Medicine had come forward to print certain books and give 500 copies free of charge to the Government. Similarly, the late Thiru G.D. Naidu has also promised to print some missing pages of Thiru T.V. Sambasivam Pillai's Tamil Encyclopaedia free of cost. The work is under progress. The later part of this big encyclopaedia was obtained in handwritten pages. The Government have arranged to rewrite and correct the passages by an expert Siddha Scholar in order to complete the work and bring it in printed form.

DEVELOPMENT OF VETERINARY EDUCATION AND RESEARCH IN TAMIL NADU



The Department of Veterinary Education and Research was created on 6th August, 1969. It comprises the following units :—

1. Madras Veterinary College, Madras,

2. Poultry Research Station, Teynampet,

3. Livestock Research Station, Kattupakkam and

4. Sheep Breeding Research Station, Sandynallah.

Madras Veterinary College :— The College offers courses leading to B.V.Sc., and M.V.Sc., Every year 136 students are being admitted for B.V.Sc., and 48 students for M.V.S.c., courses. During the year 1972—73, as many as 598 students were benefited by the liberal grant of scholarship from the Government of India and the Government of Tamil Nadu and of loans under the Tamil Nadu Educational Loan Rules.

There are 25 specialists in Madras Veterinary College. The College has got a fully equipped Veterinary hospital and over 1,00,000 animals are being treated every year in the Hospital. There is a Board of Honorary visitors for the Madras Veterinary College which make valuable suggestions for the improvements of the College. The College has got a good library with 12,000 books and 6,500 book volumes and journals. The College has got its hostel which can accommodate 500 students. Separate Post Graduate hostel is being constructed at a cost of Rs. 8.65 lakhs to accommodate 100 students.

RESEARCH ACTIVITIES

Various Research Schemes are in progress in this Department. Six are cent-per-cent financed by Indian Council of Agricultural Research and five are 50 per cent financed by Indian Council of Agricultural Research, 16 financed by the State and 14 implemented by the Department. It is proposed to implement 5 more Indian Council of Agricultural Research Schemes shortly. There is a State Research Council for Veterinary Science functioning at the College to process various research schemes and scrutinise the progress reports. The Council also publishes a Research Journal called 'Cheiron.'

POULTRY RESEARCH STATION- TEYNAMPET

With the 'Meyer' strain of poultry evolved by the Madras Veterinary College, the strain development work is proposed to be concentrated to enhance the efficiency of this new strain. This work will be shifted to the Livestock Research Station, Kattupakkam this year. During the year 1972-73 this Station has produced about 2.98 lakhs of eggs and about 2.48 lakhs of eggs upto 31st December 1973. The All India Co-ordinated Research Project of Poultry for meat is functioning in this Station.

LIVESTOCK RESEARCH STATION- KATTUPAKKAM

Research on the breeding of Madras Red and Mandia breeds are being undertaken in this Farm to evolve improved strains of mutton breed of sheep. Research work on Swine breeding is also undertaken in this Farm with the ultimate object of development of this Farm into an 100 Sows Farm for the production of superior boar stock for distribution to the pig breeders.

SHEEP BREEDING RESEARCH STATION- SANDYNALLAH

Being the only Research Station for fine wool production in the southern part of India, research work is being undertaken for evolving a good cross of native sheep with Russian sheep. New blood is made available by the import of Merino for this purpose. Wool analysis laboratory and Clinical Laboratory are proposed to be established with adequate equipment at a cost of Rs. 2.50 lakhs. The All India Co-ordinated Research Project on Sheep for fine wool is proposed to be implemented during this year.

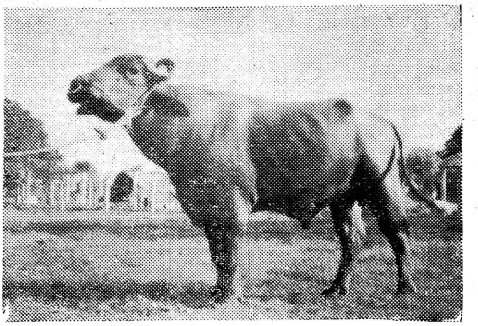
The Indian Council of Agricultural Research Scheme for studies on carcass characteristics on Mecheri and Mandia lambs is functioning at Kolathur. This scheme is proposed to be extended for a further period of one year and 9 months.

ASSISTANCE FROM I.C.A.R.

The Indian Council of Agricultural Research is extending financial assistance to this Department for various research activities by way of *ad hoc* grants and scheme grants from the year 1969—70, an amount of Rs. 40.21 lakhs has been sanctioned by the Indian Council of Agricultural Research. During the fifth Plan period, the assistance which is likely to be provided by the Indian Council of Agricultural Research will be about Rs. 46.89 lakhs.

A sum of Rs. 535.24 lakhs has been provided for the Fifth Plan period to the Department of Veterinary Education and Research out of which a provision has been made for Rs. 41.21 lakhs in the Annual Plan for the 1974—75.

Care and Management of Buffaloes



Buffaloes play a prominent role in contributing milk flow to the dairy industry. For this reason, the buffalo is considered as the backbone of the dairy industry. The country possesses a large population of buffaloes (53.5 million) *i.e.*, half of the total world's population, responsible for nearly 60% of the total milk supply. The average annual milk production of a buffalo is 491 Kg.

Even so, the gap between the requirement and availability of milk and milk products in India is very wide. Against a minimum of 285 gms. of milk per head per day recommended by the Nutrition Experts for a balanced diet, the average daily per capita availability is only 135 gms. It has been estimated that in India 94.3% of present day milchy cows yield less than 1 Kg. of milk daily and only 0.4% yield over 2 Kg. per day. In contrast to this, only 19.2% of buffaloes yield less than 1 Kg. and 18.8% yield over 2 Kg. of milk per day. The improvement in buffaloes offer therefore a remarkable scope for appreciable increase in milk availability in India.

Low productivity of our cattle and buffaloes is due to poor genetic factors, coupled with unscientific breeding as well as lack of awareness of optimum utility management techniques. Inadequacy of feedy, fodder and health cover are the additional liabilities of the industry. Several attempts have been made to improve milk production of indigenous cattle by crossing with high yielding animals. In Tamil Nadu, the local non-descript buffaloes and poor milking stocks are being upgraded with the pedigreed Murrah Bulls, the well known breed possessing high milk potential in order to increase the milk yield. Murrah breed is also acclimatised to various conditions of seasons and places.

The Tamil Nadu Government maintain buffalo breeding bulls of Murrah Breed in the District Livestock Farms and Veterinary institutions for the benefit of the public in various places to upgrade their buffaloes. Young bulls and heifers are sold to ryots in the districts. High quality Murrah bufflo bulls are kept at Artificial Insemination Centres and their semen is transported to sub-centres for insemination of local buffaloes. There are also Murrah Bulls available for Natural Service in some of the centres.

The popularity of buffaloes is reflected in the census statistics. It is seen that the number of buafflo has risen by 19.2% within a period of 15 years (1951—1966) in Tamil Nadu.

With the setting up of Dairy Development Corporation in the State, the dairy industry would receive expert guidance and full scope for development leading to substantial increase in milk production.

Breeding Defects being set Right

In the Intensive Cattle Development Projects areas the sterility and infertility problems of buffaloes are studied and various breeding defects of buffaloes are being set right.

The Intensive Cattle Development Project envisages controlled breeding, improved feeding, disease control and sexual health control, better management and production incentives through rural dairy extension services for breedable cows and buffaloes.

The Government of India is also setting up a buffalo breeding farm to improve the ability of proven bulls in Tamil Nadu for the Murrah breed. It is also proposed to purchase more Murrah Bulls for the various centres of Government units.

The original home of buffaloes is the valley of the Ganges and Brahmaputra (according to Blanford) and it is distributed in a wide range in India, Pakistan, Burma, China, Thailand, Phillipines, Malaya, and Egypt. In natural history, Macgrecor described two **ecological types** of domestic buffaloes (viz) the swamp and river buffalo.

As this nomenclature conveys, the buffalo is a semi-aquatic animal, contrary to general opinion, it is not heat resistant. Buffaloes are more susceptible to climatic extremes and need special attention. In fact if exposed to strong sun light it shows **red distress**. In order to maintain milk production or work output the buffalows need to have liberal access to water.

India is a country where the milking buffalo is seen to greatest advantage. Milk yields vary enormously under village conditions as little as 2,000 Kg. of milk but sometimes upto 4,000 Kg. in a lactation period. According to a recent survey of Indian Council of Agricultural Research, buffaloes gave on an average 7.82 pounds of milk per day, which was higher than the 3.74 pounds produced by the cows under the same conditions.

Buffalo milk contains twice as much butter fat as the best cows milk under average conditions of management. It also contains more of protein and **lactose** than cow's milk. The richness of buafflo milk with its high fat content ranging from 7 to 10 percent comes in handy for milk producers to dilute it and obtain by-products like ghee, butter etc. The average of different characters have not been worked out in respect of all breeds except Murrah. However, observations indicate that Murrah is the popular choice and widely distributed all over the country.

Figures in respect of Murrah Buffaloes

1.	Average age at first calving	49.03 months
2.	Average amount of milk production	1400 to 1800 Kg. in 300 days.
3.	Average first calving interval ..	.. 490 days
4.	Breeding efficiency ..	.. 72.71%
5.	Length of lactation ..	.. 231 days
6.	Dry period ..	.. 199 days
7.	Calving interval ..	.. 430 days
8.	Individual yield ..	.. 22 Kg/day

Diseases that affect Buffalo / their prevention.

1.	**Anthrax** ..	Preseasonal immunization
2.	**Black quarter** ..	Preseasonal immunization
3.	**Brucellosis** ..	Calf Hood Vaccination Proper sanitation & Management
4.	**Haemorrhagic septicaemia** ..	Preseasonal Vaccination
5.	**Johnes' Disease** ..	Annual Test with Johnin
6.	**Mastitis** ..	Clean milk production
7.	**Tuberculosis** ..	Immunization of animals at young age. Annual Test—(Tuberculin)
8.	**Foot / Mouth Disease** ..	Caccination O Isolation
9.	**Rinderpest** ..	Vaccination
10.	**Tympanitis** ..	Change of feed
11.	**Bronchitis** ..	Good Ventilation, Avoid faulty drenching
12.	**Mange / Nits infestation.**	Grooming & Cleaning
13.	**Diarrohoea** ..	Avoid over and indiscriminate feeding
14.	**Pneumonia** ..	Avoid exposure to cold and moisture
15.	**Milk fever** ..	Consult Veterinarian
16.	**Retention of placenta** ..	-do-
17.	**Prolapse of Vagina, uterus.**	-do-
18.	**Choking** ..	-do-
19.	**Impaction** ..	Avoid overfeeding
20.	**Worm infestation** ..	Deworming

Care and Management

Health factors should be considered in the selection of dairy animals besides their pedigree history. It is best to bring into the herd only animals free from *Mastitis*, Brucellosis, tuberculosis, under difficulties and sterility etc. Exposure of animals to either side cold or extreme heat causes great economic losses in lowered milk yield, disease and death etc. Direct exposure to sun rays and extreme cold should be avoided since the body heat regulating mechanism of a buffalo is not well developed and has only few sweat glands, wallowing tanks arrangement or arrangement for spraying water in summer is necessary since there is a natural inclination for buffaloes to find out a suitable wallow during summer where they can totally be submerged.

The calf should receive colustrum soon after its birth which is not only nutritious, but it contains antibodies that help the calf resist certain infectious diseases encountered during the first few days of life. During second week of calf's life, it should receive whole milk fed at a rate of 7.8% of its body weight. Later upto 6 months of age, a limited amount of milk is supplemented with a partial milk replacer. This period carries the calf past the period of greatest mortality largely from infectious diseases, insanitary conditions and improper nutrition are important factors in reducing the young calf's resistance to disease. From 6 months to one year, calves usually receive pasture, concentrates and hay. At one year of age, the animal require sufficient feed for normal growth. The Heifer is bred when it attains 2 to 2.5 years of age or more.

Calf scours, respiratory diseases of calves, Naval ill, joint ill and digestive disorders are a few diseases and disorders to be guarded against in calves.

Optimum age for reproduction

The level of feeding has a great influence upon sexual maturity of calves. Age and body weight are the most important factors. *Heifers which have been underfed should not be bred until* they have reached proper size 450-500 lbs. live body weight. Buffaloes reach maturity at later age than the cow, usually the breeding age of buffalo is 3 years.

Detection of Heat

The She-Buffalo is a *polyoestrous* animal and she comes to heat throughout the whole season regularly at 21 days interval.

Duration of oestrous cycle is longer in buffaloes than the cows. The *swamp buffaloes* desire seems to cease with day light and mating usually occur only at night time. Most of the buffaloes are having silent heat so that many heats may be missed unless greatest care is taken in detection.

The length of oestrous cycle is about 3 weeks. The heat detection programme should be conducted both the times with the hold of teaser and the heifer is inseminated only when in mid heat after confirmation with rectal examination by a Veterinarian.

Pregnancy Diagnosis

Animals which have been bred and have not returned to heat for 40-60 days should be checked for pregnancy.

A regular programme of preventive medicine for reproductive disorders in conjunction with pregnancy diagnosis should be worked out with a Veterinarian. They respond best to treatment when it is started early.

Care of Pregnant animals

The Pregnant animals should be fed with 0.75 Kg. of concentrate in addition to their normal maintenance ration. Care should be taken to prevent injuries from fighting narrow doors, falls or other situations which may result in abortion. At the stage of 7-8 months pregnancy the animal should be kept separate from the non-pregnant stock.

Care at calving time

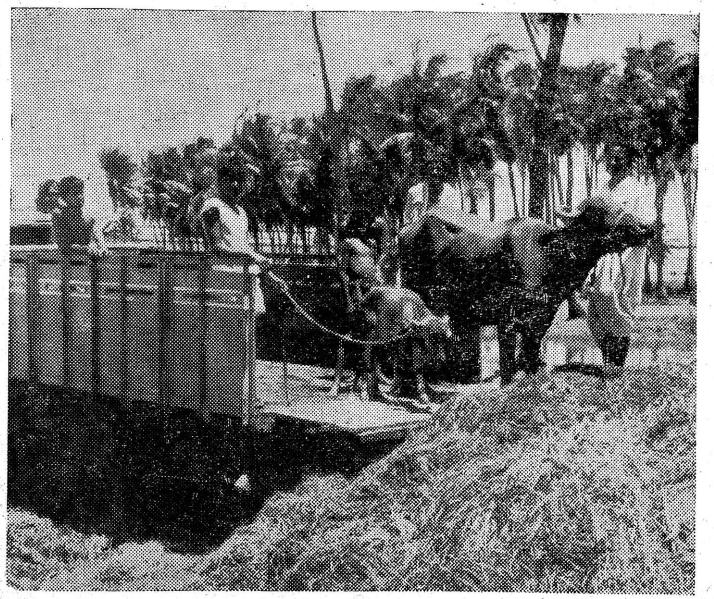
This is important in assuring continued fertility of a cow. Clean sanitary conditions are ideal for the parturition. Birth usually takes place in one or two hours. In case of delay and in abnormal posture Veterinary aid should be resorted to. Normally the placental membrane will be expelled a few hours after birth. If they are not expelled in 12 to 15 hours it should be removed manually by a Veterinarian. Normally, animal that have calved should be bred again at the first heat occuring 60 days after parturition.

Milking Management

Two milkings, one in the morning and the other in the evening is enough. The milking should be done in hygienic way. Regular milking hours, washing the milk animals, hind quarters and udder before milking should be done. The milk must be done quickly, gently and completely by using full hand method followed by strippings.

The sheds should be clean, well ventilated and well lighted. Dusty food stuffs should never be given to the animals for atleast one hour before milking take place. The milk should be removed from the cattle shed immediately after milking.

"Prevention is better than cure". Strict hygienic management is a good preventive measure. The livestock owners are advised to get help from the Veterinary Officers for the improvement of their livestocks, or in the case of an emergency or in the event of an outbreak of an epidemic.



LIVESTOCK TRAINING FOR FARMERS

The Government have started a Farmers' Training Scheme at the District Livestock Farm, Hosur. The farmers are given training in scientific management and breeding of poultry and livestock for a period of 3 months. So far, 184 persons have been trained in 4 batches. The trainees are given a monthly stipend of Rs. 65 each.

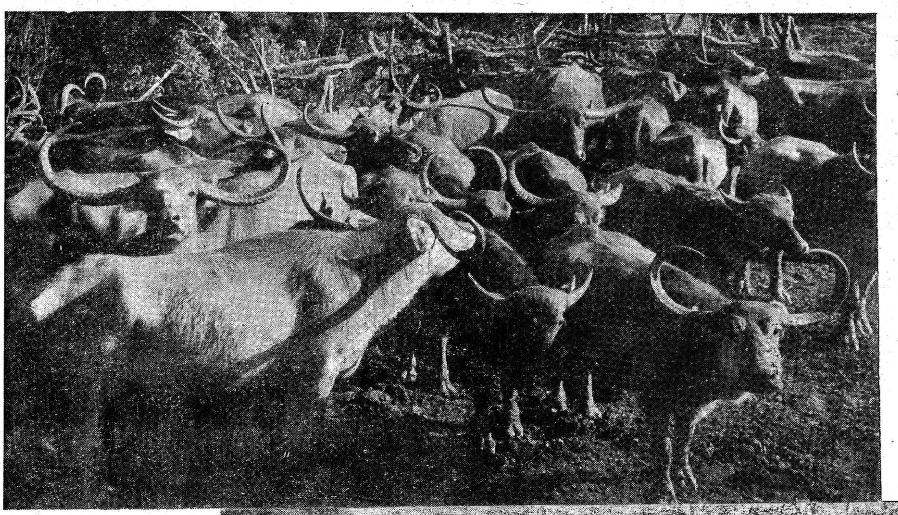
CENTRE'S LIVESTOCK FARMS

The Indian Council of Agricultural Research is running a Sheep and Wool Research Station at Mannavanur in Kodaikanal taluk in Madurai district in this State.

A Sheep Research Station at Pachapalamalai in Salem district is coming up for which proposals have already been sent to Government of India.

A Central Cattle Breeding Farm at Alamadhi (Chingleput district) is run for the purpose of breeding and distribution of good Murrah buffaloes.

A large sized Central Jersey Farm will come up at Eachenkottai in Thanjavur district for which necessary proposals have already been sent to the Government of India.



A Herd of Buffaloes in Nilgiris

The buffalo is sacred to Todas

churning for butter

Photos by Thangavelu, Pub. (I. & P.R.) Dept., Coimbatore.

EXPANSION OF KAPPALUR POULTRY FARMING

The Tamil Nadu Poultry Development Corporation which has taken over the Poultry activities from the Animal Husbandry Department has taken up the following expansion programmes at the Poultry Extension Centre, Kappalur.

The original capacity of the Hatchery was to produce 60,000 chicks per year (5,000 chicks per month). This is now being expanded to produce about 2.4 lakhs chicks annually (20,000 chicks per month). The work has already been taken up and from the original production of 5,000 chicks per month, about 12,000 chicks per month is now achieved and the target of 20,000 per month will be reached in the course of this year.

ERECTION OF FEED MIXING UNIT.

In order to meet the requirements of the Poultry feed, not only to the units of the Corporation, but also to meet the requirements of feed for Poultry farmers in the area particularly the small farmers, a scheme for establishment of Feed Mixing Unit to produce about 500 tonnes feed per month has been sanctioned under aid from the Small Farmers Development agency at an estimated cost of Rs. 2 lakhs by way of Capital expenditure. A new feed mixing unit at Madras with a capacity to produce about 1,000 tonnes per month is just being completed and as certain new type of machineries are used at this unit, The Feed Mixing Unit at Kapplur is awaiting Technical Clearance to watch the working of the new unit at Madras for some time so that such new machineries can be used at Kappalur also.

In order to meet the increased demand for hatching eggs and also to introduce new strains of birds, it is proposed to increase the present strength of layers of about 2,000 layers to 5,000 layers and this is also under progress. This will also be achieved this year by putting up necessary additional accommodation, etc.

MARKETING ACTIVITIES

It is proposed to increase marketing activities at Madurai by expanding the facilities for storage of eggs at Kappalur. It is also proposed to prepare "dressed chicken" so that "frozen chicken" may be sold at Madurai. These marketing facilities will help the small farmers by providing ready outlet for the eggs produced by them and also for their culled birds and at the same time ensure steady supply of eggs and Poultry meat to the citizens of Madurai at reasonable cost throughout the year.

To facilitate the above activities the supply of water is being improved. The electricity position is also being improved by providing a stand-by generator in order to avoid interruption in the continuous process of "Chick hatching", as lack of electricity even for two hours continuously will affect the production of chicks as thousands of eggs will be "under-hatch" at a time.

DEVELOPMENTAL PROJECTS TAKEN FOR SILVER JUBILEE VILLAGE

The details of works taken up for execution in the Theethampettai village, selected as Vellivizha Seerur in the Manamadurai Panchayat Union of Ramanathapuram districts are as follows :—

Name of the work	*Expenditure*
1	2
	Rs.
1. Construction of a school building ..	10,000
2. Deepening of a drinking water Oorani ..	1,500
3. Construction of a community well ..	8,500
4. Formation of a link road from Theethampettai to Kombukaranendal ..	3,000
5. Construction of a drinking water well ..	3,000
6. Deepening of the supply channel to Theethampettai tank ..	3,000
7. Repairs to the tank ..	2,500
8. Construction of 7 houses for Harijans under Harijan Welfare Scheme ..	13,150
9. Construction of 23 houses for harijans under Centrally Sponsored Scheme in the Vellivizha Seerur (Jayanthi village)	
10. Construction of an overhead tank	

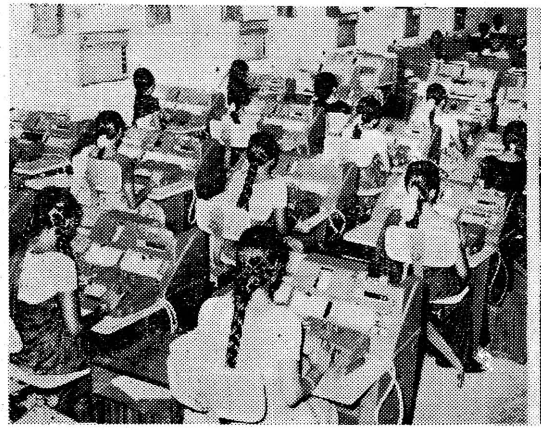
BETTER CLOTH WITH SUJATHA

With a view to reducing cotton imports, the Ahmedabad Textile Industry's Research Association, Ahmedabad, has evaluated the spinning performance of some of the new varieties of long-staple cottons, such as ISC. 67, Shanker-4 and Sujata, both individually and in blends with polyester fibres. It has been found that some of the newer varieties of long-staple Indian cottons could replace imported cottons in fine and superfine counts. These and some other Indian cottons were also found suitable for blending with polyester fibres. If the results obtained are implemented by industry, it would effect savings in foreign exchange estimated at Rs 30 crore per annum.

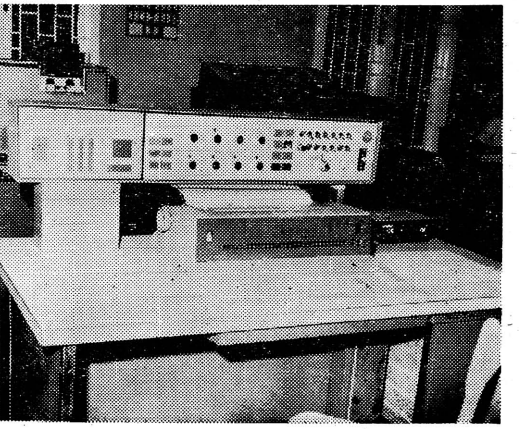
The South India Textile Research Association, Coimbatore also made concerted efforts to reduce the country's dependence on import of long-staple cottons. Different methods such as combing, blending with short-staple cotton, blending with cheaper fibres as well as adoption of core spinning technique were investigated. The results were made available to the industry.

TAMIL NADU GOES IN FOR

Electronic Processing of Budget Data



Punching of Cards



Key board

The Government of Tamil Nadu decided to go in for electronic processing of budget data on a large scale in order to ensure (*i*) the use of technical competence and material resources in an effective way ; (*ii*) to have necessary and sufficient co-ordination among the various departments in building up a sound data-base for the Government ; (*iii*) that a dynamic training programme and a consultancy service are made readily available and (*iv*) that there is above all necessary direction and guidance in planning and development, data processing serving to contribute its due share towards optimizing the managerial efficiency.

The implementation of this policy has been taken up in three phases.

Phase I : The Central Budget Data Processing Centre was established in September 1971 to computerize treasury accounting, State budgeting and expenditure control.

The Police Computer Wing was established in November, 1971 to take up the work of computerizing Crime Investigation. During this phase, computer time was hired from the I.B.M. Service Centre.

Phase II : The Government Data Centre was established in October, 1972. The Processing Unit consists of an I.B.M. 1,440 System having an 8-K Memory, 2 tape units and 3 disc drives. A total of 34 punching machines and 34 verifying machines in two locations provide the facility for the punching and verification of cards. All these machines are rented from I.B.M.

In establishing this unit, various alternatives were examined, and it was considered preferable, time-wise and progresswise, to obtain the above system which was readily available rather than wait for 15 to 24 months for a bigger and faster system.

The Data Centre has been operating since October, 1972 and a list of current applications is given in the following table :—

A common experience of computer installations elsewhere has been that, after an initial stage of inertia and hesitancy, the tempo of development picks up rapidly and the system becomes utilized to capacity. In order to assess and meet such a growing demand for computer time, the Data Centre has planned to undertake a systematic survey of possible areas of computer applications.

In the meantime, an extrapolation of existing trends indicates the following areas of applications as immediately feasible.

1. Transport Department:— Route Planning, Maintenance Scheduling and Inventory Control.

2. Education Department:— Processing of examination results and Collection of statistics to aid education planning.

3. Commercial Taxes—:Analysis of commodity-wise assessment and turn-over correlation of check-post details, and sample checking of assessment records.

4. Industries Department:—Collection and analysis of data relating to licensed capacity and production of various commodities both in the medium and small-scale sectors for purposes of industrial planning.

5. Public Works Department:— Computerized system of project control ; works accounting and information system for the Chief Engineer's Office and computer use in design and estimate for bigger projects.

6. Directorate of Town Planning:— Traffic Survey and Land use and other data for metropolitan planning and study.

7. Finance Department:—Development of an integrated economic model for the State to aid development planning.

8. Electricity Board:—Transmission tower design ; distribution systems ; load-flow studies of power-systems and data logging for the Southern Grid and inventory control.

9. Statistics Department:—Compilation of major statistics at present being done using tabulation machines and Development of models for forecasting agricultural and industrial production.

10. Labour and Employment:—Analysis of employment data to aid man-power planning.

11. Small Scale Industries:—Operational Information Service.

In technologically advanced countries, the present trend is to use large-scale Integrated Management Information Systems (I.M.I.S.).

In our next phase of computer applications, it is essential that we skip the evolutionary stages gone through by other countries and directly adopt the I.M.I.S. so that all the State Departments may function as parts of an integrated system and avoid redundancy of data collection, eliminate the transmission of useless data from one department to another ,avail themselves of the expanded data-base to the maximum extent and ensure optimal performance for overall efficiency.

In order to meet the computer needs over the next five years including the implementation of the I.M.I.S. project, the third phase of our development should plan for acquiring and operating a large-scale data-processing facility. The matter is under the active consideration of the Government.

Reform of Treasury System

(1) The working of the treasuries and sub-treasuries and the procedures followed by them in Tamil Nadu has been studied by a team of the Administrative Staff College of India, Hyderabad, and they have submitted a report to Government containing important recommendations which are under consideration. The recommendations of this team have a very important bearing on the three other reforms :

(1) Reform of the Account System;

(2) Performance Budgeting;

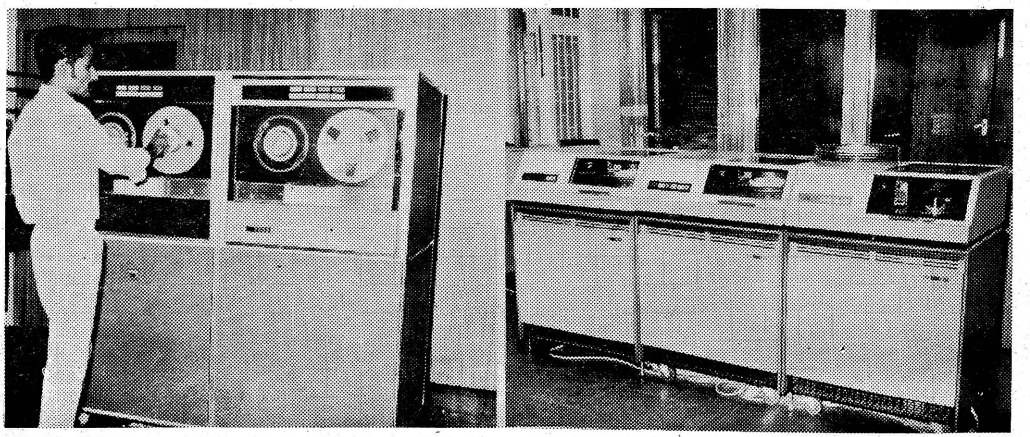
(3) Functioning of the Government Data Processing Centre at Madras with a computer and

(4) Simplified procedure for persons who are remitting money on Government account and payment by Government to all parties by means of cheques.

It has also recommended that many of the departments of the Government should be made self-accounting departments and should accordingly be vested with authority to issue cheques as is now being done by the Public Works and Forest Departments. Under the proposals, the Departments of Agriculture, Industries, Commercial Taxes and Education will be put on a par with the Forest Department which now issues cheques not only for works, but also in respect of salaries of staff, thereby obviating the need for sending any bill to the treasury. In the Public Works Department, such procedures are now permitted in the case of works, but not for the salaries of staff. It is proposed to extend the same procedure to the salaries of staff also.

Taking now an overall view of the four important changes, one could see how, at the State headquarters, current actuals will become promptly and automatically available thereby providing a reliable basis for the preparation of the budget, and provide adequate controls for preventing overruns and also bring to the notice of the concerned authorities shortfalls in implementation. In the new classified heads of account and the details that will be furnished under the heads of performance budgeting, the shortfalls in physical output will also be immediately noticed thereby giving the Heads of Departments and the Government an efficiency tool for continuously monitoring the progress of schemes.

These and other proposals recommended by a Team of the Administrative Staff College, Hyderabad, which, if implemented, would continuously feed into the Data Processing Centre at Madras, data regarding the progress of projects and would therefore store and furnish at call to the Government the up-to-date position, seek to instil a greater degree of precision in the estimation of costs and generally induce a greater consciousness of time as an element in cost, . Since a considerable part of the plan expenditure is incurred through the Public Works Department, the importance of such a monitoring arrangement is easily seen.



Storing data in magnetic tapes

Storing data in discs

THE ELECTRONIC INDUSTRY IS LABOUR INTENSIVE AND LOW CAPITAL RATIO

As in most other countries the electronics industry in Tamil Nadu has developed into a field where women workers predominate. To accelerate this trend the Women's Polytechnic have included a liberal quota of electronics subjects in their curriculum. Entrepreneurs in the field of electronics industries in the State are helped with Functional Industrial Estates by the State Government. One such Estate, called Vikram Sarabhai Instronics Estate is working to full capacity. An Electronics Development Committee has chalked out the areas of work for new entrepreneurs. Product range from T.V. sets and tape recorders to T.V. Deflectors and instruments.

The other electronics Industrial Estates are coming up at Madurai, Coimbatore, Tiruchirappalli and Salem. A data bank for the collection of full information regarding electrical, electronic and instruments industries in the State in all sectors is being built up so as to serve as a clearing house of information for planning raw materials, infra-structure, etc. for these vital industries.

The electronics industry has demonstrated a clear potential for considerable exports. This industry will be provided all the support needed for it to grow as rapidly as it can in the years to come, for it is a highly profitable industry with self-generative characteristics. It does require for its growth an approach free of needlessly inelastic regulations.

Electronics is an area of sophisticated science, technology and industrial development. It plays a vital role in communication, defence, industrial development, entertainment, etc. It involves capital investments that is small compared to almost all other facets of industry and it has one of the lowest capital investment per capita employment (of a direct and indirect nature). Further it has the inbuilt capability of an equitable widespread national distribution of the industry. It has continued to register in recent years a significant growth rate in spite of adverse environmental condition ; and prices of electronics items have on the whole come down in spite of inflationary conditions.

During the last 3 years, the electronics industry has been steadily growing at a rate of more than 10% per year which is significantly higher than the rate of growth of many other sectors of the economy.

The National Advisory Committee on Electronics (NACE) was set by Government of India in September, 1973 to act as a broad-based forum for discussion on all aspects relating to the growth and development of Electronics Industry. It is another data bank at the national level. It consists of 80 members drawn from Government Departments, Associations of Industry and Trade and Academic Institutions as well as representatives of the public sector and small industry. Prof. M.G.K. Menon, Chairman, Electronics Commission and Secretary Department of Electronics is the Chairman and Dr. Ram K. Vepa, Member-Secretary of NACE.

FOREIGN KNOW-HOW

The Committee, while taking note of the fact that the Electronics Industry was skill-intensive rather than capital intensive and also provides a high output per unit investment (which is much larger than almost any other sector of the Industry), recommended that the allocations during the Fifth Plan for this industry should be increased particularly in the field of R. & D. A suggestion was made that in the field of Consumer Electronics, Co-operative Research Associations may be set up to enable greater coordination between the National Laboratories and Industry. The possibility of a greater export drive which would yield substantially higher levels of export performance was also suggested by some members. It was recommended that unless a

specific thrust area is identified in the field of Electronics, it might be difficult to arrive at the rates of growth that are possible in the Industry and which have been achieved in the United States and Japan.

Following the recommendation of the Electronics and Computer Delegations to USSR and East European countries, the Electronics Commission approved in principle a proposal submitted by the Department of Electronics for the formation of an Electronic Trade and Technology Development Corporation to exploit fully the immense possibilities of mutual trade and co-operation between these countries and India. The Working Group constituted for the purpose by the Ministry of Commerce confirmed the finding of the Electronics Delegation that there were distinct possibilities of obtaining a significant part of our import and know-how requirements from USSR and East European countries, if appropriate institutional arrangements and proper measures are undertaken to provide the necessary thrust to this endeavour. The report of the Working Group was discussed between Secretary, Commerce, and Secretary, Electronics. It was agreed that there was a need to set up an autonomous Corporation, under the administrative control of the Department of Electronics, to reap the full benefit of the possibilities of mutual trade and co-operation as identified by the two delegations. It is proposed to set up this Co-operation during 1974—75. The project has been approved by the Planning Commission and included in the Department's Annual Plan for 1974—75.

The Corporation will not be merely a trading concern, but would have developmental, technological and commercial functions. Canalisation of imports is not the aim in the legal commercial sense, nor would other agencies in our country be precluded from entering into business deals directly with appropriate agencies abroad. Though initially the Corporation would have a substantial portion of its activities directed to USSR and other East European countries, it will have a growing interest in other areas.

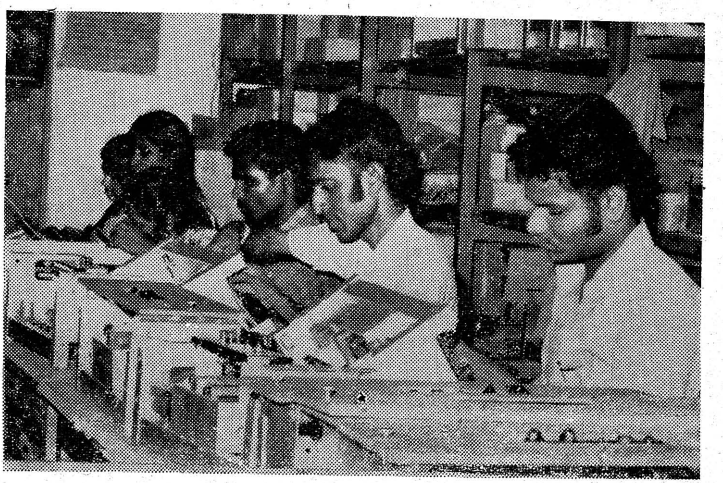
On a long-term basis, however, the Committee felt that in a number of items, there is need to build up technological strength so as to be competitive in the internationalmarket. These include a wide variety of equipment such as radios, T.V. sets, Electronics Desk Calculators, Measuring Instruments and Components for which there is a great demand in the world market. However, it would be necessary to undertake export promotion work on a systematic basis through coordination of different agencies such as the TDA, the Export Promotion Council and the Department of Electronics. It was also recommended that suitable tax incentives should be provided for off-shore operators as has been done in many countries abroad.

WHO, WHERE AND WHAT ?

The Department of Electronics, which functions in New Delhi, is located in Vigyan Bhavan Annexe. The headquarters of the Information, Planning and Analysis Group (IPAG), on the other hand, is located at Bombay, and it functions as an independent unit directly under the Chairman, Electronics Commission.

IPAG Cells have been set up at Delhi, Calcutta and Madras which, in addition to IPAG, Bombay, provide the infrastructure necessary for collection and dissemination of information, especially relating to import/export. With the help of a computerised information system, the data collected is analysed at Bombay and the resulting statistics are published periodically.

In Tamil Nadu, a number of units both in small scale sector and organized sector have been approved for the manufacture of various electronic items like Television, Tape Recorders, T.V. Deflection Components. An Electronic Development Committee has been functioning in the State. The State has set up a functional estate for electronoics and instruments of Adyar (near Madras) under the name of Vikram Sarabhai Instronics Estate. The propsal of the State Government for setting up a T & D Centre at Madras has already been approved by the Department. Financial sanction for Rs. 6.33 lakhs for the first phase has already been issued by the Department.



CO-OPERATIVE MOVEMENT'S ROLE
In Agriculture

The long term credit needs of the agriculturists are being met by 223 primary land development banks affiliated to the Tamil Nadu Co-operative State Land Development Bank. Nearly 90 per cent of the loans given by the land development banks are for agricultural development purposes such as sinking of new wells, deepening of wells, purchase of motors, oil engines and pumpsets, construction of pumpsets, laying of pipe lines for irrigation purposes, reclamation of lands, purchase of agricultural machinery like tractors, etc. To facilitate quick sanction of loans, the State Land Development Bank has opened branches in each district except in Kanyakumari, the Nilgiris and Madras.

To enable the land development banks to step up their lending programme, Government have been contributing to their share capital, besides giving subsidy for meeting the cost of managerial staff and revitalisation of potentially viable banks. The total investment made in the share capital of Tamil Nadu Co-operative State Land Development Bank is Rs. 1,70.00 lakhs and primary land development banks Rs. 71.45 lakhs.

Government have also approved a scheme for opening of branches by the taluk level primary land development banks in the unbanked blocks. So far, 109 branches have been opened.

The Tamil Nadu Co-operative State Land Development Bank has been permitted to accept fixed deposit for periods ranging from 1 to 2 years from individuals and these deposits are reckoned towards rural debentures. The amount of fixed deposits held by the bank on 31st December, 1973 was Rs. 80.31 lakhs. The Bank has also been permitted to issue rural debenture certificates in lieu of rural debenture bonds.

AGRICULTURAL CREDIT STABILISATION FUND.

With a view to enabling agriculturists to make postponement of repayment of loan instalments on account of famine and other unforeseen causes, the Tamil Nadu Co-operative State Land Development Bank and primary land development banks are required to set apart 15 per cent of their net profits towards the Agricultural Credit Stabilization Fund. The State Land Development Bank has also constituted a Failed Wells Fund to be utilised for recouping the losses sustained by the borrowers on account of infructuous wells or failure of wells due to unforeseen reasons. The State Land Development Bank allocates 10 percent of its net profits to this fund every year. Government are contributing to the Agricultural Credit Stabilization Fund of the State and primary land development banks, 50 per cent of the excess over 3 per cent of the dividend on their share capital in the bank and the other 50 per cent of the excess over 3 per cent of the dividend to the Failed Wells Fund. The Tamil Nadu Co-operative State Land Development Bank has also established a Project Services account. The accretions to this account are intended to be utilised for purposes of project evaluation, inspection and other purposes incidental thereto.

DEVELOPMENT DEBENTURES

Besides the normal programme of sinking of wells, installation of pumpsets, etc., area development schemes for Minor Irrigation and plantations have been undertaken with financial assistance from the Agricultural Refinance Corporation. The State Government also provide assistance by way of contribution to the special development debentures floated by the Tamil Nadu Co-operative State Land Development Bank for this purpose. Out of a sum of Rs. 19.14 crores for which special development debentures have been floated by the Tamil Nadu Co-operative State Land Development Bank upto 30th November 1973, the contributions of Tamil Nadu Government and the Agricultural Refinance Corporation are Rs. 2.88 crores and Rs. 16.26 crores respectively. The value of special development debenture in circulation as on 31st December, 1973 was Rs. 28.71 crores.

Thirty-five minor irrigation schemes and seven non-minor irrigation schemes are under implementation in Tamil Nadu under Agricultural Refinance Corporation assisted schemes.

The total financial outlays involved in respect of minor-irrigation schemes and non-minor irrigation schemes are Rs. 25.55 crores and Rs. 7.07 crores respectively.

WORLD BANK FINANCE

The World Bank (IDA) has come forward to finance agricultural projects costing Rs. 46.76 crores in Tamil Nadu under IDA programme. The assistance of the IDA will be Rs. 26.25 crores. This programme in operation in Tamil Nadu from 2nd November 1971, was for dug-well development in Chingleput, North Arcot, Dharma puri and Salem Districts, for filter points and tube-well developments in Thanjavur district, tube-well development in South Arcot and Tiruchirappalli districts, land drainage in Thanjavur district, land reclamation in Coimbatore district and farm mechanisation (purchase of tractors) throughout Tamil Nadu. The IDA's finance is routed through the Agricultural Refinance Corporation which in turn routes it through the Tamil Nadu Co-operative State Land Development Bank and primary land development banks.

AGRICULTURAL REFINANCE CORPORATION

For effective formulation and implementation of the Agricultural Refinance Corporation schemes, a technical cell in the State Land Development Bank has been formed, with an agricultural economist and an agricultural engineer to enable the bank to make proper appraisal of the special schemes relating to minor irrigation, land reclamation, development of Plantation etc. Further, Project Officers in the grade of Deputy Registrar work under the control of the District Colleectors in 13 districts in the State to implement the schemes effectively. A technical cell in each of the 12 districts in the State (except Madras, Pudukkottai and the Nilgiris) is functioning with an Assistant Geologist, an Assistant Agricultural Engineer (except in Kanyakumari district where one Agricultural Engineering Supervisor attends in lieu of the Assistant Agricultural Engineer) to help the Collectors in the formulation of schemes and to give proper technical guidance in the implementation of the schemes. Besides, a Special Officer in the cadre of Superintending Engineer with necessary complement of staff of Geological

Assistant, attends to the work of preparing new schemes on the basis of the data gathered for the sanction of Minor Irrigation Schemes on a priority basis and also for giving recommendation on water potentiality in Chingleput, North Arcot, Dharmapuri and Salem districts, where dug-well development has been contemplated under the IDA Project.

LIFE IRRIGATION SOCIETIES

In order to enable the farmers who are having one or two hectares of land to reap the benefit of the minor irrigation schemes fully and borrow enough capital to sink wells and instal pumpsets, the organisation of lift irrigation societies has been taken up. Through lift irrigation co-operative societies, the agriculturists avail themselves of the credit facilities provided by the Government, land development banks and other financing agencies, and undertake the construction of common wells and installation of pumpsets. There are as many as 502 societies executing schemes involving a total outlay of Rs. 17.23 crores. There is also a federation of lift irrigation societies to co-ordinate and assist the activities of lift irrigation societies.

DISTRIBUTION OF SCARCE COMMODITIES

RELIANCE ON CO-OPERATIVE STORES

The Government of Tamil Nadu is bent upon making co-operative net work the main distributive outlets for essential commodities and household requirements, and the Government is taking quick and fast steps towards this end. Reliance is to be placed on branches of large sized societies rather than on many small societies.

The performance of the co-operative movement in the State was on the whole satisfactory, though there were one or two black spots.

The consumer co-operatives in the State sold Rs. 60 crores worth of consumer articles every year which forms 14% of the total retail sales, and 31% of the people in the State patronised these co-operatives.

It has been the experience of the State that small sized stores and societies organised mainly for handling controlled commodities do not survive and many of them faced a natural death as soon as controls are lifted and when normal trade conditions prevailed. Only large sized societies or wholesale stores which were having adequate business both in controlled and non-controlled commodities, were able to survive and render useful service to the members as well as to the consuming public in the decontrolled period and that, only branch pattern of wholesale stores is more suited for doing consumers' business on business lines in the face of keen competition from private trade.

As a matter of policy, it has been decided that no new primary stores need be organised for the general public except in special circumstances and in respect of Industrial and Plantation workers in units having 250 and above employees. The Co-operative wholesale stores and district co-operative supply and marketing societies have been advised to open branches to undertake retail business on modern lines. The local public will be admitted as members of these branches so as to augment the share capital structure of wholesale stores. For instance the Chintamani, a successful co-operative stores of Coimbatore, has opened a branch in Anna Nagar a suburb of Madras. This type of branch movement is spreading fast.

LABOUR LEGAL ADVISORY CELL

STARTED ITS FUNCTIONS

These Cells will hear the representations of the workmen with understanding and sympathy and suggest to them the procedure to be followed for redressal of their grievances. Each Cell will be manned by a retired Judicial Officer with experience of industrial adjudication and a retired Labour Officer with experience of conciliation besides the necessary ministerial staff.

LEGAL EXPENSES

The Government have also sanctioned a scheme for the grant of financial assistance to meet legal expenses of trade unions in respect of proceedings in High Court at Rs. 150 per Writ Petition or Writ Appeal subject to certain conditions. The Commissioner of Labour has been empowered to sanction the legal assistance. So far an amount of Rs. 1,650 has been sanctioned under this Scheme by the Commissioner of Labour in 11 cases.

The Government of Tamil Nadu have taken steps to make free legal advice available to workers and trade unions on their problems involving industrial law with a view to guide them not only on the course of action to be taken and the relief obtainable, but also regarding the proper forum to be approached and the procedure to be followed for redressal of their grievances.

Accordingly, a Labour Legal Advisory Cell has now been set up by the Government at Madras and it has started functioning from 4—3—1974 at No. 2, Dr. Muniappa Road, Kilpauk, Madras-10.

Thiru N. P. Singaravadivelu, retired District and Sessions Judge and Thiru P. Ramachandran, retired Assistant Commissioner of Labour, have been appointed as Judicial Officer and Labour Officer respectively. They would hear the representations of workmen with care, understanding and sympahy and give them free advice on the procedure to be followed for the redressel of their grievances.

A similar Labour Legal Advisory Cell has also been constituted at Coimbatore with Thiru V. P. Arunagiri, retired District and Sessions Judge as Judicial Officer. The Cell will start functioning shortly.

It is also proposed to set up a similar Labour Legal Advisory Cell at Madurai.

It is hoped that such of the workers and trade unions who are in need of advice on their problems will make full use of these Cells.

LABOUR LEGAL ADVISORY CELLS

The Government had set up an 'One-Man Committee' with a Retired High Court Judge to examine the general question of framing a scheme for legal aid to people of insufficient means. In accordance with the recommendations of the One-Man Committee, Government have sanctioned the creation of three Labour Legal Advisory Cells in the industrial Centres of Madras, Coimbatore and Madurai to render necessary assistance to workmen and smaller trade unions by giving them advice on the procedure to be followed by them for redressing their grievances, the forum to be approached for securing relief and connected matters.

These Cells will hear the representations of the workmen with understanding and sympathy and suggest to them the procedure to be followed for redressal of their grievances. Each Cell will be manned by a retired Judicial Officer with experience of industrial adjudication and a retired Labour Officer with experience of conciliation, besides the necessary ministerial staff.

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INDUSTRIAL OIL FROM RICE BRAN—DETAILS OF THE PROJECT

The Food Corporation of India plans to market soon industrial oil extracted from rice bran, the main by-product of modern rice milling. The industrial oil, which is mostly used by soap manufacturers will be produced at the solvent extraction plant being put up by FCI at Sembanarkoil in Thanjavur district.

Explaining the salient features of the working of the plant, a spokesman of FCI said that this solvent extraction plant, on the setting up of which an outlay of Rs. 15 lakhs is envisaged by FCI, would be the first of its kind being put up by FCI in the country. The entire equipment is fabricated indigenously. The plant is expected to go into operation in August.

The proposal, to make use of the rice bran collected at the four modern rice mills run by FCI in Tamil Nadu to produce industrial oil, in the first phase aims to manufacture about three tonnes of industrial oil every day out of the 15 tonnes of rice bran that would be made available daily from the four contiguous modern rice mills of FCI situated at Sembanarkoil, Chidambaram, Mannargudi and Thanjavur.

In the second phase, the FCI may explore the possibility of producing refined edible oil from the industrial oil after the trial production commenced.

A significant feature of this proposal to convert the rice bran into industrial oil and de-oiled bran is prompted by the peculiar nature and particular suitability of rice bran extracted from modern rice mills, unlike the bran yield from the conventional huller and sheller type of rice mills, which do not separate the by-product into husk and the bran. The silica content in the bran produced by the huller and sheller type of mills is relatively high as also the acid insoluble ash content in the bran.

In the modern rice mills of FCI, husk and bran are removed separately by two independent processes with the result that the rice bran is uncontaminated by husk and is therefore rich in oil content.

The economic viability of rice milling will also improve by making use of the by-product rice bran for extracting industrial oil.

THE TAMIL NADU CO-OPERATIVE HOUSING SOCIETY LIMITED, NO. X-406, MADRAS-7.

"Venkataswamy Vagheesam Nilayam"

No. 14, Ritherdon Road, Vepery, MADRAS-600007.

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THIRU P. KASTHURI PILLAI

Treasurer :
THIRU S. PALANISWAMY, M.A.,

—oOo—

Authorised Share Capital	—	Rs. 2·5 crores
Paid up Share Capital	—	Rs. 2,09,07,300
Loan outstanding against Primary House Mortgage Societies and Building Societies		Rs. 12,40,07,729

Long term Loans for Construction of new houses, additions and improvements etc., repayable in twenty years are granted to individuals through the Primary House Mortgage Societies and the various types of Building Societies in Tamil Nadu for the following purposes.

		MAXIMUM INDIVIDUAL LOAN
1. Construction of new houses	—	Rs. 25,000
2. Improvements, additions and alterations to the existing houses		Rs. 10,000
3. For minor repairs	—	Rs. 1,000

P. K. PATHMANATHAN, B.A., H.D.C.,
Joint Registrar and Secretary.

POWER PROJECTS IN TAMIL NADU
AN INSIGHT INTO FORMULATION

The Tamil Nadu Electricity Board has two agencies *viz.*, Investigation circle and Thermal Cell which are in charge of formulation of new Hydro Electric Projects and Thermal Projects respectively, and obtaining sanction from the Government of India. In order to co-ordinate the work in respect of new projects and projects under construction, a project implementation cell and Planning Cell has also been formed.

The investigation circle was formed in 1958. This circle is in charge of collecting hydrological data from the various river basins in the entire State, compiling the data, formulating proposals for Hydro-Electric Power Development to suit the pace of developmental activities, investigating remunerative Hydro-Electric Projects in detail, preparing detailed reports on such of the projects found technically feasible and economically viable and obtaining technical clearance or sanction as the case may be from the Central Water and Power Commission and Planning Commission for implementing new Hydro Electric Projects within the frame work of the National Plans. Thus the main function of the circle is to plan the development of Hydro Power resources available in the State. In respect of existing hydro electric projects as well as hydro electric projects under construction, any problem that may arise particularly in the Hydrological aspect, assessment of power potential, re-examination of certain components etc., are also being attended to by this circle. Further this circle has also been assigned the task of selecting a suitable site for locating the second Atomic Power Plant in Tamil Nadu. Field investigation for locating the Thermal Station at Mettur in Salem District is also being carried out by this circle.

FOUR DIVISIONS OF INVESTIGATION CIRCLE

This circle comprises 4 divisions for attending to the above works *viz.*, (1) Hydro Metric Surveys Divisions with Headquarters at Madras for attending to the collection and compilation of Hydrological data including erection of new Hydro Electric Project observation points (*viz*) weirs, rain fall stations, etc., (2) Hydro Electric Surveys Division with Headquarters at Emerald in Nilgiris for attending to the field investigations required for the various new Hydro Electric Projects, (3) Hydro Electric Surveys Division with Headquarters at Madurai for attending to the field investigations connected with the second Atomic Power Plant and (4) Hydro Electric Surveys Division at Madras for formulation of proposals, the preparation of project reports, studying economical aspects of the project based on field data, preparation of detailed project reports and getting clearance from the Central Water and Power Commission and Planning Commission for the Project, for implementation.

The Hydro Metric Surveys Division, Madras comprises 3 field sub-divisions at Ootacamund, Dindigul and Papanasam to attend to the maintenance of existing Hydrological stations, installing new stations as and when necessary, collection and submission of hydrological data and one sub-division at Madras for checking the data received from the field and compiling them as permanent records. The sub-divisions are assisted by the required technical and non-technical personnel both in the field and in the office, and one more sub-division is attached to this division for preparation of the project reports on the new schemes, for which investigation were completed.

Hydro Electric Surveys, division, Emerald comprises 6 field sub-divisions, two at Ootacamund, one at Emerald, one at Pollachi, one at Palani and one at Mettur to attend to the detailed investigations of new Hydro Electric Project.

Hydro Electric Surveys, Surveys Division, Madurai comprises one Executive Engineer at Madurai, one Assistant Engineer/Hydro Electric Surveys at Tuticorin and one Supervisor (Civil) to attend to the field investigations, connected with selection of suitable site for locating II Atomic Power Plant in Tamil Nadu. This Division was formed on 29th October, 1972 with Headquarters at Madurai.

Hydro Electric Surveys Division, Madras comprises 3 sub-divisions and they attend to the scrutiny of field survey plans, issue of instructions to the field, preparation of detailed project reports, preparing replies to the comments received from the Central Water and Power Commission and Planning future projects. One more sub-division is functioning at Madras under the control of Executive Engineer/Hydro Electric Surveys, Madras for attending to the works connected with the site selection for II Atomic Power Plant. The administrative work is attended to by the requisite ministerial staff headed by two Junior Superintendents one being incharge of establishment and the other in charge of Accounts.

THERMAL CELL

The Thermal Cell was formed in October, 1971 to take up the detailed Engineering of the Ennore II stage Extensions, it is also in charge of prepration of new thermal projects. It has prepared and submitted to Government and Planning Commission the detailed project report on.

1. Tuticorin Thermal Project —400 MW raising to 600 MW.
2. Mettur Thermal Scheme— 3 X 100 MW

It is also in charge of procurement of coal for the existing thermal stations. The operation and maintenance problems of existing stations are reviewed and procurements of spares undertaken.

It has also been associated with special committee on (1) conversion of 2 Nos. 50 MW boilers at Neyveli to oil firing and (2) Neyveli second mine cut.

PROJECT IMPLEMENTATION CELL

The functions of the Project Implementation Cell are :

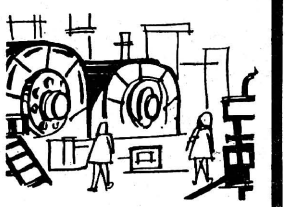
1. to review the progress of power projects under construction;
2. to co-ordinate the work with respect to delivery of equipments;
3. to ensure that adequate supply of essential materials like steel, cement etc., are provided in time;
4. To take up remedial measures to overcome the bottlenecks for quickening the commissioning of the projects and
5. and to decide upon the new power schemes to meet the increasing demand and other forward planning.

The Planning Cell is responsible for sorting out all problems relating to both the Planning of the Board and the five year plan, besides taking over works statistics relating to them.

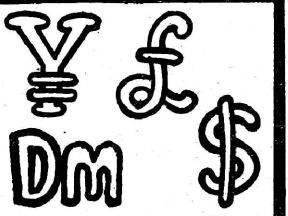
NEED-BASED FINANCIAL ASSISTANCE FROM.....

TIIC
THE FINANCIAL INSTITUTION WITH A HEART

We grant term loan assistance up to Rs. 30 lakhs to industries engaged in manufacture, processing, preserving etc. as also to shipping, transport, hotel industries. Amount in excess thereof would be arranged in collaboration with State institutions like SIPCOT and TIDCO and/or with All-India institutions like IFCI, ICICI etc. Also assistance by way of issue of guarantees for deferred payments and underwriting of shares.

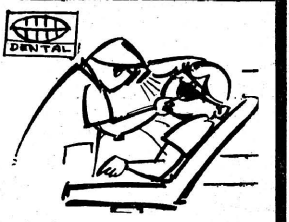


Our new scheme finances import of machinery under IDA Credit - an affiliate of the World Bank, from any country of the World Bank Group and Switzerland.



For technically qualified people with no means to start their own small scale industry and willing to go into rural areas we grant loans from Rs. 10,000/- to Rs. 2 lakhs. Interest 7.5% p.a.

For all qualified and registered physicians, surgeons, dentists or veterinary practitioners, willing to work in rural Tamil Nadu - loans from Rs. 10,000 to Rs. 1 lakh. Interest 7.5% p.a.



THE TAMILNADU INDUSTRIAL INVESTMENT CORPN. LTD.
"Arul Manai", 26, Whites Road, Madras-600014.
Branches : Thanjavur, Madurai, Coimbatore and Salem.

Managing Director : S.N. Pai.

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MAJOR STEPS TO MEET POWER SHORTAGE

The news that Bharat Heavy Electricals, a public sector undertaking, has made a gross profit of Rs. 27 crores and that it hoped to step up its profit to Rs. 41.4 crores this year, is certainly a re-assuring one in these days of power shortages. It shows that the power equipment industry has turned the corner and is in sound health. This fact not only speaks highly of the workers and engineers of Bharat Heavy Electricals Ltd., but also of the significant contribution the Soviet Union and its specialists have made to India's power equipment industry.

The Hardwar Heavy Electrical Equipment Plant, the largest of the four units under BHEL, which is assisted by the Soviet Union, has put India high up among the countries producing power equipments, which is a "high technology". By being able to produce 200 MW sets and at the same time working on a prototype of 500 MW set, India has joined the few nations of the world with high technological abilities in power equipment industry.

Significant Activities

Apart from meeting the varied equipments of the power industry today, BHEL, is also branching out into other significant activities in order to meet the challenge of fuel and power shortage. And one of the fields in which urgent action is called for is in expediting erection and commissioning of power plants.

The proposals to set up a Power Projects Division under BHEL is therefore of great significance. This new Division is expected to supervise the expeditious erection and commissioning of power projects. This step has become necessary because the erection and commissioning of projects take 6 to 7 years at present. The new Division, which will mobilise specialists from various units of BHEL, hopes to cut down this long period to half. The significance of this can be gauged from the fact that power projects to the capacity of over 4 million kw have spilled over from the 4th Plan to the 5th Plan because of non-completion. States like UP, where the spill-over is heaviest, stand to gain greatly under this new scheme.

Another major effort of BHEL is being directed to develop the MHD generator (Magneto-Hydro Dynamics), which produces power using hot coal gas. The MHD generator has no moving parts, no steam cycles and no turbines. The Soviet Union has pioneered this process and has already introduced MHD generators in some regions of the USSR. This new process is considered to be highly economical compared to the traditional methods of power generation.

BHEL has also plans to ease the fuel situation. It has undertaken at its Trichy plant to step up production of boilers to help industry change over from fuel oil to coal, which is part of the wider strategy to meet the oil crisis. The reduction in the use of fuel oil will make an appreciable difference to the oil situation in the country.

BHEL will also cooperate with other agencies to intensify research and development in the gassification of coal. This will have far-reaching effect on the fuel and power situation.

Power Equipments

It is also planned to step up the production of power generation equipments. In 1973 BHEL produced power generation equipments to the capacity of 2100 MW. This year it hopes to step up production to 3000 MW. At this rate of production the country will be able to meet the demand for power equipments during the 5th Plan, i.e. for 16.55 million kw. In fact, equipments for 2.5 million kw, already requisitioned during the 4th Plan, are being carried over to the 5th Plan. Thus, actual demand for new projects is only for 14.00 million kw power equipments. It can be claimed in these circumstances that the country is already well ahead in its march towards self-reliance in power equipment industry. That this was achieved in such a short time is indeed commendable.

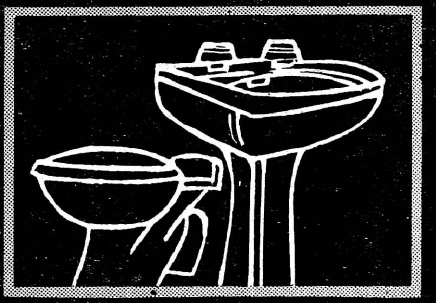
In this the Hardwar Heavy Electrical Equipment Plant plays no small role. With the capacity to produce 2.7 million kw of power equipments yearly, it is the base unit of the power equipment industry with the responsibility to carry out long-term planning in the development of power equipments and manpower.

It uses Soviet know-how and has continuing cooperation with the Soviet Union in the research and development of power equipments. It produces 200 MW steam turbines and turbogenerators, the largest in the country, as also large motors. The Soviet Union continues to provide technical assistance to this plant by way of specialists and also special equipments and materials at present not manufactured in the plant. The plant has already achieved a high degree of indigenous content.

Expeditious Completion

To sum up, it can be said that the expeditious completion of the projects under construction as also of the new projects will go a long way to ease the power situation in areas of acute power shortage. The development of transmission lines will enable easy transfer of power from surplus to deficit areas. The development of a consultancy agency, as in the case of steel, under BHEL, will help the pooling of talent and know-how.

Of course the development of 500 MW generating sets, expected during the 6th Plan, which is being pioneered by the Hardwar Plant, will make a radical difference to the power situation as also to the econonomy of power generation. Along with this the country is also pioneering the development of nuclear power. Two stations are coming up of 235 MW in Rajasthan and Tamilnadu. Efforts are also being made to develop nuclear power stations of 500 MW capacity.



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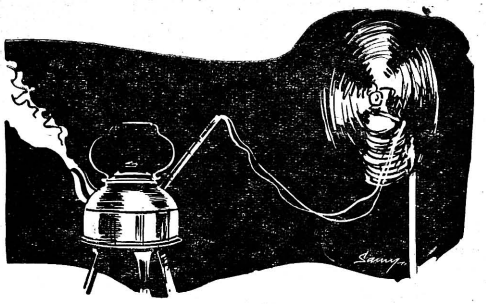

Energy Sources of The Future A Prognosis

Population is increasing day by day. It is but natural that the world's energy consumption and requirements should also increase side by side. In this state of affairs energy sources should also increase on par with World's energy consumption. The present energy sources are not perennial sources of energy. The conventional sources of energy are drying up. By the end of this century, electricity, petrol engine, jumbojet, etc., may be as dead as the gas lamps of the old age. The problem is pinching us now. We are feeling the pinch of the above problem. The shortage of petrol and coal gives us the impression that the future would be gloomy. So we may take it as a timely warning. People in the length and breadth of the World are feeling the energy crisis. There is no difference between advanced and the under-developed country as far as this problem is concerned. New sources of energy must be developed at an earliest time possible. " Necessity is the mother of invention " is an aptly suited and timely quotable proverb at this juncture.

New methods, novel ventures, prototype models wonderful generators etc., are the talk of the day. Human dependence on electricity become evidence when there was a power failure. The entire humanity will be crippled and come to a standstill, when there is power failure or shortage. Hence with all this experience man is searching for the new sources of power.

In Israel, men are tapping power from the heat of the sun. In India researches are going on in Arid Zone Research Station to tapper the sun's energy. If you look overhead you will see that there are many satellites which are purely powered by fantastic solar cells. In France the rise and fall of the tides are utilised to squeeze energy and get electricity. Hence electricity is generated from sea waters. In New Zealand and Canada they are looking deep into the bowels of earth to tapper the energy. Here internal heat energy of the earth is used for power generation. Experiments are going on in research laboratories of the World to extract electrical energy direct from the hot and isonied gases, boiling electrons, hot and cold metals, and gas-fed batteries (Hydrox fuel cell).

Now we shall see some of the energy sources of the future which would herald a happy and prosperous future.

By

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Fuel Cells : In a dry torch battery or a car battery electricity is derived direct from the energy of the chemicals. The new fuel cell is working like a petrol engine. The fuel for the car is petrol. The fuel of this cell is Hydrogen and Oxygen gas and we can get continuous supply of electricity. This is a cheap way of getting electricity, and the life of the cell is very long. The automobiles may be powered by this type of cells in the future. Instead of petrol you need to fuel the car with cylinders of compressed gas. Vehicles are moving with this cylinders on the road of Los Alamos City the co called secret city of scientists. These vehicles are pollution free and safe. At present Nuclear reactors are working for generation of power. During the peak hours they are not able to fulfil the power requirements. During night there is no greater demand for power. Reactors may be used to split water into hydrogen and oxygen during the night time. These gases may be fed to the fuel cells during peak hours to boost the reactor's out put and satisfy the demand for the power.

Solar Power : The primary and paramount energy source is the sun. Sun sends energy through its beams to the earth. It is indeed a tremendous amount of energy untapped properly by the humanity. Sun Power is an immense, inexhaustible, free and pollution free.

Sun pours nearly 100 million kilowatts of energy every day. This is a million times greater than the man-made electricity produced today. Exactly at noon on an average each square metre of earth receives one thousand watt of sun energy. This energy gears the entire weather system of our planet. It is further more fantastic to know that a minute fraction of this energy, less than 1% is responsible for all life through the magic of photosynthesis of plants. When all is said and done, how to tap this vast energy is the problem of the day.

There are two ways to tap this source of energy. Direct and indirect are the two ways. Sun's heat is used to heat water by focussing it with a parabolic surface. In the second method sun's heat of light energy is converted into electrical energy.

This is also not new to us. Long back in the year 1878 printing press was powered by sun energy through a curved mirror. Then thermo-electric cells were introduced to catch the sun's energy. For producing 1 kilowatt it is required 1,000 square metres of such cells.

In 1954 the Bell Telephone Laboratories in the United States made a breakthrough by introducing Sili-

can Solar Cell. Now in Japan transistorized radio sets powered by solar cells are available. A car called Solar King was driven in the streets of London with the solar power. The cost of production is high for these devices. But in the nearfuture they are expected to suit the poor man's purse by technical breakthrough and mass production.

It is also proposed to trap the sun's heat energy in extensive arrays of steel pipes spread out in panels above the desert floor. An absorbing fluid such as nitrogen will collect the heat. This heat may be used to run a generator to generate electricity.

A combination of silicon and silver will yield a material in the form of thin film which is an excellant absorber of heat. It will be a suitable technique to harness the sun's energy. The connected researches are going on in the University of Arizona. Dr. Aden B. Meinel, the Director of Optical Sciences. Centre says "Eight square miles of cloud-free land, using this technique, could produce a million kilowatts of power which is the out put of a typical new nuclear plant."

Israel is a hot country : it has no coal, fuel sources and enough electrical power. At the Beersheba Arid Zone Research Institute, Israeli scientists have developed a way of stepping up the efficiency of water-heaters.

In India too the Central Arid Zone Research Centre at Jodhpur have developed few efficient devices in this regard.

Solar cookers can boil a large kettle of water in a few minutes under the Indian sun.

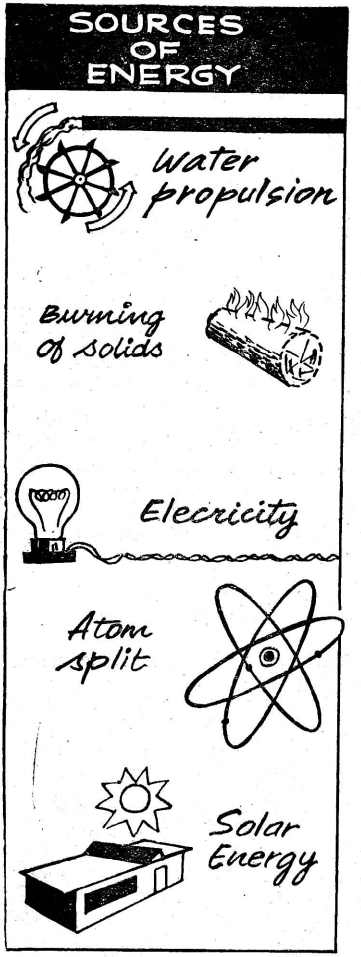
In Russia in the Ararat Valley, in Armenia, solar boiler on a tower of 130 foot height was constructed to trap sun's energy to run trains.

So more and more attention have to be paid to this solar energy utilisation for the betterment of humanity. In India the sun is so liberally pouring its energy and hence there is a conducive climate for us to develop and use this natural source of energy.

Power from Space :

Communication satellites are widely used throughout the World as communication networks. There is also another possible use to which these satellites can be used. It is possible to capture the solar energy in abundance when a space satellite is launched to tap the energy of the sun in space. Cambridge and Massachusetts researches predict the above possibility.

The space satellite would be fitted with collecting panels covered



with solar cells with an area about 25 square miles. The collected energy may be beamed to earth by microwave. For efficient energy transmission the new born deathly laser beam will come in handy.

Geothermal Power :

Extracting heat from the earth is nothing but an age old cock and bull story in places like New Zealand and Italy. But even now some countries are exploiting this source of energy. The natural steam field of Larderello of Italy has been generating electricity ever since 1913. In the United States near San Francisco the Pacific Gas and Electric Company proposed to have a generating capacity of half a million kilowatts by 1975. According to a geothermal expert Dr. Robert W. Rex "the largest practical new energy source available to society today is heat from the interior of the earth." Geothermal power is very cheap, clean and pollution free which is the need of the day for the future energy requirements of tomorrow's World.

Wind Power :

Power generation by windmills is again an age old practice which has not been amply utilised in the near past. The present shortage of power and pollution free operation of windmills makes us to have a second look at the simple technique of exploiting energy from natural setting.

It is astonishing to know that during World War II a giant windmill at Grandpa Knob near Rutland, Vermont generated 1,250 kilowatts. During 1915, about 3,000 windmills were producing electricity at Denmark.

It is also proposed that huge windmill generator with rotors of glass—reinforced plastic be floated on the open Atlantic to catch a fairly good speed wind.

In our country an expert group of the National Committee on Science and Technology (NCST) envisages that windmills can be used in India for generating electricity and pump water for drinking and irrigation purposes.

Windmills can also be used to charge the batteries which are used in communication networks.

It is also interesting to know that a windmill generating 1 kilowatt in 25 kilometers per hour wind, weighing only 70 kg. and costing Rs. 400 has been manufactured in Canada.

Today engineers have devised ways and means to squeeze a high amount of energy in an efficient manner out of strong wind. The

power output of a windmill depends directly on the wind velocity and area of blade exposed to the wind. In order to get continuous and copious momentum, the maximum amount of energy which can be had from the system is 16/27 of the energy flow in the wind.

So by all means it is reasonable that the windmill makes a comeback as a power source to satisfy our present and future energy consumption.

M H D Generators :

Those three letters stand for magneto hydro dynamics. It is a novel way of making electricity. It is essentially a rocket engine which blasts its exhaust between the poles of an ultra powerful magnet. The gas is normally a insulator and when it is so hot that it turns into an electrical conductor. Any simple conductor moving in a magnetic field produces an electric current. This is the good old discovery of Michael Faraday. This forms a basic principle of working of an electric generator. The conventional rotating copper coils in an electrical generator are simply replaced by the moving hot gas in the novel MHD generator. Here there is no moving parts except the gas flow in the generator. Further the efficiency is as great as 1.5 times of that of the conventional generators. Hot gases are used to generate electricity in MHD generator and then the remains are used further to fire a regular boiler — and —turbine generator.

The only problem with this type of generators is the temperature of the gas which is of the order of 3,000 degrees C. At this temperature no material can survive, and conductors turn into resistors. Insulators too begin conducting. The problem is tackled in an ingenious manner and hence there is a bright future for this type of generators.

Burning Garbage :

Many countries are turning their attentions on garbage and rubbish can be used for producing electri city. When it burnt the energy is used for production of electricity and at the same time the city will be clean and tidy. European countries are using this method of power generation. In some countries shredded rubbish combined with pulverized coal is burnt to generate electricity.

India is purely an agricultural country. Agricultural wastes are abundant. These may be used effectively to produce electricity for our villages and cities. Cowdung can be more efficiently handled through cowdung gas plant to generate fuel for our consumption. This is a more scientific way of using cowdung. After extracting fuel from the cowdung the remains will be a good fertilizer for the plants. Hence they must be properly utilised both in the farms and homes. The cowdung gas can also be effectively used to light our houses and abodes by a special design of lighting device.

Thermo-Electric Power :

When the junctions of two different metal elements kept at two different temperatures they will constitute an electric current. This is an age old effect known as seeback effect. The above arrangement is nothing but a thermo-couple. A bundle of such thermo-couples are collectively known as a thermopile. During World War II the Red Army transmitters were powered while making tea. Hence they were able to power their radio transmitters by simply making tea. However it is not a military joke but a true and simple practical example of a scientific curiosity.

Here we have elucidated the production of electric current from heat. The converse is also true and which was proved by Jean Peltier. The effect is known as peltier effect. There were certain drawbacks in these method of generation of electricity. The new semiconductor revolutionized this method of power generation. This new substance is found to yield better seeback or peltier effects.

A thermo-electric power is a small-scale power. The simplicity is the special feature of these types of generators. It does not need the furnace, boilers, turbines, dynamos, condensers or any other paraphernalia of the petrol engine or diesel generator or hydroelectric turbines. Simply the generator consists of a bunch of semiconductor strips, two output terminals and a source of heat.

Millions of homes in Russia are lighted by oil lamps or heated by oil stoves. The heat of the lamps are also used to power the radio by means of a thermo-electric cell surrounding the lamp. This method of power generation will be of great use to our villages where there is no regular power supply lines. This power may be used to operate radios and also communication systems. Wherever there is spare heat these power generators may be placed in that spot to give power. In our homes waste heat from cooking, and in our cars the hot exhaust are some examples of waste heat. These may be used to power our homes and car appliances such as radio, fan etc.

The peltier effect paves the way for easy and efficient way of heating and cooling the rooms, offices and houses. Refrigeration and air conditioning can be done effectively and efficiently using these cheap thermo-electric power. The principles underlying this is called the heat pump.

Electricity from air :

Atmospheric electricity is not utilised so far for running of low power motors which can be used for specific purposes. Electret is a new material which finds use in slot effect electret motor. Atmospheric electric charges should be attracted by special type antenna. The newer types of antenna are under experimental stage. Earth electric field should also be used here to run motors. For this type of power generation raw materials are freely obtained from nature. The maximum power output with the maiden slot effect electret motor is 70 watts at about 10,000 rotations per minute. This motor will operate with ease with a voltage of 4,000 volts at 10 ampere current. These types of motors will serve in specific purposes in different fields.

Electric power from Thunderbolts :

Lightning is one of the most dramatic and fascinating natural phenomena. Now after some long extensive researches the electrical nature of lightning is clearly established. Further the lightning is still a furious and destructive hazard to people, buildings, aircraft, power transmission lines, space crafts, and so on. As one of the Nobel Laureate in Physics Dr. R. A. Millikan has rightly pointed out that " The study of physics is of enormous importance for the daily life of every man and woman, but its importance goes far beyond this.

HOW TO GET

More Yield In Kuruvai Paddy

Every year Tamil Nadu produces 53 lakh tonnes of rice from 67 lakhs acres. Over 90% of the area under paddy is cultivated under irrigated condition. Tamil Nadu produces 0.8 tonne of rice per acre on an average. Even though Tamil Nadu leads other States in average yield per acre, the per acre production is low compared to a country like Japan which produces three times the yield of Tamil Nadu. Even though Tamil Nadu is at present self sufficient in rice, there is need to increase rice production in the State to meet the needs of the growing population of the State and also to cater to the requirements of needy States.

Generally paddy is cultivated in Sornavari, Kar, Kuruvai, Samba, Thaladi or Pishanam and Navarai seasons. Kar or Kuruvai season denotes the months from May to September. According to irrigation facilities, paddy strain of 105—130 days duration can be raised in Kuruvai season.

About five lakhs acres are under Kuruvai paddy cultivation in Thanjavur district. Water for the Kuruvai paddy is released from Mettur Dam during the latter half of June. Sometimes the release of water from the Dam may be preponed or postponed. It usually takes a month's time from the date of receipt of water to get the seedlings ready for transplanting. If planting is delayed the crop in harvest stage is likely to be caught in the North East Monsoon. That is why Thanjavur farmers do not go in for paddy strains of over 105 days duration for Kuruvai season. In Tirunelveli district, Tambaraparani water is available for irrigation during the first week of June and hence the farmers go in for paddy strains of 115 days duration for Kar season. In South Arcot, North Arcot and Chingleput districts where paddy is cultivated under well irrigation, strain likes TKM. 6 and Co. 29 are suited. In Erode, Kalingarayan Channel area and parts of Chingleput, North Arcot and Trichy districts three crops of paddy are raised.

In Tamil Nadu TKM. 6, ADT. 27, Co. 29 and ASD. 1 are the usual strain cultivated in Kar or Kuruvai season. The new strains recommended for this season are Cauvery, Kannagi, Kanchi, Vaigai and Pennai.

Eventhough the varieties are high yielding by nature, the following seven points should be borne in mind for getting maximum yield in paddy cultivation. They are :

1. Selecting the best suitable strain for the seasons;

2. Providing good tilth to the soil;

3. Planting the required number of seedlings;

4. Timely application of the different nutrients in the form of fertilizers;

5. Optimum irrigation;

6. Timely and appropriate plant protection measures and

7. Harvesting at the appropriate time, threshing, drying and storage.

If careful attention is paid to the above points in paddy cultivation, there is scope for increasing the average acre yield from the present level of 0.8 tonne/acre.

The districtwise improved strains under cultivation and the new High Yielding Variety strains recommended are furnished in Table I.

The introduction of the short statured paddy strains have offered tremendous possibilities of increasing output per acre by adopting the recommended manurial dose, plant protection schedule and other agronomic practices. Certain additional points have to be borne in mind in cultivating the new short statured high yielding varieties like IR. 8, IR. 20, Kanchi, Karuna, etc.

1. The tillering buds in these varieties are concentrated at the bottom nodes. So, if the seedling are planted deep, the tillering buds will get embedded in the soil and affect tillering. So the new varieties should not be planted deeper than 1.5—2 cm. in the soil.

2. Atleast one cm. depth of water should be allowed to stand in the field. Otherwise, the tillering buds at the bottom nodes are likely to be dried up and become unproductive.

3. Within 10 days of planting, the seedling will establish and tillering will commence. Stirring the soil around the seedling at this stage will promote formation of more tillers.

4. If more number of tillers are formed at the time of harvest the earheads will be in various stages of growth like milk stage, panicle emergence stage, fully ripened stage, etc. This will ultimtely affect the total yield per acre when adequate tillers are formed. The formation of excess tillers can be checked by earthing up the plant.

How to decide the optimum number of seedlings in a unit area ?

We have said that tillering should be controlled by stirring the soil or earthing up so as to ensure optimum number of seedlings per unit area. We will now see the optimum number of seedlings to be planted in a square meter area.

How many seedlings per unit area ?

For the short duration Kuruvai varieties, the spacing to be adopted for planting is 15 cm. between rows and 10 cm. in the row. So in one square meter (100 cm. × 100 cm.) 10,000 cm. at the above spacing the number of units that can be planted is (10,000 divided by 150) 67. At the rate of 3 seedlings per unit the

number of seedlings required per square metre is 67×3=201.

How much seeds to be sown ?

Assuming that the weight of 100 grains is 2.8 gm. for 201 seedlings, the quantity of seeds required will be 5.6 gm. If for one sq. metre, the quantity of seeds required will be 5.6 gms., one acre being 4,000 sq. metres, the quantity of seeds for sowing one acre will be 4,000×5.6 =22,400 gm. or 22.4 kg.

But due to the following probabilities an allowance has to be made in the following lines:

(1) Preparation of nursery bed may not be perfect.

(2) The germination of some seeds may be substandard.

(3) All the seeds may not produce equally good seedlings.

(4) Some seedlings may be destroyed while being pulled out.

So, instead of 22.4 kilos, 25 kg. of seeds may be used for planting one acre.

Ensuring adequate number of seedlings

The next important thing to be borne in mind is to plant adequate number of seedlings in unit area. This can be ensured by line planting.

Ensuring adequate number of tillers

The number of tillers should also be optimum. This can be ensured by stirring the soil or earthing up, as the case may be.

No. of earheads and number of grains in each earhead

If there are 400 earheads in one square metre with an average of 100 grains in each earhead ,we can expect an yield of over 4 tonnes per acre in IR.. 8. An yield of over 4 tonnes/acre can be taken as a high yield.

At a spacing of 15 cm. × 10 cm. for a short duration variety, we have already specified that there should be 67 units per square metre. So, for getting 400 earheads per square metre we have to ensure about 6 earhead per unit.

TABLE I

High Yielding Varieties Recommended For Districtwise Cultivation

Sl. No.	*Name of District*	*Season*	*Strains recommended*
1.	Chingleput ..	Sornavari (May—Sept.)	ADT.27, Karuna, Kanchi, Cauvery.
2.	Chingleput ..	Sornavari (May—June) Kuruvai (Sept.—Oct.)	I.R. 20, ADT. 27, Karuna, Cauvery.
3.	North Arcot ..	Kar (June—Sept.)	IR. 20, Kannagi, Karuna.
4.	Trichy	Kar or Kuruvai (June—Oct.)	Karikalan, Karuna, Kannagi.
5.	Thanjavur	Kuruvai (June—Oct.)	ADT. 27, Karuna, Karikalan, Kannagi.
6.	Salem—Dharmapuri ..	Kar (June—Sept.)	Kanchi, Kannagi, Triveni.
7.	Coimbatore	Kar (June—Sept.)	Kanchi, Bhaveni, Kannagi.
8.	Madurai	Kar (June—Sept.)	IR. 8, Kanchi, Kannagi, Bhavani.
9.	Tirunelveli	Kar (June—Sept.)	ASD. 14, Kannagi.
10.	Kanyakumari ..	Kar (June—Sept.)	IR. 8, IR. 20, Jaya.

Determinants of high yield

What are the factors that determine high yield ?

1. The number of seedlings planted.

2. The number of tillers from each plant.

3. The number of flowers that emergence from each panicle.

4. The number of panicles per plant and

5. The number of flowers that matured into grains.

The above can be maintained at desired level by following the management practices enumerated below :

(1) If there is poor tillering even after 20 days of planting, tillering can be promoted by application

of Nitrogeneous fertilizers or by stirring the soil around the seedling.

(2) If there are more than 10 tillers per plant this can be arrested by slight earthing up.

(3) Growth of the plant can also be arrested by withholding irrigation.

(4) 70 days after sowing or 45 days after planting, if the stem is split and examined, the initiation of the panicle will be visible. This is the time to topdress the plant with nitrogeneous fertilizers.

Eventhough several steps have been enumerated above for maximising production per acre it should not be construed that an average yield of about 4 tonnes/acre can be obtained under all conditions. There are certain situations under which such high yields can not be attained as follows :

(1) Very sandy soils, hard clayey soils, saline or alkaline or acid soils, soils with poor drainage.

(2) High yields cannot be obtained in areas where at any stage of crop growth the temperature does not go below 20 degree C. and does not exceed 38 degree C.

(3) In areas where there is acute summer, winter or drought, areas subject to cyclone, high yields cannot be attained.

(4) Paddy requires about 2 cms. of standing water. Stagnation of the fields or drying of the fields due to lack of water are to be avoided in successful paddy cultivation.

In lands where drainage facility is lacking or where the quantum of water cannot be controlled there is no scope for obtaining high yields.

(5) Application of lesser quantity of manure or pesticides will not ensure high yield.

(6) In soils where there is deficiency of micronutrients, unless the deficiency is made good other efforts to maximise production will not succeed.

So, we have to aim at increased production taking into account the suitability of the land and other environmental factors.

Manuring of Paddy—certain important findings :

In these days of fertiliser shortage it is worthwhile to bear in mind the salient findings of a seminar held recently in Philippines.

(1) In low fertility soils, organic manures improve the soil condition and soil fertility leading to increased yields.

(2) As far as nitrogen is concerned organic sources of manures like green manure, farmyard manure and compost increase paddy yields.

(3) In tropical countries the nitrogen obtained from leguminous crops is considered equal to nitrogen from artificial chemical fertilizers.

(4) Generally people do not prefer organic manures as sources of nitrogen supply, because artificial manures as sources of nitrogen are more readily available than organic manures.

(5) If organic manures do not undergo decomposition perfectly in the soil, paddy crop will not grow properly.

(6) The fact that high yields can be obtained even with the natural manures has been understood by farmers in several centres.

After conducting several agronomic trials on measures to reduce loss of nitrogen applied to High Yielding Variety paddy crop, the following recommendations are made.

(1) Depending on the fertility of the soil and irrigation facilities available the nitrogen can be split into two or three doses and applied as top dressing.

(2) For each top dressing not more than 10—12 kg of nitrogen per acre is to be applied.

(3) If the soil is low in nitrogen content the basal dose of manure should be increased.

(4) If the soil has more of nitrogen, the total N to be applied can be reduced and a small dose of fertilizer may be applied.

(5) For poor tillering varieties, more of nitrogen is to be applied basally.

(6) For short duration varieties more quantity of basal application of N followed by top dressing may be done.

(7) For long duration varieties Nitrogeneous fertilizers can be applied in 3—4 split doses.

(8) If planting time coincides with cold season the dose of N is to be increased.

Kuruvai paddy cultivators can maximise their production by keeping in mind the various points enumerated above and increase yield.

(SOURCE : Director of Extension Education, Tamil Nadu Agricultural University, Coimbatore-3.)

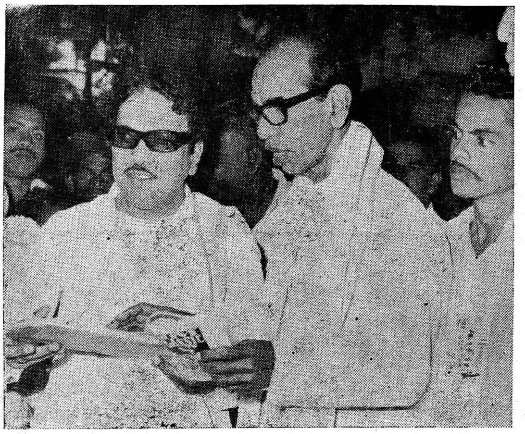
Prosperity Brigade Volunteers

DONATE THEIR EYES

To commemorate the 51st birthday of Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, as many as 51 Prosperity Brigade Volunteers have donated their eyes. This was the first solemn function for the Chief Minister on his Birthday on 3rd June, 1974. The volunteers of the Prosperity Brigade presented a Guard of Honour and Thiru N.V. Natarajan, Minister for Information and Public Relations, Thiru Muthuramalingam, President of Prosperity Brigade of Madras City and Thiru M. Abdul Raheem, Special Officer of Prosperity Brigade, garlanded the Chief Minister. The agreements of 51 Prosperity Brigade Volunteers donating their eyes, were presented to the Chief Minister.

The names of the eye donors are as follows :—

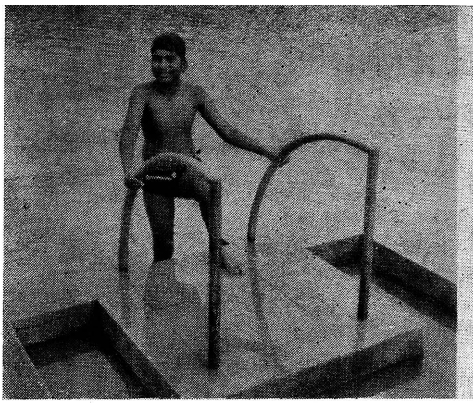
1. P. Vairavan
2. K. Ekambaram
3. P. Lakshmipathy
4. N. Kumarasamy
5. T. Ranjam
6. V. Pandiyan
7. R. Alagesan
8. A. Rajabother
9. K.M. Natarajan
10. K. Srinivasan
11. A. Sahadevan
12. S. Ramamoorthy
13. S. Sundaramoorthy
14. V.T. Muthappa
15. A.P. Seelan
16. N. Veeravaghavan
17. M. Renganathan
18. S.V.C. Lingam
19. M. Manoharan
20. R.S. Bharadhi
21. A.T. Narasimhan
22. Thanjai Kootharasan
23. K. Chittibabu
24. K.P. Pandyan
25. K. Ragupathy
26. T.P. Sivam
27. M. Kuppuswamy
28. M.S. Nambi
29. T. Manavalan
30. M.S. Mani
31. C. Balasubramanian
32. C.S. Thirupuram
33. C.S. Rajeswari
34. C.S. Lakshmi
35. T.P. Kanniappan
36. S. Thiruvengadam
37. V.A. Karbagham
38. C.M. Sadhasivam
39. C.P. Kandayya
40. P.H. Rajasekaran
41. P. Damodharan
42. M.R. Lakshmipathy
43. C. Shanmugam
44. S. Sandhakumari
45. S. Leela
46. S. Gesarajan
47. C. Adhikesavan
48. V. Jaganathan
49. Vijayajeganathan
50. M. Kaliamoorthy
51. P.M. Somasundram.

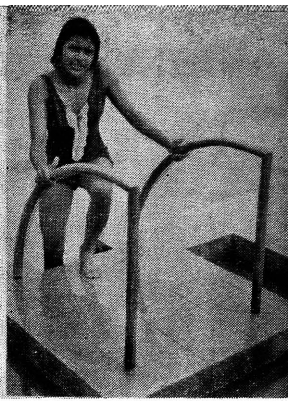


Thiru N. V. Natarajan, Minister in charge of Prosperity Brigade, handing over the agreements to the Chief Minister.

The Chief Minister receiving the Guard of Honour presented to him by the Volunteers of Prosperity Brigade on 3rd June 1974.

ANNA SWIMMING POOL HELPS MORE SWIMMERS TO WIN GOLD MEDALS





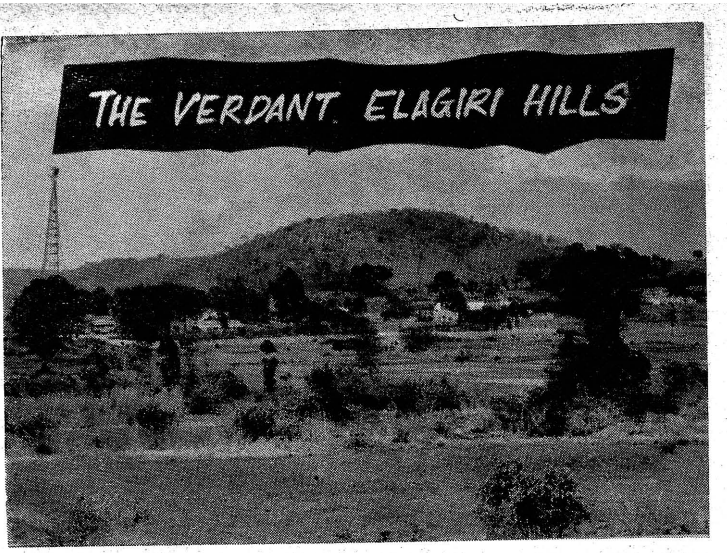
"The Anna Swimming pool is an inestimable asset to our State and with our weather permitting year-round practice, Tamil Nadu would be able to win more and more laurels in national level acquatic competitions in the years to come." feels Mr. T.V. Gnanavelu, Secretary, Tamil Nadu State Aquatic Association. He was commenting on the fact that Tamil Nadu was able to annex two gold medals in the recent aquatic championship held in Delhi. The two gold medalists were avid in practicising at the Anna Swimming Pool, he said. The fact that the Tamil Nadu Police personnel have also taken to serious swimming practice at Anna Swimming Pool to equip themselves for State level and national level aquatic championships is bound to bring credit to Tamil Nadu or at least will pose a serious threat to the unchallenged supremacy of the Armed Forces in aquatic championships in the years to come, he adds. All told, Mr Gnanavelu feels that Tamil Nadu swimmers have come up to Asian championship levels. In order to enable more Indian athletes to avail the benefits of year-round sun, Mr. Gnanavelu says that another National Institute of sports to complement the one at Patiala will be located shortly in the South. The two swimmers who brought credit to Tamil Nadu are Sunitha Agarwal, age 15 and T.G. Senthil age 10. Bio-data of the two swimmers are given below.

Sunitha Agarwal—Age 15 years 6 months, has represented Tamil Nadu four Times in Nationals. She won first place in 100 M. Back Stroke and second place in 100 M. Free Style and 200 M Back Stroke in the Age-wise National Aquatic Championship 1974 at New Delhi in Group I. She is studying final year in Church Park

T.G. Senthil—Age 10 years 8 months, has represented Tamil Nadu five times in Spring Board Diving for Juniors. In the Age-wise 1974 Nationals at New Delhi he came first in Spring Board Diving and 200 M. Free Style. He came second in 100 M., Free Style, 50 M. Butterfiy and 200 M. He is a VI Standard Student in Padma Seshadhri Matriculation HighSchool.

Elagiri

OUR FOURTH HILL STATION



To escape from the ravages of summer heat in the plains, people seek cool heights during holidays or while on vacation. Thus these cool heights are to be termed as resorts. Another Hill resort is in the making for Tamil Nadu, at Elagiri Hills of North Arcot. The other established Hill Stations are the Nilgiris, Kodai and Yercaud. Elagiri is fast developing.

The Elagiri Hills are situated in the Tiruppattur Taluk of North Arcot District. The Hill is an isolated spur of the Eastern Ghats running through the District. The villages on the Hills are situated at an elevation of 3,300 to 3,500 feet above mean sea level and receive an annual rain fall ranging from 35 to 45 inches, a larger part of which being received during the North East Monsoon. However, rainfall is fairly well received from April to November also. The Hills enjoy a salubrious climate and wide variety of agricultural crops are already being grown. Crops mostly paddy, cholam, and cumbu, groundnut and gingelly besides sugarcane, vegetables and fruits are grown. The crops are raised mostly under rainfed conditions, though in certain villages well irrigation is being resorted to. Considering the favourable situation of the hills, with possibilities of reaching established markets like Bangalore and Madras within a few hours, horticulture is being given due weight.

The Elagiri Hills lies in between Jolarpet and Vaniyambadi, about 4 furlongs to the South of Tirupattur —Vaniyambadi trunk road. There are 12 hamlets on the top of the Hills which form the revenue village of Elagiri Hills.

The population of the Village is 2,709 according to 1971 Census.

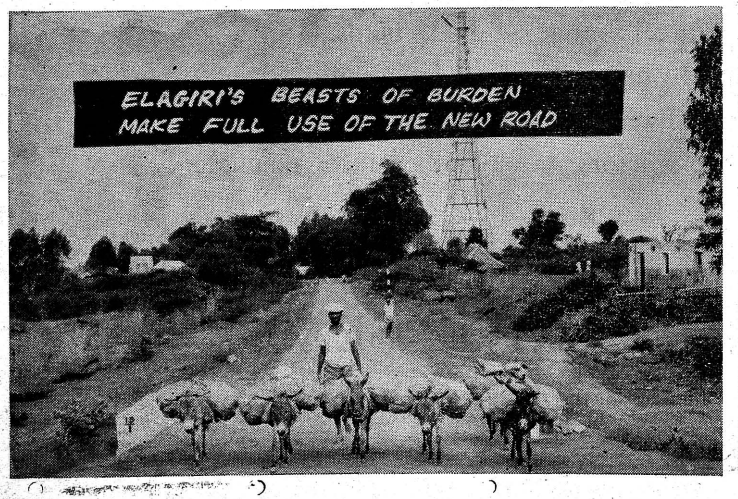
The total area of the Hill Village is 1,452.75 hectares excluding the reserve forest area.

COMMUNICATION

A pucca black topped motorable road has been formed by the Highways Department from the bottom of the Hills to the top. The road measures 8 miles and 2 furlongs. The cost of the formation of the road is about Rs. 18 lakhs.

There is a Post Office at Athanavoor Village and it serves all the other villages.

There are four Panchayat Union Elementary Schools, each upto V Standard, in Nilavur, Mangamal and Athanavoor hamlets. There is one Government Hospital at Athanavoor maintained by the Harijan Welfare Department. Mid-day meals are served to the pupils of all the four elementary schools by the Panchaya Union, Tirupattur, N.A.



Thiru G. RAMASAMY, M.L.A.
Panchayat Union Chairman, Tirupattur,
N.A. Dist.

IRRIGATION

There are no recognied irrigation sources in the hills. The entire hill village is a dry village. But there are private irrigation wells. Electricity has been extended to this village. About 30 electric motors have been installed so far.

The Railway authorities have installed a microwaves repeater station in the Hills for which an extent of 1.54 acres have been acquired. The industries department is running Basic Blacksmithy and Carpentary training centre in the Hills.

The economic condition of the hills tribes is improving consequent on the formation of the road and the extension of electricity to the hills. Several well-to-do citizens in the plains from Madras and other big towns have resorted to purchase of sites for the construction of residential buildings in the hills. This hill village is fast developing into a fine summer resort. Some residential bungalows have already been constructed in the hills.

Thiru C. GOVINDARAJ,
Elagiri Panchayat President.

ABOUT ELAGIRI HILLS

Name of the President	..	Thiru G. Govindaraj
Population	..	As per recent Census 1971 2,709 (Scheduled Tribes 2,501 Scheduled Caste 71 Other Caste 137)
Name of the Revenue Villages constituting the Panchayat	..	Entire Elagiri Hill Village and its Hamlets. (Survey No. 1 to 456).
Area of the Panchayat	..	7.05 Sq. Miles.
Number and names of hamlets	..	1. Athanavoor, 2. Nilavoor, 3. Punganur, 4. Mangalam, 5. Kottayoor, 6. Thayalur, 7. Putthur, 8. Paduvanur, 9. Rayaneri, 10. Mettukaniyoor, 11. Pallakaniyoor, 12. Kotoor.
No. of members of the Panchayat	..	11 including one elected woman member.
Office Building	..	One Office Building has been constructed at Nilavoor
Length of roads	..	About 7 miles.
Street lights	..	Not yet provided. Steps are being taken in this regard.
No. of drinking water wells	..	10 including one ground level reservoir at Athanavoor.

There is a branch of the Y.M.C.A. in Thayalur which provides both for lodging and boarding facilities to the travellers under previous intimation. There is a forest rest house in Kottur which is about 3 miles from the newly formed road. The rest house is not easily accessible and it is now under repairs.

A Highways Department Travellers Bungalow constructed at a cost of Rs. 50,000/- adjoining the bus stop, is now serving to the needs of travellers. But this is only a small beginning.

Elagiri Hills is otherwise called as "Poor Man's Ooty" and it has attracted the Film Producers also for outdoor shooting.

There is a temple of Lord Muruga which attracts many devotees and the surrounding villages.

A Kalyana Mandapam has been constructed to serve the needs of the villagers and it can also be used as community hall by the villagers when necessity arises.

Despite these Achievements
Rising Population Raises Problems

SURELY YOU CAN

BY PLANNING YOUR FAMILY

DEPARTMENT OF HEALTH SERVICES AND FAMILY PLANNING

Regd. No. M. 8676–A

VISIT Poompuhar

FOR A REAL INSIGHT INTO Tamil Culture

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

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

FOR FURTHER DETAILS
CONTACT :
RECEPTION OFFICER,
Poompuhar Art Gallery
[VIA] SIRKALI, THANJAVUR DIST.

EDITED AND PUBLISHED BY THE DIRECTOR OF INFORMATION AND PUBLIC RELATIONS, GOVERNMENT OF TAMIL NADU
AND PRINTED AT THE TAMIL ARASU PRESS, GOVT. ESTATE, MADRAS-600002.