

Tamil Arasu

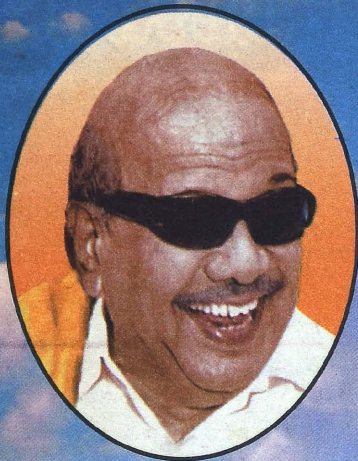
July - Aug - Sep - 2000.

Rs.15/-

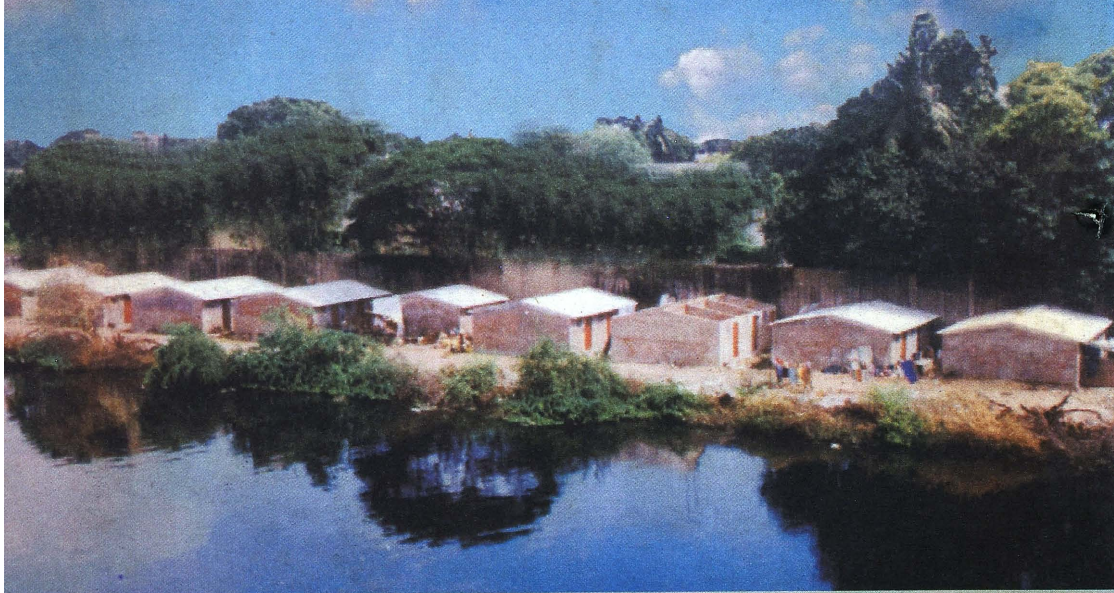
TIDEL



TIDEL PARK



கலைஞர் ஆட்சியில் 46,600 கல்நார் வீடுகள்



சென்னை, மதுரை, திருச்சி, கோவை, சேலம், திருநெல்வேலி
ஆகிய மாநகராட்சிப் பகுதிகளில் தமிழ்நாடு குடிசைப் பகுதி
மாற்று வாரியத்தின் முலம்...

1998 - 1999 ←
1999 - 2000 ← → ரூ.26.5 கோடி செலவில் 20,600 கல்நார் கூரை வீடுகள்

2000 - 2001 → ரூ.39 கோடி செலவில் 26,000 கல்நார் கூரை வீடுகள்

TAMIL ARASU

Magazine of the Government of Tamil Nadu

Thiruvalluvar Year 2031

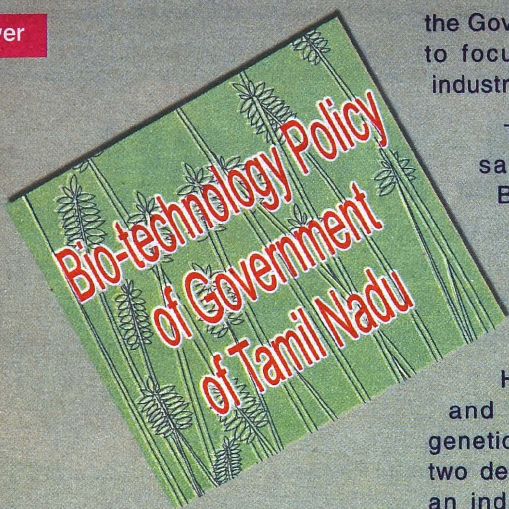
Aani - Aadi - Aavani - Purattasi

July - August - September, 2000

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BOUNDLESS POTENTIAL



the Government of Tamil Nadu has decided to focus on another knowledge-based industry. i.e. Bio- technology.

There is growing realisation world over that Biotechnology along with Information Technology is going to be the major thrust area in the new millennium. With the announcement of the Human Genome sequence and the progress made in genetic engineering in the last two decades, Biotechnology as an industrial activity is set to increase exponentially in the future. Recognising this trend, Dr.M.Karunanidhi, Hon'ble Chief Minister of Tamil Nadu had announced in his Budget Speech for the year 2000-2001 that a Biotechnology Policy for the State will be formulated and implemented. As a follow-up of this, a High Level Committee under the Chairmanship of the eminent scientist Dr.M.S.Swaminathan was constituted to give recommendations for a Bio-technology Policy for the economic development of Tamil Nadu. The Report of the above

Tamil Nadu has emerged as a front ranking State in attracting investments. The growth in knowledge-based industries in the State in recent years has been phenomenal. The export of software from the State which was only Rs.37 crores in 1995-96 has reached Rs.1,914 crores in 1999-2000. In order to consolidate these gains and carry the State forward in the path of economic development,



BOUNTIFUL PROFITS

Committee has been received. On the basis of this Report and further examination of all related aspects, the Government of Tamil Nadu has decided to announce a Biotechnology Policy.

Background

Tamil Nadu is rich in bioresources. The variety of geographical terrains in the State provides tremendous biodiversity rarely seen in any other single State. The forest, agricultural and plant resource base of the State are both large and diverse and represent great market opportunity for Biotechnology products. There are more than 5,000 species of flowering plants and the forest cover in the State spreads over 22,500 Sq.kms. The State also has one of the largest coastlines in the country which again presents opportunities for Marine Biotechnology. The State is also fortunate to have a pool of experts in various areas of Biotechnology with experience in commercialisation of Biotech products. Tamil Nadu is thus well-placed in terms of human resources to exploit the opportunities in Biotechnology.

Industrial activity so far in the area of Biotechnology has been largely in first generation Biotechnology like fermentation of antibiotics. A number of Tissue Culture Units to produce food and ornamental plants have also been set up by leading industrial houses in Tamil Nadu. Thus, Tamil Nadu has the potential to create a critical mass of industrial activity in Biotechnology, graduating from the current first and second generation Biotechnology projects to modern Biotechnology products involving recombinant, DNA based products and Bioinformatics. In line with the developed world, the Government would strive to focus on modern processes in the area of agriculture, industry, medical and veterinary sciences and environment, together with focus on traditional Biotechnology products, especially in the area of industrial and food enzymes where

there are a number of opportunities to tropicalise products which are already used in the Western World. These are likely to provide good commercial opportunities in the short-term and need to be included in any co-ordinated steps taken by the State in Biotechnology.

Opportunity areas for Tamil Nadu

Tamil Nadu needs to pursue opportunities in all the four segments of Biotechnology:

- Medical / Human & Animal Healthcare.
- Agriculture-food
- Environment
- Industrial Products.

Though medical and Agriculture-food areas are more relevant from the international market point of view, in the Indian context (and particularly Tamil Nadu's context, where textiles and leather are major industry sectors), environment and industrial products are also likely to present immense opportunities in the short term - both for traditional and modern Biotechnology products.

Medical

Tamil Nadu would present an attractive market for Medical Biotechnology products as it accounts for about 11% of the pharmaceutical market in the country. Apart from penicillin manufacturing and a reasonably large number of loan licence formulation units, investment in this sector within the State has been low. Hence Biotechnology presents an ideal opportunity for the State to reverse this trend.

Innovative efforts to collaborate with strong institutes within the State will be encouraged. For example, collaborative effort with the TB Research Centre, Chennai, to develop an effective vaccine, will be highlighted. The vast collection of

clinical specimens and the work going on at this Institute as well as several others would be showcased for further research and product development.

A few other areas of focus under the Medical Biotechnology will be :

- Diagnostics
- Vaccines (Hep C, Malaria, etc.)
- Therapeutics (Interferon, Insulin, etc.)
- Veterinary Drugs (including vaccines)

Agriculture-Food

Opportunities to work with the germ plasm database available with institutions like Tamil Nadu Agricultural University (TNAU) and M.S. Swaminathan Research Foundation (MSSRF) will be focus areas. Agriculture-food products like rice, coconut, sugarcane and tea, which have a strong presence within the State will be targetted for Biotechnology research.

- A few other important areas of focus in the Agriculture-food sector are:
- Biopesticides and Biofertilizers
- Natural products in Healthcare (from Medicinal Plants)
- Animal Feeds / Supplements from Agricultural Products
- Flavours / Fine Chemicals / Amino Acids / Nutrient Supplements from animal waste.
- Transgenics (improved biotic and abiotic stresses agronomic and nutritive qualitative characteristics)
- Diagnostics - Disease Markets.



Environment

The focus on Environmental Biotechnology products within the State will be in important sectors like leather and textiles. Collaborations with reputed institutes like Central Leather Research Institute (CLRI) will be encouraged to develop appropriate products.

A few key areas of focus will be :

- Methods / Apparatus / Techniques for Biosensors.
- Microbial strain development of Cultures for waste management
 - Bioremediation
 - Effluents and waste water
 - Creation of value-added catalog of germ plasms including microbial germ plasms.

Industrial Products

A few key areas of focus will be :

- Food and Industrial enzymes (Papain, Phytase, Lipase, Enzyme Cocktails, etc.)

- Classical Fermentation products (antibiotics, immuno modulators, etc.) for yield improvements
- Bioenergy
- Surface and additives
- Biopolymers.

To sum up, there are a number of opportunities in the above segments of Biotechnology, which can be commercially exploited to create new jobs and economic wealth in the State. Many of the opportunities are based on the bioresources available within Tamil Nadu. The Government will take steps to create appropriate mechanisms and implementation structures as stated below to derive benefit from these opportunities.

Creation of Bio-Technological Enterprise Zones (Bio-Valleys) in Tamil Nadu

The Government of Tamil Nadu will facilitate the establishment of Biotechnology Enterprise zones (Bio-valleys) along the lines of Silicon Valley to exploit the bioresources of the State. Efforts will be made to encourage the establishment of different types of biotech entities consisting

of research organisations, service providers, as well as companies which will commercialise the new products and processes. Efforts will also be made to create a network among these biotech entities to facilitate information and knowledge transfer.

Four Biotech Parks and a Bioinformatics and Genomics Centre will be established, each of which would aim at leveraging the bioresources of the agro-ecological zones of Tamil Nadu. These five entities will be hub of the Biotechnology Enterprise Zone.

The above five entities will be as follows:

Biotechnology Incubator Park near Chennai

This will be set up at a cost of about Rs.40 crores by Tamil Nadu Industrial Development Corporation Limited (TIDCO) in association with American Universities which have experience in managing such Incubator Parks successfully. The project will be structured on a commercial format, the details of which will be worked out by TIDCO. This Incubator Park will mainly focus on Agriculture, Medical, Environment and Industrial Biotechnology opportunities.

The Park will provide centralised services to a large number of individual enterprises to develop and commercialise products and patents.

Women's Biotechnology Park, Kelambakkam

The Women's Biotechnology Park at Kelambakkam near Chennai will continue to receive support from the Government. This Park will mainly focus on microenterprise and traditional biotechnologies. Efforts will be made to



achieve the full potential of this park in terms of enterprise development and employment.

Medicinal Plants Biotechnology Park

A Medicinal Plants Biotechnology Park will be set up near Madurai. This Park will focus on Medicinal Plants and opportunities for sourcing of raw materials in a sustainable manner and value addition to scientifically tested herbal medicines. This Park will also provide facilities for growth of traditional medicinal systems. This Park will be established in the Industrial Park promoted by State Industries Promotion Corporation of Tamil Nadu Ltd. (SIPCOT) near Kodaikanal Road where 380 acres of land have already been acquired and developed. TIDCO and SIPCOT will jointly work on commercialising this project.

Marine Biotechnology Park

A Marine Biotechnology Park will be set up in the Mandapam area for promoting ecologically sustainable Marine Biotechnology Enterprises including the use of sea weeds, production of oysters, mussels, yeels, crabs and other sea food items. Emphasis will also be given on conservation and regeneration of mangroves and sea grass and organisation of low external input sustainable aquaculture (LEISA). The Marine Biotechnology Park will function in close co-ordination with Gulf of Mannar Biosphere Trust.

Bioinformatics and Genomics Centre (BGC)

This will be located in the TIDEL Park, Chennai. This Centre will explore the Indian genetic pool, exploit the germplasm base available and leverage on the existing pool of Indian Bioinformatic scientists and low cost local software skills. The proposed BGC will also facilitate research and enable bioentrepreneurs to commercialise their research findings, validate products,

contract sequence services and provide other services like training. This Centre will function on a commercial basis. The adequate bandwidth available in the TIDEL Park will be exploited for the purpose. TIDCO will facilitate its creation.

The Government will also initiate an exercise to take a detailed inventory of the bioresources within Tamil Nadu with the help and possible grant from National Bioresources Board. The service of the Bioinformatics and Genomics Centre would be used to make available this information through database.

Regulatory Facilitation

The regulatory framework for establishing a Biotech entity or for commencing research activity is largely controlled by Central Institutions. Several Biotech bodies like Recombinant DNA Advisory Committee (RDAC), Institutional Biosafety Committee (IBSC), Review Committee on Genetic Manipulation (RCGM) and Genetic Engineering Apporval Committee (GEAC), etc., are involved in the process with clearly laid-out procedure and mechanism. The role of the State Government is currently restricted to IBSC and District Level Committee (DLC) which largely involves inspection and monitoring of field trials and co-ordinating with Central Ministries from time to time. **The State Government will provide single window facilitation for Biotech enterprises and entities to obtain clearances from the various Central agencies.** An appropriate body will be positioned for this purpose in consultation with the Department of Biotechnology, Government of India.

The State Government will also facilitate creation of quarantine facilities and sanitary/phytosanitary measures as per the WTO agreements for biologicals and other items and facilitate quicker and easy

clearances to prevent degradation of sensitive materials.

Strengthening of Human Resources Pool

The Government will initiate measures to enhance the human resources pool for Biotechnology available within the State. Efforts will also be made to facilitate greater interaction between scientists at various universities and representatives of industries including occupants of the various Biotechnology Parks. An appropriate framework will be positioned for this.

Human Resource Initiatives for the Government will consist of the following:

- Suitably changing the procedures in existing State-supported universities and institutions to facilitate better interaction with the business community and encourage the creation of scientist / technologist entrepreneurs.
- Initiating the creation of certain new, short duration technician oriented courses at appropriate universities in specific areas (post B.Sc. / M.Sc.)
- Increasing the intake of students in Biotechnology courses currently offered in various universities.
- Evaluate and provide one - time grant to specific institutions for establishing appropriate training courses for creating Bioinformatics professionals to exploit the emerging opportunities in this area.

Another major human resource initiative will be to capitalise on the existing institutions, research bodies and universities which are carrying out research in Bio-technology areas. Large volume of information is available on bio-logical materials, knowledge of critical processes, product techno-logies, partner-ship opportunities for collaborative research, training and commercial applications.

A networking facility will be established to enable the existing universities, institutions and Commercial Biotech entities to exchange knowledge, research methodologies, appropriate utilisation of bioresources, disease prevention, product validation and field trials.

Establishment of Emerging Technologies Fund for Bio-Technology

Through TIDCO, the State Government will facilitate the establishment of a Venture Fund with an initial corpus of about Rs.30 crores for Biotechnology. This fund will be



known as "Emerging Technologies Fund". The fund would be managed by professionals and would target at Biotech projects both within and outside Biotech Parks.

Establishment of Tamil Nadu Bio-Technology Board (TNBB)

The State Government will establish a Tamil Nadu Biotechnology Board (TNBB) under the Chairmanship of an eminent expert in the area of Biotechnology. This Board will consist of Senior Officers from the Government as well as eminent

representatives from industry and experts from the field of Biotechnology. The TNBB in turn will set up Standing advisory Committees in the following areas to identify and attract suitable enterprises:

- Medical and Veterinary Biotechnology
- Food and Agricultural Biotechnology
- Bioinformatics and Genomics
- Environmental Biotechnology
- Industrial Biotechnology.

The Board would help and advise the Government to convert the rich bioresources in Tamil Nadu into economic

Framework. The Board is also expected to play the role of a proactive body that will take initiatives and help in mobilising the internal and external resources (both technical and financial) essential for Tamil Nadu assuming a position of leadership in Biotechnology based on the principles outlined in Programme 16 of Agenda 21 of the U.N.Conference on Environment and Development held at Rio-de Janerio in 1992, with reference to environmentally safe uses of Biotechnology. Accordingly, the Board will take steps to ensure that the developments in the State in this sector move towards environmentally safe uses of Biotechnology. TNBB will also explore

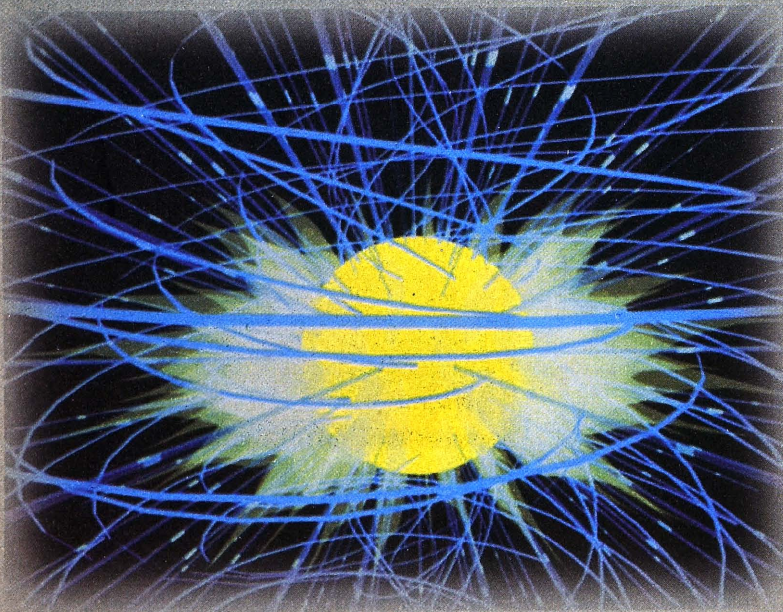
opportunities to carry out collaborative research with other Countries which have made much advance in this area.

Treatment of Bio-Technology as industry

All Biotech units undertaking commercial production would be treated as industry and would thus be eligible for all incentives to which industries

are eligible. Power will be supplied to them by the TNEB at industrial tariff rates. The above facilities would be available based on approval / certification by the TNBB.

The Bioinformatics units would be allowed to have FSI norms on par with IT industries.



wealth in ecologically and socially sustainable manner. The Board would also tender advice on policy matters relating to Biotechnology such as biotechnology choice, training, human resources development, techno infrastructure, crosscutting issues like biosafety, bioethics and biosurveillance. The Board will play a major role in creating the Regulatory



The Hon'ble Prime Minister of India, Thiru A.B. Vajpayee, inaugurated the State-of-the-art 'TIDEL Park' at Taramani, Chennai, setup by the Tamil Nadu Government on 4-7-2000.

The Hon'ble Prime Minister in his inaugural speech, complemented the Government of Tamil Nadu for setting up the TIDEL Park and said that he was impressed by Tamil Nadu's rapid progress in agriculture, industry, education, health care and other sectors. He also said that Tamil Nadu had done more than any other State to promote IT in Tamil and would like all States to emulate Tamil Nadu to recreate their literary, cultural and artistic heritage in digital form in their languages.

He called for an urgent attention to the development of IT for the revival and modernisation of the Country's traditional

TIDEL PARK proves that Tamil Nadu leads in IT Field

industries. He wanted to see within the next five to ten years the Internet and related technologies and services touching the life of all Indians.

He appealed to Scientists, Professionals and entrepreneurs to create useful, affordable and widely - available IT services that would benefit farmers, artisans, small traders and other ordinary people. He also added that there is an urgent need to generate useful educational, commercial and



other types of content on the internet in Indian languages.

The Hon'ble Chief Minister in his presidential address :

"We are in the information age. In this age, it is "knowledge" more than anything else that will determine our standard of living. IT is the foremost example of a knowledge-based industry that symbolizes our future . In the words of our Hon'ble Prime Minister, IT is "India's Tomorrow".

TIDEL PARK is the largest and most sophisticated facility of its kind in India. It has world-class facilities dedicated to meeting the needs of the IT industry. It has been constructed in record time and there has been no cost or time overrun.

TIDAL PARK has a number of unique and important features. A state-of-the-art thermal energy storage system has been incorporated for 50% of the installed capacity. This thermal energy storage system is the third largest in the World-next to France and Japan - and first in India.

I commend all the individuals and organisations, who have contributed to this tremendous effort. Its inauguration today is an important milestone in our IT history.

We are greatly privileged to have the Prime Minister and his distinguished colleagues with us today to grace this occasion and dedicate this facility to the nation.

Thiru Vajpayee has been a good friend of mine for long, despite political differences. He is a versatile personality. He is a statesman; he is a poet; he is an orator. Above all he is a great humanist, showering

love and concern on all, whether majority or minority. He is a secular leader.

I am telling this not because I am in the N.D.A. I have been consistently showing great respects and regards to our Prime Minister.

He is really an admirable Prime Minister. Therefore his presence here for the inauguration of the TIDAL PARK adds prestige and pride, grace and glory to this historic occasion.

TIDEL is a shining example of our State Government's commitment to the growth and well-being of the IT industry in Tamil Nadu. TIDEL dominates our skyline here today like a colossus. We are confident that Tamil Nadu will similarly dominate the Indian IT scene very soon.

As this TIDEL PARK has proved to be a grand success even at the initial stage, we now propose to implement TIDEL PARK-II Project in Chennai very soon.

The growth of the IT industry in Tamil Nadu has been remarkable. Joining belatedly to the Indian IT Revolution, Tamil Nadu has achieved remarkable progress in the last 4 years of the D.M.K. Government, as stated in the report of the Harvard University.

Tamil Nadu had only 34 Software units in 1995-96. Their exports were just Rs.37 crores.

From 1996-97, growth has been very rapid.

By 31 March 2000, the number of units has increased to over 600. Exports were as high as Rs.1914 crores during 1999-2000.



Recent studies in October 1999 by the Harvard University of USA have predicted that Tamil Nadu is poised to emerge as the largest IT State in India. As the Harvard study remarks, "Why can't Tamil Nadu be not only the leader in India, but also become a regional gateway to Asia, home to half the humanity?"

Tamil Nadu is hailed as a large reservoir of talent and an intellectual power-house and therefore our Government has been making various efforts to enhance the reputation of Tamil Nadu internationally.

Our Government is committed to providing good governance. As a result, our infrastructure, human resources and work culture are uniformly excellent.

We have been taking a good number of initiatives to ensure speedy and purposeful growth of IT in Tamil Nadu :

- *Tamil Nadu is among the first States in India to announce a policy for IT and create a separate IT Department that reports directly to the Chief Minister.*
- *Tamil Nadu has the largest number of software professionals among the States in India.*
- *A NASSCOM study in 1998 had rated Chennai as the best possible location for investment in the Software industry.*
- *To make universal access to Internet a reality, we encourage the creation of high bandwidth, optic fiber backbone networks in the State. Work on the first such project has already started.*
- *Several electronic government projects are under implementation to make the interaction of our citizens with Government both pleasant and*

records, land maps, Taluk Offices, Sub-Registrar's Offices, Regional Transport Offices, Sales Tax Offices and Municipal Services.

- By 2008, we want all our students to be digitally literate when they pass out of school. As a first step, we have started offering computer science in all 1200 Government Higher Secondary Schools throughout the State.
- A major digital literacy programme to cover students of Government Arts & Science Colleges is being launched during this academic year.
- The largest Mainframe Computing Capacity is available only in Tamil Nadu.
- Chennai is fast developing as a major centre for large-scale development of multi-media software applications.
- A large IT park extending over 1000 acres is coming up in Siruseri Village on the Old Mamallapuram Road.
- We will be giving financial support to STPI to set up international data links in all parts of the State. As a result, facilities are expected to come up in Madurai, Tiruchirappalli, Salem and Tirunelveli before the end of this year.

Our State Government is committed to making Tamil Nadu the top IT State in the Country and a global IT power house.

To make this happen, I am confident that the Central Government and its Ministries will extend their complete support to us.

Specifically, we look forward to favourable decisions on the following items:

1. Encouraging STPI to set up international data links throughout Tamil Nadu.
2. Early establishment of an "Indian Institute of Information Technology and Management" at Chennai by the Ministry of Human Resources Development.
3. Coverage of all development Blocks in Tamil Nadu under the central sector scheme of providing Block level community information centers.
4. Encouraging the establishment of a landing point at Chennai for intercontinental, under sea fiber optic cables.

Let me conclude by congratulating the IT companies who will be the occupants of TIDEL PARK.

I wish them and the IT industry in Tamil Nadu every success and a very bright future".

The Hon'ble Union Minister for Commerce and Industry, Thiru Murasoli Maran, the Hon'ble Union Minister for Information Technology, Thiru Pramod Mahajan, the Hon'ble Union Minister for Communications, Thiru Ram Vilas Paswan, the Hon'ble Union Minister for Power, Thiru Rangarajan Kumaramangalam and the Hon'ble Union Minister for Environment, Thiru T.R. Baalu, also spoke on the occasion.

★ ★ ★

In the fierce battle for investment among the States, Tamil Nadu has made a big leap by upstaging Maharashtra and has captured the top slot with a huge difference of Rs.2,394 crore.

According to the latest investment tally, compiled by the Centre for Monitoring Indian Economy (CMIE), Tamil Nadu scored the first rank with an outstanding investment of Rs.1,60,804 crore as on July 31, 2000.

Maharashtra has been pushed down to the second slot with Rs.1,58,410 crore followed by Gujarat (Rs.1,38,135 crore). Andhra Pradesh retained its fourth rank with investments of Rs.1,33,535 crore while Orissa came next with Rs.1,12,373 crore.

Among the other States, Karnataka increased its investment tally to Rs.96,564 crore. Bihar accounted for Rs.44,600 crore. Kerala Rs.43,312 crore and Uttar Pradesh Rs.74,271 crore.

THE BIG LEAD

STATE	Outstanding Investment
	As on July 31, 2000 (Rs. in Crores)
Tamil Nadu	1,60,804
Maharashtra	1,58,410
Gujarat	1,38,135
Andhra Pradesh	1,33,535
Orissa	1,23,373
Karnataka	96,564
Uttar Pradesh	74,271
Kerala	43,312

Tamil Nadu wears the investment crown

Tamil Nadu has put up an impressive show considering the fact that in the previous monthly survey of CMIE till the quarter ending April 30, 2000 - it had missed the top slot with a slender margin of Rs.318 crore. It had a tally of Rs.1,56,918 crore against Maharashtra's Rs.1,57,236 crore.

Since then, the royal battle was hotting up between the two rival States. This time, Tamil Nadu won hands down with a huge margin of Rs.2,394 crore over Maharashtra. Also, in the process Tamil Nadu had reported an additional investment of Rs.3,886 crore, whereas Maharashtra had added new projects worth Rs.1,174 crore.

Karnataka too had sustained its aggressiveness with new investments of Rs.2,384 crore while it came to Rs.1,496 crore in Andhra Pradesh.

Surprisingly, Gujarat reported a marginal decline of Rs.805 crore between April and July this year. Kerala too reported a decline of Rs.1,266 crore.

- Courtesy : Economic Times

“S amathuvapuram,” the Government’s pet, statewide housing-project is a symbol of the peaceful co-existence of traditionally antagonistic castes, but in Kuthambakkam, a village in Thiruvallur district, it promises to be a trendsetter in people’s architecture.

It is definitely low-cost and meant for the poorest of the poor. But the ambience of this sprawling housing scheme, spread over 14 acres, is strikingly stylish and the design, cost-effective to the last square inch.

This Samathuvapuram, the 76th in the State, to be inaugurated by the Chief Minister, Mr. M. Karunanidhi, on October 7, packs an entirely new range of features.

The most obvious of them is the rise in the plinth area of the houses. If the space possible in the standard group-housing design elsewhere

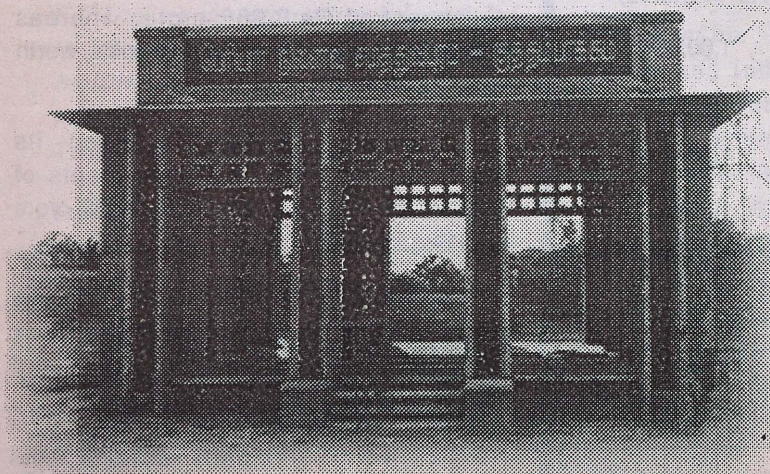
was only 210 square feet, at Kuthambakkam, it is 286 square feet.

The philosophy behind the design of the project in Kuthambakkam, shared by the Government, the district administration and the young team of architects, who call themselves “Peoples Architecture Commonweal,” is to use maximum local inputs and to make living a natural experience. “It is based on the need, cost and viability,” says Mr.K.Sudhir, one of the architects.

MEANT FOR POOR, BUT RICH IN ARCHITECTURE

• G.Pramod Kumar

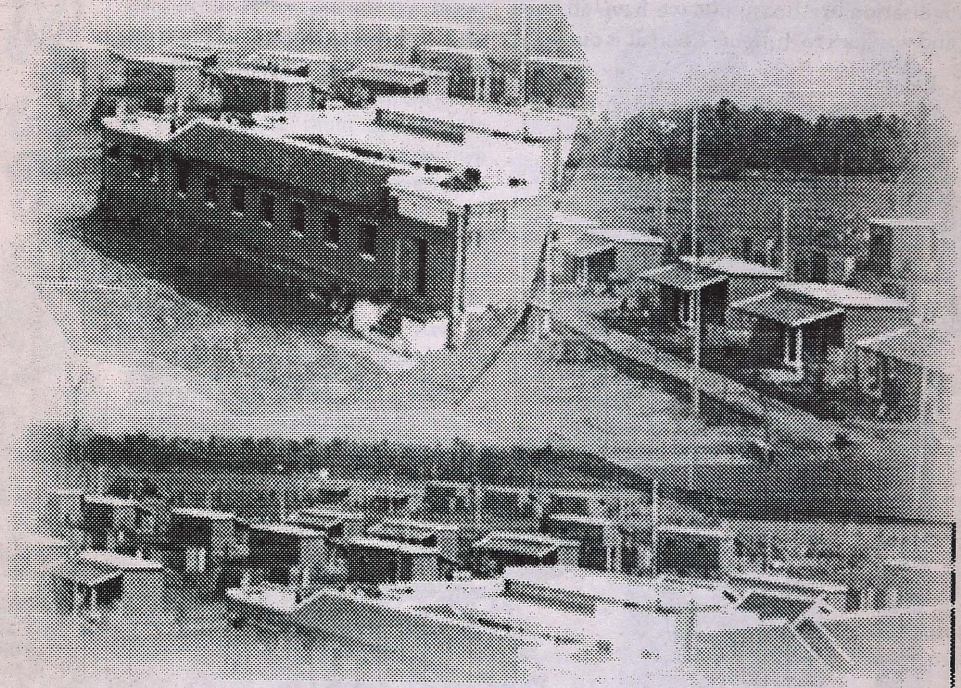
The beneficiaries of the Kuthambakkam project will be fortunate on more counts than one, thanks to the design-innovations. While the dwelling units of other samathuvapurams have only a “Jali” for ventilation, the houses here have a complete window. Similarly, while people have to cook within their dwelling space in other samathuvapurams, here, they can do it at an enclosed corner of the veranda, which can be even built up as a kitchen later. The toilet



here has been removed to the rear of the plot in deference to the conventional preferences.

The inputs ranged from materials to labour. The "mud block" used for the construction of the beautifully laid-out balwadi, which also houses

used the old "Madras terrace" technique. Five teams of traditional artisans from Tirunelveli completed the intricate work within the target time. Similarly, for foundation and the plinth, random rubble masonry has been used.



a ration-shop, is an example. Made using sand, cement and locally available red soil, in an inexpensive machine, these blocks are eco-friendly, fast to make and aesthetically appealing. The same "bricks" could not be used in the dwelling units because of time constraint.

To offset the high cost of the bricks, the Commonweal used red mortar stabilised with lime. "Red mud of this area is an excellent mortar," says Ms. Vishnupriya, another architect of the four member group.

In all the 100 houses, there is practically no use of concrete. For roofing, the architects have

"Our aim is to make it more labour intensive and ensure that the maximum outflow is to the local people," adds Ms. Vishnupriya. Out of the cost of about Rs.88 lakhs, Rs.28 lakh was paid for labour. Unskilled labour and bulk of semi-skilled labour came entirely from the villages. Every day, at least 115 villagers were employed and a sizable number of them were those rehabilitated from the social-crippler, the illicit arrack trade, said Mr. Elango, president of the Kuthambakkam Panchayat.

Courtesy : The Hindu

• • •

O ur literature, art and architecture are fine specimens of human intelligence, but they bear the ravages of time and also the effect of currents and cross-currents so that to-day, we have to listen to the foreign historian, or scholar in order to realise the glory and grandeur of Tamil Nadu. Our culture and civilisation are hoary but we have allowed scars and wrinkles to disfigure them. It is our duty,

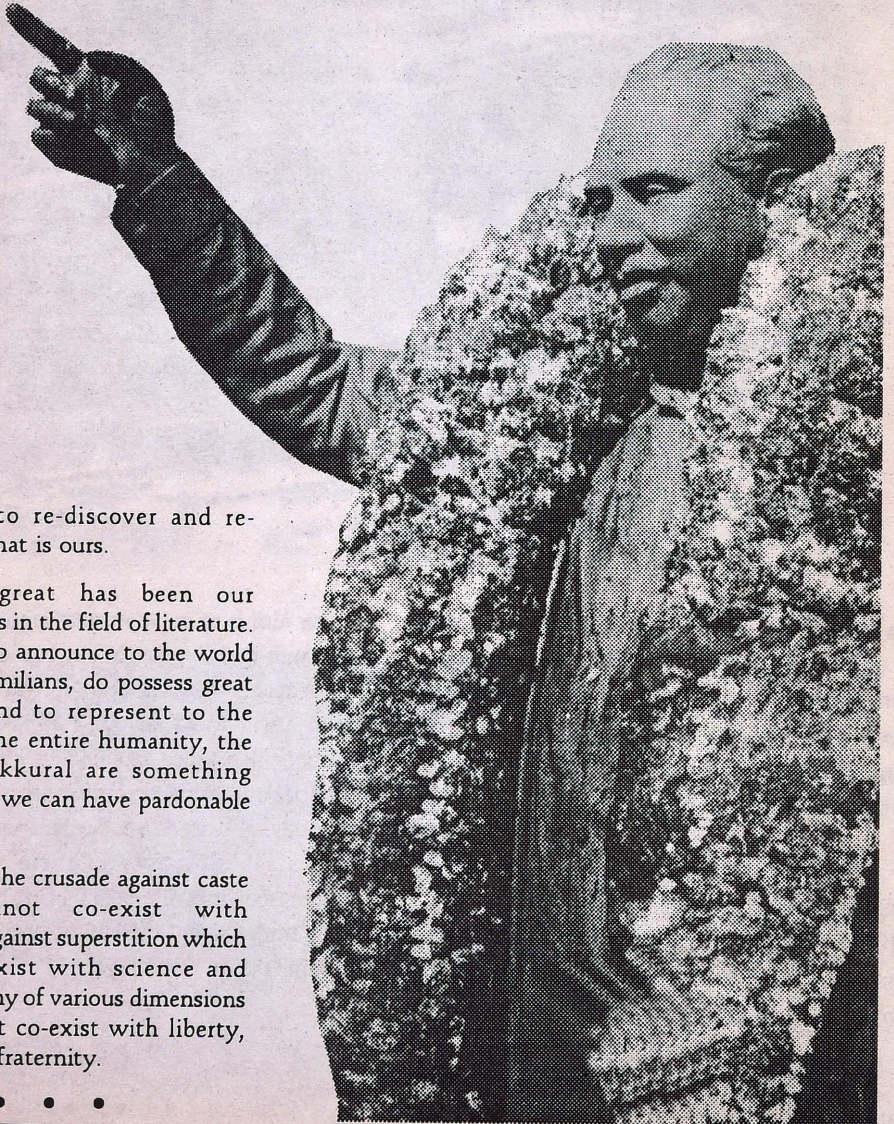
Carry on...

therefore, to re-discover and re-construct what is ours.

Truely great has been our achievements in the field of literature. To be able to announce to the world that we, Tamilians, do possess great literature and to represent to the world and the entire humanity, the great Thirukkural are something about which we can have pardonable pride.

Carry on the crusade against caste which cannot co-exist with democracy; against superstition which cannot co-exist with science and against tyranny of various dimensions which cannot co-exist with liberty, equality and fraternity.

• • •



Mr.Chancellor, Mr.Pro-Chancellor, Mr.Vice-Chancellor, Graduates of the Year and Friends!

Thankful as I am for the unique honour conferred on me by this institution, it is not without hesitation and a good deal of trepidation that I stand before this august assembly to-day to deliver the Convocation address, for though it is a pleasure to be present on the happy occasion of greeting the graduates of the year and wishing them all a bright and prosperous future, it is not an easy task to place before them appropriate guidelines-conscious as I am of my own limitations and aware of the eminence of those who stood at this rostrum in the past and gave weighty and worthy advice to graduates. Stalwarts in various walks of life scholars of erudition and experience, administrators of rare abilities, have all been here to deliver instructive discourses, and I do not for a moment imagine that I have the capacity to add anything substantial to what has been already said by those who preceded me. I am convinced therefore that to be called upon to deliver this address is not so much an invitation but as a command to me to bestow the most careful and considered thought on the role of Universities in general and of the Annamalai University in particular.

The fact that I am conscious of my own limitations gives me a sense of relief, for attempt I shall not to offer original ideas or theories with a special stamp, but only reiterate some of the cardinal principles enunciated by those who offered their advice in past years, perhaps with annotations here and there, bringing to bear the lay-man's point of view to the findings of experts in various fields connected with education. This is the age of the common man-whatever the regrets some might have and it is his point of view that matters most and I do claim to represent him in all his ruggedness. Systems and schools of thought, whether it is philosophy or political, ethics or economics are certainly meant for him. Of course, the interpretation should come from scholars and experts and the art of



translating them into every day activity is to be undertaken by the administrators. Universities as the repositories of knowledge and the nurshing ground for

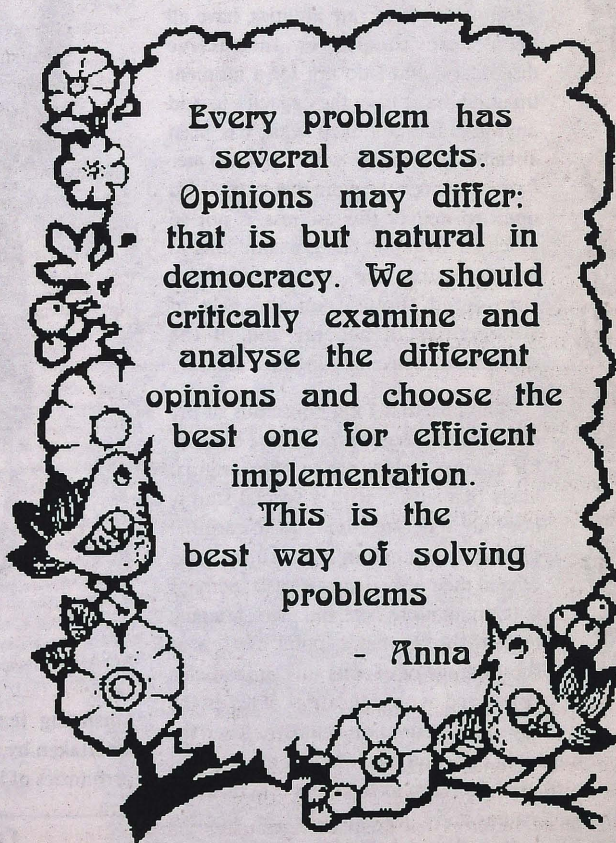
*Convocation address of
Arignar Anna at the
Annamalai University on 18.11.1967.*

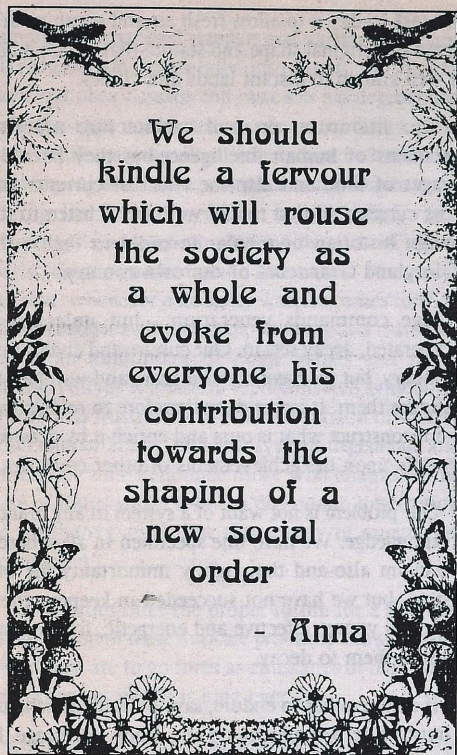
the emissaries of thought, wisdom and service, have got a prominent role to play - and the prominence is growing every day, as more and more individuals get themselves equipped for the task of bettering society in all its sectors and spheres. This is all the more so in this age when we have eschewed monarchy and autocracy and have inaugurated the era of democracy. During the monarchical or feudal days, Universities had to train scholars and poets to adorn the chambers of Royalty or the gilded mansions of Lords and nobles and their wisdom was meant for the mansion, not for the marketplace. Those were days when numbers did not count, nor were eminent scholars asked to face the problems confronting the masses. They were content to work in secluded spheres, far from the din and noise of the common man, and weave the costly fabric of philosophy or poetry which in turn was to be converted into dazzling garments for the select and the privileged.

The role of the University today is not cloistered and confined as in the past. Its function has been enlarged not in its fundamentals but in its domain. It has to take into account the common man not to perpetuate his commonness, but to - and train, guide and lead him, for he is called upon today to perform uncommon tasks. He is asked to do his duty as the citizen of a democracy a task which kindles sweet hopes but which demands patience and perservance, faith and confidence, faith in himself and in others and confidence in his inherent ability to shoulder the responsibilities. The common man has become the Ruler of the land-he holds his destiny in his own hand. Unlike in a bygone age, when rulers were born either in palaces or in mansions, to-day, every hamlet and every hut has become the birth place of a potential ruler and the duty to-day, the responsibility to-day of the Universities is to fashion out of him an individual fitted and equipped for the task of making democracy fruitful and effective.

I said that the duties and responsibilities of Universities have

grown in dimension and scope, but pointed out that the fundamentals remain unaltered and these fundamentals are of permanent value and of perennial interest. The supreme task before the University is to give those who seek vision of knowledge in its true proportions and perspectives, to maintain the sovereignty of ideas and ideals in the world. A balanced mind, the ability to discriminate between what is merely trivial and what is important, the capacity to look at a problem from all its angles without fear or favour, to be tolerant of the other man's point of view; these are fundamentals which are unalterable and it is only the Universities that can provide society with a continuous stream of men and women endowed with these qualities. While addressing the University of Brussels, Dr. S. Radhakrishnan, our former President made the following statements:





"For its proper functioning, democracy requires more qualities than other forms of Government. It is in the Universities that we can develop the true spirit of democracy, appreciation of other points of view and adjustment of differences through discussions. It can be kept healthy and strong by the exercise of individual responsibility and judgement. In Universities, we have to re-call the struggles of the past and realise the perils and possibilities, the challenges and opportunities, of the present."

Democracy is not form of a Government alone it is an invitation to a new life-an experiment in the art of shaping responsibilities and benefits-an attempt to generate and co-ordinate the inherent energy in each individual for the common task. Hence we cannot afford to waste a single talent impoverish a single man or woman or allow a single individual to be stunted in growth or held under tyranny and the Universities should, through the graduates it sends forth year after year annihilate the forces that attempt at aggrandisement and tyranny, fight against cant and hypocrisy and enthrone human dignity.

Graduates of the year, I wish you all a prosperous future-for, after all, the immediate concern of every individual, graduate or no graduate, is to acquire the means for a decent living. That is the first motivation for all human activity and no one can ignore it, but that ought not to be the sole objective. Something higher and nobbler than mere individual material advancement is expected of you for remember that this University education is a privilege that you enjoy, for which you are deeply indebted to the community of which you are a member. Most of the money needed for maintaining institutions of higher education come from the revenues collected from the community through the State, and a good proportion of that revenue come from the tillers and the toilers, men who did not enjoy the privilege, men who willingly submit themselves to discomfort so that they can enable the next generation to lead a better life. Graduates of the Annamalai University, may I ask you, how are you going to repay-what is to be your contribution to the social chest on which you have drawn so largely. Unless you replenish it richly, coming generations will find only an empty coffer. Your superior education increases your responsibility to society and therefore, apart from or along with your own individual advancement, society has got a right to expect an adequate return from you not so much in terms of money as in terms of service in toning up society, in bringing light into the dark alleys, sunshine into dingy places, solace unto the afflicted hope unto the despondent and a new life unto every one.

That this is a welcome and worthy ideal none would dispute but not every one will come forward to translate that ideal into action-and yet our ancient as well as modern thinkers have all stated in unmistakable terms that wisdom is manifested in action.

Unless service is the outcome, the sermons become sweet nothing. As Jefferson stated, "We must dream of an aristocracy of achievements arising out of a democracy of opportunities".

And when I seek your help and cooperation in the supreme task of serving society, please do not wink and smile and say, it is all so easy to say. I am not unaware of the difficulties in the way, nor am I going to brush aside the influence of the environment on you. May be the world in which you are to begin the journey is one which will dim your hopes, disturb your determination. You may come face to face with

the unpleasant sight of practices widely differing from the principles inculcated in you. You may find selfseekers enthroned and the patient worker decried. Tyranny of all sorts may stare at you and every step you take will be a struggle, I admit that the environment is such that even people with robust optimism will be discouraged and forced to take to the path of ease and comfort.

But, we should also realise that a continuous stream of men and women endowed with the spirit of service have been carrying on the crusade successfully and have conferred rich benefit on humanity.

We, the Tamilians have been holding aloft this ideal for more than two thousand years and hence we find in Pura Nanuru this passage:

உண்டால் அம்ம இவ்வுலகம்

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தமக்கென முயலா நோன்றாள்

பிறர்க்கென முயலுநர் உண்மையானே!

As inheritors of that rich legacy, you are best fitted to overcome even the environment and serve society to the best of your abilities.

Anyone, who proposes to do good must not expect people to roll stones out of his way but must accept his lot calmly if they even roll a few more upon it. A strength which becomes clearer and stronger through its experience of such obstacles is the only strength that can conquer them says Albert Schweitzer.

Though the problems in various countries are of a similar nature, the peculiarity attached to the problems of our country is of a pronounced nature.

Ours is not a case of starting from scratch. Had that been the case the only thing needed would have been the intensity of effort to be put forth. Ours is a case of erosion of the mind-we are not in search of fields, but have to engage in the task of fertilising it, irrigating it. We are not in search of ideals, but are engaged in the more intricate task of classifying, codifying and verifying layers of ideals. We are not wanting in culture but have to cleanse it from the cob-web of time and deadulterate it. In short, we have to re-discover ourselves, and re-construct our entire thought. Once we were the custodians of everything noble but we have allowed the germs of decay to multiply and thrive.

Our task to-day is to allow fresh air and sunshine and regain the original shape and stature-that which made us well-known in distant lands and climes.

Our literature, art and architecture are fine specimens of human intelligence-but they bear the ravages of time and also the effect of currents and cross currents so that to-day we have to listen to the foreign historian or scholar in order to realise the "Glory and Grandeur" of our own country.

Age commands veneration - but unless it is recuperated, decay sets in. Our culture and civilisation are hoary, but we have allowed scars and wrinkles to disfigure them. It is our duty therefore to re-discover and reconstruct what is ours and enrich it by drawing liberally upon the achievements of other countries.

Our problem is not want of a system in any branch of knowledge. We have fine specimen in all spheres. We claim also-and that rightly immortality for our system, but we have not succeeded in keeping them fresh and young, effective and energetic, for we have allowed them to decay.

If a system has to endure, says Dr.Radhakrishnan, it must be perpetually young and ready to change. In otherwords, it must be capable of accepting new ideas, have the resilience of mind which the young have, have the openness, flexibility and spirit of adventure by which they accept what is given to them and transform it out of recognition.

Eos, a Goddess falling in love with a mortal, prayed to God to grant immortality to the lover. 'Yes' said God, and the mortal gained immortality. But he grew old, infirm, senile, decayed-and what was a feast once to the eyes of Eos became a sight to shun and grieve over-and he who gained immortality longed for death-for what is life, if it becomes a prey to decay? Then Eos signed and said, "I prayed for immortality for my lover, forgetting to pray for perpetual youth."

We, in this country are facing some such situation and we are in charge of the task of re-juvenating our culture and civilisation-our entire thought. Instead of attempting that, we have been, for too long a period, doting upon the decayed forms attempting to defend them from critics and currents of new thought. And while other parts of the world, after persistent and patient search after truth, have arrived at new conclusions and are scaling new heights, we are content



to sit near the shattered rampart and narrate past glory. Our religion has degenerated into rituals, our society which was once classless and caste-less has degenerated into water-tight compartments of caste and creed, and all the while we have kept either silent or have been supplying defence to superstition and orthodoxy by offering liberal interpretation in a scholarly way. Unwittingly we have been allowing this state of affairs to exist, despite condemnation and protest. And, more than that, whenever a doughty warrior comes forth to fight against the evils prevalent, we decry and denounce him as an annihilator of noble values and hoary systems. Periyar Ramasami represents and symbolises the fury and frustration in a sizable section of society at this state of affairs. To allow systems degenerate and at the same time denounce those who champion the cause of Rationalism is but to perpetuate superstition and orthodoxy and allow this society of ours to get decomposed.

Universities offer the proper forum for a free and full discussion of these intricate problems and graduates trained here are to go forth as emissaries of that social reconstruction which is long over due.

The country looks to centres of learning like this University to enable the people to pursue the path of progress, braving difficulties and, if need be courting danger.

Graduates of the annamalai University, let me call upon you to carry on the crusade against caste which cannot co-exist with democracy and against tyranny of various dimensions which cannot co-exist with liberty, equality and fraternity.

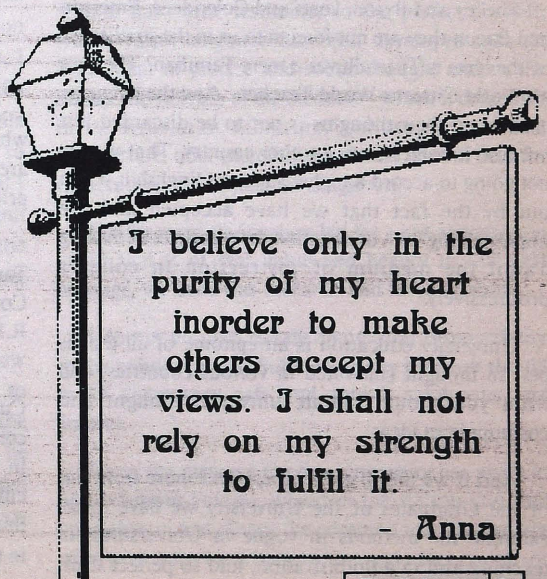
Pursuing vocations for you and your families' well-being, you have to perform your duty towards society. You are to become torch-bearers of Rationalism - and Rationalism does not mean repudiation of basic and fundamental truths and maxims, but the annihilation of dubious modes of thought and action. You have to work hard and with daring and dash, for we have to clear cob-webs which are centuries old and let reason reign supreme.

Another peculiar feature of our times is the fact that we are a nation in the making, and, if in their anxiety to forge integration, some confuse unity with uniformity, it is the duty of men trained

here to clearly enunciate the principle and see to it that, in the name of unity, no part of the country is made to become the vassal of another part- knowingly or unknowingly. We cannot be a party to foul play, however worthy the goal. Just on the eve of Independence, Rajaji stated with an acumen all his own, "Our political experiment is really like melting iron and metals and pouring them into a crucible and making an alloy, an alloy which can stand wear and tear. It is not like the China are that other people have turned out in their countries. Their democracies were easy to make like plastics.

But we are dealing with metals". National integration is a goal, worthy and much-sought after, but neither in the field of language nor in the economic sphere, could we tolerate injustice and domination. That is exactly why this Government was brought into existence- it represents the determination of the people not to be coerced into accepting Hindi as the Official Language.

When we plead for the continuance of English as the link language, some people do misrepresent us and misinterpret our motive. They trot out untenable arguments and disputable statistics, bring in the bogey of disintegration and want to silence people by threats and troops. Problems were never solved by autocratic methods and this problem of language is intimately connected with our way of life, not for the present alone but for the future as well.





The Government of Tamil Nadu has stated in unmistakable terms that Tamil and English can serve all our purposes, the former as the Official Language of this State and the latter as the link language. If it is accepted - and the most emphatic of Hindi protagonists... do accept that - if it is accepted that English can serve admirably as a link between our State and the outside world, why plead for Hindi to be the link language here? What serves to link us with the outside world is certainly capable of rendering the same services inside India as well. To plead for to link languages is like boring a smaller hole in a wall for the kitten while there is a bigger one for the cat. What suits the cat will suit the kitten as well.

English is foreign, some argue, as if we were out to destroy or give up everything foreign. We bring foreign wheat in foreign ships. We seek foreign aid not only in the shape of money but also in the form of technical know-how and not a week passes without one or other leader undertaking a journey to the West or East to secure whatever aid is possible. And on top of all these things, we have given up so many systems peculiarly our own.

We are not content with Rural economy, we want Trombays and Ennores. And we are not conscious of their being foreign; only in the matter of language we pose as ultra-nationalists and dub the English language as foreign.

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

University education is an epitome of all that is best in thought cultivated in various countries, and from you should radiate universal thought and cosmopolitan ideas.

And if we are to get all these and more from out of the Graduates of the University we have to re-examine the methods in vogue in Universities, in teaching and in administration, and so perfect them

that every student feels that he is a co-sharer of the pleasure and privilege of knowledge along with his Professors. I shall not dabble in methods of teaching or administration - experts in that field are the natural custodians - my plea is only as regards the necessity for a re-examination.

While the functions assigned to Universities are mostly of the same type, the Annamalai University, by its structure and spirit, has got a special function of its own. The great founder's nobility and generosity has made this institution gain the esteem of eminent men here and elsewhere. But if we analyse the thought and motive force of Rajah Sir Annamalai Chettiar, we will find that he wanted this place to be not only a seat of learning but also a centre of learning and research of Tamil Culture and Tamil polity. He had the foresight to realise that Tamilians were going to cultivate their special talents and that was exactly why he started and made a success of the Tamil Isai movement. Rajah Sir was never a man of tall talk - he believed in solid work; he knew the time was bound to come for us to delve deep into our annuals and literature, culture and civilisation, and succeed in getting due and adequate recognition in the world forum.

Truly great has been our achievement in the field of literature. To be able to announce to the world that we, the Tamilians, do possess:

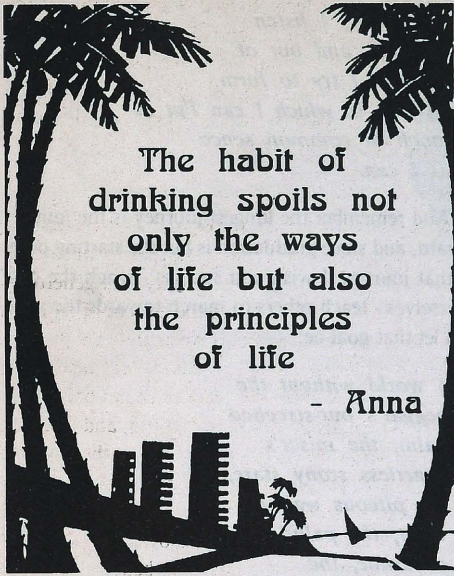
“நற்றிணை நல்ல குறுந்தொகை ஐங்குறுநூறு  
அருந்த பதிற்றுப் பத்தொங்கு பரிபாடல்  
கற்றறிந்தார் எத்தும் கலியோடகம் புறமென  
நித்திறந்த எட்டுத் தொகை”

and to present to the world the great Tirukkural which is a Code of Conduct for the entire humanity are something about which we can have pardonable pride and pleasure.

And yet, are we devoting enough attention to these Tamil Classics? Not till the last decade. Addressing the Convocation here in 1943, the late lamented Sir R.K. Shanmugham Chetty had the following to say:

“I graduated with a complete ignorance of Tamil Culture and history; in fact with a great deal of contempt for these, I attained a fair degree of proficiency in English Literature and the history of European culture, I acquired some knowledge of even Anglo - Saxon and Gothic. I read the translation of the Bible in the Gothic language by Bishop Ulfilas, but I had not





The habit of  
drinking spoils not  
only the ways  
of life but also  
the principles  
of life

- Anna

read the Kural of Valluvar. I could understand Chaucer, but the name of Ilango was nothing but a name. Even after leaving College, I kept alive my interest in these studies and built up a Library in which there was not a single Tamil book."

"In my early youth when I lived in a World of my own with no sense of responsibility, all this made no difference to me and I was proud of my learning. Soon when manhood came with its cares and problems, I found myself a stranger in my own home. Gradually I began to realise the incongruity of my scheme of life and for some time now I have been endeavouring to rectify the balance. It was only a few years ago that I seriously attempted to study some of the Tamil Classics. I find that they are fit to rank among the immortal works of the World. I now bitterly regret my neglect of the treasures of my own land".

It was not an apologia, but the expression of a new determination and Sir R.K. Shanmugham lived to establish the truth that he had mastered not only the Tamil language but Tamil literature as well. Had he lived for some more years, he would have travelled many a land carrying the message of the Tamil Classics, which spoke at such a hoary past about.

"ஒன்றே குலமும் ஒருவனே தேவனும்"

"யாதும் ஊரே யாவரும் கேளிர்"

"வினையே ஆடவர்க்கு உயிரே"

"நல்லது செய்தல் ஆற்றிராயினும்  
அல்லது செய்தல் ஒம்புமின்"

"எவ்வழி நல்லவர் ஆடவர்  
அவ்வழி நல்லை வாழிய நிலனே"

"செல்வத்துப்பயனே ஈதல்"

"தீதும் நன்றும் பிறந்தர வாரா"

"பகுத்துண்டு பல்லுயிர் ஒம்புதல் நூலோர்  
தொகுத்த வற்றுள் எல்லாம் தலை"

thoughts now placed before the world as blossoms of the modern age.

You, graduates of the Annamalai University, have got to undertake the special task of carrying the message that our classics contain to the entire world and declare that what was the most ancient here is what is being introduced to-day as the most modern.

South India is the home of the most ancient culture. Though for a fairly long period there was the mist of ignorance, thick and widespread, it has now been acknowledged by all that Dravidian Civilisation of a highly developed character can be traced back to the second and third millenia before Christ. Many a foreign scholar has borne testimony to the perfection with which Tamil language has been developed into an instrument of precise and subtle thought and to the beauty and richness of the literature - which is contained in it. Dravidian literature, philosophy, art and architecture, offer therefore a rich and fruitful field for exploration and critical investigation.

Not for mere glorification but for a just appreciation of all that is of real value and beauty in our past heritage, we need this research and investigation.

I do not propose to talk about your responsibility in the political arena. Suffice it to say that you should make democracy safe and sound, salubrious and fruitful.

Carry the message that this University has given to you wherever you go, whatever the station you find yourselves in and elevate the common man the average man who is the back bone of this and other countries.



Permit me to present before you a protrait of the Average Man."

"He seems incredible but represents two thirds of mankind. He lives in a hut. He cannot read or write. His energy is sapped by disease. He labours upto 15 hours a day. He works on land he does not own. He and his family are usually hungry. He will die young. But he still has hopes for his children, that they will be strong and healthy; will be able to read and write, will know individual freedom in a peaceful world. This is the world's Average Man."

And the world over, this average Man has become conscious of the injustice done to him and as a consequence we find agitations and marches, struggles and clashes. In many a country, measures to raise his level have been undertaken. Take a pledge, here and now, that we will not lag behind and leave our Average Man in the lurch. For if the base is weak, the dome is doomed. Inheritors as you are of a noble heritage, you are eminently fitted for this noble task, and on its success depends the future of this nation as of others. Let us remember what Woodrow Wilson said.,

"Nations are renewed from the bottom not from the top... real wisdom of human life is compounded out of the experiences of ordinary men. The utility, the vitality, the fruitage of life comes like the natural growth of a great tree, from the soil, up through the trunk into the branches to the foliage and the fruit. The great struggling unknown masses of the men who are at the base of every-thing are the dynamic force that is lifting the level of society. A nation is as great and only as great as her rank and file."

May I submit my plea to you, youths blossoming forth from this institution be firm but not obstinate, let there be a blending of ideas, but never cheap imitation and injurious adulteration, beware of mistaking obsessions for principles and fads for facts, strike at a synthesis and avoid subservience, fail not to protest against injustice but project not your own view as the final one, forget not the ancient saying,

**"கற்றது கை மண்ணைவு கல்வாதுலகளவு"**

and falter not when you practice what you profess.

University education gives you the basic needs for this stupendous task, but that is not enough. Say along with Lafaye tee.

*I read, I study  
I examine, I listen  
I reflect, and out of  
all this, I try to form  
an idea in which I can Put as  
much of common sence  
as I can.*

And remember the longest journey is the journey inward, and since graduation is but the starting point of that journey, I wish you success - reach the goal yourselves - teach others to march towards the goal, and let that goal be:

*a world without the  
beggar's out-strechd  
palm, the miser's  
heartless stony stare,  
the piteous wail of  
want, the pallid face  
of crime, the  
livid lips of lies,  
the cruel eyes  
of scorn,*

*a race without  
disease of flesh or  
brain, shapely and  
fair, the married*

*harmony of form and  
use-where  
life lengthens, fear  
dies, joy deepens,  
love intensifies, and  
Man regains his  
dignity.*

And to get these things realised, let us one and all strive towards the ideal enunciated by Thiruvalluvar.

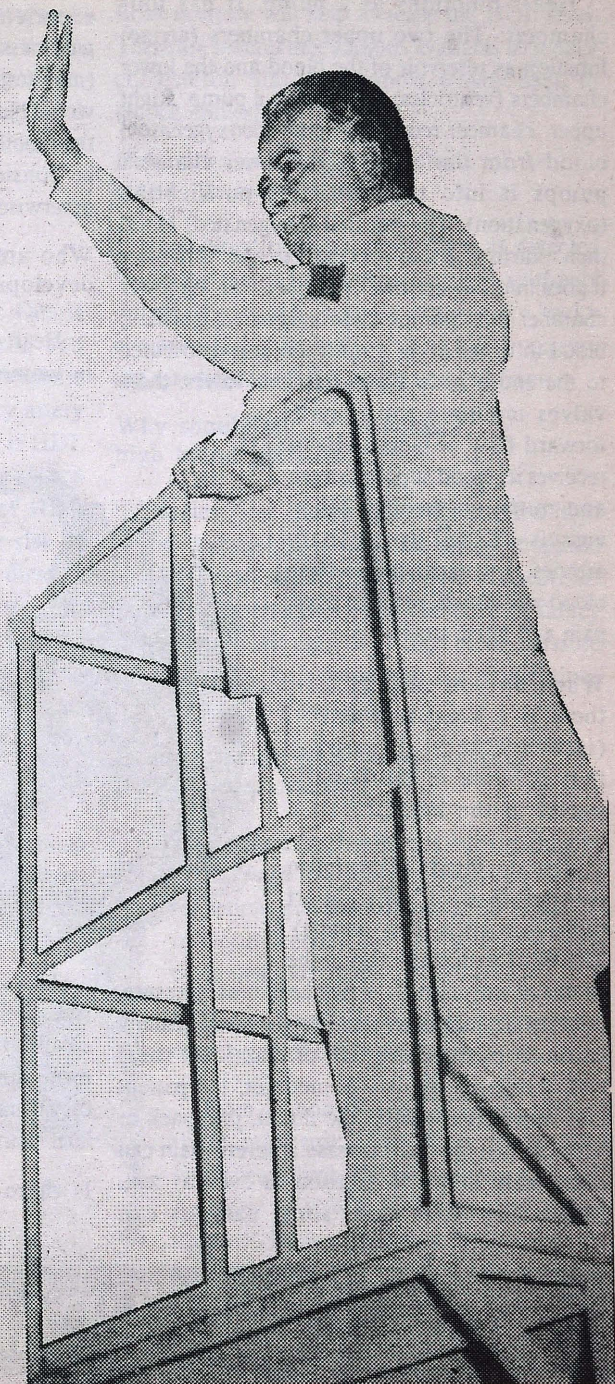
**"உறுபசியும் ஓவாப் பிணியும் செறுபகையும்  
சேரா தியல்வது நாடு"**

I am confident that you are being sent into the wide world by the Annamalai University with this objective - you are bound to win for you are adequately equipped with the spirit supplied by the great institution. May your life be a bright one, and may its lustre brighten the entire land! Accept my congratulations, and march onwards towards the land of smiles.



"May your life be a bright  
one, and may its lustre  
brighten the entire land.  
Accept my congratulations,  
and march onwards, towards  
the land of smiles"

- ANNA





## What is heart and how does it function?

Heart functions as a pump. It has four chambers. The two upper chambers (atria) function as reservoir of the blood and the lower chambers (ventricles) function as a pump. Right upper chamber receives impure (deoxygenated) blood from the body. Right lower chamber pumps it into the lungs for purification (oxygenation). The purified (oxygenated) blood then returns to left upper chamber and from there it goes into the left lower chamber. The left lower chamber then pumps this oxygenated (purified) blood in to the aorta from where it is distributed to the entire body. Heart has four valves, these valves maintain the smooth forward flow of blood. Heart receives its blood supply, oxygen and nutrition through blood vessels~ called as coronary arteries. Any narrowing in these blood vessels will result in chest pain and heart attack.

When do you suspect there is a heart problem (Ischemic heart disease that is block in the blood vessel to the heart)?

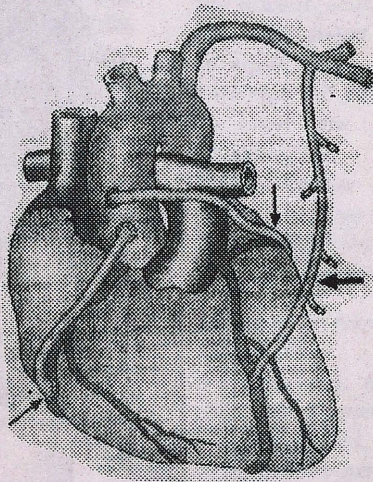
The most common presentation of the heart problem is chest pain (angina). The heart pain shows up in the center of the chest. It is like heaviness, pressure, burning or a discomfort. The pain will usually come on physical exertion or emotional stress and is relieved by rest. Sometimes, the patient may experience pain in the throat, jaw, back or hand. When the heart disease is severe, pain can come with minimal exertion or even at rest. Instead of chest pain, some patients can

- **Dr.SANJIV AGRAWAL**, M.D., D.M.

experience breathing difficulty, tiredness, giddiness or excessive sweating as a symptom (manifestation) of heart problem. One point I would like to stress is that , any discomfort above the umbilicus (navel) and below the nose should be considered from the heart, unless proved otherwise.

Who are the people at higher risk for developing the heart problem?

Heart problem is seen more often in men than in women. People with diabetes, high blood pressure, high cholesterol, smokers, people who are over weight and are under stressful conditions are more likely to develop heart problem. The heart problem will usually be noticed from the age of 40 years. However, even younger persons may suffer from heart disease.



Is it true that females usually do not suffer from heart problem?

This is a misconception because of which, several times the diagnosis of heart problem is delayed in females. Women have similar risk as men. However, due to the hormonal protection, they usually develop heart problem about 10 years later than men.

Is there any safe level of smoking ?

Smoking is never safe. Even if you smoke a few cigarettes, you are still at the risk of developing the heart

# KNOW YOUR HEART



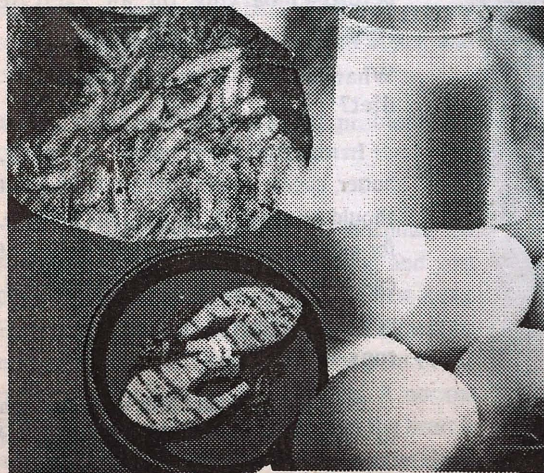
problem. The risk of heart problem increases as you smoke more cigarettes. Once you stop smoking, the risk of heart problem decreases. However, it may take upto 2 years for the risk to come down. The increased risk of heart problem is due to the nicotine as well as toxic gases and particles in the smoke. Passive smoking is equally harmful.

### What are the different types of cholesterol ?

There are two types of cholesterol. One is LDL (low density lipoprotein) or the bad cholesterol. Higher levels of LDL cholesterol are associated with higher risk of coronary artery disease. The second type of cholesterol is HDL (high density lipoprotein) cholesterol. It's a protective cholesterol. High levels of HDL cholesterol are associated with lower risk of coronary artery disease. The treatment is directed towards reducing the levels of LDL cholesterol and increasing the HDL cholesterol. For patients with known coronary artery disease, the ideal level of LDL cholesterol is hundred milligrams or less.

### How do you reduce cholesterol?

Diet, exercise and medications are the three methods commonly used to reduce cholesterol.



In diet, one should avoid yellow of egg, red meat (mutton, beef) prawns, crabs and milk products. Brisk exercise will help increase the HDL level. There are several medications available to reduce cholesterol. Statins are most widely used to reduce cholesterol.

### How does one know that the blood pressure is high?

High blood pressure, most often, is detected when the blood pressure is checked routinely during the visit to a doctor or as a part of a health check-up. However, high levels of blood pressure are associated with headache and giddiness.

### Why should we try to control high blood pressure?

Studies have shown that uncontrolled high blood pressure is associated with increased incidence of stroke (paralysis), myocardial infarction (heart attack), heart failure and kidney failure. Adequate control of high blood pressure is shown to reduce these major complications of high blood pressure.

### Can we reduce high blood pressure without medicines?

Yes, before starting medicines, one should give enough trial with low salt diet, exercise, weight reduction and meditation. Mild elevation in blood pressure can be controlled with these methods alone.

### Is it true that the diabetic patients won't get chest pain?

Even in non-diabetic patients 25% of them may not have chest pain. The incidence is higher in the diabetic patients. As many as 40% to 50% of diabetics may not have classical chest pain. This is actually a disadvantage for them as they would not realise that their heart is strained and may not stop exerting. This can lead to more serious complications.



**What advice would you give to diabetic patients?**

As I have already explained, diabetics are at a disadvantage as their warning system may be faulty. Therefore, they may have to take extra precautions. Diabetes is commonly associated with high blood pressure and altered lipid profile (high cholesterol) which multiplies the risk of heart problem. Strict control of blood sugar, high blood pressure and cholesterol is necessary in diabetic patients. All the patients, especially diabetics, are advised to undergo regular check up. With treadmill test to detect

development of heart problem so that appropriate treatment can be started in time.

**What exercises are advised to prevent the heart problem?**

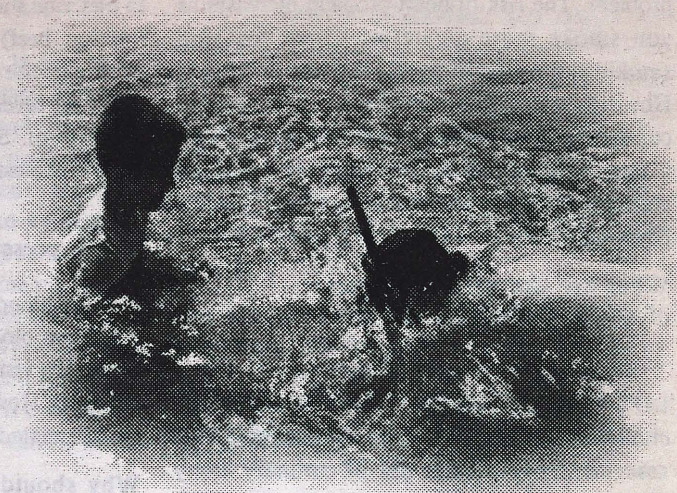
Exercises such as brisk walking, cycling, jogging and swimming are better for the heart. Weight lifting and similar exercises are not advisable. Brisk exercise, to maintain the heart rate above 100 beats/min for 20 min every day, is good for the heart. People above 40 years of age must get advice from the doctor before embarking on an exercise program.

**What food is to be avoided in diet?**

In the diet for vegetarians, ghee, butter, cheese, sweets, nuts and coconut should be avoided. In addition to these, for non-vegetarians, red meat, yellow of egg, prawns, crabs etc should be avoided.

**Is it true that the heart problem runs in the family?**

No, the heart problem does not run in families. In a small percentage of





patients, the heart problem manifests at a young age. The relatives of these patients are at a higher risk of developing the heart problem. In general, heart problem does not run in the family.

**Can these blocks be reversed by changing the lifestyle (risk factor modification)?**

I feel there are a lot of misconceptions regarding reversal of heart disease. Change in the lifestyle is definitely advisable for every body. It will prevent or slow the development of heart disease. Even after angioplasty and bypass surgery, change in lifestyle is very important. Proper diet, regular exercise, weight reduction, control of diabetes, control of high cholesterol and high blood pressure, stopping smoking and reduction in the stress are very helpful. The main benefit of life style modification (risk factor modification) comes from the change in the character of the block making it less prone for sudden rupture which can lead to heart attack.

However several studies carried all over the world on thousands of patients have shown very little reduction in the severity of the blocks after the risk factor modification. I feel that in patients with advanced coronary artery disease life style modification alone may not be enough. Many of these patient may need angioplasty or bypass surgery to improve the quality of life and prevent serious complications such as heart attack and even death.

**When a patient with a heart problem comes to the hospital, what are the tests taken?**

When a patient comes to the hospital, the routine investigations includes fasting and post prandial sugar, lipid profile, ECG, Chest x-ray, Echo and Treadmill test. Usually, ECG will be normal unless it is taken during the pain or the patient has suffered a heart attack. A normal ECG does not necessarily mean that the heart is normal. The echo will give us information about

the function of the heart and any abnormalities of the heart valves.

**When is a Treadmill test (TMT) recommended?**

TMT test is recommended to diagnose the heart problem and assess the severity of the problem. However, treadmill is not fool-proof. Treadmill can miss the heart problem in 20% to 30% of patients and can over diagnose a heart problem in another 20% of patients. A negative treadmill does not guarantee a normal heart.

**How is the Treadmill test (TMT) done?**

During the treadmill, the patient is made to walk on a moving belt. Simultaneously, the ECG is monitored. During the exercise, heart rate and therefore oxygen demand of the heart goes up. Reduced blood supply due to a block results in certain changes in the ECG. These changes in the ECG will help us to diagnose the presence and severity of the heart problem.

**When is the angiogram advised?**

Angiogram is usually recommended when the patient continues to have chest pain in spite of adequate medications, patients who have unstable angina (pre heart, attack stage), patients with chest pain after a heart attack (post infarct angina) and the patients in whom a large area of myocardium (heart muscle) is affected, as suspected by treadmill test or stress thallium. In a small percentage of patients, coronary angiogram is done to exclude the diagnosis of heart problem and to reassure the patient.

**Is it true that angiogram is painful and risky?**

Angiogram is practically painless. During an angiogram, an injection is given to numb the area in the groin from where the procedure is done. All of us would have had injections in our life time. The pain experienced in an angiogram is



not more than that. During the angiogram, a contrast (medicine) is injected into the blood vessel (the pipe that carries blood to the heart) using specially designed catheters (fine tubes) and the pictures are recorded. These recorded pictures are then carefully studied. The angiogram gives us information regarding the location, severity and character of the lesions (blocks).

This information helps us to plan future treatment. Coronary angio performed by experienced doctors is very safe.

**Do all the patients who undergo an angiogram need by-pass surgery?**

This is another misconception commonly seen. 1/3rd of the patients who undergo coronary angiogram can be safely managed with the medications. In another 1/3rd of the patients, angioplasty can be performed and in only the remaining 1/3rd of the patients, bypass surgery may be necessary.

**When is bypass surgery advised?**

Bypass surgery is advised for two reasons. One is for the relief of chest pain (angina) and second is for improved survival. Studies have shown that patients with left main stenosis (main artery) or patients with significant three vessel disease with impaired left ventricular function (weak heart), will have improved survival after bypass surgery. In majority of the remaining patients, bypass surgery is offered mainly to relieve the angina (chest pain).

**How is a bypass surgery performed?**

Bypass surgery is a major surgery. It is performed under general anaesthesia. The centre bone of the chest is cut to gain access to the heart. The patient is then put on cardiopulmonary bypass, which functions like a heart when the heart is stopped for doing the bypass

surgery. In the surgery, a piece of a vein taken from the leg and/or the artery from the chest (internal mammary) is used to literally bypass the block. One end of the vein is stitched to the aorta (major vessel from the heart), the other end is then connected to the artery beyond the block. The heart is then restarted and the chest is closed. Patients who undergo the bypass surgery are observed for three days in the intensive care unit and then for a week in the ward.

**How soon can the patient go back to work after the bypass surgery?**

Usually it takes about three months before the patient can go back to work after the bypass surgery.

**Is bypass surgery a permanent cure?**

Nothing in the world is permanent. No, bypass surgery is not a permanent cure. The vein grafts which are commonly used during bypass surgery, may degenerate over a period of five to ten years, at which time the patient may experience recurrence of angina (chest pain) and other complications of heart problem. Studies have shown that internal mammary artery (artery from the chest) will function even fifteen years after implantation. Therefore, now-a-days, more stress is given on arterial revascularisation.

**When is an angioplast recommended?**

Angioplasty is usually recommended when the patient continues to have chest pain in spite of adequate medications, patients who have unstable angina (pre heart attack stage), patients with chest pain after a heart attack and the patients in whom a large area of myocardium (heart muscle) is affected as suspected by treadmill test or stress thallium. If the lesions (blocks) are suitable, angioplasty can be offered to the patients with multiple lesions (blocks). Several trials all over the world have shown that angioplasty is as effective as bypass surgery in



patients with multiple blocks (multi vessel disease). Angioplasty can be safely and effectively performed on lesions (blocks) of any severity. Even 100 % blocks can be effectively treated by angioplasty.

**How is an angioplasty done?**

Angioplasty is not an operation (surgery). It is a natural extension of coronary angiogram. The pain involved in an angioplasty is as little as in the coronary angiogram. Angioplasty does not need general anaesthesia or blood transfusion. As with the coronary angio, specially designed catheter (fine tube) is positioned at the origin of the blood vessel. Through the catheter, a guidewire is passed and negotiated across the lesion (block). The guidewire acts as a railroad over which an appropriate sized balloon catheter is advanced. The balloon is then positioned across the lesion (block) and gradually inflated. This will crack the lesion (block) and improve the circulation. A stent (metal tube) is then positioned across the lesion (block) to optimise the results. After this, the catheter, balloon and guidewire are removed and the patient is shifted to the ward. The patient is awake during the procedure and does not experience much pain. The patient can watch the procedure on the (T.V.) monitor as it is being done.

**What is a stent?**

Stent is a spring - like metal tube which is made of stainless steel. It comes in various sizes. The stent is positioned across the lesion (block) to optimise the results. A stent, once put in the blood vessel, will permanently remain there where it gets covered with the endothelium (inner lining of the blood vessel) and becomes a part of the blood vessel. Both immediate and long term results of balloon angioplasty, have improved after successful stent implantation. Stent is made up of an inert (stainless steel) material and there is no rejection after the stent implantation.

**When can the patient go back to work after the angioplasty?**

Usually the patient can walk the next day and is discharged the day after. The patient is fit to join work in three days time.

**Is angioplasty very expensive?**

In my experience, angioplasties done in various hospitals (Apollo, Malar), I would say that in many of the cases, the overall cost will come to Rs.75,000 - Rs.90,000 with excellent immediate and long-term results. This includes hospital expenses, charges for the disposables, stent and doctor's fees.

**We hear that angioplasty is a temporary procedure. Is it true?**

Many people still think that angioplasty is a temporary procedure. I would like to bring to their notice the change in the outcome of angioplasty after the use of a stent. Before stents were widely used, the recurrence of heart problem after angioplasty was 30% to 40%. However, with the use of a stent, the chance of repeat procedure (TLR—Target Lesion Revascularisation) for the same lesion (block) is as low as 6% to 8% that means, in 90% to 94% of the patients, angioplasty + stent will not require a second procedure for that lesion (block).

**Can an angioplasty be done after a bypass surgery?**

As I have discussed before, vein grafts which are commonly used in bypass usually degenerate over a period of 5 to 10 years. Angioplasty can be offered to these patients, either to treat the block in the native (original) blood vessel or in the bypass grafts with good results.

**What is a heart attack?**

Heart attack is actual death of heart muscle. When the block in the blood vessel is total and



sudden there will be no blood supply to a part of the heart muscle which therefore dies resulting in the heart attack.

### **How do you recognise a heart attack?**

The patient usually will experience severe chest pain that may radiate to the hand, back or jaw. The pain may be accompanied by sweating, tiredness, nausea, vomiting or breathing difficulty. As opposed to angina, the heart attack pain will not reduce with Sorbitrate. However 20 to 30% of patients may not experience the classical chest pain. In these patients the discomfort may be mild and may even resemble indigestion. It is important that one takes an ECG immediately to confirm the heart attack.

### **What do you do when one gets a heart attack?**

25% of patients with heart attack will die within the first hour of chest pain. So it is important that the patient reaches the hospital as soon as possible. Patient should minimise the physical activities to avoid further damage to the heart. If aspirin tablet is available it can be taken with water at home.

Patients with known heart disease may have sorbitrate at home which can be kept under the tongue while going to hospital. The important thing is to reach a hospital as soon as possible.

### **What treatment is given to a patient with heart attack when he reaches the hospital?**

When the patient reaches the hospital one tablet of aspirin is given. Then the patient is admitted in the ICCU and connected to the oxygen and heart monitor. Injection Morphine is given to relieve the pain. After the ECG confirms the heart attack, a special medicine (thrombolytic agent) is then given to dissolve the clot. This will reduce the extent of damage caused by heart attack and improve the chances

of survival. Patient is then put on blood thinner (heparin) for 3 to 5 days.

### **Can angioplasty be performed during a heart attack?**

Medicine given to dissolve the clot (thrombolytic agent) will open the block in 60% to 70% of the patients while angioplasty will open the block in 95% of the patients. There are several trials that compare medical management (medicine to dissolve the clot) versus angioplasty in patients with acute myocardial infarction (heart attack). Trials have shown that angioplasty resulted in better immediate survival and long-term outcome in patients with acute myocardial infarction (heart attack). Angioplasty is shown to be both effective and safe during acute myocardial infarction (heart attack).

### **Which are the patients in whom angioplasty is recommended during a heart attack?**

Logistics tells us that atleast in India, angioplasty may not be feasible in all the patients with acute myocardial infarction (heart attack). However, young patients with large myocardial infarction (heart attack) or patients with haemodynamic instability (lung congestion and low blood pressure), as well as patients in whom thrombolytic therapy (medicine to dissolve the clot) is contraindicated, would benefit the most by angioplasty during acute myocardial infarction (heart attack).

### **What are the advantages of angioplasty and the patients in whom it is recommended?**

In four simple words, I would say that angioplasty is effective, safe, durable and affordable. Angioplasty is recommended in any patient with single vessel (one block) and multi-vessel disease (multiple block) with suitable lesion (block).

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About 65% of the total population of Tamil Nadu live in rural areas. There are 28 District Panchayats, 385 Panchayat Unions and 12,619 Village Panchayats. The objective of Rural Development Department is to provide basic amenities such as drinking water, street lights, sanitation, roads, education and health care and poverty alleviation through wage system and self employment and area development scheme.

The Panchayat Act of Tamil Nadu was constituted in 1994 after the amendment made in section 73 of the Constitution in 1992. A three-tier system i.e. Village Administration at base, Divisional Panchayat at middle and District Panchayat at District level was introduced in rural areas in the year 1996. All the Central and State Governments' Schemes are being implemented through this three-tier system by the elected body.

The main responsibility of the Village Panchayat is to provide basic amenities such as drinking water, street lights, sanitation, roads, drainage and the maintenance of the above.

All the individual beneficiaries of various schemes are identified through Village Panchayats and approved by Grama Sabha. The Panchayat Union at middle level which has strong administration and technical units play an important role in providing employment, infrastructure and in implementing other developmental schemes. The District Panchayat holds the responsibility of co-ordinating research and providing suggestions etc. The three-tier local bodies apart from fulfilling their duties by law are also implementing other given activities.

## **Top Priority for providing basic amenities in rural areas**

The Rural Development Department is taking necessary action to achieve the following goals:

- To provide protected drinking water at a minimum rate of 55 litres per individual per day in all villages.
- To provide street light facilities in all villages.
- To create link road facilities in all villages.
- To convert all link roads and roads where transport buses are plying, into tar-topped roads, in villages with a population of above 1000.
- To provide housing facilities to the houseless poor, including backward community families.
- To provide buildings, drinking water and toilet facilities to all Primary and Middle Schools, including the schools run by the Government for the students belonging to Backward Communities.





- To construct buildings for High/Higher Secondary Schools, Fair Price Shops, buildings for Milk Co-operative Societies, Community Halls and Noon Meal Centres.
- To improve all streets and lanes in the villages by converting them into brick, metal, cement, tar-topped roads,
- To construct buildings, step by step for Sub-Health Centres, Primary Health Centres and Veterinary dispensaries.
- To provide individual toilet facilities to all families living in villages, toilet facilities in Schools and Publicising the importance of public conveniences.
- To improve and strengthen the storage facilities in ponds, ooranis and small irrigation lakes.

## VILLAGE PANCHAYAT

There are 12,619 village Panchayats in Tamil Nadu. All the duties of fulfilling the Welfare Schemes for the public are entrusted with Village Panchayats. The Chairman, Village Panchayat also takes care of the administration of Village Panchayat. Block Development Officers (Panchayat Development) is incharge of monitoring and supervising schemes of the village panchayats.

## MAIN DUTIES

### ● DRINKING WATER SUPPLY

The main duties are installation of drinking water sources (power pumps and hand pumps) maintaining them, facilitating drinking water lines to houses in permitted panchayats and collecting fees and providing 55 litres of protected drinking water per head per day to all people living in villages.

The target so far was to provide 40 litres of drinking water per person per day in a Panchayat. Now it has been ordered to provide 55 litres per head per day. The responsibility of repairing water



pumps and maintenance of other water tanks are vested with the village panchayats.

### ● STREET LIGHTS

Village Panchayats should instal and maintain street lights. In order to maintain the street lights electrical spare parts with I.S.I. mark may be purchased and used by the Panchayats by calling tenders locally.

### ● SANITATION

It is the duty of the village panchayat to construct public convenience and maintain them. It should encourage construction of individual toilets in houses and public enterprises, keeping the village clean, healthy and avoid piling up of garbage and stagnation of drainage water.

### ● STREETS

Improvement and maintenance of streets are one of the prime duties of the Village Panchayat. The Government from 1999-2000, based on the policy decision of converting the streets and lanes in villages into cement, brick, metal and tar topped roads.

### ● MAINTENANCE OF VILLAGE PANCHAYAT ROADS

Laying of village roads, village Panchayat roads and construction of small bridges and maintenance are the prime duties.



## ● BURIAL AND CREMATION GROUNDS

Maintenance of burial and cremation grounds are one of the important duties of the village panchayat. In order to promote social harmony in villages and encourage the villagers belonging to various communities to use common burial ground and cremation grounds, the Government has announced a prize scheme to village panchayats in 1999-2000.

## SERVICE ORIENTED DUTIES

- Growing trees in village roads and other roads.
- Installation of street lights in common roads as well as roads in non-residential areas.
- Starting and maintaining of Public Distribution Centres, regulating private markets and opening of sales centres in village panchayats, if they have sufficient space and fund so as to collect revenue.
- Conducting exhibition and festival fairs for publicising the schemes of various departments. For example, the machines and equipments relating to Agriculture and Animal Husbandry Departments can be displayed.
- Construction and maintenance of bus stands, bus stop shelters, car and other vehicles parking areas and District Livestock Shelters.
- Starting and maintaining of libraries and supply of books and journals.
- Formation of recreation centres and providing required facilities.
- Construction of buildings for Public Distribution and Milk Producers Co-operative Societies.

## DEVELOPMENTAL WORKS

- Preparation of action plan categorising developmental works by Grama Sabha.
- Selection of beneficiaries for the schemes such as artificial insemination, rearing of

sheep, pig, other live stock, birds, rabbit and chicks and improvement of grassing fields.

- Improvement of fish, prawn farming and insurance scheme for Fishermen.
- Organising training courses for entrepreneurs, small industries and arranging for the sales of their products under village and handicrafts industry scheme.
- Identifying people belonging to Adi-dravidar/Tribals and other communities under Village Housing Scheme.

## FINANCIAL RESOURCES

The State Government has entrusted more powers and responsibilities with the local bodies in order to enable them to take steps for the social and economic development of their villages.

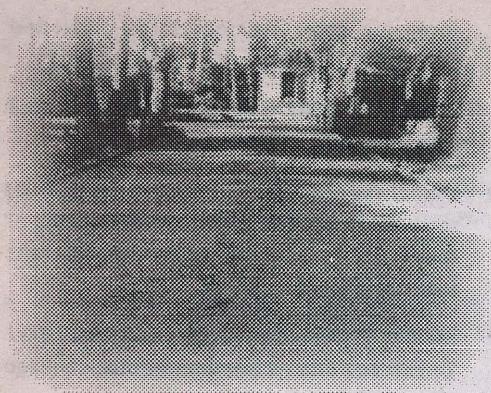
Each village Panchayat is empowered for imposing house tax, professional tax, advertisement tax and tax for utilising agricultural lands for specific schemes.

Village Panchayat can collect fee for maintaining drinking water facilities and other basic services maintained by them.

Fees for parking vehicle, issue of licences, entrance fees, rent and lease amount from properties belonging to village panchayats are the other incomes for the village panchayats.







The village panchayat can raise their income by growing trees, fruits and medicinal plants in poramboke lands in villages.

Apart from the revenue from local cess, entertainment taxes and stamp duty allocated to the village panchayats, financial grants from the State Finance Commission, Central Finance Commission are also being extended to the village panchayats. 15% of Special Financial assistance from State Finance Commission is also given.

The funds allotted for Jawahar Velaivaippu Thittam, Construction of new houses under Indira Ninaivu Kudiyiruppu Thittam and Construction of individual house toilets under Central Rural Health Schemes are also given to the village panchayats.

### GRAMA SABHA

Grama Sabha is the base for democracy. People living in Panchayats are able to experience democracy through Grama Sabha. The Government encourages these Grama Sabhas so as to enable the public to involve themselves directly in the administration and in the transparent implementation of developmental schemes. The Government of India also announced the year 1999 as the year of Grama Sabha.

- The Village Panchayats should convene Grama Sabha meetings for atleast four times a year on January 26th, May 1st, August 15th and October 2nd.

- All the qualified voters are the members of the Grama Sabha.
- The points to be discussed are decided by the village panchayats.
- Report on the Grama Sabha meeting is to be notified atleast one week in advance.
- One tenth of members should participate in the Quorum (Grama Sabha meeting).
- The Chairman of the Village Panchayat will preside the meeting.

### DUTIES OF THE GRAMA SABHA

- To accord approval for the annual developmental schemes of the Village Panchayat.
- To approve the list of beneficiaries availing individual beneficiary schemes and the places selected for the formation of properties meant for social purposes.
- To inspect the progress and implementation of schemes and extend guide-lines.
- To supervise and survey the works implemented by the Panchayats through social and technical audit.
- To examine the annual audit report and accounts.
- To promote social co-ordination and communal harmony.

### SOCIAL AUDIT WITH THE APPROVAL OF INDIAN CONSTITUTION

Grama Sabha should act as the social audit organisation. During each Grama Sabha meeting, reports on the income and expenditure of the current year, details of works undertaken, bills and receipts of the articles purchased, salary paid to the panchayat staff and duty registers are to be submitted for the perusal of public. The funds spent by the village panchayats should also be verified by the public whether they are utilised in a proper manner.

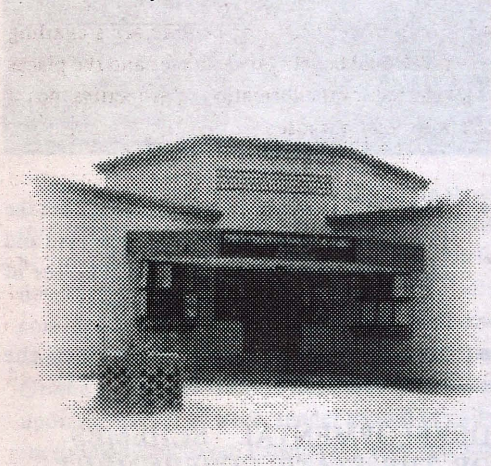


## PANCHAYAT UNION

Panchayat Union is in the middle level. It has a strong administrative and technical infrastructure. The Chairman of the Panchayat Union is indirectly elected by its members. The particulars of works to be implemented by the Panchayat Union are decided by Panchayat Union Committee. The Block Development Officer acts as the Administrative Officer of the Panchayat Union. He is assisted by the Technical Officers.

### WORKS OF THE PANCHAYAT UNION

- To lay and maintain the roads and bridges.
- To maintain small irrigation lakes and canals of Panchayat Union.



- To build and maintain Primary and Middle Schools.
- To establish rural dispensaries and provide health care facilities.
- To create and maintain Maternity and Child Welfare Centres.
- To construct and maintain shops, markets, houses for poor and orphanages.
- To take actions for the prevention and treatment for the infectious diseases like malaria and cholera.

- To conduct Panchayat Union markets and organise exhibitions.
- To take appropriate measures to protect the livestock.
- To maintain common markets.
- To improve agriculture and cottage industries.
- To implement schemes of State and Central Governments such as eradication of poverty and rural development programmes.
- To improve individual and rural health care.

### DEVELOPMENTAL WORKS

- To implement schemes related to agriculture, livestock care and economic development.
- To inspect and implement developmental schemes of State and Central Governments.
- To create and maintain common burial and cremation grounds for the benefit of more than two Panchayats.

### FINANCIAL SOURCES

- Local cess and cess sur charge.
- Fees from the categories for which permission and licence issued by Panchayat Union.
- The rent/lease amount collected for the properties belonging to the Panchayat Union.

### SUBSIDIES

The following subsidies are being extended by the Government to the Panchayat Unions.

- Subsidy for Social Education.
- Subsidy from the Finance commission, Government of India.
- Subsidy from Finance Commission, Government of Tamil Nadu.
- Drought and Flood relief.



## FUND FOR THE SCHEMES

The fund allocated for the schemes such as employment assurance scheme, Member of Parliament Local Development Scheme, Member of Legislative Assembly Development Scheme, Anna Renaissance Scheme, Self Help Programme and Central Rural Sanitation Programmes are given to Panchayat Unions and schemes are being implemented.

## DISTRICT PANCHAYAT

It is the responsibility of the District Panchayat to identify and select works that are to be implemented using the District Panchayat's excess fund. Co-ordinating, monitoring and assisting in the execution of plan schemes are also its responsibilities.

## WORKS

- To draft plans for the implementation of developmental schemes at District level.
- To consolidate and submit administrative reports of the Panchayat and Panchayat Unions to the Government.
- To extend guidelines to the Government on the implementation of developmental schemes.

## FINANCIAL SOURCES

- Fund is provided every year through the subsidy of State Finance Commission.
- Subsidy is given to every District Panchayat through Finance Commission of the Central Government.

## DISTRICT PLANNING COMMISSION

In every District, District Planning Commission is formed with District Collector as its Chairman and the President of the District Panchayat as its Vice-Chairman. The Members of the District Planning Commission are the Members of Parliament, Members of Legislative Assembly of the District, Mayor of the

Corporation, Councillors and 1/5th of the Panchayat Union Chairman and Town Panchayat Chairmen from the total list of members notified once in a year by the Government and not less than 4/5th of the members elected from the District Panchayat, Town Panchayat, Municipalities and Corporation through voting, on the basis of the rural and urban population ratio.



- The District Planning Commission guides the Local Bodies in formulating the local plan and integrates these plans with the schemes of other Departments at District level.
- The Commission also supervises the implementation of the schemes.

## DEVELOPMENTAL SCHEMES OF THE STATE GOVERNMENT

### ANNA RENAISSANCE SCHEME

- Anna Renaissance Scheme was started during 1997-98 as an integrated village development scheme.
- Every year the Member of the Legislative Assembly select a Village Panchayat in his constituency.
- The Panchayat is selected on the basis of its population, number of Adi Dravidar and tribal population and its backwardness.
- The aim of this scheme is to provide all the basic amenities such as drinking water, street





lights, roads, education, health, infrastructure and sanitation facilities in the selected Village Panchayat there by improving its status to a roll model.

- This scheme is being implemented in 210 Village Panchayats during 1999-2000.

#### MODE OF IMPLEMENTATION

The resources in village should be analysed through Grama Sabha meeting and survey should be undertaken to prioritise the needs. The plan for developmental schemes should be drafted after considering the fund available for various schemes and special funds. After getting approval from Grama Sabha and District Committee depending upon the nature of work, tender should be called for through Panchayat, Panchayat Union and other departments on the orders issued by the District Collector and then the scheme could be implemented.

- Priority is given for providing basic amenities such as drinking water, roads, health care, education, building for public distribution and child health care centres. Prominence is also given for Rural sanitation and installation of street lights. Improvement of irrigation areas and provision of economic infrastructure are also taken under this scheme.
- Preparing annual time schedule for propaganda and organising camps on raising

the standard of living of the people in the Panchayat and implementing them as per schedule, viz. Health camps, providing education, abolition of bonded labour, propaganda on prohibition, farmers meeting, women's meeting and livestock protection camps.

#### IMPLEMENTING ORGANISATIONS

The works to be done by the local bodies are implemented through Panchayat Union. Other works of the departments are carried over through the concerned departments. At District level, the District Rural Development Agency will supervise and monitor the progress of the schemes.

#### FINANCIAL RESOURCES

- Apart from the funds allocated through Tamil Nadu Water Drainage Board to these Village Panchayats, the State Government have allocated Rs.75 crores as special subsidy during 1999-2000.
- Fund allocated to Districts by the District administration is fixed on the basis of individual income.
- The income of an individual is calculated on the basis of the total population in the village panchayat, selected under the Anna Renaissance Scheme.

#### SEL-HELP PROGRAMME

- This scheme was introduced during 1997-98. The important aim of this scheme is to motivate the public to involve themselves in the implementation of developmental schemes as well as safeguarding and maintaining public properties.
- The participation of the public in the developmental works ensure accuracy and completion of works within the time schedule. The Government extends all necessary technical knowhow as well as funds for their endeavour.



- The contribution to the works by the public should be not less than 25%. This can either be contributed in cash/article or labour.

## PROCEDURES

Public can identify their requirements through Grama Sabha. If they are prepared to contribute 25% of the total expenditure for the particular work either by cash, article or labour, they may request the District Collector to allocate the remaining cost of the work. Works may be carried out by the public themselves, whereas technical guidance and supervision are to be done by the concerned departments. The public share amount may be from an individual, institution or social organisations. The Government is interested in the participation of the public.

Works are selected by the public themselves. All categories of social works can be undertaken under this scheme. They are link roads, bridges, improvement of roads, schools, drinking water and infrastructure facilities in schools. But the works must be for the welfare of the public.

## IMPLEMENTING ORGANISATION

This scheme is carried out by the District Rural Development Agency. The Collector of the District will release the allotted fund. Village Panchayats should encourage the public to involve in the implementation of the scheme.

## FINANCIAL ALLOCATION

The State Government have allocated Rs.10 crores as first instalment for this scheme. Additional fund will be allocated on the basis of additional number of schemes. The District administration is permitted to divert funds meant for other schemes also to be utilised for this scheme but the contribution from the public should be not less than 25%.

## MLA CONSTITUENCY DEVELOPMENT SCHEME

- Under this scheme Rs.50 lakhs is disbursed for providing infrastructural facilities in each Legislative Constituency.

- The concerned MLA will recommend the works to the District administrators as per the rules prescribed by the Government.
- Since the District Development Agency acts as the monitoring agency at District level, administrative approval for all the plan schemes are given through the District Collector.
- On the basis of the nature of the work the District Rural Development Agency gives necessary permission for implementing the schemes through local bodies or other departments.

## DETAILS OF WORKS

From the total amount sanctioned Rs.13 lakhs should be allocated for converting metal roads into tar topped roads, Rs.12 lakhs for school buildings, particularly for constructing class rooms for computer education and the remaining fund of



Rs.25 lakhs may be recommended for other works by the MLA.

## IMPLEMENTING AGENCY

The works undertaken will be implemented either through local bodies or by other departments depending upon the nature of work. The District Rural Development Agency will supervise the works at District level.



## ALLOCATION OF FUND

Each Legislative Constituency is allocated Rs.50 lakhs by the State Government.

## SCHEMES OF THE CENTRAL GOVERNMENT :

### JAWAHAR VILLAGE DEVELOPMENT PROGRAMME (JAWAHAR GRAM SIMRIDHI YOJANA)

- Under this scheme provision of basic amenities will be planned and executed as community infrastructural development scheme.
- The expenditure will be shared at the ratio of 75:25 by the Central and State Governments.
- The aim of this scheme is to create permanent employment opportunities and properties in rural areas.
- Under this scheme the total allocated amount will be disbursed to village panchayats. 22.5% of the allocated fund should be spent for the beneficiaries belonging to Adi-Dravidar and Tribal Communities.
- Under this scheme people living below the poverty line are provided with job opportunities. Particulars regarding their attendance for each work and payment are to be clearly shown.

## SYSTEM OF IMPLEMENTATION

- Funds are allocated to all Village Panchayats through District Rural Development Agencies.
- Village Panchayat selects the works and prepares annual plan scheme. The annual plan schemes are approved by Grama Sabha and recommended to District Rural Development Agency.
- Approval is not necessary for works estimated less than Rs.50,000.



- Works are being implemented through the beneficiaries themselves and tenders are banned.
- The Panchayat Union and District Rural Development Agency are responsible as far as the technical supervision is concerned.

## WORKS

Under this scheme local infrastructural facilities such as improvement of roads, buildings, street lights and drainage will be undertaken. Provision of these facilities also come under Swarnajayanti Gram Swarozgar Yojana. Priority will be given for works like improving metal, brick, or concrete roads or tar topped roads. Works providing continuous employment opportunities to Adi Dravidar beneficiaries may also be undertaken.

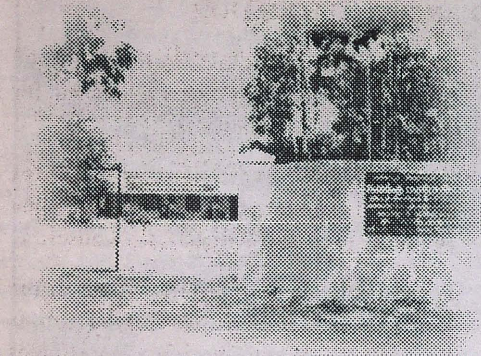
## IMPLEMENTING ORGANISATIONS

This scheme will be implemented through Village Panchayats. Planning and implementing of the schemes are the responsibility of Village Panchayats.

## FINANCIAL ALLOCATION

The financial allocation for this scheme is Rs.109.87 crores during the year 1999-2000. The allocation amount of the Central Government is paid in two instalments. The Central Government will decide on the release of the second instalment





amount only if 60% and above of the first instalment amount is spent for the works. The allocated amount will be withheld if the remaining fund exceeds 15% at the end of the year.

#### EMPLOYMENT ASSURANCE SCHEME

- The prime aim of Employment Assurance Scheme is to generate employment opportunities and additional income to rural poor who live below poverty line and when their income is reduced. Secondly, to create permanent properties of social and economic value, thereby generating more employment opportunities and paving way for development.
- The expenditure for this scheme is shared by the Central and State Governments at a ratio of 75:25.
- Attendance Register is to be compulsorily maintained under this scheme.

#### MODES OF IMPLEMENTATION

- The District Panchayat will prepare a list of works to be done after consulting the concerned Member of Parliament.
- The works will be implemented through the Panchayat Union or the concerned department and will be completed by the beneficiaries themselves.

- Contractors are strictly prohibited.

#### WORKS

The fund allocated can be utilised for all works, other than soil conservation and water resources development programmes from the year 1999-2000 under the Employment Assurance Scheme. Works such as improvement of roads, bridges, minor bridges, village streets and buildings will be undertaken in this scheme.

#### IMPLEMENTING ORGANISATIONS

This scheme will be supervised by District Rural Development Agencies at District level. The works will be carried out by the Panchayat Unions and other concerned departments.

#### FUNDS

- The funds for this scheme is disbursed by the Central Government on instalment basis after 60% of the funds sanctioned earlier is spent. Since this scheme is implemented as and when the demand for employment opportunity arises in respective areas, the allocation of fund is not restricted to any limit.
- A sum of Rs.121.30 crores has been allocated for the year 1999-2000 for this scheme.

#### RURAL HOUSING

Providing houses for the houseless is the main goal of this scheme.

#### INDIRA AWAS YOJANA

##### NEW HOUSES

- Houses are constructed and allotted free of cost for downtrodden, tribals, released bonded labourers and others living below the poverty line in rural areas in this scheme.
- The present estimate of a house in normal soil area is Rs.20,000 and hard grounds Rs.22,000. The Government of Tamil Nadu disburses an additional amount of Rs.12,000 to each house for constructing concrete roofs.



## IMPROVEMENT OF DAMAGED HOUSES

Under this scheme the damaged houses will be renovated and allotted to poor people living below poverty line. The Central Government fixed Rs.10,000 as limitation for each house. But the State Government have decided to meet the balance expenditure for converting the old houses into new ones.

## SHARING OF EXPENDITURE

The expenditure of the above two schemes are shared by the Central and State Governments in the ratio 75:25. Apart from this, the State Government provides an additional amount of Rs.12,000 to each house for constructing concrete roofs.

## PROCEDURES

- The District Collector prepares a list of villages and number of houses to be constructed based on the details like the house site pattas already distributed and houses allotted. The qualified beneficiaries will be selected by the concerned village panchayat in the Grama Sabha meeting.
- Construction will be done by the beneficiaries themselves.
- 85% of annual allotment will be for the downtrodden who live below poverty line and tribals and 15% for downtrodden and non-tribals.
- Houses will be allotted in the name of a woman member of the family.

## CONSTRUCTION OF HOUSES

- Every house is constructed with concrete roof, toilet and chullah.
- Each house is fitted with one electric light free of cost and electric service provided.
- Basic amenities such as road, drinking water and street lights will be provided under other schemes.

## FINANCIAL ALLOCATION

- During the financial year 1999-2000 Rs.149.65 crores has been allocated for constructing 46,768 houses.
- The Central Government contributes Rs.15,000 and State Government Rs.17,000 per house for constructing 31,179 houses.
- For the construction of 15,589 houses, the Central Government's contribution is Rs.7,500 and State Government contributes Rs.24,500 as their share for each house.

## LOAN WITH SUBSIDY

- The aim is to construct houses for families in rural areas whose annual income is less than Rs.32,000 and are above poverty line.
- Minimum 60% of the grant allocated under this scheme should be spent for constructing houses for families of downtrodden tribals and released bonded labourers.

## ESTIMATE

Rs.10,000 will be disbursed as maximum amount of subsidy under this scheme. The loan amount is fixed as Rs.40,000 for each family for constructing a house. The expenditure on subsidy is shared by the Central and State Governments at a ratio of 75:25. The loan amount will be approved by the Rural Housing Co-operative Societies and the District Rural Development Agency will release the subsidy.

## MODE OF IMPLEMENTATION

The beneficiaries under this scheme in each village will be selected by a special committee comprising of the representative of the Finance Society, Chairman of the Panchayat, Members of the Panchayat, Taluk Development Officers or his representative. The Central Government have fixed the target for constructing 5003 houses under this scheme during 1999-2000 and Rs.500.25 lakhs has been allocated. For this subsidy of Rs.375.19 lakhs by Central Government and Rs.25.06 lakhs





are met by State Government . Additional amount required for the construction of houses will be arranged as loan through Banks.

## INNOVATIVE RURAL HOUSING

### AIM

The aim of this scheme is to create awareness among public about the necessity for housing colonies suitable to environment with all facilities and to establish such housing colonies to be a model to others.

### IMPLEMENTATION OF SCHEMES

The plan for constructing such houses are drafted after examining various housing schemes and field staff of different departments. Along the housing schemes for roads, drainage, sanitation, protected drinking water, planting and growing trees in streets and public places are also integrated in this scheme.

### FUND

Apart from the housing scheme the other developmental schemes such as Jawahar Gram Simridhi Yojana , Employment Assurance Scheme, Restructural Central Rural Sanitation Programme and Member of Parliament Local Area Development Scheme are integrated and the funds allocated for the above schemes are utilised for the betterment of the housing colonies. Rs.250 lakhs is expected from the Central Government

for implementing this scheme in 5 Districts with Rs.50 lakhs each during 1999-2000.

## SAMAKRA HOUSING SCHEME

An area is selected in each State for implementing a Model Housing Scheme with all facilities which will be a roll-model for other villages. Kurinjipadi Panchayat Union in Cuddalore District had been identified for the implementation of this scheme during 1999-2000. This scheme is implemented for providing tenements well developed in all aspects, thereby uplifting the standard of living of the rural population.

### SPECIAL FEATURES OF THE SCHEME

Various developmental schemes are integrated under this scheme. This scheme consists the following features to fulfil the needs of the beneficiaries.

- Rural Housing Facilities
- Protected drinking water
- Sanitation
- Local infrastructure
- Environmental upgradation
- Power - Non-traditional power
- Non-conventional Energy Sources
- Improvement of ground water level
- Village community education, information and technical experience
- Improvement of technics / methods

### FUND

This scheme is implemented by integrating Schemes such as Indira Awas Yojana, Housing Scheme with grants, HUDCO, Rural Housing Scheme and Housing through Co-operative Societies with other developmental schemes implemented by various Departments such as social forestry, horticulture, non-conventional



energy sources, public health and water board. The Central Government have allocated Rs.20 lakhs for developmental Schemes and Rs.5 lakhs for information, communal education and exchange of information during this year.

#### **MEMBER OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME**

This scheme was launched in March 1993 by Central Government. Each Member of Parliament (Lok Sabha and Rajya Sabha) was granted Rs.1 crore per year to implement developmental schemes in their respective constituencies. This grant was enhanced to Rs.2 crores from 1998-99.

#### **MODE OF IMPLEMENTATION**

Under this scheme each Member of Parliament should recommend the works to be done in their respective constituencies adhering to rules and regulations to the District Collector. After the approval by District Collector, open tenders will be called for by concerned Departments to implement the schemes.

#### **ALLOCATION OF FUNDS**

The Central Government will disburse Rs.2 crores in four instalments, each carrying Rs.50 lakhs to the District Rural Development Agency in each constituency. The District Rural Development Agencies, after utilising the first instalment should send their request for the release of second instalment. There are 39 Rajya Sabha Constituencies and 18 Lok Sabha Constituencies in Tamil Nadu and every year Rs.114 crores could be obtained and utilised for development schemes.

#### **RESTRUCTURED CENTRAL RURAL SANITATION PROGRAMME**

Sanitation was meant as cleaning of waste etc. from open drainage and toilets in earlier days. Presently this scheme is implemented integrating sanitation work, with garbage disposal, clean food habits, environment, clean living to raise the standard of living of the rural masses. This scheme also aims at the following five aspects.

- To provide sanitation facilities in large number to rural public. (To provide this facility to atleast 50% of the public before the end of Ninth Five Year Plan period).
- To create awareness about sanitation among the masses.
- To provide sanitation facilities in all the Schools in rural areas.
- To encourage low cost technical methods.
- To control the diseases caused by water contamination and sanitation habits.

#### **MEASURES TO BE ADOPTED**

- To reduce the subsidy amount by following thrift measures.
- To encourage construction of toilets in houses.
- To accord priority for previous schemes.
- To give priority for sanitation facilities in schools.
- To Raise funds from other institutions.
- To implement the schemes by integrating funds of other schemes.
- To involve schemes such as women welfare development scheme and self help group in this scheme.

#### **MODE OF IMPLEMENTATION**

- For construction of toilets in individual houses with single septic tank (unit cost Rs.625) for two septic tanks (unit cost Rs.1000), Rs.500 is given as subsidy for each unit.
- Toilets will be constructed in schools with the unit cost of Rs.20,000. 10% of the cost of construction will be obtained from the Panchayat or Parent Teacher Association. This scheme will be implemented through the Panchayat Union.





- Supply of drinking water will be spruced up under Rajiv Gandhi drinking water scheme. Proposals are being prepared for health camps in Districts with Central Government's subsidy.

#### FEATURES OF THIS SCHEME

- Construction of toilets in individual houses with a subsidy of Rs.500
- Construction of toilets in schools with a subsidy of Rs.20,000.
- Creation of health centre for women
- Camps on publicity, education, information and health and related works will be implemented in Cuddalore, Coimbatore, Erode and Salem Districts.

#### SWARNAJAYANTI GRAM SWAROZGAR YOJANA

Swarnajayanti Gram Swarozgar Yojana includes the aims of all the self employment schemes, such as enabling poor people to form self help groups, training, loan facilities, infrastructure and facilities to sell their products. The main aim of this scheme is to raise the monthly income of a family above the poverty line i.e. a minimum of Rs.2000 within three years.

- Creation of more number of small scale industries in rural areas is the main goal of the Swarnajayanti Gram Swarozgar Yojana Scheme.

- Beneficiaries may either be as individuals or groups, but groups are usually insisted. A group consists of 10 to 20 members. For small categories more than 5 members can form a group.
- To help families benefitting under Swarnajayanti Gram Swarozgar Yojana Scheme to raise their standard of living above poverty line within three years.
- Creation of small scale industries in rural areas, formation of rural poor into self help groups, improving their talents, planning, providing infrastructural and technical facilities and arranging for sale of the products.
- Swarnajayanti Gram Swarozgar Yojana Scheme should be covered as blocks/areas. Four or five works are to be selected in each block, depending upon the resources, ability of the public and available sales facilities. These selected works should be approved by Panchayat Union at Taluk level and District Rural Development Agency at District level.
- Sufficient funds should be ensured co-ordinating with banks and other financial institutions while planning.
- The problems in providing infrastructural facilities should be identified and 20% of funds from the total allocation is to be utilised for overcoming those problems.
- The list of poor living below poverty line is to be finalised by Grama Sabha. The work for each selected family will be identified as per the procedure in practice.

#### FUNDS

Swarnajayanti Gram Swarozgar Yojana is a loan cum subsidy scheme. But the subsidy is paid as bonus when the minimum investment and loan is repaid within the prescribed period.

- Loan is disbursed not only once but many times.



- The expenditure for this scheme is shared between Central and State Governments in a ratio of 75:25.

Individual belonging to Adi-Dravidar / Tribal Communities is eligible for Rs.10,000 and individual of other communities - Rs.7,500 subsidy.

If it is group loan the maximum amount is Rs.1.25 lakhs.

## OTHER BENEFITS

Each member in Self Help Groups is insured and the insurance premium is paid by the Government. On his natural death the nominee will get Rs.5,000 as insurance amount. In the case of death due to accident the nominee will get Rs.10,000.

## 10th FINANCE COMMISSION GRANTS

This grant released by the Central Government is meant for implementing the works such as minor irrigation, roads, school buildings, nutritious meal centres and health care through rural local organisations.

- In 1999-2000, Rs.71.83 crores has been allocated by the Central Government for developmental works in rural areas to provide basic amenities.
- The District Panchayat, Panchayat Union and Village Panchayats will get funds in the ratio of 8:45:47. The local bodies in rural areas will select the works and implement the schemes utilising the Central and State grants.

## IMPROVED CHULLAH SCHEME

Chullahs are constructed in houses of poor living below poverty

line and in schools as an alternate energy to save energy and to protect people from the hazards of smokes in the kitchen and to protect forest wealth.

Cent percent fund is provided by the Central Government. To avail this scheme, Block Development Officer, Planning Officer, District Rural Development Agency and District Collector are to be approached.

## BIO - GAS SCHEME

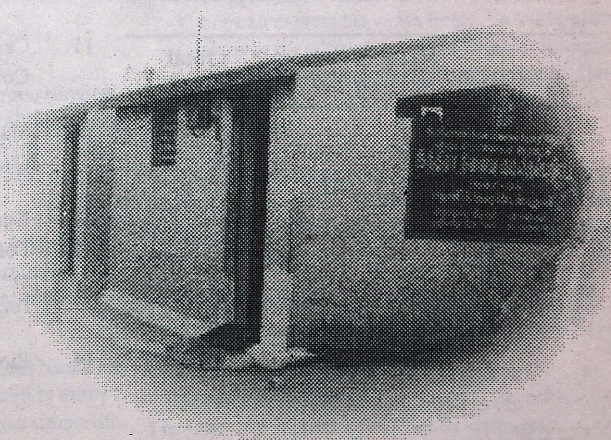
Bio - gas plants are installed for preservation of forests, preparation of fertilizers, protection of environment, and maintaining health of rural women and children.

- An amount of Rs.2,300 is allowed as grant for a plant measuring 1 cubic c.m. to 10 cubic c.m.
- Bank loan at minimum rate of interest is also allowed for installing bio-gas plant.

## REPORT ON THE SHARING OF FINANCIAL RESOURCES

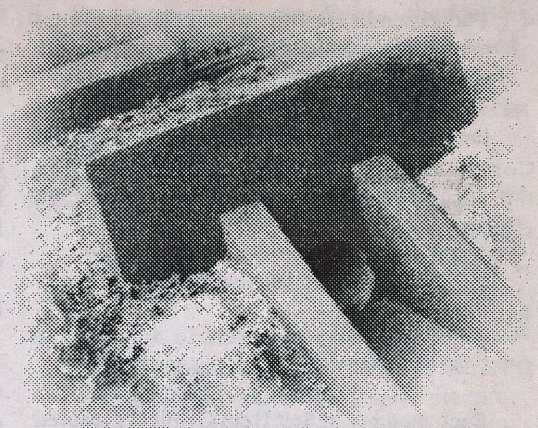
### GRANT OF STATE FINANCE COMMISSION

On the basis of the recommendations of the State Finance Commission, funds are disbursed to





Local Bodies in Tamil Nadu. During the years 1997-98, 1998-99 and 1999-2000, 8% of the total income of the Government was disbursed to Local Bodies. During 1997-98 a sum of Rs.369.28 crores was disbursed to Local Bodies. During 1998-99 Rs.469.94 crores was given, but this allocation was reduced to Rs.453.93 crores due to short fall in tax collection. In the year 1999-2000 Rs.455.06 crores has been allocated. During 1997-98 this allocation was shared among three tier Panchayats in the ratio of 45:45:10. This ratio was changed as 47:45:8, during the years 1998-99 and 1999-2000.



## EQUALIZATION FUND

15% of the State Government's share is disbursed as equalization and incentive fund, as recommended by the State Finance Commission. In the year 1997-98 Rs.59.45 crores has been allocated as equalization and incentive fund to rural local bodies. This has been enhanced to Rs.73.22 crores in 1998-99. In 1999-2000 Rs.73.46 crores has been disbursed. This fund is disbursed to Panchayats as incentive for raising self financial sources, providing infrastructural facilities and equating financial differences between Panchayats.

Financial allocation for the year 1999-2000

(Rs.in lakhs)

| Sl. No. | Name of Scheme                                 | Total allocation |
|---------|------------------------------------------------|------------------|
| 1.      | Jawahar Gram Simridhi Yojana                   | 10,987.32        |
| 2.      | Employment Assurance Scheme                    | 12,130.01        |
| 3.      | Indira Awaz Yojana                             | 7,794.67         |
| 4.      | Rural Housing Scheme - Subsidy cum loan Scheme | 500.25           |

|     |                                                                |           |
|-----|----------------------------------------------------------------|-----------|
| 5.  | Swarnajayanti Gram Swarozgar Yojana                            | 7,332.61  |
| 6.  | Anna Renaissance Scheme                                        | 7,500.00  |
| 7.  | Self Help Programme                                            | 3,711.42  |
| 8.  | Member of Legislative Assembly Constituency Development Scheme | 11,750.00 |
| 9.  | Member of Parliament Constituency Development Scheme           | 11,400.00 |
| 10. | Restructured Central Rural Sanitation Programme                | 796.218   |
| 11. | Central Finance Commission Grant                               | 7,183.00  |
| 12. | State Finance Commission Grant                                 | 455.0644  |
|     | Equalization Incentive Fund                                    | 455.0644  |
| 13. | Improved Chullah                                               | 36.00     |
| 14. | Bio-gas                                                        | 45.00     |



An uneducated old man. An obstinate person from his youth. An agitator who was not aware that a party set up should follow the nature of political objective. He never bothered about the feeling of the people he hurt and that those hurt will hurl abuses. He refused to be tactful. He was attacked by the very same persons whom he brought into the limelight. To this old man, the very idea of agitation tastes sweet. He has a long public service to his credit. But what has he gained? Has he obtained a knighthood? Had he any opportunity to go to Geneva at Government cost. Did he go to the States at the expense of the Government? What are his achievements. He was put into prison not less than eight times. This is Ramasami Naicker.

We are aware of the appearances of a good many extremists in the world. We are aware of speakers with gifted tongues, who have talked of atheism. We have seen heroes braving rivers of fire. We should understand the great difference between these persons and Periyar.

They talked and wrote among educated persons of mature understanding. Whereas Periyar's work was among the most illiterate of Tamil Nadu amongst



opposition including stone throwing and mud slinging. While the all-knowing men of letters of all fields, felt helpless even to check impositors, Periyar, slashed through like a hurricane, uprooting various growths poisonous to society in Tamil Nadu.

Periyar has great experience in having led a number of agitations. His relationship and understanding with the general public was so certain that the wrath of the rich could not harm him.

He sowed the seed of self respect in Tamil Nadu. He has seen many a battlefield and participated in many a battle. Discarding luxurious living he lived a simple life.

'Come forward to work. Don't ask me the means of livelihood. Come to rescue your community. Don't ask me whether you have the energy for it. Come, join the battle. Don't ask me when it will end'. This was his war cry.

The qualities of intellectuals and revolutionaries like Socrates, Lenin, Bernadshaw and Rousseau, for which they are held in great esteem are all seen together in the form of Periyar.

A good number of persons have worked along with Periyar. Throughout I had the opportunity to be with him, more than the others. They have been very sweet days for me. Even as I recall them to-day. I derive great pleasure.

## THE HURRICANE

□ Anna

During his conversations he has come out with a number of thought provoking ideas. He taught me the art of fortifying my hearth against hardships. He induced in me a great interest, pleasure and satisfaction in public service.

I found and accepted the leadership of this sole leader.

His life was continuous struggle to uphold the right to speak what he felt at any cost. His success in this struggle was tremendous.

He was not the sole person to enjoy the fruits of his success. Today, one and all enjoy the fruits of his labour in Tamil Nadu, a state prevails, when one can express his views freely. This is the first phase of the success of an intellectual revolution. Periyar and Periyar alone is responsible for this.

The service rendered by him to achieve this success is very appreciable.

And therefore, I generally refer to it the great service rendered by Periyar is not the work of an individual, but it is an era, an important period of time, a turning point.

He has seen many battle-fields. The successes achieved were very many. The battle he started is still going on.

I call those days the spring in my life, the days when I had the opportunity to join him in the battle. ★



# STUDENT ZOO CLUB IN ARIGNAR ANNA ZOOLOGICAL PARK

**T**he zoo club in Arignar Anna Zoological Park is a student activity centre. Students who enter college and senior school students interested in serving the zoo are enrolled as member for a period of two years. The zoo club membership is a valuable offer and experience for the students as they are exposed to adventure in the zoo, while getting educated about wildlife management conservation, animal behaviour, animal habitats, ecosystems, evolution, animal adaptations, reproduction, nutrition, animal housing and husbandry. They learn much more through animal encounter, keeper talks, behind the animal house visits, zoo patrol, conservation, education and awareness programmes, public interaction, creative zoo projects and zoo classrooms. The zoo club membership offers education and fun for students, during weekends and holidays. The students are motivated to learn and are moulded as future conservationists. The zoo experience, develops new skill and identifies innovative talents of the members. A large number of students have shown keen interest in joining the

club and they have written to us expressing concern for animals and the environment. This is why we want to expand the activities of the zoo club. The zoo club started in the year 1998-99, now has a membership of 150 students, mostly from colleges and schools.

The zoo club member gets a separate recognition and identity in the zoo premises. The student member is given an identity card & a cap, assigned new jobs every week end. They are also allowed to pick up jobs of their choice and interest. There is scope for students to freely express their views in the zoo club magazine.

The services rendered by the young volunteers are so gratifying to us. It is a good feeling to know that young people are interested in our wildlife and its conservation.

## HOW TO ENROLL

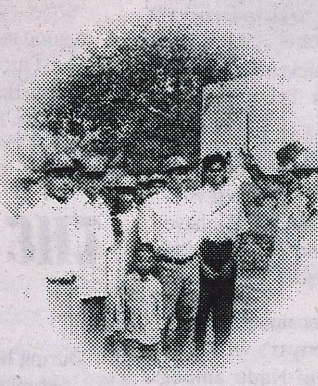
Students interested in animal welfare activities, bird watching, nature study and wildlife, should write to the Zoo Education Officer, Arignar Anna Zoological Park with full details, bio-data and area of interest.

## PERIOD OF SERVICE

The student member will visit the zoo on holidays, week ends to assist the zoo staff in all their activities for a period of two years.

## RECOGNITION OF SERVICE

After two years, a certificate of merit will be given by the zoo to the club members, in recognition of their services. Join the zoo club and support the cause of wildlife conservation.

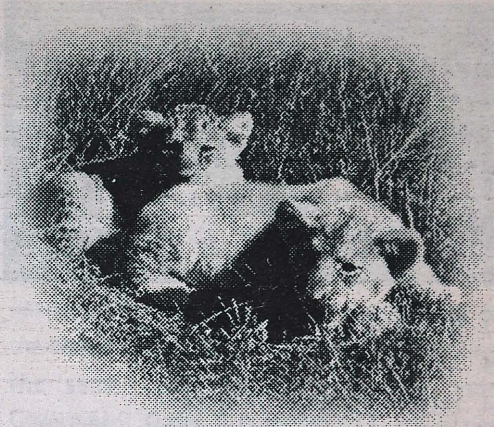




**A** rignar Anna Zoological park is not only the largest open, well maintained zoo in India, displaying a wide array of animals in their breeding groups, but also an excellent conservation and education centre. The zoo opened in 1985, is the single largest, animal and plant education centre offering informative and interesting education to teachers, students and visitors. This is done, not merely with appealing informative boards, but also through innumerable educational programmes offered in the zoo classrooms.

### **EDUCATION : An essential Conservation task**

The living animals that attract the visitors, form the basis for zoo education. Arignar Anna Zoological Park offers informal zoo education to the diverse zoo public. The education centre of Arignar Anna Zoological Park intends to throw open the facilities to educational institutions and specific target groups for formal education. Such educational institutions can range from nursery schools to universities. The education unit also runs the students zoo club which currently has a membership of 150 students. Over 8,00,000 people visit this zoo every year, of which nearly 3,00,000 are students. This is why we run educational programmes for students and teachers, organise talks and slide shows, workshops, field visit and exhibition. Teachers and students get a great experience in the zoo. The education centre is committed to organise more education programme for the benefit of all students to draw new wildlife experiences. You are free to book a topic of your choice and fix the time schedule with the Zoo Education Officer or choose one from the list below. The zoo classrooms are designed to offer excellent exposures to the world of animals. The zoo education offered, is free. With the experiences gained, we intend to provide zoo Educational Kit for students and teachers shortly. Write to us, to enroll in the zoo classroom sessions and enrich your knowledge on wildlife habitats, management conservation, animal behaviour, adaptation, nutrition, evolution and ecology. Educating the public and creating awareness among zoo visitors is the main objective of our educational plan.



### **LESSONS FOR PRE PRIMARY STUDENTS**

1. ANIMAL PUPPET PLAY
2. ANIMAL STORY TELLING
3. DISCOVERY TRAILS AND ANIMAL EXPERIENCES.

### **LESSONS FOR PRIMARY STUDENTS**

1. KNOWING INDIAN ANIMALS
2. DISCOVER ENDANGERED ANIMALS
3. DRAWING AND PAINTING ANIMALS

### **LESSONS FOR HIGHER SECONDARY STUDENTS**

1. ANIMAL BEHAVIOUR
2. ANIMAL KINGDOM CLASSIFICATION
3. ANIMAL ADAPTATIONS
4. INDIAN ECOSYSTEMS
5. ANIMAL CARE AND HYGIENE
6. ANIMAL WATCH/OUT DOOR STUDIES.

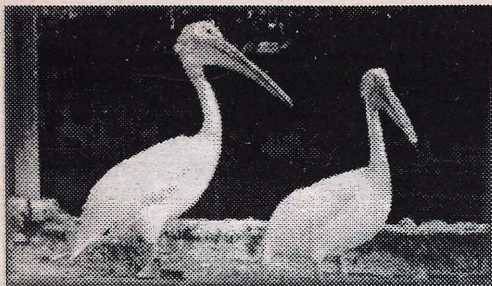
### **AAZP (ARIGNAR ANNA ZOOLOGICAL PARK) ZOO CLASS ROOM ORDER FORM**

1. NAME OF THE EDUCATIONAL INSTITUTION:

## **EDUCATION FOR CONSERVATION**

**Education Services for Teachers,  
Students and Zoo Visitors**





- SNAKES OF SOUTH INDIA
- ANIMAL BEHAVIOUR, REPRODUCTION, NUTRITION AND ADAPTATIONS
- ENVIRONMENTAL AND WILDLIFE LAWS
- ANIMAL RESCUE AND REHABILITATION

We can develop more education resources with your support, interaction and co-operation.

## ZOO LIBRARY

We have a library that can be made use for reference, which will be open on Mondays and Fridays.

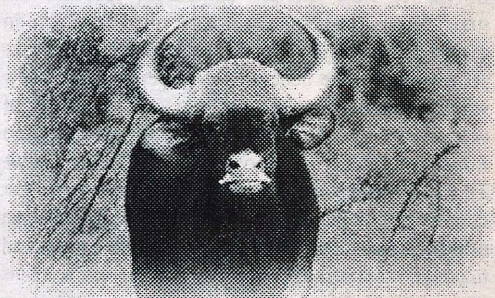
## BOOKING GUIDELINES

The zoo education and lecture are half day or one day programmes, which also include a guided tour inside the zoo. Topic duration may be negotiated to suit your needs. The classes are free of charges. However we need a strength of not less than twenty five persons for each programme.

## BOOKING INFORMATION

Booking for education services and classroom sessions can be made by writing to the Zoo Education Officer.

Please complete the booking forms and post to us. Enter the date, time and months suitable for your visit.



All topic bookings are subject to availability of the lecturers. Please book well in advance.

**DIRECTOR**

Or

**EDUCATION OFFICER,**

**ARIGNAR ANNA ZOOLOGICAL PARK**

Education Centre,

Vandalur, Chennai -48.

Phone : 044-2376089

Fax : 044-2376741

E-Mail : aazp@hotmail.com

2. STUDENTS/TEACHERS :
3. ADDRESS:
4. DATE AND TIME OF VISIT:
5. LESSONS DESIRED :
6. ANY OTHER LESSONS/SUBJECTS OF CHOICE DESIRED :
7. OTHER INFORMATION :

Signature

## LESSONS FOR COLLEGE STUDENTS

1. CAPTIVE BREEDING IN MAMMALS AND CONSERVATION EFFORTS
2. WILDLIFE IN DANGER
3. ANIMAL ADAPTATION
4. FEATHERED FRIENDS
5. SEXUAL REPRODUCTION IN WILD
6. ANIMAL DIET
7. IN-SITU & EX-SITU CONSERVATION
8. ANIMAL COMMUNICATION
9. WILDLIFE PHOTOGRAPHY

These courses and classroom sessions are designed to develop interest in those who desire to pursue a career in wildlife.

## TEACHERS RESOURCE PACKAGES

AAZP has a wide list of study packages for teachers to assist in their teaching of environmental and wildlife topics.

- SPECIES AND HABITAT CONSERVATION
- ANIMAL CLASSIFICATION
- ENDANGERED SPECIES
- INDIAN WILDLIFE AND FOREST TYPES
- INVERTEBRATE WEALTH OF INDIA



# ELECTRICAL INDUSTRIAL ESTATE

## KAKKALUR

### DEVELOPED PLOTS

Out of 44.07 acres,  
18.05 acres were

### SCHEME

The Electrical Industrial Estate, Kakkalur, was originally sanctioned in G.O.Ms.No.2561, Industries (special) Department, dated 16.6.1966, with a view to provide facilities to Electrical Manufacturers, to start Electrical Industries. This Electrical Estate is situated at Kakkalur in between Sevapet Road, and Thiruvallur in Chennai-Thiruvallur High Road at 42nd Km. from Chennai.

As ordered by the Government, 327 acres of land was acquired for the Establishment of Electrical Industrial Estate, Kakkalur in 1968. Subsequently, an extent of 282.93 acres of land was handed over to Tamilnadu Small Industries Development Corporation Ltd., The Electrical Industrial Estate is housed in 44.07 Acres.

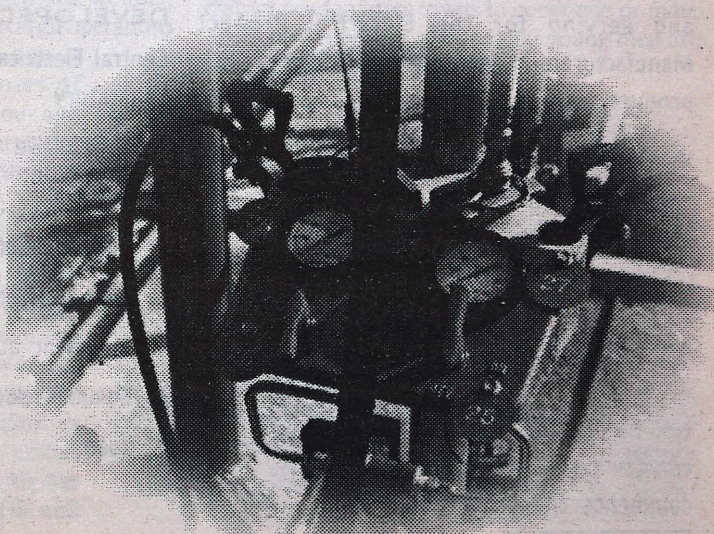
### INDUSTRIAL SHEDS

In the Electrical Industrial Estate, Kakkalur 14 Industrial Sheds were constructed in various sizes ranging from 1892 Sq.ft. to 7300 Sq.ft. These sheds were allotted to 13 Entrepreneurs, on rental basis, besides a Canteen and a Post office. These sheds were constructed during 1968-1971.

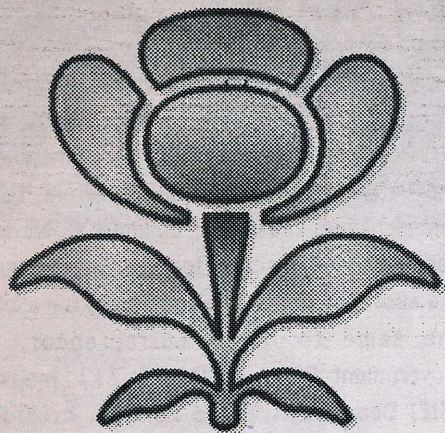
identified as vacant land, after constructing the 14 Industrial Sheds, Staff quarters, Labour tenement and Laboratory building. Government have accorded sanction for the development of the above land into developed plots for allotting the same to needy Entrepreneur, vide Government Order G.O.Ms.No.372, Industries (SIE) Department, Dated 28.5.89. Accordingly 45 plots were developed and allotted to 42 Entrepreneurs. Apart from the above an extent of 5 acres of land was allotted to a Medium scale industry, M/s.Pulsor Electronics for the manufacture of Digital Telephone Instruments.

### STAFF AND LABOUR TENEMENT

Six labour tenements have been constructed for the welfare of the workers, working in this Estate. These tenements have been occupied by the Industrial workers.







Besides the above 5 Staff quarters have been constructed for the purpose of the Staff working in the Central Electrical Testing Laboratory.

### CENTRAL ELECTRICAL TESTING LABORATORY

Central Electrical Testing Laboratory, is occupying the land to an extent of 4.651 Acres and serving for the Electrical Product Manufacturers in assessing the quality of their product.

#### ABSTRACT DEVELOPED PLOT

|                                                                               |   |    |
|-------------------------------------------------------------------------------|---|----|
| No. of Developed Plots                                                        | : | 46 |
| No. of Allottee                                                               | : | 41 |
| No. of Allottee commenced production                                          | : | 9  |
| No. of Allottee completed the construction and yet to commence the production | : | 5  |

No. of Allottees commenced construction : 6

No. of Allottee takenup effective step to implement the project : 1

No. of Allottee yet to take up effective step to implement the project : 19

No. of Plot vacant : 5

#### SHEDS

Total No. of sheds constructed : 14

No. of Rental Sheds : 5

No. of Hire Purchase Sheds : 3

No. of Sheds for which sale deed issued : 2

No. of Sheds vacant : 3

No. of Default unit : 1

#### BRAKE-UP FOR THE TOTAL LAND TOTAL EXTENT OF LAND DEVELOPED : 44.07 ACRES

|                                       |   |        |
|---------------------------------------|---|--------|
| Central Electrical Testing Laboratory | : | 4.651  |
| Administrative Office                 | : | 0.704  |
| 2. Sheds                              | : | 6.730  |
| 3. Developed plot                     | : | 18.050 |
| 4. Staff quarters                     | : | 0.792  |
| 5. Tenement quarters                  | : | 0.256  |
| 6. Common purpose                     | : | 0.073  |
| 7. Road                               | : | 7.814  |

★ ★ ★



**"I** t was a memorable day in my life; I killed an enemy intruder" said Muthu Raj, a jawan who has come down on leave to his native village, Poosaripatti in Dharmapuri district. Narrating his encounter with the enemy when he along with some more sepoys was sent to clear a pocket of intrusion during Kargil war last year, Muthu Raj enthralled an audience of a group of youngmen of his village gathered under the shade of a neem tree with stories of action and valour exhibited by him and others in his company. Such was the response of the men that many of them began to nag him to get them enrolled in the mighty Indian Army.

# JOIN THE ARMY - LIVE A WORTHY LIFE

adventure, young men across the country began to queue up in front of army recruiting offices.

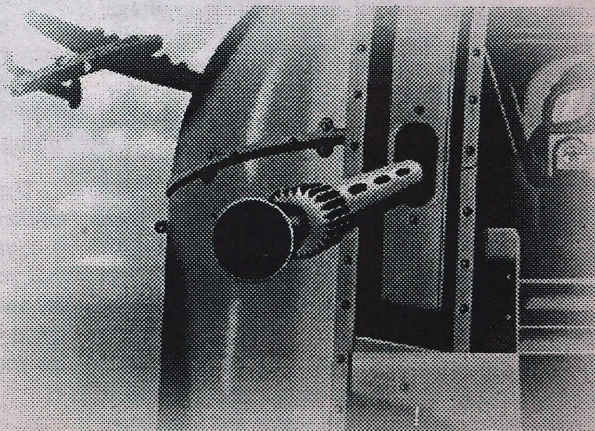
In fact, no other profession or occupation offers so much opportunities as army does. Be it in the snowy heights of Siachen or in the sandy expanses of Jaisalmer or in the thick jungles of the North-east, the life of a man in the olive green uniform is always full of adventures, no matter whether it is peace time or war. He has a schedule of tasks to perform and

receive training that keeps him always alert. In addition, he is constantly being educated for upgrading his knowledge and also exposed to cultural and sports events to fully harness his talents.

Army is not merely an avenue for employment. It is an institution with which one can serve the nation with pride. Service with the army amounts to an honour bestowed on a citizen as an army jawan is always referred to as a service man and not as an employee of the Government. This does not mean that army men are not paid well. In fact, their pay and allowances are attractive as compared to that of civilian Government employees. The Fifth Pay Commission has given them substantial benefits. Once recruited to the army, a person is guaranteed opportunities for advancement of his career through promotions. He is also given training, which will enable him to begin a second career after retirement. Apt to say that the army makes him a skilled and confident man when he retires still young.

## Recruitment Rallies

Entry into the army is normally at two levels. At the lower level, sepoys are recruited through rallies, which are conducted every three months in important towns. In Tamil Nadu, rallies are held not only in Chennai. Trichy and Coimbatore where there are recruiting offices, but also in district headquarters towns to cover one or more districts. Every year, about 6,000 young men are recruited in Tamil Nadu alone.







Those wishing to join the army can straight away come to the venue of the recruitment rally with original documents in support of their age, qualification, domicile, etc. Of course, they must be physically fit to match the standards prescribed for recruitment. The minimum educational qualification is a tenth pass. Eligibility conditions, dates and venues of recruitment rallies are published in newspapers a few days before the start of the rallies. A candidate should not forget that he can attend the rally only on a particular date which is assigned for the district he belongs.

On the day of the rally, a candidate should come to the venue very early in morning. During the rally, candidates will be checked for their eligibility relating to height, weight and chest. Documents will be verified for their claim of age, qualification and domicile. They will be required to run 1.6 km within 6 minutes and cross a trench before being allowed to sit for a medical test. Those successful in the medical test are allowed to appear for a written examination conducted on the last Sunday of the month and on clearing the written test, are sent call up letters.

### **Pay and Perks**

The new recruits will be trained by regimental centres before being sent to various units. On his joining, a sepoy will get a salary of Rs.5,000 and some allowances like city or field allowance. Food, shelter and medical needs are fully taken

care of by the army. In addition, he gets canteen facilities which enables him to buy things at lesser prices. A soldier is given 60 days leave every year in addition to 30 days of casual leave. Once a year, a free rail travel warrant is given to him for going to his native place. Besides, he is also given 50 percent concession on the rail ticket for more such journeys. There are various other facilities like group insurance scheme, loan for building house and buying vehicle and reimbursement of educational expenses incurred on children. Indeed, almost every thing a soldier needs is taken care of by the Government and this enables him to effect very substantial savings

from his salary which he will never be able to do if he is employed elsewhere in a civil post carrying similar pay.

If a new entrant is smart enough throughout his career, he can rise upto the rank of Subedar Major, the highest post in non-commissioned ranks. There are cases where persons who joined as soldiers later rose to the level of Major, the third level in commissioned ranks.

Army personnel retire at every stage and also at their own request. For those retiring, even courses are offered in industrial training institutes to enable them to seek jobs in factories or pursue an avocation of their choice. Sepoy Anandan who has just completed a certificate course in plumbing in an ITI in Chennai, is now eagerly waiting for the day of his discharge. He looks very confident and says that his life after retirement will be very easy because of liberal amounts of pension and other benefits he will get and also substantial amount of earnings through his own profession.

There can be no other better way to serve our motherland than to join the army. So, what about you, young man? Decide now itself. If you think that you fulfill the requirements, watch out for the announcement of the rally near your place. Once you join the army, life will be worth living for you.

★ ★ ★



I t would like to introduce this programme for the Management of stray dogs & rabies control called the Animal Birth Control & Anti-rabies program (ABC/AR)

Animal Welfare is based on Ahimsa (No harm to any living creature) and the belief that "All animals are sentient beings and whether they are domesticated or wild they deserve compassion and freedom from cruelty".

Historically, thousands of years of civilization shows the dog to have been domesticated and befriended by man. Used both as a loyal servant as well as a loving companion, we are speaking about a sentient creature of profound intelligence and selfless loyalty. Whether owned by prince or pauper the title given to the dog is "Man's best friend". There was a newspaper report recently about a dog in Brazil. While playing with his master's son they were attacked by a swarm of bees. The dog covered the boy with his body to protect him. When they rushed the boy to hospital they found only two or three bees stings, while the dog having taken all the bee stings, was dead. We stand before you, as people who have experienced for ourselves a special responsibility for all living creatures. This is why Animal Welfare groups world over have involved themselves in the urban struggle of stray dog management and rabies control.

However, there is a clear distinction between the two. Animal Welfare is an outcome of compassion, awareness and the prevention of cruelty. The second (stray dog management and rabies control) is a civic health requirement. Every city in India suffers from the overpopulation of stray animals because our cities breed hundreds of strays with our abundant garbage. As humans we have set a poor example of controlling our own number and yet exterminate any living creature we choose in any manner we deem fit. This is neither scientific nor effective and therefore unacceptable. Where there is civilization there are bound to be animals. And where food

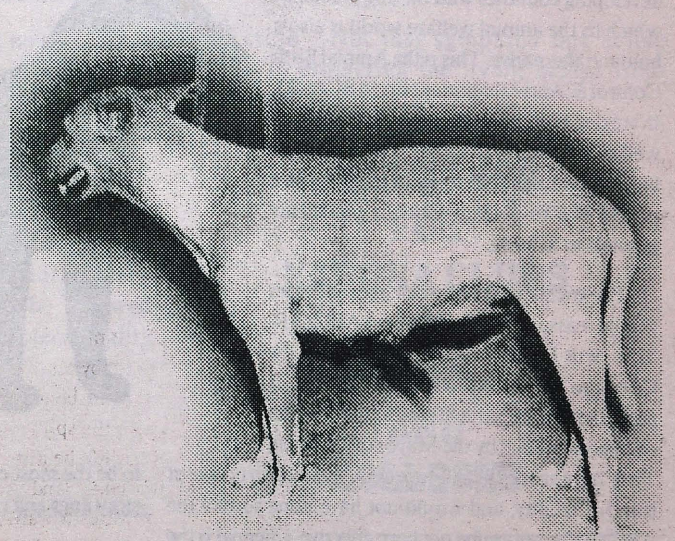
## Management of Stray Dogs and Rabies Control

□ Mrs. Amala Akkineni

is plenty the stray animals will over populate. This is a phenomena of nature.

Understanding this urban phenomena well, our fore fathers laid down numerous laws that also extended to animals. The Prevention of Cruelty to Animals Act of 1960 and the Municipal Laws concerning stray animals are some for example. However, where the former states that the destruction of stray dogs is required to control rabies. Today we need to bridge the gap between the two laws. This would not have been necessary if the killing of dogs could take care of the numbers and the disease rabies. But it is not so. There is no doubt that the killing of stray dogs has not worked. Despite killing thousands of dogs every year, their numbers have grown and rabies has still not been controlled.

Let us understand why simply killing of dogs does not work; Our cities do not have walls. We have external garbage disposal. When the dogs of a particular area are







caught and killed very soon, in a matter of days more dogs arrive. This is because the food source (garbage) has not been removed. In fact the indiscriminate killing of animals can be extremely dangerous in a rabies prone country.

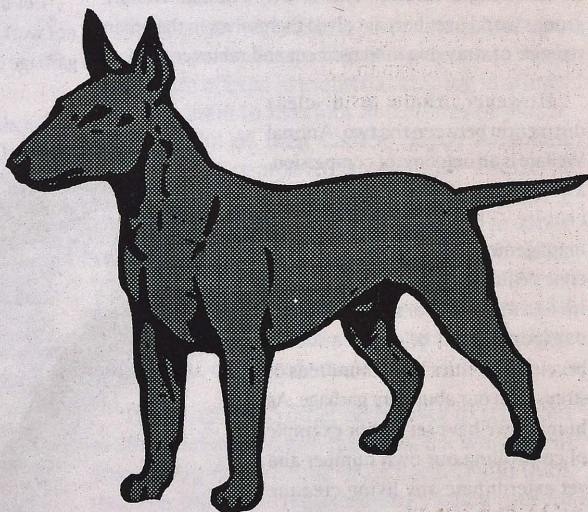
In an effort to solve the serious threat of rabies, The WHO, United Nations, came up with a better, more scientific solution for developing countries with the dog problems, which to the animal welfare world is also a humane alternative. This is the Animal Birth Control & Anti-rabies program (ABC/AR). It tackles both stray population control as well as the control of rabies. The numerous benefits of the program can be seen within a period of 5 to 7 years which is practically possible to achieve.

The excellent results seen in other cities should reassure any doubts about ABC/AR. You will be interested to know that the Chennai Municipal Corporation is inaugurating the 3rd ABC facility on the 29th of February 2000 by the Mayor of Chennai. They have spent 10 lakh rupees on the infrastructure of this 3rd facility, and would not have done so had the ABC/AR programme not been effective. Chennai is the

only city where the Corporation have given full support for an unbroken continuous 4 years of ABC/AR. Killing has not resumed during this time.

In Hyderabad, unfortunately the killing of dogs has resumed for some reason or the other, whereby hundreds of animals already sterilized have been killed. This is a tremendous waste both in effort as well as in resources and is detrimental to the effective results of the programme.

We believe animal welfare organizations must be involved actively by the Government for any programme concerning animals. We can be of tremendous help because we have the aptitude and more important, the inclination to understand animal behaviour their nature and psychology. This ability is crucial for tackling any problem involving animals. If you read the amazing facts about the effectiveness of sterilization and immunization of stray dogs, I am very positive that you will accept this

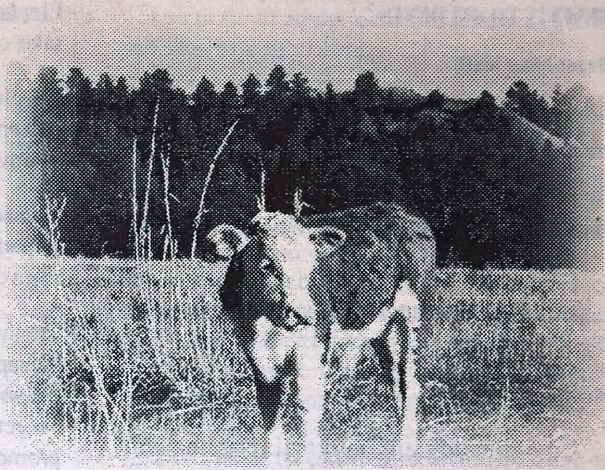


to be the most effective means for the management of stray dogs and rabies control.

*Courtesy : Animal Citizen*



Sponsored by Indian vegetarian congress and supported by several Animal Welfare Organisations, KARUNA CLUBS have been established in a large number of schools and colleges. They have been successful in spreading the message of kindness, compassion and values of life in the student community. Now, Ahimsa Research Foundation, Chennai is taking a lead to spread this message to many number of schools. The programme is supported by Indian vegetarian congress and several other organisations and individuals.



### BACKGROUND INFORMATION

The primary objective of Karuna Club is to create awareness amongst students from the early stage of life and kindly their feelings of love, kindness and compassion towards all living beings animal life, plant life and protection of environment as enshrined in articles 51A(g) of the Constitution of India. This is also in accordance with our age-old rich cultural heritage.

Already such clubs functioning in hundreds of schools in Rajasthan, Gujarat, Tamil Nadu and other states and the results are encouraging.

Ahimsa Research Foundation now proposes to promote this project in all high schools, higher secondary schools and colleges of our country. The club membership is open to all students without any discrimination of religion or class or group of society.

To implement this project intensively and evaluate it qualitatively and quantitatively, necessary guidance is given may be followed strictly to make this useful project highly successful.

### WHAT IS KARUNA?

Karuna Means

“Kindness to all living beings - men, animals, birds and all creatures”.

**A**ffection, “quality of love and affection, sympathy and understanding”.

**R**everance for life - Every life is sacred and valuable and must not be trampled upon, harmed, assaulted, slaughtered or killed.

**U**nity of the whole Universe. (For a knowledgeable person, the whole universe is his family)

**N**oble : to develop noble and divine qualities.

**A**ction : Not just sympathy but active interest in protecting the living beings from destruction.

## GUIDELINES FOR KARUNA CLUBS IN SCHOOLS AND COLLEGES



## **BENEFIT TO STUDENTS**

### **Organising skill**

As students would take active part in the management of the Karuna Club, it increases and develops the organisational skill amongst them.

### **Humanitarian Upgradation**

Feeling of Compassion and non-violence will make them better and perfect future citizens of the country.

### **Sharing & caring**

Co-ordination and informal relations with different students and schools will inculcate the feeling of sharing and caring in them.

### **Development of social responsibility**

Development of morale and personality.

## **KARUNA CLUB PROCEDURE AND GUIDELINES**

1. All the educational institutions are requested to form and establish Karuna Clubs preferably before the month of July.
2. In the formation of Karuna Clubs, the Principal/Head of the institution/ Head master is the Patron of the Club and Teacher-in-charge nominated by him will be Vice-patron of the club.
3. The President, Vice-president, Secretary, Joint Secretary, Treasurer and 6 members of Managing Committee are elected from amongst the students. Two or more enthusiastic staff members may be kept as consultants.
4. If large number of students join as members of the club, they may be divided into groups and they can form their own name and in insignia (e.g.

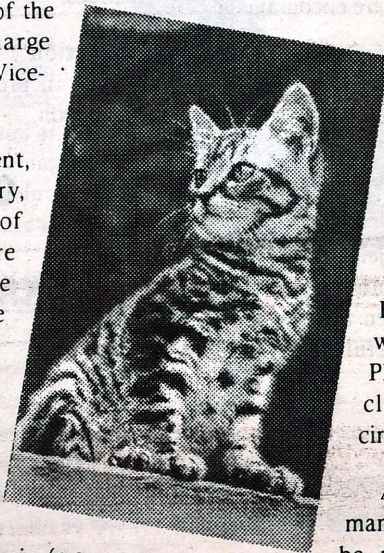
Elephant, Horse, Peacock, Deer etc.,) for the sake of competition amongst themselves.

5. All clubs may involve 2 to 3 eminent local citizens, social workers and environmentalist as advisers.
6. One representative of The Ahimsa Research Foundation will be nominated for each club to give necessary guidance in running the club.
7. The annual membership fee of the club will be rupees five only. This can be increased if the institution so desires. This amount is to be retained by the club and utilised for promoting the objects of the club.
8. Whenever a Karuna Club is started, the Convener of the Club shall be pleased to intimate the starting of the club to the Karuna Clubs Organisation, for record purposes and to guide the activities of the club whenever necessary and to send various pamphlets and publications etc.
9. The ownership and the Administrative Control of the club will be solely with the respective schools and colleges.

## **INAUGURAL FUNCTION**

An inaugural function be organised at the start of every Karuna Club in which eminent, educationalist, advocates, doctors and businessmen etc., be invited. A representative of Ahimsa Research Foundation or the Principal / Teacher-in-charge will administer the Karuna Pledge to all members of the club, which should be circulated to them in writing.

A few members of the management committee should be present at the meeting.





Parents may also be invited to participate in this function.

## **OBLIGATION OF MEMBERS**

1. Members are to develop qualities of love, non-violence, compassion, humanism peaceful co-existence, friendship with nature and understand the need of freedom of all living creatures.
2. If any cruelty is noticed towards animals, the matter may be brought to the concerned Government authorities for the action under the law of the land.
3. If any animal / bird etc. has met with accident, help may be given for treatment in the nearest veterinary hospital.
4. The students must learn the merits of vegetarian way of living, follow it and propagate it amongst friends, students and members of the locality. A vegetarian diet means diet from vegetarian and dairy products obtained without any cruelty or killing of creatures.
5. They should actively take part in all activities conducted by the Club.

## **PLEDGE**

I believe Karuna (compassion towards all living beings) is our rich cultural heritage.

KARUNA CLUB is an association of students who pledge to lead a life of compassion and work for human and animal welfare (animal means all living beings of land, sea and air). I believe every living creature desires to live just as we do.

I, as a member of this club shall not act in a way which will harm, injure or lead to cruelty and/or killing of living beings.

I shall follow the principle of 'Live and Let Live'

I shall try to advise others to follow as above and thus help this cause.

I shall support every activity of human and animal welfare.

I know animal and other living beings cannot speak and therefore I shall be more careful to help them and prevent ill treatment to them.

I will have compassion towards them and a desire to help them. Consequent to the above, I shall endeavour to adopt a 'vegetarian way of life' as envisaged in the guidelines of the club.

I will try to plant one tree and rear it continuously

My aim will be to serve with a smile.

I am proud to be a member of this Karuna Club, which is a voluntary organisation.

Name :                      Age:                      Std.

School:

School Address

Residential Address

Signature                      Date:

(The above pledge should be signed by each member of the club and retained by the club.)

## **PROGRAMMES AND ACTIVITIES**

The club shall conduct at least 6 programmes in a year to promote the cause of animal welfare and compassion towards all living beings.

Members of the club shall endeavour to adopt a way of life which will help a loving and happy relationship with creatures.

Following programmes are suggested to promote Karuna and compassion.

1. Monthly/Bi-monthly meetings on Animal Protection, Vegetarianism, Non-violence and



Karuna where school Teacher or Guest speaker may take class.

2. Drawing & painting competition.
3. Elocution competition
4. Essay writing competitions and Quiz programme
5. To show films, video cassettes on animal welfare, prevention of cruelty to animals and vegetarian way of life.
6. Annual Exhibition of charts and photos on the evil effects of slaughter houses and on merits of healthy and nutritious diet. The Ahimsa Research Foundation can help to organise such exhibitions with or without charge for the exhibition material.
7. Organising picnics with variety of vegetarian food brought by students and distributed to all students.
8. Monthly hand written wall magazine by students.
9. Lectures by eminent speakers.
10. Organisation of workshops, seminars etc. for Teachers and Students.
11. Help distribution of literature on the subject of compassion and vegetarianism to public for awareness (in local languages).

12. Organisation of rallies in the school area or town with banners and flags to promote our objectives.
13. Introducing books and periodicals on the above topics at school library.
14. Members can take part in the activities of other organisations with similar objectives.

ARF will periodically organise Inter-Club Quiz Contests. Ex-Tempore Competition, Sit & Draw Competitions, Debates, essay competition etc. and shall yearly monitor the performance of all the Karuna Clubs and accordingly award prizes and certificates for the best performing clubs.

#### ANNUAL PLANNER FOR KARUNA CLUBS

| MONTH          | PROGRAMME                          |
|----------------|------------------------------------|
| 5th June       | World Environment Day              |
| July           | Opening of New Clubs               |
| August         | Van Mahotsava<br>(forest festival) |
| 15th August    | Cultural Programme<br>on Karuna    |
| 20th September | National Environment Day           |
| 2nd October    | Gandhi Jayanthi<br>(Karuna Day)    |
| 3rd October    | Observation of wild life day       |
| 4th October    | World Animal Day                   |
| 6th October    | World Vegetarian Day               |
| 15th November  | Animal Rights Day                  |
| January        | School Karuna Club<br>Anniversary  |
| January        | Karuna Clubs Annual<br>Convention  |





Note :

1. New Karuna Clubs can be opened in any month from June to March.
2. Karuna Competitions and Cultural Programmes can be conducted on 15th August (Independence Day), 26th January (Republic Day), School / College Annual Day, Vivekananda Jayanti and on the Jayanti of other national leaders and saints or other days convenient to the school/college.
3. Every school should select at least 6 (six) programmes in a year promoting non-violence, kindness (compassion) and values of life. These programmes can be clubbed with the regular cultural activities of schools. Such planning can be done by every school before 30th June every year.
4. If there is holiday on the Festival Day, Kindly celebrate it on the proceeding or next working day.

**LIST OF ORGANISATIONS**

Working actively for the cause of compassion, non-violence and removal of cruelty to animals.

1. The Indian Vegetarian Congress  
17, Damodaran Street,  
Chennai 600 086.
2. Animal Welfare Board of India  
III Seaward Road, Post Box 8672  
Valmiki Nagar, Thiruvannamipur,  
Chennai 600 041.
3. National Ahimsa Foundation  
446, Sardarpura, Jodhpur 342 003.
4. Bhagwan Mahaveer Ahimsa  
Prachar Sangh  
21, Periya Naicken Street,  
Chennai 600 079
5. Blue Cross Society  
13, Besant Gardens, Chennai 600 020.



6. People for Animals  
114, Vepery High Road,  
Chennai 600 007.
7. Society for Prevention of  
Cruelty to Animals  
34, Vepery High Road, Chennai 600 007.
8. Beauty without Cruelty  
4, Prince of Wales drive  
Wanowrie, Pune 411 040

The above organisations can supply books, literature, pamphlets, cassettes, exhibition materials at free / nominal cost, on request. Schools are advised to keep in touch with them and also to become members of vegetarianism is a way of life which causes no creature of land, sea or air, terror, torture or death.

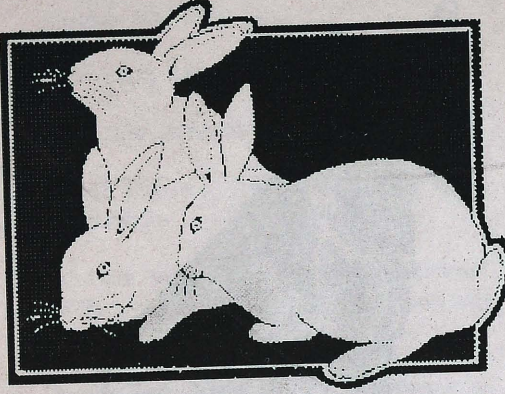
**AHIMSA RESEARCH FOUNDATION**

A non-profit trust company registered under sec.25 of the Companies Act, 1956.

**Registered Office:**

40, Thirumalai Pillai Road, T.Nagar,  
Chennai 600 017. Phone : 044-8277 133,  
828 3130, Fax: 91-44-827 7885.





#### **Administrative Office :**

11, Ponnappa Lane, Triplicane,  
Chennai 600 005.

Phone : 044-857 1066, 857 1246, 852 3668  
Fax : 91-44-855 1534

#### **Chairman**

Shri Dipchand S.Gardi

#### **BRANCHES**

##### Delhi, North & Central Zone :

Shri Laxmi Narain Modi,  
'Chairman & Secretary General  
Ahimsa Sthal, Anuvrat Marg, Mehrauli  
New Delhi 110 030.

##### Mumbai : Zonal Office :

Shri Bharat M.Jogani  
1512-A, Prasad Chambers,  
Opera House, Mumbai 400 004.

##### Culcutta : Zonal Office :

Dr.Chiranjeeval Bagra  
3rd Floor, 46, Strand Road,  
Calcutta 700 007.

##### Chennai - Zonal Office:

Shri Abhay Mehta  
Zonal Chairman  
40, Thirumalai Pillai Road, T.Nagar,  
Chennai 600 017.

##### Chennai : Research & Study Centre:

Shri S.Krishnan  
87-B, Lloyds Road, Chennai 600 014.

##### Mumbai : Research & Study centre :

Shri Deepak V.Suchde  
7-C, Mandariyot, Thana Naka Road,  
Panvel, Maharashtra.

#### **ORGANISERS FOR KARUNA CLUBS**

Shri Dulichand Jain  
Chief Organiser

Shri Suresh Kankaria  
Organiser

Shri C.S. Krishnan  
Organiser

All Correspondence about Karuna Clubs  
to be made with

Shri Dulichand Jain  
Chief Organiser  
KARUNA CLUBS ORGANISATION  
(A Unit of Ahimsa Research Foundation)  
C/O. Jain Industrial Corporation,  
70, Sembudoss Street, Chennai - 1.



Source : Animal Citizen



# Folk Dances of Tamil Nadu

## BEATING OF DRUMS (THAPPATTAM)

Danced to the beating of drums, this dance is an inseparable item of village entertainment and at social gatherings. The



processions, festivals and household ceremonies essentially go with this musical dance. Each group has 15 members. Villagers of all age groups take part in this dance.

The rhythmic beatings of 'Thappu' kindles the feelings of the listeners and instinctly they are inspired to dance to the tunes of the drums.

This 'Thappattam' is very popular in the Districts of Thanjavur, Madurai, Dindigul, Nellai, Tuticorin, Ramanathapuram and Sivagangai.

## FOLK DRUMS (NAIYANDI MELAM)

This musical instrument is the base to all folk arts of Tamil villages; Nagaswaram, Thavil, Pambali, Thamukku, Urumi, Thalam are some of the musical instruments that are used in Naiyandi Melam performance. Karagam, Kavadi, Dummy horse, Oyilattam, Thevarattam, Alagarattam are a few village



folk arts of the Tamils, performed in temple festivals, at all auspicious occasions and



processions. This Naiyandi Melam is an inseparable item in all village functions. A group of 11 join together and perform this item. The music is enchantic and captivative. Thalam, Sruti are the basic ingredients of all musical performances. Naiyandi Melam also has this twin ingredients. This is very popular in Madurai, Sivagangai, Ramanathapuram, Virudhunagar, Thanjavur, Nagapattinam, Tuticorin of Tamil Nadu.

### BHARATHA NATIYAM

This particular style of dance - Bharatha Natiyam originated and way nurtured in Tamil Nadu. Today Bharatha Natiyam is very popular other in most other countries also.



Only from this classical style various other forms of dances have been evolved. Each and every limb of performer exhibit one or the other emotional feelings of the artist. The facial expression of the performer reflect the inner feelings of the mind.

This is a rare style of dance peculiar to the Tamils and Tamil Nadu. The ancient Tamil literature 'Silappathikaram' mentions in detail the various aspects of this glorious dance.

### STICK DANCE (KOLATTAM)

This particular dance is also singular to Tamil Nadu. Both men and women without



any age restriction take part in this group dance. They carry small sticks (Koles) in their hands which are about a foot and a half in length and strike them against each other to suit the song and music. The songs are not merely entertaining but carry a theme and a message to the listeners. This group activity exercises the body of the performer's and rejuvenates their mind too.

Kolattam with some alterations is also popular in other parts of the Country. However, the Kolattam of Tamil Nadu is a class by itself.



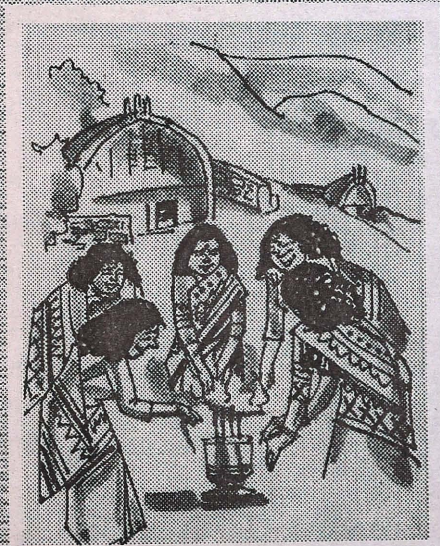
## KUMMI

This is an exclusive domain of women performing in groups. Ideas and thoughts are set to music and sung along with the body movement of the performers.

As in Kolattam, Kummi also gives a healthy exercise to the body and mind of the part takers. The rendering of songs of Kummi captivates the mind of on-looker. Kummi is the most popular item of folk arts of Tamils. There are also Kummi songs which give rise to sublime thoughts.

## TRIBAL DANCE

The tribals of Nilgiris are Badugas, Kothas and Thodas. These people live in harmony with nature. The dances of these tribal people live in harmony with nature. The dances of these tribal people though simple in language have a majestic note.



The Thodas worship their deity 'AMMAN' by singing songs and the body movements are adjusted to suit the music.

Likewise the Kothas also dance to the accompaniment of song and music. The term Kothas is a derivative of the term 'hare golo', the term 'golo' is the derivatives of a flute-like material, (Kuzhal). Though their musical language is "Kothas", their spoken language is only Tamil. Badugas clad in white, sing their songs in their own Baduga language and make an inimitable dance movement to worship the Lord of Hills.

## FOLK SONGS (NATTUPURA PADALGAL)

Tamil rural folk are endowed with native intelligence, imagination and elegance and



seek to convey their ideas inverse combined with music and also in a touching manner. The verse and expression are spontaneous. Our folk songs are really



poetry since they are also spontaneous overflow of powerful feelings.

These folk songs narrate past incidents, present exigencies and future expectations. They also carry messages from unwritten, traditional ideas handed over by tradition. These songs do not have known authors. The verbal expressions of rustic, innocent, hard working common people of villages are reflected in these songs.

### OYILATTAM

Oyilattam is also a form of folk arts seen commonly in villages.



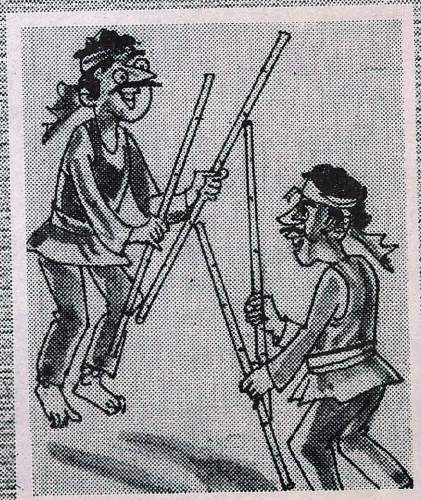
Again it is also performed mainly by women. This is very popular particularly in the Districts of Madurai, Ramanathapuram, Sivagangai, Virudhunagar, Tuticorin, Tirunelveli and Dindigul. Oyilattam is an

inseparable item of dance during village festivals. Generally the Marava and Nayakar sects perform this group dance. Today this 'Oyilattam' is performed not only in village festivals but also in general in social functions. Normally a group of 25 people take part in this dance and men also evince keen interest. Generally the song and music to this dance is given by a drum beat known as given by a drum beat known as Naiyandi Melam. The performers carry coloured cloth in their hands and flutter them with vigour and elegance to match the tunes of music.

### SEVALYATTAM

This particular group dance is a speciality of Dharmapuri District in Tamil Nadu.

Silappathikaram is one of the five Tamil epics known as "AIMPERUM KAPPIAM". In this Tamil epic a woman known as Madhavi sustained burns due to an accident. Her





neighbouring sing a song praying to their 'Kula Dheivam' for the speedy recovery of Madhavi. It is both a prayer song and an entertainer. The performers execute their movements with small sticks in their hands.

Thagadur was a part of the kingdom of Vallal Adhiyaman who gave the precious 'Nelli fruit' to ancient Tamil Poetess Avvai. Thagadur is presently in Dharmapuri District. "Sevaiattam" is performed only here now. This dance was patronised by the Hoysalas, King Krishnadevaraya and Athiyar Mulambas. The pole or the stick used in this particular form of dance are considered as divine and kept in temples of worship by the people. The semi tribal people of Bargur area in Dharmapuri District have kept alive this particular dance.

### ALAGARATTAM

In Tamil Nadu, Madurai is popularly known as the temple City. Lord Alagar is the brother of the presiding deity of Madurai, Goddess Meenakshi. The Tamil month Chithirai is very important to the people of Madurai for it is in this month Lord Alagar gave Goddess Meenakshi in marriage to Lord Sundareswarar.

Lord Alagar from his abode in the Alagamalai



comes down to Madurai to take part in the marriage of his sister Goddess Meenakshi. The people of Madurai, Ramanathapuram, Sivagangai and Dindigul Districts congregate in vast numbers to welcome Lord Alagar. They also offer fervent prayers to Lord Alagar and entertain him by dressing like Lord Alagar himself to please Him. They spray coloured water on Lord

Alagar to express their love for him. They sing in chorus in praise of Lord Alagar dancing to the accompaniment of Nattiyandi Melam.

### KARAGATTAM

Karagam is a pyramid like, conical vessel. This is decorated and carried on the head by





the performer during the dance. The accompaniment of music and beating of drums, enchants the listener.

The performer skilfully carries Karagam, on his/her head during the movement. Karagattam is a delicate and elegant folk art. It is generally performed in temple festivals and other social get-togethers.

### KAVADI ATTAM

Kavadi is closely associated with Lord Muruga, the popular Tamil God. It takes



the form of half a circle fixed to a horizontal wooden rod tastefully designed and decorated. Its length is that of an average man's shoulder. Its diameter is about 2 feet. It is decorated with feathers of Peacock and colourful bands. They also carry the figures or photographs of popular Gods of the 'Tamils'.

Normally the person who carries a Kavadi sings, on his/her beloved God and dance to the chanting of manthras and music. Generally people in groups carry Kavadis and go in procession to the temples to the accompaniment of music and beating of drums.

### BULL DANCE (KAALAI ATTAM)

The bull is a symbol of strength and valour. Normally a man's walk is compared to a bull's walk. If the elegance of a peacock stands for the delicacy of the woman, a



bull's posture is compared to the majesty of a man. A bull stands for hard work and manly composure.

Here, a group of men dressed like bulls, make movements and dance to the accompaniment of music and beating of drums. This is known as Kalaiattam. Naiyandi Melam is the chief musical instrument for this Kalaiattam. This particular form of dance is popular in the



Southern Districts of Tamil Nadu. This is a main item in village festivals.

### DUMMY HORSE

Among the animals meant for travel, the leg shape of horse and camel are different from that of others. Hence their speed in walking and running. Man fixes such a shape of foot to his own feet and dances like a horse to the accompaniment of music.



He wears the shape of a horse on to his waist with horse foot made of wood and dances skilfully and vigourously. Both man and woman as a couple join together and perform this horse dance. Normally a historical incident is narrated in the song and the performers dance to the beating of drums and playing of other instruments. In Tamil Nadu, this dummy horse dance is an inevitable item of performance in all temple festivals, village functions and other social gatherings.

### PEACOCK DANCE

This is popular in the Southern Districts of Tamil Nadu during temple festivals and



other village functions. People wear a set of peacock feathers on to their waist and dance along in a procession to the accompaniment of music and Naiyandi Melam.

Now-a-days, this dance is also performed by Bharatha Natiyam dancers in their programmes.

### TIGER DANCE

This is a folk art performed mainly by men. They paint their body with lines and spots like a tiger from head to toe, with a tail fixed to their back. They walk, roll and dance to the music.





### Dummy Legs Dance (Kokkalikkattai Attam)

This is a unique dance of the North Arcot District. A performer attaches long wooden planks to his feet and dances to the accompaniment of music. Normally this dance is performed during the annual festival of Gangai Amman.

Today it is being performed at national level art festivals outside Tamil Nadu. The size

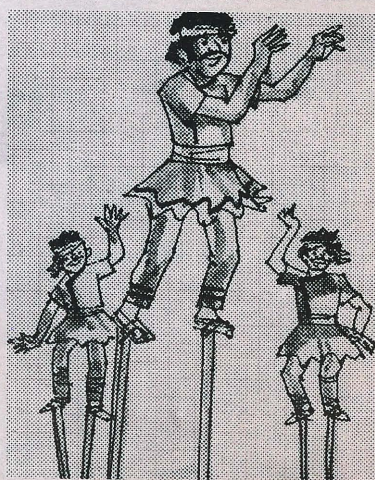
This is very popular during Mariamman temple festivals in villages. Musical instruments like Tharai, Thappattai are used for this ferocious form of dance.

### HEROIC FEATS

The Tamils are known for their physical valour and mental acumen. They love heroic feats to win the admiration and love of others. In ancient Tamil literature, it was told that the youth performed risky courageous physical feats to win the love of their sweet hearts.

This includes Silambam (with poles), sword fight, wrestling, fighting with fire balls etc.,

This requires a regular and hard training with skill and discipline. This is taught by a teacher to the students. Only after a specific period of hard training one can perform this heroic feat. This also serves as a self protective measure. In the ancient Tamil World, such heroic feats were many and varied. Today our youth in villages keep alive this ancient martial arts by practice.

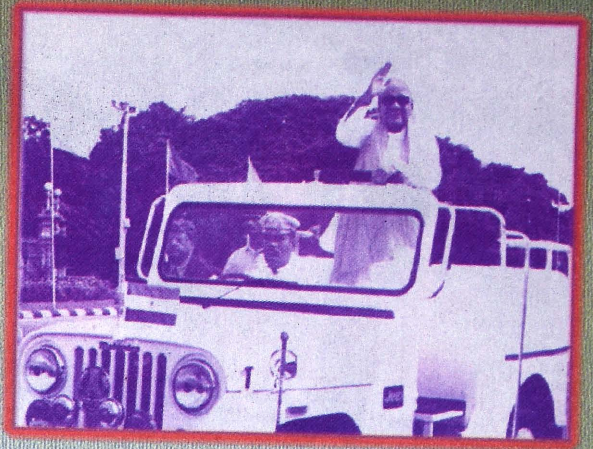


of the wooden plank is 3 feet height to 4.5 feet.

It requires strenuous training. This dance requires the musical instruments of Thappu, Settu, Thappattai. The performer with his artificial and extended legs dances elegantly and vigorously. Due to hard training and involvement of the dance, spectators get a sense of thrill and entertainment.

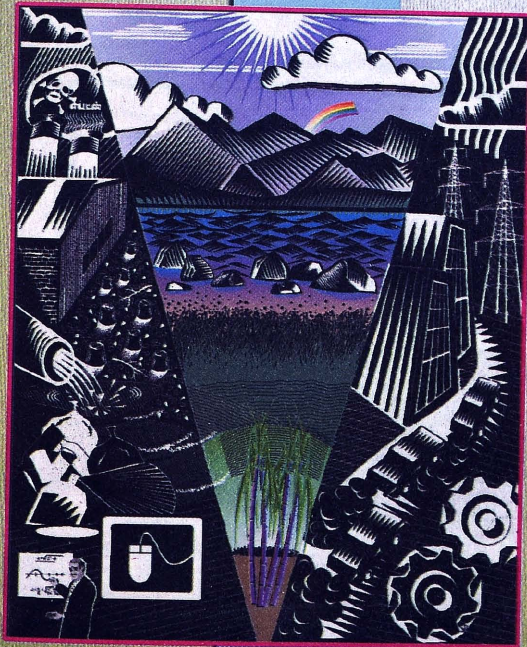
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## TAMIL NADU RANKS FIRST IN ALL ARENA DURING KALAIGNAR'S REGIME

- Tamil Nadu now ranks first in India in the industrial development which was in the 5th place in 1995.
- Tamil Nadu is the first in creating industrial infrastructures.
- Tamil Nadu stands first in higher education.
- Tamil Nadu leads first in the Information Technology.
- Tamil Nadu holds first place in the number of software professionals in India.
- Tamil Nadu ranks first in the eradication of polio for the welfare of Children.
- Tamil Nadu is first in controlling AIDS.
- Tamil Nadu is the first in curtailing the population.
- Tamil Nadu holds the first place in India, in increasing the production of rice and oilseeds.
- Tamil Nadu ranks first in all over the World in the production of sugarcane.







#### Number of beneficiaries

- Old age Pensioners .... 4,15,399
- Widows ..... 3,97,850
- Physically handicapped .... 39,847
- Landless agricultural labourers ..... 78,572

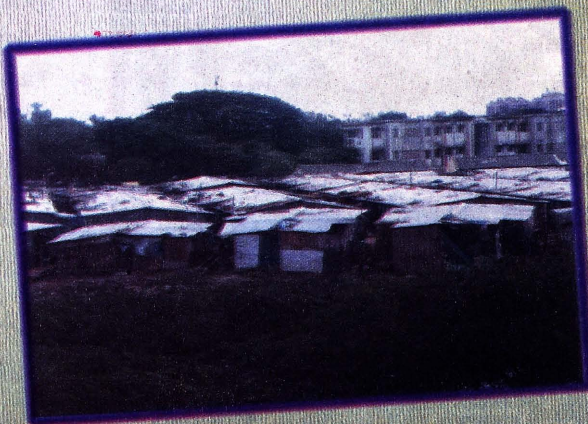
#### ASSISTANCE TO PENSIONERS

Old age pension has been enhanced to Rs.200 per month.

- Deserted women ----- 70,489
- Weavers ----- 5,680

#### 46,000 ASBESTOS SHEET ROOFED HOUSES

- Asbestos sheet roofed houses have been constructed for slum dwellers in Chennai, Madurai, Trichy, Coimbatore, Salem and Tirunelveli Corporations through Tamil Nadu Slum Clearance Board.



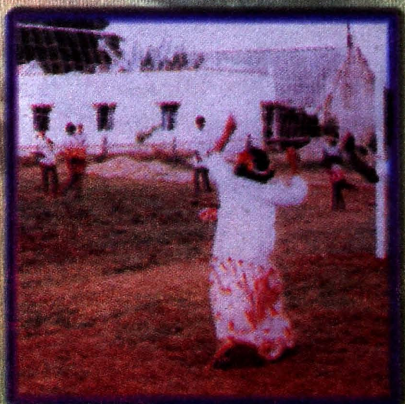
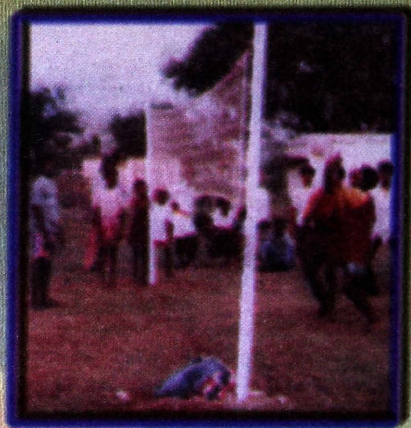
- 20,600 asbestos sheet roofed houses have been constructed at a cost of Rs.26.5 crores during 1998-2000.
- 26,000 asbestos sheet roofed houses will be constructed at an estimated cost of Rs.39 crores during 2000-2001.

★ ★ ★



**8000 Sports cum Recreation Centres  
are proposed to be opened throughout  
Tamil Nadu. Districtwise target  
is as follows :**

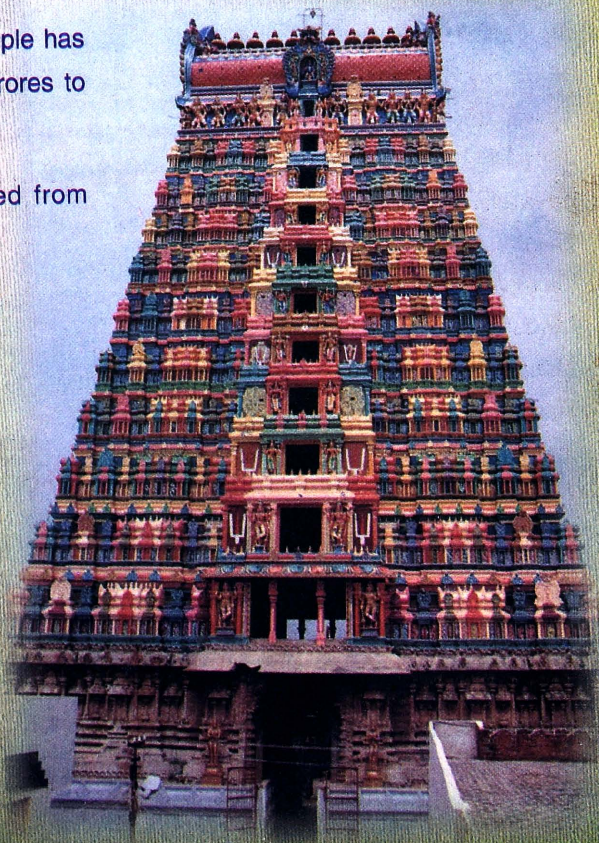
|                       |     |
|-----------------------|-----|
| Thanjavur .....       | 300 |
| Dharmapuri .....      | 300 |
| Theni .....           | 175 |
| Sivagangai .....      | 200 |
| Perambalur .....      | 175 |
| Vellore .....         | 350 |
| Pudukottai .....      | 225 |
| Kancheepuram .....    | 300 |
| Villupuram .....      | 325 |
| Nilgiris .....        | 100 |
| Thoothukudi .....     | 225 |
| Trichy .....          | 300 |
| Kanniyakumari .....   | 250 |
| Tirunelveli .....     | 400 |
| Virudhunagar .....    | 250 |
| Coimbatore .....      | 450 |
| Karur .....           | 150 |
| Tiruvallur .....      | 325 |
| Salem .....           | 375 |
| Dindigul .....        | 275 |
| Madurai .....         | 300 |
| Nagapattinam .....    | 200 |
| Ramanathapuram .....  | 200 |
| Thiruvannamalai ..... | 400 |
| Thiruvavarur .....    | 200 |
| Namakkal .....        | 375 |
| Erode .....           | 450 |
| Cuddalore .....       | 375 |
| Chennai .....         | 50  |





# Services of Hindu Religious and Charitable Endowment Department during Kalaingar's Regime

- A pension amount of Rs.500 to rural poojaris, retired from the services of temples which do not come under the control of the Hindu Religious and Charitable Endowment Department.
  - Renovation and other works are progressing in 842 temples at a cost of Rs.60 crores.
- ★ ★ ★
- 1,860 acres of encroached temple lands comprising 380 plots have been acquired.
  - The income earned for the temple has been increased from Rs.365 crores to Rs.548 crores.
  - Veda Training Centres started from 10-6-1999.
  - Saiva Thirumarai Training Centres ..... 20
  - Vaishanava Divya Prabandam Training Centres ..... 7
  - 2,459 Temples have been renovated and Kumbabishekams conducted .  
(From 1991 to 1996 - 828)





- 20,000 houses for fishermen under 'Singaravelar Memorial Housing Scheme for Fishermen'
- A sum of Rs.360 as assistance per year to each fisherman during the four months of non-fishing season, to benefit 1.83 lakh fishermen.

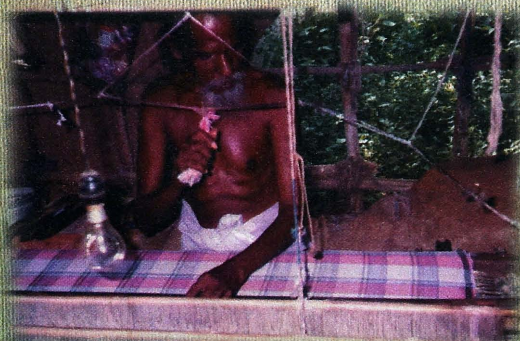


**For the welfare of Fishermen...**

- Street lamps in 310 fishermen tenements at a cost of Rs.98.63 lakhs.
- The assistance under fishermen insurance scheme has been enhanced to Rs.50,000.



- The monthly pension given to weavers above 60 years have been enhanced from Rs.150 to Rs.200.
- The insurance amount given to deceased weavers who passes away before attaining the age of 60 has been enhanced from Rs.15,000 to Rs.50,000 during 2000-2001.



### **A separate textile policy was framed for the first time in Tamil Nadu**

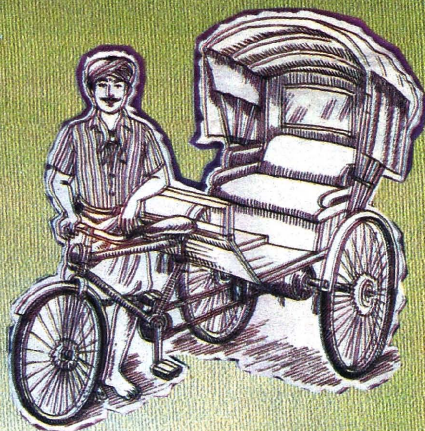
- A discount subsidy of Rs.43.25 crores pending till 1996 was settled by this Government.
- The Weavers Co-operative Society was involved in the production of export quality textiles, achieving higher income.
- More number of weaving opportunities created due to the free supply of dhoties and sarees to poor people to a tune of Rs.100 crores every year.
- Textiles produced by Weaving Co-operative Societies have been provided brand names thus increasing the sale.





## In the unorganised labour Sector ...

- Those registering in the Welfare Boards of 57 unorganised trades will be benefited throughout their life-time.
- Rs.1 lakh as monetary help to the family of the deceased in the accident.
- A sum of Rs.1000 as maternity assistance.

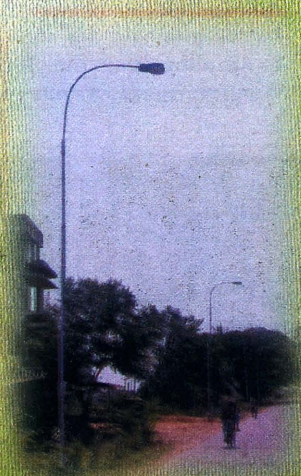


### Concrete pavement in village streets

- Concrete pavement in village streets were laid to an extent of 2,004 km at a cost of Rs.140 crores during last year. This year 3000 km length of concrete pavement in village streets will be laid at an estimated cost of Rs.250 crores

### CELESTIAL STARS ON THE STREETS

- 90,000 new street lamps electrified in villages.
- 12,000 tube lights have been replaced with sodium vapour lamps.
- 1.50 lakh new street lights electrified in towns; 90,000 tube lights have been replaced with sodium vapour lamps.







## IN THE FIELD OF AGRICULTURE

- Incentive for paddy production in the procurement of paddy.
- Tax levied on Urea was reduced from 4 percent to 2 percent.
- A separate commission for waste land development.
- Free electricity provided by Kalaingar's regime in 1990 for farmers is being continued.
- Fertilizer identity cards to 8 lakhs farmers.
- Loan given to sugarcane growers has been enhanced to Rs.55,000: for other crops it has been enhanced to Rs.35,000. ★

## MICRO CREDIT SCHEME FOR WOMEN

- A sum of Rs.12.84 crores was given as loan under 'Micro Credit Scheme for Women involved in petty trades' during January 1999 to July 2000. A total number of 1.18 lakh women benefited. This scheme was introduced by the Government for the first time in India to help women involved in petty trades who were under the clutches of money lenders.

To know more about this scheme, please contact :

- District Central Co-operative Banks,



கிராம மகளிர் மேம்பாட்டுத் திட்டம்  
சீர்திருத்தி சாலை 2000 சந்தம்

- City Co-operative Banks,
- Primary Agricultural Co-operative Banks.

★ ★ ★





1,500 mini buses operated sofar,  
to provide transport facilities for rural people.

## COMPUTER EDUCATION

- Computer Education introduced in all Government Higher Secondary Schools.



- Computer Education started in 666 Higher Secondary Schools last year at a cost of Rs.112 crores. This year this has been extended to 515 Government Schools at a cost of Rs.73 crores; computers for 16 Corporation Schools at a cost of Rs.1.85 crores; Computers for 60 Arts and Science Colleges at an estimated cost of Rs.28.22 crores; Computers for 12 Medical Colleges at a cost of Rs.2.79 crores and 5 Law Colleges at a cost of Rs.1.55 crores. ★



இந்தக் கவலை..  
இனி இல்லை..





BIOTECHNOLOGY

