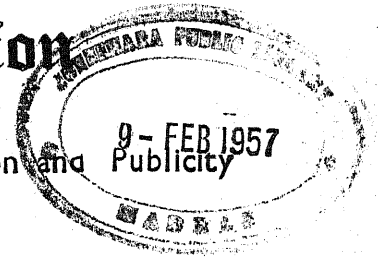


# Madras Information

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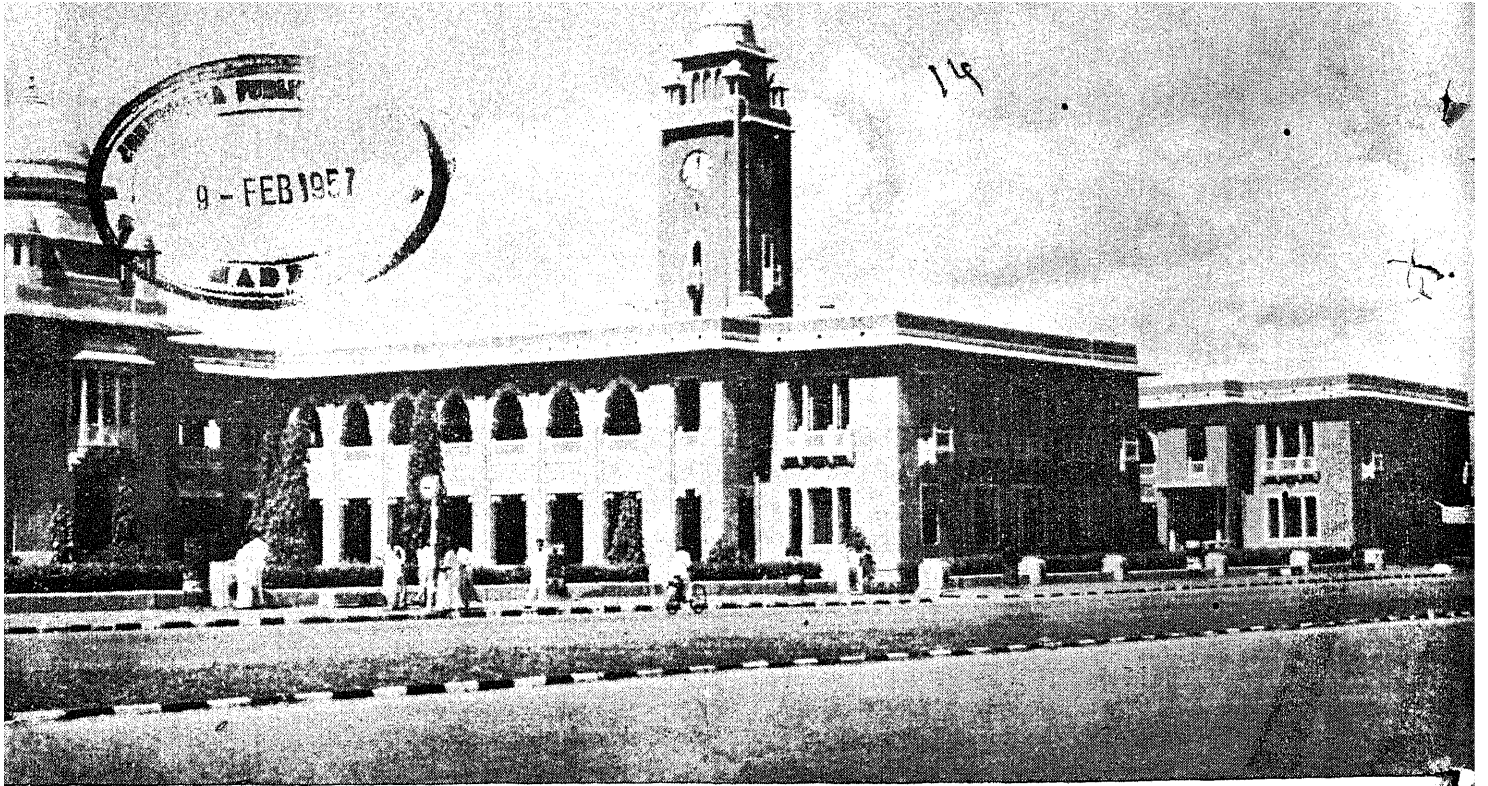
"WE SEEK TO SERVE AND NOT TO COMPETE"

February 1957

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*Front Page Cover :* The Madras Marina : The red buildings facing the sea, the black tar road, the white sands in the beach, the blue waters of the bay and the green vegetation on either side make the Marina one of the most beautiful spots in India.



*The Madras University Buildings.*

## AND WHAT OF THE FUTURE?

By DR. A. LAKSHMANASWAMI MUDALIAR, Vice-Chancellor, The Madras University

The conclusion of the first century of University education in the three oldest Universities of India, Calcutta, Madras and Bombay, and the beginning of the second century in University education naturally leads to the question: What of the future? Despite adverse comments, despite criticism that the type of University education has been moulded only to produce a clerical establishment required to serve a foreign Government, it cannot be denied that out of the processes involved in the training of mind, through the education imparted at the Universities, grew a band—nay, a whole regiment—of persons imbued with the highest patriotic motives and the greatest love for their country. Nothing has contributed to the success of the peaceful revolution that ushered in the era of independence for India, so much as the devoted labours of those who had been trained in, and who passed through the very portals, of

these Universities, who, time and again, recapitulated the words of the great servants, patriots and wise thinkers of the past. Deeply immersed in the lore of some of the greatest writers of the world, imbued with the favour drawn from the patriotic deeds that had been recorded in the pages of history, the alumni of the Universities were not slow to realise the position of their country and to fight in the most unique manner possible, for the freedom that they longed for their country.

It may, therefore, be said that the first century of University education was by no means an unfruitful or unprofitable period. What will the second century bring to the common man, to the country and to the world at large? If the seventeenth and eighteenth centuries can be said to be the dark ages in the history of India can it be said with any degree of confidence that the next century that we are going

to face may not be a darker period still, if current events are allowed to pursue their own course? The problem of international amity and peace, by virtue of its impact on society as a whole, is as much the concern of Universities. The progress of a nation, the peace and contentment of the people at large, the uninterrupted development of the resources of a country for the advantage of the common people and, last but not least, the spiritual welfare of the people themselves are all inter-linked unfortunately with the trend of events in the wide world. It is perhaps a misnomer to call the world any longer 'a wide world', and so it is that the Universities have to face this bigger problem, to take a longer view, to make more determined efforts, so that through their resources, through their culture and the spirit of respect for humanity that they cultivate, some possibility of alleviation may be vouchsafed for the people at large.

to produce considerably more than the requirements in an average year; but once that is attained, even for a couple of successive years, we will hear less of the food problem.

#### *Target under the second plan*

The Second Five-Year Plan aims at a production of 80 million tons of foodgrains compared to 65 million tons of to-day. Assuming the consumption to increase by about 10 million tons as it has done during the First Plan period, we can expect that the demand would be about 75 million tons compared to the production of 80 million tons, leaving us a comfortable margin; but this may often be knocked off by unfavourable seasonal conditions. This is one of the reasons why the original target of 15 per cent increase in agricultural production was revised recently to 28 per cent. The 15 per cent increase was based on calculations of actual requirements without allowing for any margin without taking into account the elasticity of the demand. But with this 28 per cent target, it is expected that we would become self-sufficient with a small margin of surplus in spite of a considerable increase in consumption. Given a few successive good crops, this margin may provide for a substantial carry-over of stocks from year to year and this will give ample protection against an unfavourable season.

The next question which will naturally arise is whether we will be able to achieve this increased production. Our experience has shown that a large increase in agricultural production is possible if the cultivator co-operates. The methods by which the increase in production is to be brought about are not anything extraordinary but the practices usually followed by the better type of cultivators. I will give only one example. The average production of rice per acre in Madras State is 1,079 lb. for rice and 469 lb. for cholum. It would thus be seen that the average Madras cultivator is producing about 50 per cent more than the average Indian farmer and the conclusion follows that if the rest of India can adopt the same agricultural practices adopted by the average Madras farmer, our deficit will be wiped out overnight. Extension work on a large scale has been undertaken for

some years now and it is being intensified all over the country. We can expect the results of all this work in the near future. It should also be remembered in agricultural extension work, there is a certain time lag between propaganda-cum-demonstration and the actual implementation of the idea by the farmer. As the work proceeds, it gathers momentum and the results achieved, in the later stages are often beyond the expectation.

#### *The Long-term aspect*

The long-term aspect may also be considered in this connection. The average production of paddy in India is 1,079 lb. per acre; whereas in Australia, it is 5,291; in Italy it is 4,425 and in Spain it is 4,558 lb. Apart from these countries, even countries like Egypt and China show an average yield of 2,935 lb. and 2,337 lb. respectively. Pessimists may say that we cannot achieve the Australian or Italian level; but certainly the average levels of production now prevailing in Egypt and China are well within our reach, if only we exert ourselves. Moreover, very little new resources are necessary for this purpose. With agricultural extension work intensified as is being done now, a doubling of the food production in India within the next 15 years can normally be expected. This does not mean that there is a likelihood of over-production. We are now utilizing most of our best lands for grain production; but some of these lands are needed for growing crops giving more nutritious food, as well as for commercial crops. The demand for both these will rise steeply in the near future and it will be necessary to grow all our food requirements in a smaller area than at present. This, I believe, will be the lines along which the crop pattern will evolve as our standard of living rises.

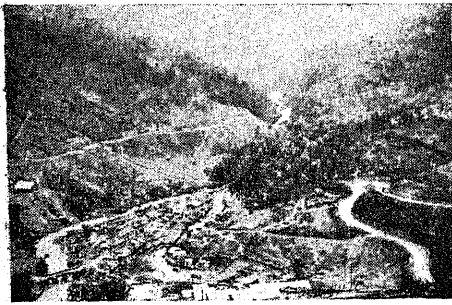
Since we are barely self-supporting in the matter of rice, it is necessary to see that all the surplus available with the producer is made available to the consumer. This would normally be the case if the prices have been steady and if the public believed that the prices would remain steady. But in actual practice, the free flow of rice between the producer and the consumer is hampered by three factors—firstly, the producer finds the market fluctuating so much that he withholds substantial quantities of rice from the

market; secondly, the merchants hoard large quantities in anticipation of larger profits in future; and thirdly, some of the consumers also buy larger quantities than are really necessary. The result is that the rice available to the honest citizen who buys his essential requirements is much more limited than it really need be and the prices go up. If all this hoarding should go, it is necessary to show all concerned that hoarding does not pay, and this can be done only by having a stable price structure for foodgrains. This means assuring a fixed price for the producer for his produce and ensuring the supply to the consumer at a price which is also fixed. It is found from our experience of rationing and controls that a margin of about Rs. 2 per maund will be sufficient to compensate for the handling and storage charges and this may be the normal difference between the producer's and consumer's price. Any higher margin is the unearned profit of the trader and should go.

This leads us to the price policy for agricultural commodities, a subject of an extraordinarily tricky nature on which it is difficult to lay down any propositions other than very general ones. It is generally agreed that a stable price level is desirable and that steps should be taken to see that the margin between the prices of principal foodgrains at harvest and the prices in the lean months should be kept as narrow as possible. We are told that in China foodgrains, are purchased at a fixed price and made available in industrial regions also at another fixed price. The margin so far as I could ascertain from the Chinese delegations is about Rs. 4 a maund, but even that varies with the locality where the rice is sold. In a totalitarian country, it should be easy to maintain a rigid price structure but in an economy based on a free market in foodgrains, it is much more difficult to maintain such rigidly stable conditions. All that we can do now is to fix a bottom price for the principal foodgrains and to maintain it at a reasonable level which would be acceptable to the consumer as well as to the producer.

We have already gained some experience in implementing a price support policy. Last year, when the prices fell below Rs. 11 a maund, a certain

*(Continued on page 28)*



## KUNDAH POWER PROJECT

### Rs. 10 Crore Assistance From Canada

An agreement between the Governments of India and Canada providing for assistance up to 20 million dollars (Rs. 10 crores) towards the capital cost of Rs. 36 crore Kundah Power Project was signed in New Delhi on December 29, 1956.

The agreement was signed by Sri T. T. Krishnamachari, Union Finance Minister, and Sri M. Bhaktavatsalam, Minister for Agriculture and Industries, Madras, on behalf of the Government of India, and by the Hon'ble Mr. Paul Martin, Minister of National Health and Welfare of Canada, and His Excellency Mr. Escott Reid, High Commissioner for Canada in India, on behalf of the Government of Canada.

The Canadian contribution will be spent on meeting the charges for the engineering consultants from Canada and the cost of supplying certain constructional and power plant equipment, as well as materials and equipment for the transmission lines of the Project.

The agreement also provides that counter-part funds resulting from other measures of Canadian assistance to India under the Colombo Plan be utilised towards the Indian rupee cost of the Project.

The Kundah Project is the largest hydro-electric project included in the Second Five-Year Plan for the State of Madras. It will utilise the waters of Kundah and neighbouring river basins on the Nilgiri hills and will, on completion, generate approximately 180,000 k.w. of electric power which can be stepped up to 240,000 k.w. at a later stage.

The project, as now planned involves the construction of two storage reservoirs and two power houses with an aggregate capacity of 180,000 k.w. in electric power, along with 500 miles of transmission lines to feed the power supply into the grid.

The Canadian Government's entire contribution of 7 million dollars for 1956-57 under Colombo Plan is allocated for Kundah Project.

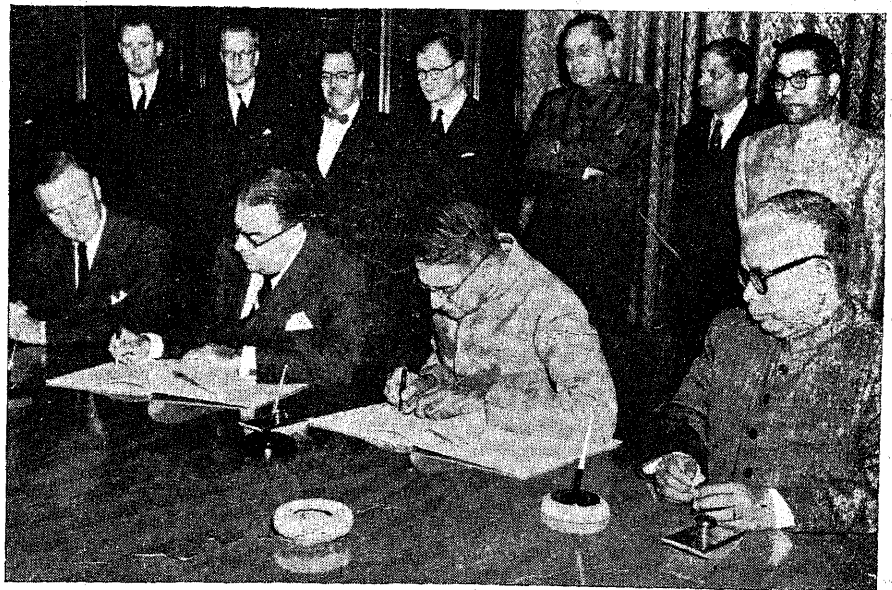
Hon'ble Paul Martin speaking on the occasion expressed his happiness for having the privilege of signing the agreement on behalf of Canadian Government to make available twenty million dollars worth of equipment under the Colombo Plan.

He said: "We co-operate with India in the Colombo Plan for mutual assistance because we want to help; because the quicker India becomes more prosperous the better off Canadians and Indians will be and because we believe that a strong India will strengthen the cause of peace. We recognise, of course, that Canadian participation is

merely an indication of our interest and friendship; that the major contribution to the success of India's development programme has been and must be made by the people of India themselves".

Sri T. T. Krishnamachari in his reply thanked the Minister for having participated in the ceremony of signing the agreement between the two Governments as Kundah Project which from the point of view of hydro-electric development in India and South India in particular was an important landmark.

The Union Finance Minister said that the identity of views between Canada and India in the international field drew them closer and that the assistance strengthened the friendship.



Hon'ble Mr. Paul Martin, Minister for National Health and Welfare of Canada and Sri T. T. Krishnamachari, Union Finance Minister are seen signing the agreement. Sri M. Bhaktavatsalam, Minister for Industries and Agriculture, Madras, is seated in the extreme right. Mr. Escott Reid, High Commissioner for Canada in India is also seen in the picture.



## What is the Metric System?

Two thousand years ago it was a big problem to deal in numbers exceeding 10. The Roman system: I, V, X, L, C, etc., was unweildy and clumsy when it came to addition and multiplication. The Egyptians wrote 333333 to denote 18.

In the first century A.D., an Indian mathematician evolved the ingenious method of expressing all numbers by ten symbols, each receiving a value of position, as well as an absolute value. This decimal system is today the universal system of reckoning numbers. The great mathematician, La Place said, "Its very simplicity, the great ease which it has lent to all computations, puts our arithmetic in the first rank of useful inventions".

The extension of this system to the realm of weights and measures led to the metric system, which now prevails in three-fourths of the world.

Fifty-eight countries have adopted this system during the last 100 years. Even where a uniform indigenous system prevailed, that was given up in favour of the metric system. What is the exceptional merit of the system that it should have displaced other systems?

The metric system is based on the simple number 10. The various denominations of each unit are multiples of ten.

- 10 grams=1 dekagram.
- 10 dekagrams=1 hectogram.
- 10 hectograms=1 kilogram.
- 10 millimetres=1 centimetre.
- 10 centimetres=1 decimetre.
- 10 decimetres=1 metre.
- 10 milliliters=1 centiliter.
- 10 centiliters=1 deciliter.
- 10 deciliters=1 liter.

Whatever be the measurement—length, weight or volume—the number for conversion into higher or lower denominations is the same—10. To deal in 'seer' and 'maund' on the other hand, it is necessary to remember that 16 chatacks make one seer and 40 seers make one maund. Similarly, the yard measure involves the figures 12, 3, 220 and 8 for conversion to the different units.

How did the existing units come into use? Our hands and feet have provided the basis for nearly all units of length. In almost all languages, the term for unit of measure is the name of a limb. The cubit, mentioned in the Bible, is known in India as 'hath' or 'Muzham'. So also 'angulam' and 'gira'. Corn was often the unit of weight, and so we have the 'grain', 'ratti', 'carat', etc.

The relationship between the higher and lower units have also been, naturally, arbitrary. Consider, for example: 28 pounds make one quarter, 4 quarters make a cwt. or, three tolas one palam, 8 palams make one seer, 40 seers make a maund. 24 tolas make a seer in Madras but 20 tolas make a seer in Bengal or Bombay. The metric system, in contrast, is a *system*. It is uniformly based on 10. It is an offshoot of the decimal system by which we reckon numbers.

### *The place-value system*

When we see the figure 432, we recognize it as four hundred and thirty two. Why? We understand, by convention, that 2 has same value but 3 and 4 acquire the values thirty and four hundred respectively because they are

in the second and third columns to the left of the unit. In other words they acquire these values by virtues of the place. This convention, known as the place-value system, originated in India, nearly two thousand years ago and revolutionized mathematics.

The decimal fractions extend this idea to the lower denominations, placing a decimal point or a dot (.) in between. Consider the number 432.5. The numbers beyond the decimal stand for tenths, hundredths, thousandths, and so on. In the case of money, for example, one rupee will be equal to 100 cents (Naya Paisa); 7 rupees, 35 Naya Paisa will be 735 N.P. or 7.35 rupees; in terms of the present currency, 7 rupees 35 paisa will be Rs. 7-8-9.

Being derived from the decimal system of numbers, the metric system is not wholly foreign to India. The number zero (Sunya) is described as 'one of the subtlest gifts of India to mankind'.

In the words of Rajaji "It is appropriate that India should put her weights and measures today in line with the international scientific world, adopting what is truly her own decimal system".

### *(Continued from page 7)*

the proposal for the conversion of the present two-year post-graduate course in Chemical Engineering and Chemical Technology into a four-year integrated course after the Intermediate Science level leading to the award of degrees in technologies. The All-India Council for Technical Education has sanctioned certain grants for this conversion. The University is planning to introduce this four-year course from the academic year 1957 and will be erecting new laboratories in Mechanical Engineering, Electrical Engineering, Organic Chemistry, Inorganic Chemistry, Physical Chemistry and Physics and an up-to-date workshop. The University is also to start a diploma course in Analytical Chemistry for graduate students to meet the demand of the industries in the southern region, from the academic year 1957. A department of Architecture is being

started very soon. The University has also proposed to organize research sections leading to the M.Sc. degree in Technology with particular reference to industries such as Ceramic Technology, Rubber Technology, Fermentation Technology and Oil Technology. A department for the study of Metallurgy is also being planned in the Campus. The University is to introduce a B.Sc. Technology course in Pharmaceutical Technology and Textile Chemistry.

This is the centenary year of the University of Madras and this happens to be the twelfth year of age of the College. With the promised expansion of the Indian Chemical Industry in the Second Five-Year Plan, the College is bound to play an important role in national development and is striving its best to provide properly trained personnel to man the various chemical industries for their efficient running and development.

## Tamil Becomes State Language

The last session of the Madras Legislative Assembly before it was dissolved by the Governor had done an important piece of legislation—the adoption of a Bill to provide for the adoption of Tamil as the language to be used for the official purposes of the State of Madras. The Bill was passed into law unanimously.

Under the proviso to rule 92 of the Madras Assembly Rules, the following Bill together with the Statement of Objects and Reasons, is published for general information :—

*A Bill to provide for the adoption of Tamil as the language to be used for the official purposes of the State of Madras.*

WHEREAS the Constitution enables the Legislature of a State by law to adopt any one or more of the languages in use in the State as the language to be used for all or any of the official purposes of that State and to prescribe any

language other than the English language for use in Bills, Acts, Ordinances, Orders, Rules, Regulations and By laws; BE it enacted in the Seventh Year of the Republic of India as follows :—

1. *Short title and extent.*—(1) This Act may be called the Madras Official Language Act, 1956.

(2) It extends to the whole of the State of Madras.

2. *Tamil to be the official language of the State.*—The official language of the State of Madras shall be Tamil.

3. *English to be continued to be used for official purposes until the Government otherwise direct.*—Notwithstanding anything in section 2 and without prejudice to the provisions of Articles 346 and 347 of the Constitution, the English language shall continue to be used for all the official purposes of the State for which it was being used before

the commencement of this Act until the State Government, by notification under section 4, otherwise direct in respect of any official purpose specified in such notification.

4. *Government's power to notify the official purposes for which Tamil to be used.*—The State Government may, by notification issued from time to time, direct that Tamil shall be used in respect of such official purposes as may be specified in the notification.

5. *Language to be used in Bills, etc.*—The language to be used—

(i) in Bills introduced in, or amendments thereto to be moved in, or Acts passed by, the Legislature of the State of Madras,

(ii) in Ordinances promulgated under Article 213 of the Constitution,

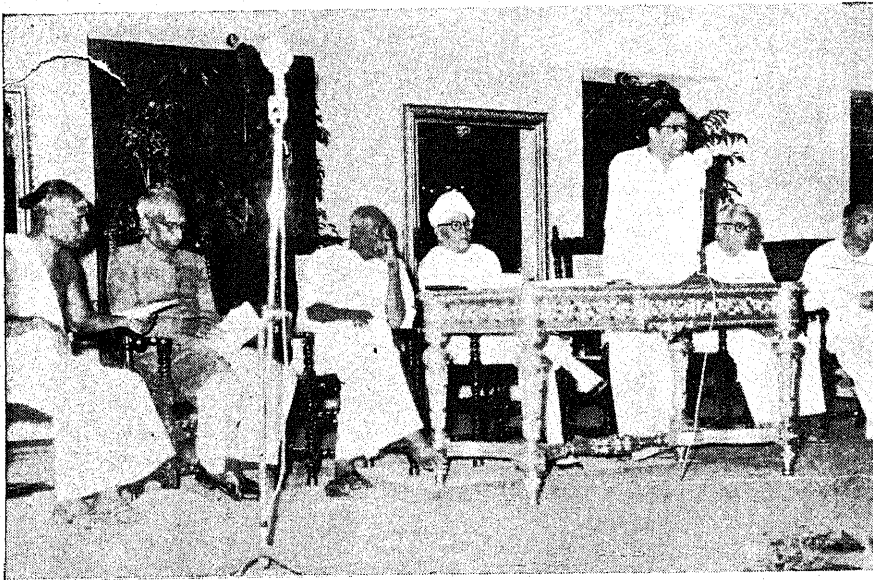
(iii) in Orders, Rules, Regulations and By-laws issued by the State Government under the Constitution or under any law made by Parliament or the Legislature of the State, shall be Tamil on and from such date as the State Government may, by notification, specify :

Provided that the State Government may appoint different dates in respect of the different items referred to in clauses (i) to (iii)

6. *Notifications issued under sections 4 and 5 to be placed before the Legislature.*—All notifications issued under sections 4 and 5 shall, as soon as possible after they are issued, be placed on the table of both the Houses of the State Legislature and shall be subject to such modifications by way of amendments or repeal as the Legislative Assembly may make within fourteen days on which the House actually sits either in the same session or in more than one session.

### Statement of Objects and Reasons

Article 345 of the Constitution of India provides *inter alia* that the Legislature of the State may, by law adopt any one or more of the languages in use in the State for all or any of the official purposes of the State. It has been the desire of the general public



A glossary of administrative terms in Tamil prepared by a committee set up by the Madras Presidency Tamil Sangam was handed over to the Chief Minister Sri K. Kamaraj, on December 21st at a function held at Rajaji Hall. Sri C. Subramaniam is seen here addressing the gathering. In the picture (from left to right) are Sri E. M. Subramania Pillai, Secretary of the Committee, Sri S. Venkateswaran, I.C.S., Chairman of the Committee, Chief Minister, Sri K. Kamaraj, Sri T. M. Narayanaswamy Pillai, Vice-Chancellor of Anna-malai University, Sri M. Bhaktavatsalam, Minister for Agriculture, and Sri S. Rajeswara Sethupathi, Minister for Works.

The present practice is that two men are engaged in measuring and filling the agricultural produce in gunny bags. Invariably one man is engaged in holding the bag with mouth opened to receive in while the other measures and fills in the produce. The waste of labour of the man holding the bag was sought to be overcome and a stand to hold the bag at any desired level with its mouth open was designed and fabricated. Sri O. P. Ramaswamy Reddiar and several other ryots who witnessed the demonstration were much impressed with its working.

*Walking contourer.*—This implement is designed to be operated by a laymen for making contours in hills and plains and will greatly reduce the cost of establishment and instruments for executing soil conservation schemes in this State. It consists of a level (a heavy box suspended about an axis and free to swing) mounted on a two-wheeled trolley with its axis perpendicular to the direction of travel. The box will be at the mid position of its swing when the platform of the trolley is horizontal and swing to one side if the platform is sloping up or down along the direction of travel. Hence for laying a contour the machine should be pushed along in such a path the box is at the middle of its swing to one side if the platform is sloping up or down along the direction of travel. A pointer moving over a dial is connected to the box so that it reads zero when the box is at its mid position of swing, i.e., when the path is in a level (some contour). With some more modifications to make it more sensitive and accurate, the implement had been sent to the Assistant Agricultural Engineer (Soil Conservation Scheme) Ootacamund for further trials.

*Japanese rotary weeders.*—Trials were conducted with the rice land weeder sent by the Indian Council of Agricultural Research, the Japanese weeder of Messrs. Gunti and Company, Hyderabad and the Japanese weeder manufactured in this workshop. The construction of all the three weeders are very similar except that in the first one, the front drum contains alternately 3 and 4 tyres, whereas the other weeders have all got three tyres.

The rotary weeders of Messrs. Gunti and Company can cover area of 40.4 cents in a day of eight hours whereas the rice hand weeder of the Indian Council of Agricultural Research and the rotary weeder of this workshop can cover 38 cents and 36.4 cents respectively.



Tamil Nad mourned the death of Nathaswara Chackravarthi T. N. Rajarathinam Pillai on December 11, 1956. He was only 58 when the cruel hands of death removed him from our midst.

A great exponent of Karnatic music, he was honoured with the Presidential Award for instrumental music two years ago. The citation when the Award was made amply described the pre-eminence of this great vidwan.

"He is endowed with a creative faculty and is able to perform 'alapana' of any raga for a considerable time. His technique of blowing is unique, the sound sweet and melodious and the style pure", the citation said.

Sri Rajarathinam Pillai was born in 1898 in Thirumarugal near Nannilam in Tanjore district in a family of Nathaswara Vidwans for four generations. Though he had early training in vocal music, he switched on to Nathaswaram and established himself as the topmost vidwan in his early twenties.

He was the first to try tambura sruti for Nathaswaram. It was he by his extraordinary genius elevated Nathaswaram from the street procession to concert hall status. The popularity of this wind instrument's music and the very high standard of playing obtained in Nathaswaram is directly traceable to his inspiration.

Sri Rajarathinam Pillai was a member of the Madras State Sangit Natak Sangam. He had toured a number of foreign countries including United States.

## 103 Villages Electrified During October 1956

One hundred and three villages were electrified in the four operating systems under Rural Electrification Scheme, in the month of October 1956.

The names of villages electrified with details are as follows:—

Serial number and name of village.	Taluk.	District.
<i>Pykara Electricity System.</i>		
1 Ambikapuram .. .. .	Coonoor .. .. .	Nilgiris.
2 Iddya .. .. .	Mangalore .. .. .	South Kanara.
3 Surathakal .. .. .	Do. .. .. .	Do.
4 Thummalapatty .. .. .	Nilakottai .. .. .	Madurai
5 Kottaikattur .. .. .	Gobichettipalayam.	Coimbatore.
6 Govanur .. .. .	Coimbatore .. .. .	Do.
7 Elachipalayam .. .. .	Palladam .. .. .	Do.
8 Sengudanthalai .. .. .	Do. .. .. .	Do.
9 Idyavar .. .. .	Udipi .. .. .	South Kanara
10 Athupollachi .. .. .	Pollachi .. .. .	Coimbatore.
11 Panapalayam .. .. .	Palladam .. .. .	Do.
12 Kangayampalayam .. .. .	Do. .. .. .	Do.
13 Kangayampalayampudur .. .. .	Do. .. .. .	Do.
14 W. Subbanaickenpalayam .. .. .	Udumalpet .. .. .	Do.
15 the sur .. .. .	Do. .. .. .	Do.
16 adoy .. .. .	Do. .. .. .	Do.
17 in .. .. .	Nilakottai .. .. .	Madurai.
18 nenkumarapalayam .. .. .	Pollachi .. .. .	Coimbatore.
19 us .. .. .	Do. .. .. .	Do.
20 o .. .. .	Do. .. .. .	Do.
21 Poochanarai .. .. .	Do. .. .. .	Do.
22 Kempnaickenpalayam .. .. .	Gobichettipalayam.	Do.
23 Kolathupalayam .. .. .	Palladam .. .. .	Do.
24 Valayapalayam .. .. .	Do. .. .. .	Do.
25 Oddanchatram .. .. .	Palni .. .. .	Madurai.
26 Thumbichampatti .. .. .	Do. .. .. .	Do.
27 Thumbichampattipudur .. .. .	Do. .. .. .	Do.
28 Palaya Oddanchatram .. .. .	Do. .. .. .	Do.
29 Uppiliyampatti .. .. .	Do. .. .. .	Do.
30 Sokkampalyam .. .. .	Gobichettipalayam.	Coimbatore.
<i>Mettur Electricity System.</i>		
1 Pappireddipatti .. .. .	Harur .. .. .	Salem.
2 Venkatasamudram .. .. .	Do. .. .. .	Do.
3 Circar Nattamangalam .. .. .	Namakkal .. .. .	Do.
4 Vengal .. .. .	Karur .. .. .	Tiruchirappalli.
5 Bodipettai .. .. .	Vellore .. .. .	North Arcot.
6 Ellappanpettai .. .. .	Do. .. .. .	Do.
7 Subbanaickenpalayam .. .. .	Do. .. .. .	Do.
8 Marathipalayam .. .. .	Do. .. .. .	Do.
9 Gururajapalayam .. .. .	Do. .. .. .	Do.
10 Latchikampalayam .. .. .	Do. .. .. .	Do.
11 Perumpattu .. .. .	Tirupattur .. .. .	Do.
12 Vadagamuthampatti .. .. .	Do. .. .. .	Do.
13 Agaram .. .. .	Do. .. .. .	Do.
14 Vanapuram .. .. .	Chengam .. .. .	Do.
15 Kambattur .. .. .	Do. .. .. .	Do.
16 Melkuppam .. .. .	Polur .. .. .	Do.
17 Kilkuppam .. .. .	Do. .. .. .	Do.
18 Palapatty .. .. .	Namakkal .. .. .	Salem.
19 Agaram .. .. .	Vellore .. .. .	North Arcot.
20 Agaram Rajapalayam .. .. .	Do. .. .. .	Do.

## Speetacular Cotton Yield at Rs. 4 per acre

An extra yield of 116 lb. of 216F cotton per acre was obtained at the Cotton Breeding Station, Hansi, by spraying the crop with plant hormones costing rupees four only to an acre.

The phenomenon of shedding of a large number of buds, flowers and bolls, apparently sound ones, under normal conditions of cultivations is not uncommon in cotton. A substantial increase in yield could be effected, if this obvious loss by shedding could be minimised. The assistance of plant hormones invoked for the purpose seems to answer in achieving the object. The trials with a naphthalene acetic acid and B. nephtoxy acetic acid, have been found to inhibit fruit drop in many varieties of apples and tomatoes. A preliminary experiment was conducted under a research scheme financed by the Indian Central Cotton Committee at Hansi, to determine the effect of these hormones on the shedding of bolls and consequent enhancement in its yield.

The results of the experiment indicate that the hormone which contains apha-naphthalene acetic acid as an active ingredient was found to be quite effective when sprayed on the plants of 216F cotton in July-August in concentration of 10 parts in million parts of water. Higher concentrations of hormone and double spraying showed depressed effects on yield. A significant increase in the number of bolls per plant and yield of kapas was visible in the last picking, which indicated that the treatment had a beneficial effect on newly initiated buds and even on buds borne later. The treatment is likely to be more effective, if given early in the season. On the average of two years' results, the treatment gave 116 lb. of kapas more per acre than the untreated crop. The cost of the hormone used was only Rs. 4 per acre.

*The uncomfortable feeling.*

It is, however, a matter of great despondency that the general impression the world over is, that the danger to humanity does not lie with the ignorant, illiterate person but with the more intelligent, the better educated, the more scientifically trained and the more alert minds that can become sources of greater danger and evil to the whole of humanity. While education spreads, higher education is given a great impetus. The uncomfortable feeling is however present, whether these steps are calculated to improve humanity, to raise the tone of moral fervour, to give unto the nation those who will not hesitate to speak freely and frankly against all deceptions of society, whether practised in the name of patriotism or in the name of the masses. Thus it is that the Indian Universities, as indeed the Universities the world over, are facing new problems and have to meet the challenge of the times in a manner that we hope and trust will bring them some degree of credit at the time the next centenary is observed.

But apart from these wider considerations which must always be taken note of, let us see what the practical possibilities are, of higher education during the next hundred years. It is a fact that everywhere, people are resorting to education and are realising the importance and the influence of education. India has been under a long slumber, so to say, during the period of foreign domination. Only a few could realise what that slumber meant and what tremendous forces would be released once the foreign yoke was removed. And within less than a decade after independence, we are realising in the wake of many events in current history in our own country what it means, when forces, which have been long under control, are let loose. Education is no longer the monopoly of the few. It is the birthright of every one and the Constitution has very rightly stressed the fact that every single citizen is entitled to education at least up to a certain level. In spite of the fact that unfortunately owing to a variety of circumstances, this has not been possible within the stipulated period laid down in the Constitution, one cannot but recognise that this very principle has given an impetus to the spread of education; and today poor or wealthy, urban or rural, literate or illiterate, all realise

that the future generations should never be denied that elementary right to education.

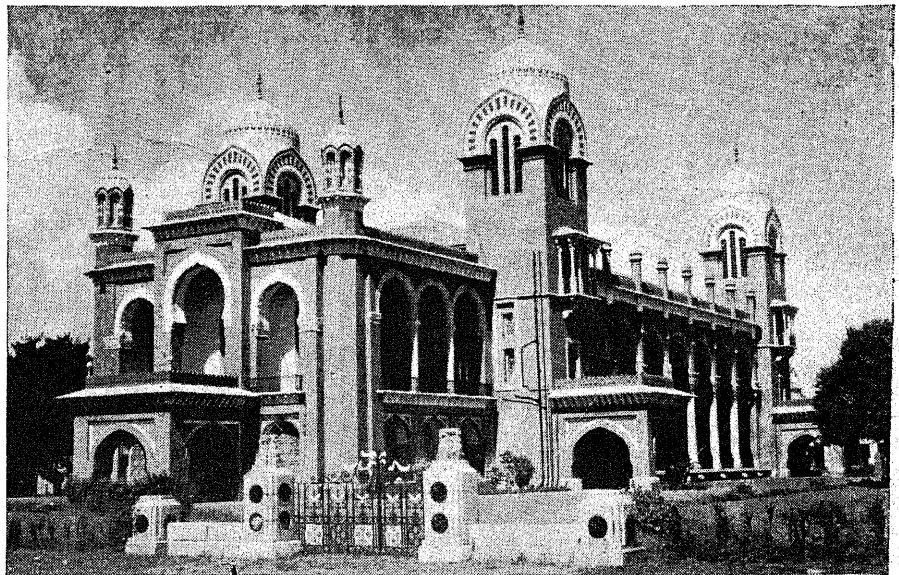
This in itself sets a problem to Universities—a multi-faceted problem indeed, for it is the Universities that have in the first instance to supply the material required for the spread of education at all stages. If education is to be imparted in the proper sense, if a real effort is to be made to improve the quality of education which is now given, there can be no two opinions that it is through men trained at the Universities that such a step must be taken. It is most unfortunate that even now, people in authority have not realised, as clearly as they should, that the training of a pupil at the elementary stage is far more difficult and requires far greater amount of talent than at higher stages of education. If, therefore, the quality of this education is to be improved, it can only be by instruction imparted by those who are much better trained, who have something of the University spirit or like spirit and who have therefore the knowledge and wisdom necessary for the training of the boys at their most impressionable period of life.

Another responsibility will rest on the University. The compulsory period of education for all implies the necessity for a great deal of thought being bestowed on the future of such educated persons. It is here that a beginning is

being attempted to see that, after the period of compulsory study laid down in the Constitution, different avenues are made available to the millions of the youth of the country to prosecute their studies in a manner that will be beneficial not only for themselves but for the country at large. The Universities have therefore to take note of this significant factor and to proceed to lay down that pattern of education which will meet the needs of the very large number that are certain to seek further education after the compulsory period. So it is that from stage to stage, the pyramid has to grow up, not necessarily through University portals alone but through portals of centres of higher education in whatever way and through whatever means they may be founded and encouraged.

*To promote original thinking.*

Another aspect of University education deserves serious consideration. The time is come when our country should be in a position not merely to borrow from other sources and copy what others are doing but strive to promote original thinking in the country in every sphere of higher education. The independence that India has achieved in the political field cannot be long sustained unless in the intellectual sphere, it regains its independence as a whole. Scientific discoveries no doubt are intended for the world at large but even so, no nation can afford to



*The Senate House. This red-bricked multi-domed building in the Marina is a sight for the spectators.*



## MADRAS INFORMATION

maintain its self-respect and standards unless it can give as well as receive. And so it is in the sphere of original thought the Universities have to take active interest to see that every effort is made to recognise and to encourage talent for research in all fields of activity. One must express one's satisfaction that the need for such higher research is being more and more definitely recognised and the number of National Laboratories that have been, within the last few years constructed and opened goes to show that this fact is being understood. It is not only in scientific thought that original research is necessary, equally important is it to pursue this in many spheres of human endeavour—in the humanities, in technology, in commerce, in business administration and in a wide variety of topics so intimately connected with human activity.

The need for rapid improvement in all these directions is so great and so obvious that one despairs whether any significant improvement is possible with the multiplicity of advices that are given with so much of ease, by many in the country occupying positions of importance. A most significant subject that has been repeatedly talked about is that standards of education should be kept up that there is room to feel that such standards as were obviously maintained in the past, are no longer maintained at present. It is no doubt true the world over that when large numbers take to educational activity, there may be some little lowering of standards, but it would be fatal to the future of University education and to all hopes of intellectual advancement—and the country is in dire need of such advancement—if a resolute step were not taken to maintain the standards of Universities. One may well question the wisdom of automatic recognition by one University of degrees conferred by all other Universities. It is not so much a question of the prestige of a University being affected but the real danger is that the unfortunate trend to take it easy, seeing other institutions following such a course, will lead all Universities down the steep incline to ultimate decline and disillusionment.

### *The student and the teacher*

Against heavy odds, in spite of severe criticism from ignorant sources, a few Universities are trying against many difficulties to see that standards

can be maintained not merely in arts and science but in professional subjects as well. Again and again, pressure from some sources is not wanting to force a University to certain decisions entirely contrary to the spirit needed for the maintenance of adequate standards. Such political influences as are sometimes brought to bear in some parts of the country can also be seen in certain other countries in the wide world. Pressure to increase the number of admissions, to start colleges with little or nothing of the requirements for the students being made available, to recruit raw teachers, who have not the experience needed to guide the younger generation, to make a farce of practical work in the laboratories by imagining that large batches can be inducted in to the laboratories even as in factories; these are not steps conducive to the proper training of the mind and body of the student. The old ideal that dominated any system of education in ancient India, that personal contact between the pupil and the teacher, that wholesome influence of the teacher on a band of devoted students, that anxiety on the part of the teacher to see that not merely knowledge but wisdom was imparted to the students by close association and by example; these are all outmoded methods of education with some people. And when as a logical outcome of this most unfortunate method of modern education in some centres, indiscipline breaks out, long homilies are addressed by those who are themselves responsible for such indiscipline. Will such homilies cease? Will those, who from house-tops talk of indiscipline, search their own minds to see whether the causes are not intimately associated with some of their own doings? The future of higher education depends upon the answer to this question: Shall we realise that education is the greatest gift that we can give to our countrymen and that that gift should be given with an amount of devotion and an amount of earnestness which unfortunately is not as apparent as it needs to be?

It is indeed gratifying that great progress is being made in the country in many spheres of physical development. The great irrigation projects that are the wonder of the world, the great steps that are being taken for augmenting the resources of the country, the many projects that have been undertaken in the first five years

and are proposed to be undertaken in the second five years, the Herculean efforts that are being made to develop the natural resources of the country are all developments of such fundamental importance that one may well feel gratified and proud. But the question is: How will these great schemes progress; how will they be maintained; and how will their future be ensured unless the man-power necessary is made available? Just as it was necessary to produce the resources for fertilising the land to prevent a famine, so is it necessary to produce the resources to fertilise the human mind whereby to prevent a drought if not a famine. Whatever may be the mode available, whether it be through the public sector or the private sector, the aim should be to encourage and develop education at all levels in all sectors throughout the country. Here, let it be said with gratitude that the private sector has come to play a noble role for the spread of education; and the private sector has done it without any pompous declaration on its part and fortunately without that frequent criticism that is its reward in these days from some persons in authority. Taking the case of education in South India, it can be said without any degree of contradiction that, but for the private sector having come into the field, there would have been chaos as in some other parts of the country. Within the last ten years and more particularly after independence, many philanthropic agencies have undertaken to found new colleges, new schools, new technological institutions and new professional colleges in South India. And it may be said that the development that has taken place during the last decade of the century has eclipsed the development almost of the whole of the previous nine decades. Even a modest estimate of the amount that has been spent by the private sector in the development of these educational institutions would mount up to some crores of rupees.

### *"Private effort"*

It is because of this noble philanthropy that the University of Madras has been able to keep its head aloft amid the tearing, raging propaganda that was sometimes carried on by those who had little or nothing to contribute towards the effort to keep some degree of standardization in the starting of new colleges and in the facilities that have to be given to the

students. It was fortunate that the authorities of the University realised what steps were necessary to encourage private philanthropic effort for a minimum degree of efficiency at least being maintained in educational institutions. Thus it was that every management was given the definite conditions under which colleges could be founded if they were to be recognised by the University. The buildings and equipment for a first grade college were estimated to cost at least Rs. 5 lakhs and an endowment fund of Rs. 5 lakhs was required which would yield an interest of Rs. 15,000 for the maintenance of the college with at least a modicum of efficiency. In the case of professional colleges, for obvious reasons, a much heavier demand was made. The conditions under which the teachers for the colleges were to be employed were specifically drawn up, the minimum salary scales for such teachers were laid down, the qualifications for the different grades of teaching staff were specified and with a view to looking after the physical needs of the boys and girls concerned, it was stipulated that colleges should have 40 to

50 acres of land at their disposal so that the necessary games may be arranged and the boys may have not merely the dull dreary atmosphere of the class room which occasionally may be suffocating perhaps, but the freer atmosphere of the playfields, the contact with fellow-students, the personal contact with some teachers which in essence forms as great a factor in education as what may be imparted through the black-board and the typical text-book or notes.

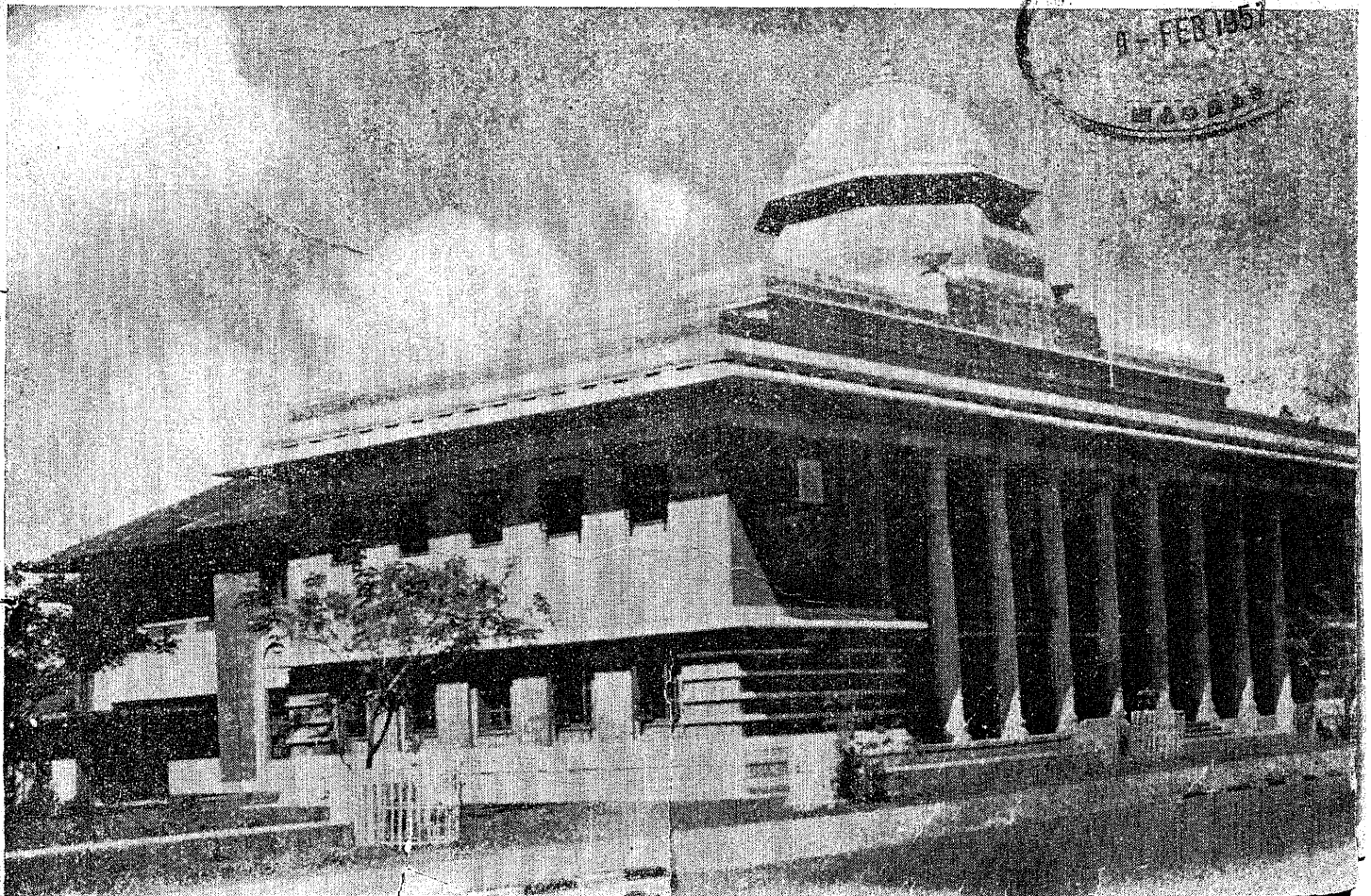
Another significant factor that was realised was that it is not only during the stay at the college that a student has to be cared for but it was equally important that his residential accommodation should be such as would be conducive for his physical and mental health. Unfortunately this has not been appreciated to the extent to which it ought to have been by many educational authorities. The University therefore found it necessary to insist that hostels should be constructed for the students and it was laid down as a condition of recognition that at least 50 per cent of the students

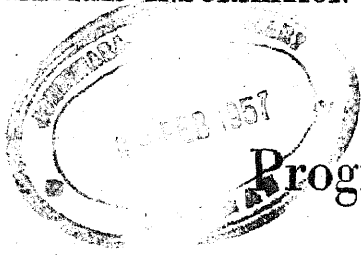
should be accommodated in the hostels taking into consideration the possibility of some of them living with their parents or relations in the immediate vicinity of the college. A great impetus was given to the construction of the hostels by the starting of a University Co-operative Hostel Construction Society and it is the hope of the University that, with the enlightened policy that is now being adopted by the Ministry of Education and the University Grants Commission, such efforts will be encouraged in every direction.

*The assistance of the Local Government*

Nor should we forget to mention with gratitude the assistance that was made available through the local Government of meeting the deficit in the running of these colleges on a grant-in-aid basis to the extent of two-thirds of that deficit. It may be that the grant-in-aid code to colleges requires some revision not merely in the exact terms under which grants can be given but also in the spirit in which the grant-in-aid code should be

*(Continued on page 13)*





## Progress of Technological Education In Madras University

DR. G. S. LADDHA, A.C. College of Technology, Madras

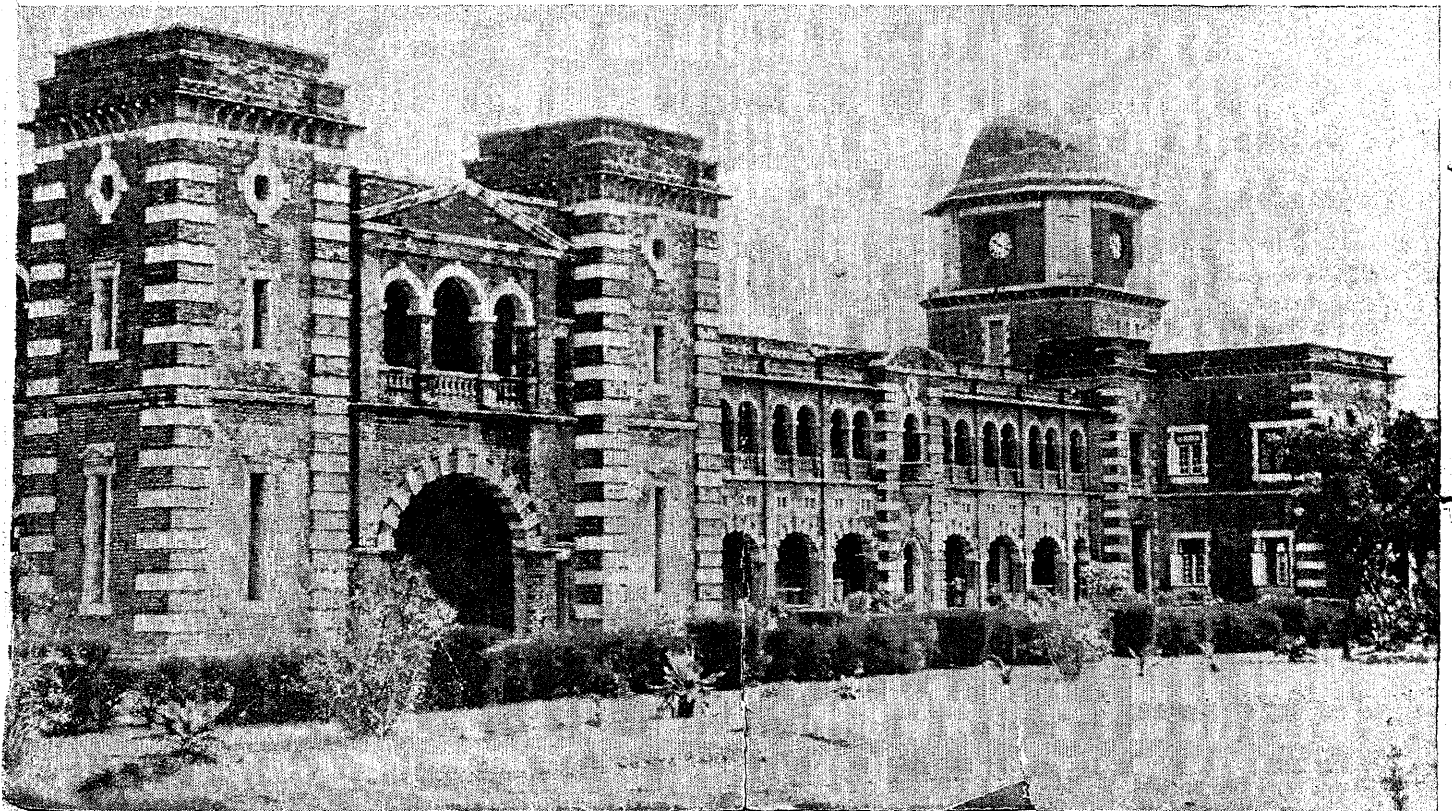
The question of instituting technological courses had been under the consideration of the University ever since 1933 and was discussed at several meetings of Special Committees of Experts appointed by the University to advise the University on Technological Education in selected branches of special interest to the Southern Region. The University was conscious that there was need for research in Science that would have a direct relationship to human welfare and that in years to come when the Southern Region is industrialised, the University will have to provide the trained technological personnel for manning the various industries that may be started in this region. However, at

that time adequate finances were not available and the question of instituting technological courses had to lie over for better days. In the year 1943 Dr. Rm. Alagappa Chettiar announced a munificent donation for starting technological courses in the University of Madras. In the year 1944 the Madras State Government announced that they were prepared to give a grant to the University for starting technological courses and allow all facilities in the Government Engineering College. Consequently with the State aid and the Government of India aid a course in Technology leading to the award of B.Sc. (Tech.) Degree in Chemical Engineering was started in the year 1944. In the year 1945,

as soon as the War was over, courses in Textile Technology and Leather Technology were also started leading to the award of B.Sc. (Tech.) Degree of the University, with the help of the Government Leather Institute and the Textile Institute at Washermanpet.

The Expert Committee appointed to formulate the necessary regulations for the B.Sc. Technological Courses visualised the progressive development in the scope of studies of the College and proposed to the University to gradually develop the technological courses of study in Textile Chemistry, Pharmaceuticals and Fine Chemicals, Ceramic Technology, Oil Technology, etc.

*The Engineering College, Guindy. This College is proposed to be developed into a major technological institution with the assistance from the Government of India.*





The magnificent buildings of the Alagappa Chettiar College of Technology were declared open by The Hon'ble Rajkumari Amrit Kaur, Minister of Health, Government of India, in January, 1950. These buildings stand on an expansive site of about 45 acres alienated to the University of Madras free of cost by the Government of Madras in the year 1944. The main building is 381 feet in length, 257 feet in breadth and 60 feet in height at the central feature and has adequate space to house the various laboratories of the college. There is ample flexibility for expansion and admission of more students because of the unique design of the buildings. Subsequently a new block for housing the Textile Technology Section was completed to house the Spinning, Weaving and other laboratories. The Leather Technology Course of the College is now partly conducted by the Central Leather Research Institute which is situated on the Eastern Side of the main buildings. The University is grateful to the Council of Scientific and Industrial Research for making available the facilities of the laboratories of the Central Leather Research Institute and sparing the services of their staff for purposes of instruction and research in Leather Technology. The Government of Madras has taken active interest in the development of Technological Courses by allowing all the facilities of the laboratories and staff of the Government Engineering College, Guindy, for instruction in the mechanical and electrical laboratories and workshop.

#### *Scope and Functions*

The scope and functions of the college for the development of technological courses are directed towards the achievement of the following aims:—

1. To train personnel in the professions of Chemical Engineering, Chemical Technology, Textile Technology and Leather Technology.
2. To build up a centre of research for higher technological education and training.
3. To initiate research on problems connected with industrial needs of the region and take up investigations on

pilot plant scale utilising local raw materials by known methods and processes and developing newer processes.

4. To build up a liaison relationship with the existing industries of the region and to give them technical advice in matters relating to their development.

To fulfil the above duties the College has well equipped laboratories for analytical work and for instruction in the operation of pilot plants connected with specialised technologies. The Textile Technology Section is equipped with a variety of spinning, weaving and processing machineries. This laboratory is unique in the sense that effort has been made to arrange all the machinery in a flow sequence necessary in a textile mill. The College has also a workshop for the construction and fabrication of equipment and pilot plants for research.

The Unit Operations Laboratory and the Still Room laboratories house pilot plant equipment like double effect evaporators, distillation columns, high pressure reaction vessels, liquid-liquid extraction units, etc. The Ore Dressing Laboratory is equipped with crushing machinery, flotation units magnetic separators, thickeners, etc. The Industrial Chemistry Laboratory is well furnished with most modern analytical instruments like spectrophotometer, polarograph, etc.

In the year 1951 the Syndicate of the University of Madras took the decision that the campus of the Alagappa Chettiar College of Technology should be made a centre of research and training for higher qualifications in all applied and physical sciences. Accordingly the new Departments of Organic Chemistry, Physical Chemistry, Physics and Geology were located in the College campus at Guindy. The Biochemistry Department which was functioning at Chepauk was also shifted to the new campus in the same year. This proximity of pure and applied sciences in one and the same campus has facilitated frequent symposia on subjects of topical interest and a greater contribution to be made in the fields of science and technology.

#### *Accent on Industry*

Great emphasis has been laid on to the research projects of use in the industrialisation of the Southern Region. The various phases of research conducted in the laboratories include investigations on the utilization of South Arcot lignite, production of active carbon from lignite, production of dehydrated castor oil, preparation of amines by electrolytic reduction from fatty nitrites, beneficiation of low grade minerals of South India, production of strontium chemicals, design of absorption equipment, evaluation of filter aids in filtration operations, prediction of vapour liquid equilibria, design of fire brick kilns, production of methyl ricinoleate from castor oil, refining of vegetable oils by liquid extraction technique, design of packed liquid-liquid extraction columns, investigations on heat transfer in packed beds, etc.

The Department has given technical advice to a number of firms and industries in the State of Madras and the South. It has been the desire of this Department to establish the closest relationship with the various chemical industries in South India. For the last twelve years this institution has been training chemical engineers, textile technologists and leather technologists to be of use in running the chemical plants, textile mills and leather manufacturing units and to assist these industries in their proper development. For the last few years the department of Chemical Technology has been arranging symposia on technical subjects for bringing the various industrialists and educationists together and discussing the problems of the growing industry in the Southern Region. It is encouraging to note that many industries have begun to realise the contribution that this Department is able to make in giving them the necessary technical advice.

#### *New Plans*

On the recommendations of the Southern Regional Committee of the All-India Council for Technical Education, the University has approved

(Continued on page 21)



# The Annamalai University

## Its Growth and Progress

SRI SM. L. LAKSHMANAN CHETTIAR, Public Relations Officer, Annamalai University.

The centenary of the University of Madras is an event of great significance. It is a landmark in the history of higher education in South India. For during these one-hundred years, the University of Madras has been the citadel of enlightenment and has brought to many a home the blessings of light and learning. On this auspicious occasion, the Annamalai University offers its congratulations and best wishes for even greater achievements.

It is to the credit of the University of Madras that since 1916, it has helped the founding of several Universities—Mysore, Osmania, Andhra, Annamalai, Travancore and Sri Venkateswara. But, of these six new Universities, Annamalai has had more bonds of unity with the parent University than others. For Annamalai and Madras still continue to be in the same State and hence have had a common Chancellor throughout. Our present Pro-chancellor, Dr. Rajah Muthiah Chettiar was Pro-chancellor of the University of Madras in 1936-37. The first Vice-chancellor of this University, Dr. S. E. Runganathan was later Vice-chancellor of the University of Madras. Almost all our Vice-chancellors have been closely associated with the various bodies of the University of Madras in one way or the other. Again, even today we have on our Syndicate a good number of Syndics from Madras.

The nucleus of Annamalai University was the Sri Meenakshi College which was affiliated to the University of Madras. To indicate this, a part of the crest of the University of Madras—the Elephants at the two corners with the lotus in the middle—has been incorporated in the crest of the Annamalai University.

The Annamalai University owes its existence to the benefaction and philanthropy of a single individual—Dr. Rajah Sir Annamalai Chettiar of Chettinad. He was a man of vision almost alone in his time who saw a great future for his country; a man of faith who believed in the skill of his countrymen; a man of action who made his dream come true. His life provides the inspiration that guides this University. Also, it has set an example to copy for patriots of means with a constructive mind and social purpose. The noble ideals of the Founder are being given effect to by his worthy, illustrious and distinguished son, Dr. Rajah Muthiah Chettiar. On top of all the responsibilities of a strenuous and variegated public life, he has piously and devotedly placed his obligation to his father in maintaining and developing the great institution founded by him. In this great task, he is being ably assisted by the eminent educationist Sri T. M. Narayanaswami Pillai, Vice-chancellor, who is labouring indefatigably for the cause of the Annamalai University.

The University has had for years the guidance of a galaxy of distinguished Vice-chancellors—Sir S. E. Runganadhan, Rt. Hon. V. S. Srinivasa Sastri, Sir K. V. Reddy, Sri M. Ruthnasamy, Dr. S. G. Manavala Ramanujam, Dr. R. K. Shanmukam Chettiar, Dr. C. P. Ramaswami Aiyar and now Sri T. M. Narayanaswami Pillai—each of whom has, to an equal degree, helped to build up and expand the University.

The University has imposing buildings, well-kept gardens and lovely lawns. In fact, the lay-out of the campus has attracted the attention and earned the praise of many a visitor. The various amenities provided in the

campus have set the proper atmosphere for study and research. The location of this University—town itself is far away from the madding crowd and the bustle of city-life. Building-activity has been continued and uninterrupted, so much so that the alumni of a decade ago can hardly recognise the environment.

Unlike most of the Universities of India, which are federal, affiliating and examining, Annamalai University is unitary, teaching and residential. All its institutions are located in a single campus on the model of the American Land Grant Colleges. Informal contacts between the Faculty and the students are a welcome feature of this University. The ratio of teachers to students is 1 to 12. There are about 2,700 students including 200 women.

The examiners are mostly external. Thanks to the Tutorial system in force in the University, the Hostels have resident-tutors who are available for the guidance of students after working hours. They also get the benefit of contacts with leading scholars from outside who visit the University regularly. In addition to these, Annamalinagar has been the venue of several All-India conferences like the All-India Economics Conference, All-India History Congress, the All-India P.E.N. Conference, the All-India Oriental Conference, the Indian Philosophical Congress, etc. These events bring some of the most distinguished men in their fields to the campus.

Unlike other Universities, Annamalai has no Colleges. Even the Colleges which existed earlier—Tamil College, the Sanskrit College, the Music College, etc.—became “departments” under the Annamalai University Act. Some



of the new departments that have since come in, like the Department of Engineering, the Department of Technology, the Department of Education are, each of them, a College by themselves even though they are not called as such. In all, the Annamalai University has 25 departments of teaching and research, all of them unified under one central administration with the Vice-Chancellor and the Registrar as the chief officers.

The courses of study offered by the University are the Intermediate, the General Education Course of one year's duration, the degree, honours and post-graduate courses in English Literature, Philosophy, History, Economics, Sanskrit, Tamil, Commerce, Oriental Learning, Mathematics, Physics, Chemistry, Botany, Zoology, Geology and Statistics. Degree courses are offered in Music, as also a Sangitha Bushana course which is of the Diploma Standard. Diploma courses are also available for Vidvan, Pulavar, Siromani, Teaching of Tamil and Sanskrit and for Tamil Isai. In Engineering, degree courses are offered for Civil, Mechanical, Electrical and Chemical branches. The M.Sc. degree is awarded in Structural Engineering by examination. Post-graduate courses are also offered in M.Sc. Horticulture. Instruction is also given for B.Ed. and M.Ed. courses. Diploma courses exist for Drama, Painting, French and German. *Nowhere in Madras State other than Annamalai-nagar do facilities exist for all these courses and for post-graduate research work.*

In the Annamalai University, teaching and research go together. The members of the Faculty are a highly qualified team and the laboratories are well equipped and up-to-date. Thanks to the generous policy of the University as well as the Government of India, a number of Research Scholarships have been instituted in practically every branch of study. The members of the Faculty have taken advantage of these; the standards continue to be rigid and compulsory residence in the University for a certain period of years has been insisted. For the objective of the University has been the pursuit of fundamental research and the supplying of trained personnel. These expectations have been fulfilled, as will be evident from this article.

3

In the Department of English, nearly a score of Tutors have been appointed to bring up the level of the undergraduates to the normal standards.

The various Science Departments of the University have provided a large number of Professors for several Educational institutions and a good number of Research Assistants and Officers for Research Institutes and National Laboratories.

In the Physics Department, M.Sc. Degree by examination, with Spectroscopy as a special subject, is offered. Research work is carried on by the members of the staff and by Research scholars working for Ph.D. and M.Sc. on Raman Effect, Magnetism, X-Rays and other topics.

The Department of Chemistry offered M.Sc. course by examination in Organic Chemistry. The expansion of Research activities is evident in the increasing number of M.Sc.s and Ph.D.s. Contributions have been published in leading scientific journals. The department has recently organised a Micro-analytical Laboratory and arrangements are being made for the analysis of Sulphur, Selenium, Halogenis and Phosphorus.

In the Department of Botany, a post-graduate course in Plant Ecology has been instituted. Research on Plant Anatomy Cytology, Palaeo-Botany and effect of music on plants is in progress.

The Zoology Department of the University has an established reputation. It has organised and started

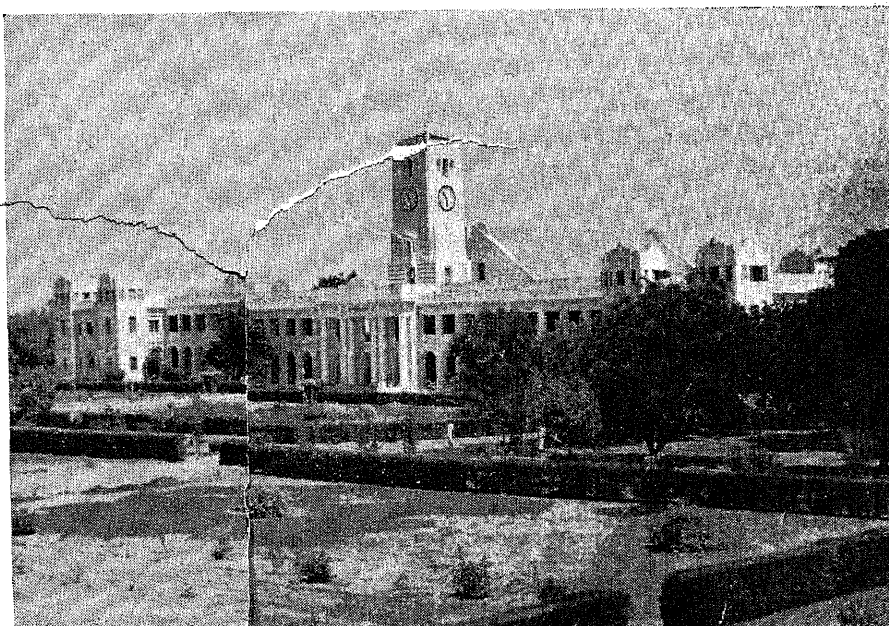
a marine biological station on the banks of the Vellar estuary at Porto Novo, eight miles from Annamalai-nagar (by rail). Esturine research and research in certain aspects of marine research are being carried out here. The University's 7.26 ton research vessel is fitted with oceanographic instruments. Construction of new buildings for the Biological Station is now in progress.

The Department of Geology was instituted as soon as Lignite deposits were discovered in Neiveli. The unique combination of Geology and Oredressing as optional subjects has been offered to B.Sc. students from 1954. The Technology Department is already well equipped with Oredressing apparatus. Pilot models are available for various unit operations.

The Agriculture Department of the University has an experimental farm of 60 acres and an orchard and helps the agricultural community around Annamalai-nagar with advice and help in farming about 600 acres of University lands on the most modern lines. Research in the departmental farm has helped to increase the yield of paddy produce seedless brinjals, and popularize use of plant hormones and fertilisers are around the campus area. This year's Munshi shield for Vanamahotsava has been awarded to the Annamalai University in recognition of the Agriculture Department's Tree-planting work.

In the words of the Founder, the aim of the University was "to give to the world the value of Tamil learning, literature and culture". Towards the

*The spacious lawns and the beautiful administrative buildings of The Annamalai University.*



realisation of this ideal, the authorities have spared no pains. Great scholars like Dr. Swaminatha Iyer, Swami Vipulananda, Professor K. Subramania Pillai, Pandithamani Kathiresa Chettiar, Sri N. M. Venkatasami Nattar, Mahavidvan Raghava Iyengar, Dr. Somasundara Barathiar and Professor T. P. Meenakshisundaram have all adorned the Chair of Professor of Tamil, which was created for the first time in the annals of Universities in the Annamalai University. With pardonable pride, it may be mentioned that the post of Professor of Tamil was created in the University of Madras only in 1950 and that the first incumbent Professor R. P. Sethu Pillai went from Annamalai University. Likewise the Honours course in Tamil was first established in Annamalai. Tamil has always been a subject of study for the B.Sc. course and it is a matter of gratification that the University of Madras has decided to follow suit, with effect from next year.

The department of Tamil has grown and developed so well that recently it has been split into three separate departments, Tamil (Arts), Tamil (Oriental), and Tamil (Research). The

Research Department has published many valuable works. Just now it is bringing out a definitive edition of the great Tamil classic *Kambaramayanam*; this has rightly earned the appreciation of one and all. It was in this University that the great savant Pandithamani Kathiresa Chettiar undertook the monumental translation of *Arthasastra* and the well-known scholar Swami Vipulananda wrote his treatise *YAZH NUL*.

Thanks to the Silver Jubilee grant of Rs. 3 lakhs by the Government of India, the Department of Dravidian Philology has been set up. This Department has given priority to the preparation of an Etymological Dictionary. A scholar of this University is now in the United States studying Linguistics under a Rockefeller award.

The Music Department was started in 1929 as the Rajah Annamalai Music College and was the first Institution to be started for the teaching of Vocal Music, Vina, Violin, Mridangam and Tevaram. In keeping with the ideal of the Founder to rehabilitate Tamil Music and restore it to its eminent position, Tamil Isai has been given pride of place in the curriculum.

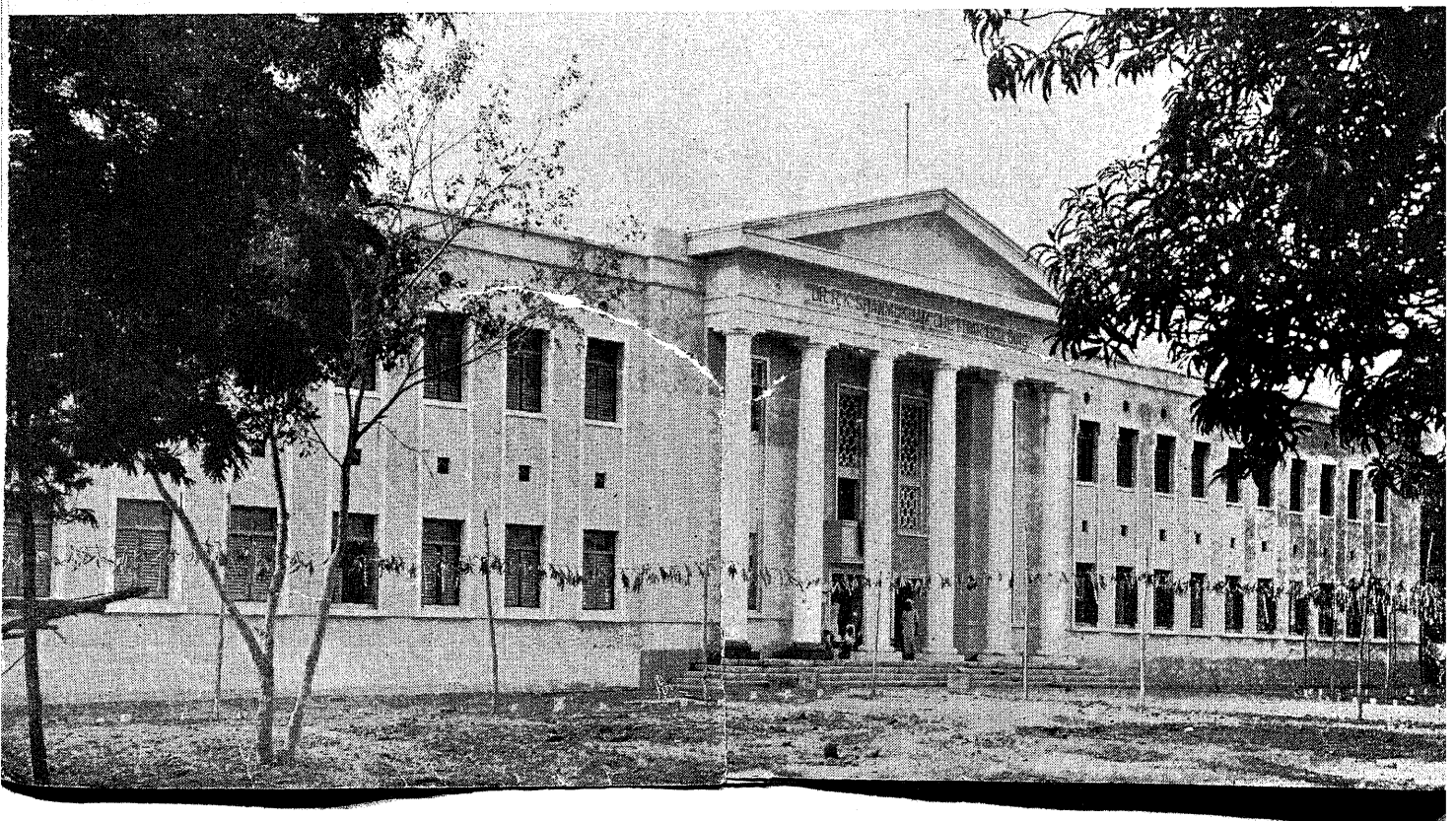
In the words of President Rajendra Prasad, the Annamalai University "has the distinction of being the first University in India to have a full four-year course in Music", leading to the degree of Bachelor of Music.

The Engineering department was instituted in this University in 1945. It was the first private (i.e., non-government) Engineering College to be established in our State. Though young, this department has made distinct contribution to the progress of the University in recent years. The University can rightly be proud of the fact that it has produced a number of outstanding young men, who are today serving India as engineers and technicians and implementing various national projects under the Five-Year Plans. Others have won distinction in the Railway Service Commission and other examinations.

Apart from the standard items of equipment provided, the Engineering Workshop has the latest types of equipment and facilities provided in Pattern Shop and Tool room. Thus, it would be possible to introduce advanced

*(Continued on page 33)*

*Dr. R. K. Shanmugham Chettiar building in the campus. The Tamil Research section is located in this imposing building.*





## Universities and the N.C.C.

GENERAL K. M. CARIAPPA.

I feel very happy and proud that I am the product of this great University, the University of Madras, whose Centenary is being celebrated this year. It makes me feel happy to know that many of the sons and daughters of South India, who have had the good fortune to play their part in the shaping of our country in all its aspects before and since Independence have passed through the fine-meshed sieve of the Madras University. I know that what we have done in our Service to build our India to her present status and the status which we want her to attain, is only an infinitesimal part of the job that has yet to be done. In this service for the people of India and the future products of this University, it is important that everyone should be imbued with a very high sense of moral integrity of discipline, of team spirit, of love and loyalty for fellow humans, a sense of duty, the value of time and a sense of responsibility, enjoying at all times perfect mental, moral and physical fitness.

Since the gaining of our Independence, from what I have seen and from what I have heard of happenings in the country, during my travels to very nook and corner of India and my contacts with a very wide cross-section of the people, I feel we have all got to do something big and that soon, to achieve the aim of inculcating the qualities I have referred to. Unless we have these essential qualities in everyone of us—man and woman, boy and

girl, young and old—I cannot see the prospects of our beloved land becoming the great country which she can—and she must—a shining star, in the near future as a beacon of light to reveal the path to peace and happiness to the suffering millions of this world yearning for spiritual guidance which her culture and philosophy can give. This aim of ours can be achieved by many methods, amongst which one of the most effective is the training imparted to the youth of the country in the National Cadet Corps.

What are the aims of the National Cadet Corps? They are simple and very important. Building the character of youth, teaching a sense of discipline and team work, to toughen them mentally, morally and physically, and to provide for a reserve of really suitable potential candidates for the Services, not only the Defence Services of our country, but also for all other services in the machinery of the Government of our land: to train them to be good citizens of the land.

I have always pinned great faith in the effectiveness of training imparted to our youth by this very fine organisation. It is amazing what a difference there is between a student, be he of a College or a school, who is a member of the NCC and a student who is not. The first one is a "live-wire". Whilst talking to any one he at once springs to attention and looks straight in the face with confidence when giving

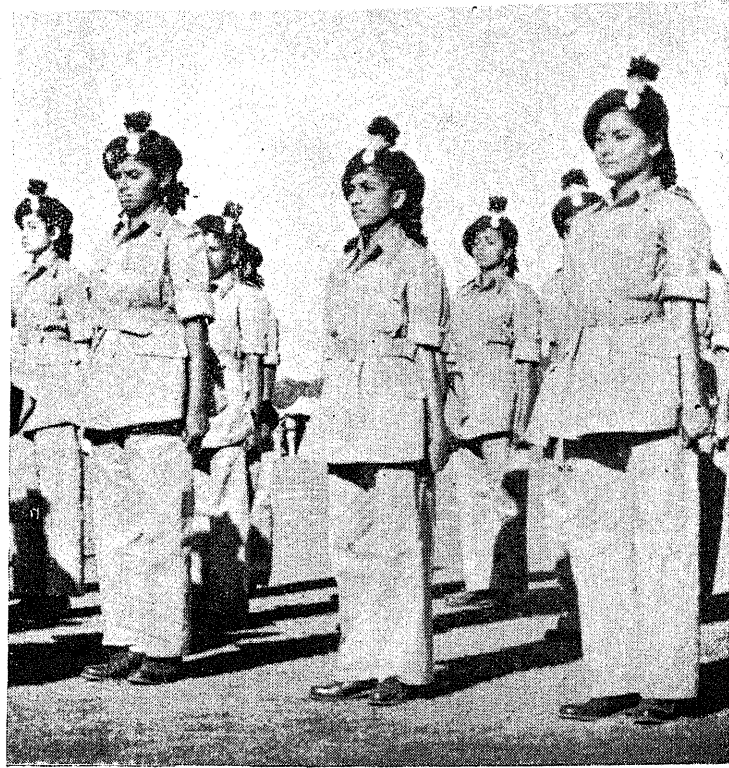
answers to questions. He is more courteous and polished of manners. He is alert. The other one, who as not had this training, is just a normal student; rather "sleepy" in his talk in answering questions and slovenly in his gait and get up. Of course, there are some very good bright young students who are not members of the NCC, but the majority who are not so are generally of the type described above.

NCC training teaches the youth the spirit of corporate living. It helps our students to get to know each other very intimately and more permanently in the atmosphere they live in, when they go out for their periods of camp training. Instinctively they display a spirit of sense of duty when called upon to do some work.

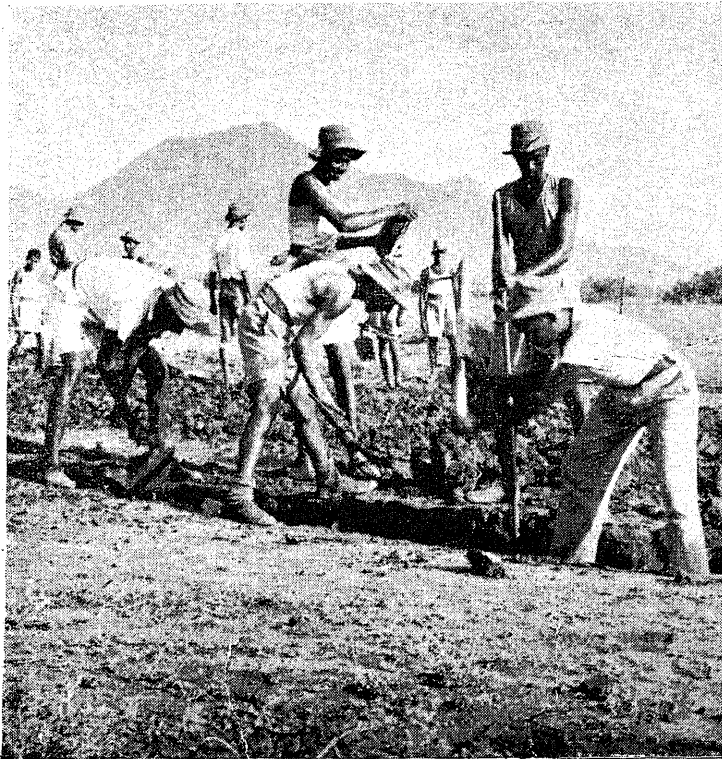
I have seen groups of students throughout the country engaged in carrying out social welfare work. One cannot fail to see that a particular group of students engaged in such work are members of the NCC because of the work being done in a very methodical, orderly and brisk manner. The other kind of work but generally not to any proper planning, and therefore there is always confusion, noise and delay. NCC trained youth are quick to grasp a situation and quick to take action. All these qualities are the direct results of the excellently organised system of training imparted to NCC units in our country.



I hope and I wish that the authorities will make NCC training compulsory in all schools and colleges throughout India. Whatever money may have to be spent to do this will undoubtedly pay high dividends in the end because the future generations are being brought up in a planned and disciplined manner. I do not suggest that, if and when NCC training is made compulsory in all educational institutions of our country, all the members of it should be provided with uniform, weapons, vehicles, equipment and so on at the very outset. These can come progressively. Have a Four-Year Plan or a Six-Year Plan or a Seven-Year Plan or some such plan to do all this by stages. The first stage should be to get the boys and girls into formed bodies, teach them military drill, instill in them a sense of discipline, team work and so on and thus stir up and develop these latent qualities in them to become useful citizens of our land, with a high sense of civic duties, which is so deplorably lacking in most of us. The main aim of drill, the normal barrack square drill, is to teach the youth to obey orders promptly and a sense of pride and self-respect in themselves. So



*The lady students do not lag behind. The Madras N.C.C. has a women's wing attached to it.*



*Many village roads were laid and irrigation tanks repaired by the energetic co-operation of the N.C.C.*

I hope that the authorities in Madras University—one of the greatest Universities in India—will set an example to the other Universities in India by making training in the NCC compulsory for students in all colleges affiliated to the University.

Let this year be a "Red Letter Day" in the history of all Universities, when this very important training, the National Cadet Corps training, is made compulsory in all the colleges and schools, large and small, throughout India. Nothing is impossible. The youth of our country, who are the gems of our nation, must be given every help possible to prepare themselves in the matter I have stated above, to make India the land of our dreams—a land of plenty and peace and happiness to all—and thus play her part efficiently to see that the U.N.O. still in its urgency, grows to full stature to save the world from wars for ever and ever.

## B.C.G.: Dr. Palmer's Letter To the Ministry of Health

“My views are distorted and misquoted”

Dr. Carrol Palmer, the eminent doctor has written the following letter to the Ministry of Health, Government of India. “I have recently come across some clippings from Indian newspapers on the controversy going on in India about B.C.G. vaccination, and I am completely taken aback to find that a letter of mine to Dr. Sen and the material I sent him in a professional capacity have been used in the lay press in a manner in which it was never intended. I am against taking part in any newspaper controversy on the subject, but since my views are being distorted and misquoted, I consider it necessary to explain my position.

“I was associated with the W.H.O./T.R.O. from its inception until July 1955. Because of the many practical

problems connected with B.C.G. vaccination which need clarification, I have pleaded for ‘Control Studies’ in many places and in many groups. This, however, does not mean that I believe B.C.G. vaccination is useless. On the contrary, I firmly supported the ITC and, later, the WHO/UNICEF B.C.G. vaccination programmes in countries where most people have been infected by the time they reach adulthood. As I stated in 1952, in a paper published in the *Lancet*, ‘I think we can safely believe in the ultimate efficacy of tuberculosis immunization. We can also, I think, unhesitatingly support mass B.C.G. vaccination programme in many countries in the world where vaccination is almost all that can be done today to control tuberculosis.

“In the material I sent to Dr. Sen, I expressed the view, based on our recent studies in the United States, that we must find ways of preventing the development of tuberculosis disease in persons who have already been infected, i.e., the tuberculin positives, because the disease we are finding nowadays is largely coming from the positive persons in the community. I also said that in the U.S.A. and some other countries like the U.S.A. where the infection rates have been falling rapidly to a low level, I see little reason to talk now about increasing the use of B.C.G. To imply that these remarks referred to India, where the tuberculosis problem is quite different from that in the U.S.A., is obviously to distort and misquote my views.”

(Continued from page 5)

implemented. But these are minor problems, which with goodwill on all sides, can easily be adjusted. It is not proposed to dwell upon some of the other debatable points that unfortunately loom large with some people and with a section of the people whose responsibility in the sphere of education is neither appreciable nor understandable. Emotionalism and enthusiasm are good up to a certain extent and in certain fields of national enterprise; but when these two qualities are brought to bear in the field of education to a vehement degree, there are great dangers that have to be taken note of.

What may eventually be a most desirable thing may prove to be the greatest factor in causing havoc to national progress, if it is precipitated and forced down in an attempt either to obtain the satisfaction of having accomplished the thing irrespective of other consequences or for other reasons. It is no use blinking the fact that the next centenary is faced with the very grave question of what has been spoken of as the language problem. Whatever may be the unfortunate

consequences of the impact of the West on the East, whatever may have been the undesirable results—and they have been many—of a foreign domination, it cannot be gainsaid that one of the features that resulted in a great deal of upsurge in the minds of the people is the fact that through a foreign medium, they had access to the world literature and through that foreign medium, there was a greater amount of unity established in the whole of India and less prejudices were created. It may be that this was due to other factors as well but it would be most unfortunate if the advantages that have accrued and are yet accruing through a knowledge of a world language such as English, are lightly discarded for other reasons. India's place in the international councils is maintained because its representatives have, on the whole, had the great advantage in international circles of explaining their views in a manner that can attract the attention of the world.

### *The torch bearers*

And so it is that we enter on the phase of the second centenary of University education with more problems

and more urgent problems than those with which the Universities were faced when they were started. It ought to be the fervent prayer of all interested in the future of the country that the Universities will maintain the highest traditions of academic freedom, a cosmopolitan outlook and an urge to follow always the great truths wherever they may lead. In the present-day world, many forces are at work to curtail the liberties of the people and such forces are in greater evidence in several countries in trying to mould education to suit the particular ideologies with which those in power may, for the nonce, be saturated. A University will lose all its usefulness and will become but a burden to posterity if, under these circumstances, it subordinates itself to such tendencies. And therefore it is that all interested in the future of the country and of the world at large must stand by the Universities and help to maintain those high traditions which have made them, in the past, the true torch-bearers of knowledge and of wisdom.



# OUR FOOD Problem

By SRI P. P. I. VAIDYANATHAN, BAR.-AT-LAW, I.C.S.  
(Secretary to Government, Food and Agriculture Department.)

There are many aspects of the food situation and the food policy of this country which puzzle even the educated man. During the period of rationing, he had clear ideas on this subject and believed that the country produced less food than was needed and was trying to bridge the gap, partly by imports and mainly by the Grow More Food Campaign. With the removal of all controls, he obviously assumed that we are self-sufficient in food, but this belief was considerably shaken when he heard about arrangements for large imports of rice and wheat and found the prices of foodgrains rising, giving the impression that there was still a good deal of food scarcity. This suspicion was confirmed when he heard that the target of food production in the Second Five-Year Plan is being raised from 15 per cent to 28 per cent. All this confusion is due to the fact that the common man does not have a purely objective assessment of the food position. In this brief article, an attempt is made to make such an assessment.

We are, generally speaking, producing more or less the food that is needed for our consumption. This should be so, for such a large population cannot import any substantial proportion of the food needed. Our actual production of foodgrains was about 52 million tons in 1951-52 and it has steadily increased to about 65 million tons today. In 1951, the import was about seven lakhs tons and

it was brought down to nil a year ago, but it has again been stepped up now to a few lakhs tons per annum. So it will be apparent that the real deficit in this country is marginal, being of the order of a few lakhs tons out of the present consumption of 65 million tons, i.e., less than two per cent. The general public feeling on food situation is very much like that of Mr. Micawber towards his finances. Just like Micawber we can say that if our production is 65 million tons and our consumption is 64 million tons, we experience the heights of joy; but if the consumption goes up to 66 million tons, we are thrown into the depths of misery. The real truth is that there is no justification either for the heights of joy or for the depths of misery in the two situations.

### *Vagaries of Production and Consumption*

A second feature of our food position is that our production is highly variable. The average rice crop of Madras during the last decade used to be about 21 lakhs tons and in an exceptionally favourable year, it could go up to 30 lakhs tons. The variation is of the order of 30 per cent for this State. For India taken as a whole, a bad year often meant a rice crop of 22 million tons and a very good year meant a crop of 27 million tons, the variation thus being more than 20 per cent. If the country is really self-sufficient in the matter of food with a comfortable margin, the effect of the monsoon will not be felt on the food situation; but unfortunately, when we are barely self-sufficient, a variation of about 20

per cent in the production is a serious factor which can upset all our calculations.

A third feature about our food situation is that the consumption appears to rise considerably. It is generally assumed that the demand for food is inelastic, because the people cannot eat more food in times of prosperity. That may be true of economically advanced countries; but in an under-developed country, the demand for food is also highly elastic. Thus in 1951 the total foodgrains available was 55 million tons which included an import of four million tons. Five years later, the production had gone up to 65 million tons; but still there was a deficit of a million tons. We may make an allowance for the increase in the population of about six per cent during these five years; but that does account for the increase of about 20 per cent in the demand for foodgrains. So all planning has to take into account the fact that the consumption is also rapidly increasing. What the rate of this increase is, is anybody's guess. My own guess is that during the next decade, with the rapid industrialisation taking place and the general increase in the standard of living, the demand will rise, at the rate of four or five per cent every year. This is clear from our experience during the last five years when the demand has risen from 55 to 66 million tons, i.e., at the rate of four per cent per annum.

A fourth feature of the food position is that the carry-over of foodgrain stocks from year to year is becoming less and less. It is true that we have no accurate or even approximate statistics of such stocks. But we have enough material to believe that the stocks held nowadays at different levels are less than they used to be. To some extent, this is due to the high prices prevailing just before the harvests. The main reason, however, seems to be the absence of any substantial surplus which can be carried over as there is no gap between our production and consumption. A carry-over of substantial stocks is an important factor which can stabilise the market and this can be achieved only if we produce enough to leave a surplus after the demands are met.

So our food situation will not be solved by merely attaining self-sufficiency in a good year; but we have



*Sri H. V. Pataskar, Union Minister in the Ministry of Law, who was appointed by the Government of India to bring about an amicable settlement in the border dispute between Madras State and Andhra Pradesh was in the City on December 26, 1956, to acquaint himself about the point of view of Madras. He is seen here in earnest conversation with Sri Kamaraj, Chief Minister, at a party given to the Legislators by Sri A. J. John, Governor, at Raj Bhavan.*

the Legislators and the State Government that all official business should be transacted in Tamil in this State as early as possible. The Government have therefore been considering how best the language for the purpose of administration can be changed over from English to Tamil. As an experimental measure all official correspondence in Truchirappalli district is being carried on in Tamil from 1948. The District Revenue Administration Enquiry Committee has also recommended that Tamil may be introduced in all Taluk offices as a preliminary step and that necessary legislation may await reorganization of the States. On the reorganization of the States, it is now proposed to extend the experiment of conducting official transaction in Tamil to Taluk offices first and then extend

it gradually to all other spheres of Governmental activity.

2. This Bill which is intended to give effect to the above object declares Tamil as the official language of the State and provides that English shall continue to be used until Tamil is directed to be used instead in respect of such official purposes of the State as may be specified by notification from time to time.

#### *Financial Memorandum*

Various measures have to be taken for the successful working of the system of conducting all official correspondence in Tamil, such as,

(1) securing adequate number of Tamil typewriters and typists. An estimate of the number of typewriters required has been called for from the

Board of Revenue whose final report is awaited;

(2) compilation of departmental diglot, preparation of glossaries for Tamil administrative terms and translation of manuals, etc., in Tamil. The post of Special Officer for translating the important manuals, etc., has been sanctioned and work is expected to be begun as early as possible. Necessary staff to help him in his work has to be sanctioned;

(3) adoption of bilingual office procedure;

(4) Departmental language test; and

(5) revision of Recruitment Rules.

It is not therefore possible now to say what exactly will be the expenditure involved.

# Kisans Convinced Of India's Progress

## Fifty Days Tour Was A Great Success

A party of four hundred Kisans drawn from various development blocks in Madras State successfully concluded fifty days tour of India under the State Government's auspices. These kisans saw for themselves all that is India both old and new, from the southern tip of the country—Cape Comorin, to the far off snow-covered ranges of Himalayas. They saw the giant structures and vast layout of Sindri Fertiliser Factory turning out daily a thousand tons of Ammonium Sulphate, which they buy in their own village depot paying a few rupees.

The mighty Bhakara Nangal Project harnessing the turbulent waters from Himalayas, the Chittaranjan rolling out locomotives one after the other and the steel city of Tatas were all far beyond their comprehension. Wherever they went they were shown courtesy and goodwill and in many places including Sindri and Chittaranjan

they were surprised to see many from Madras State holding responsible positions and offering explanations in Tamil.

The Kisans were also taken to Mettur Dam, Lower Bhavani Project, the Integral Coach Factory at Perambur and other areas in Madras State so that they might realize the progress they have made. Though the aim of the tour was to make them understand and see for themselves the achievements of the First Five-Year Plan, they were also provided opportunities to visit Benares, Brindhavan and Gaya, to take a dip in the Holy Ganges and to have a glimpse of Taj Mahal, Ellora Caves and the picturesque New Delhi.

The President of India Dr. Rajendra Prasad received the Kisans and gave a tea party in their honour. The Prime Minister, Sri Nehru, spared a lot of his precious and busy time in chatting with them and also arranged a party.

The Kisans returned back to their homes completely convinced that the First Five-Year Plan was a big success and that it had stirred the enthusiasm and imagination of the teeming millions of India to strive continuously to come to the top of the world. They went, they saw and came to the unshakable conclusion that all parts of the country were developed under the Plan with equal vigour, each according to its potentialities and its needs.

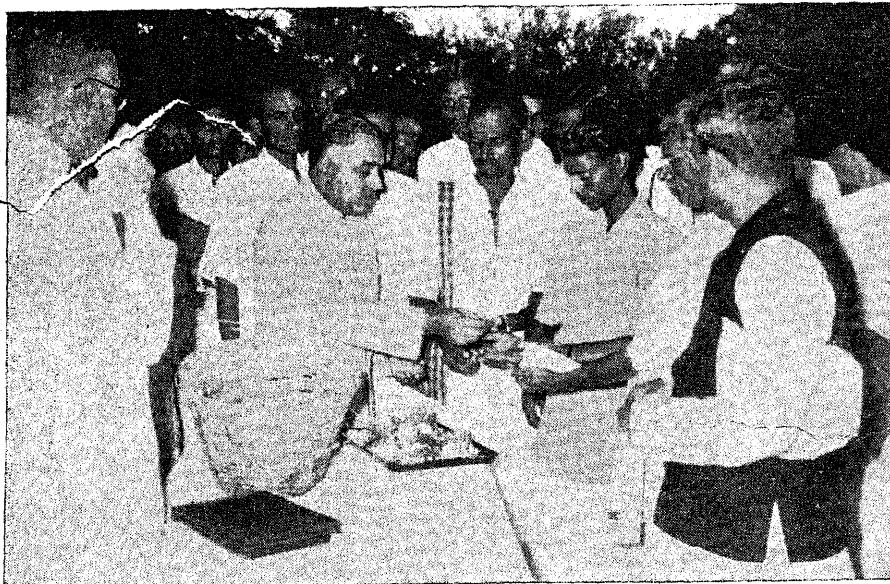
## Crop yield competition to be continued

The Government have decided to continue the scheme for holding crop yield competitions for the year 1956-57 and award prizes at the firkataluk, district and State levels. Competitions at the village level will also be held in the Community Project and National Extension Service areas.

Crop yield competitions for paddy will be open to the entire State while potato yield competition is only for Nilgiris district. Jowar competition is open to Coimbatore, Madurai, Salem, Tiruchirappalli, South Arcot and North Arcot while Bajra competition is meant for Coimbatore, Tiruchirappalli, Salem, South Arcot, Tirunelveli and Ramnathapuram districts. The village level competitions will be in respect of all the four selected crops.

An expenditure of Rs. 40,600 has been sanctioned for distribution of prizes.

The Government have sanctioned the opening of a Sales Depot at Erode for the sale of finished articles produced in the various industrial units in the Lower Bhavani Pilot Project area.



*The Kisans were entertained to a tea party at the Government Estates on the conclusion of the All-India tour. Sri M. G. Rajaram, Additional Development Commissioner, is seen here receiving them.*

## Small-Scale Industries Forges Ahead

### One Institute For Each State To Render Technical Advice

It has been recognized that the development of small-scale industries is an important sector of economy for wide distribution of both economic activity and economic advantages. The small-scale industries, can be started by men of limited resources but at the same time produce finished products using modern machinery, which can be compared with the products of factories.

The Government of India having felt the importance of the role of small-scale industries in providing employment opportunities, set up the All-India Small-scale Industries Board two years ago. The functions of this Board are to advise the Central and State Governments on deciding the programmes for development, the nature of assistance that should be provided, the agencies through which this assistance should be routed.

The 8th meeting of the All-India Small-scale Industries Board was held in Madras in the second week of January. Sri M. Bhaktavatsalam, Minister for Agriculture and Industries, inaugurated the Conference. Sri S. Ranganathan, Secretary, Industries Department;

Union Government and Chairman of the Board presided over the Conference. An exhibition was also organized in the Government Estates to give an idea of the possibilities open to men with limited resources in the field of small-scale industries. A unique feature of this exhibition was not only finished products but the process of manufacture and the variety of machinery and equipment used in the manufacture was also on view.

A few points made at the conference by Sri M. Bhaktavatsalam and the Chairman of the Board are given below.

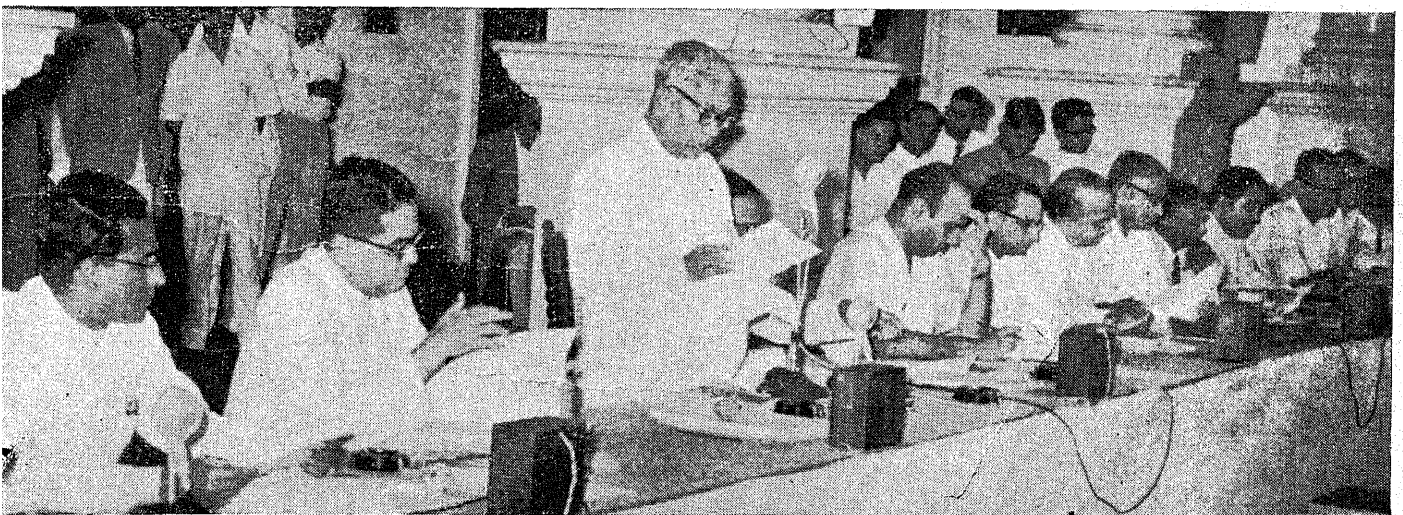
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The principal needs of small-scale industries are imparting training and technical advice regarding the adoption of improved tools, machines and new techniques, supply of raw materials and power at reasonable rates, supply of adequate finance on fair terms, facilities for importing or purchasing new machines, providing factory space in order to enable small entrepreneurs to conserve their limited resources for working expenditure, providing servicing facilities in operations involving

the use of expensive machinery and assistance in the marketing of the products. Both the Union and State Governments have formulated a large number of schemes to fulfil these needs. The Madras Government have also sanctioned a number of schemes with Central assistance. It is now necessary to watch the results of the working of these schemes, not merely with reference to the amounts spent but with reference to the employment provided, production achieved, its quantity, quality and cost and easy marketability. Our industrial system should exist primarily for the purpose of satisfying human needs of a material nature in maximum quantity and to an acceptable standard of quality, with the minimum use of resources and for providing employment to as many as possible. Idleness and wastage will, indeed, be our constant enemies.

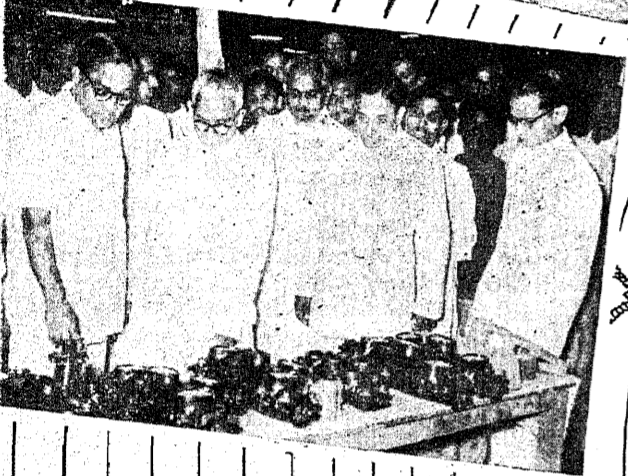
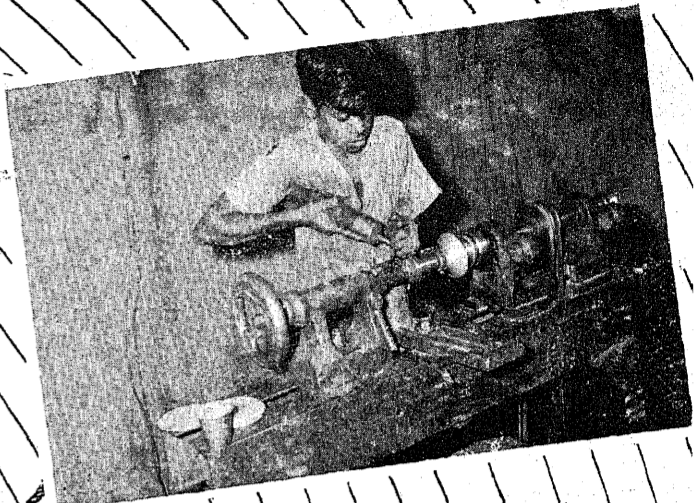
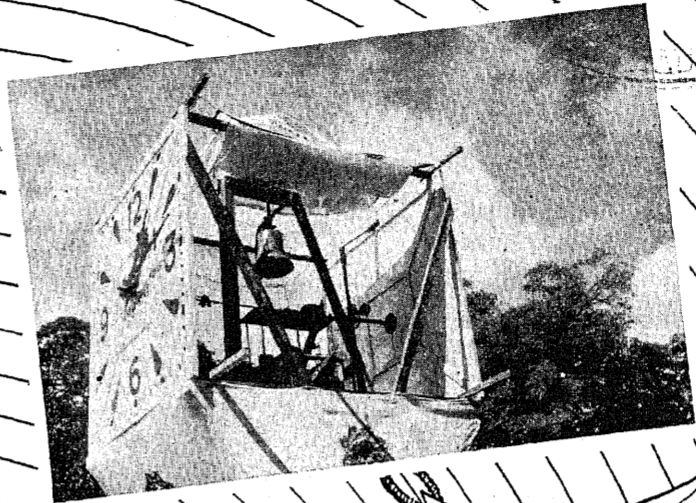
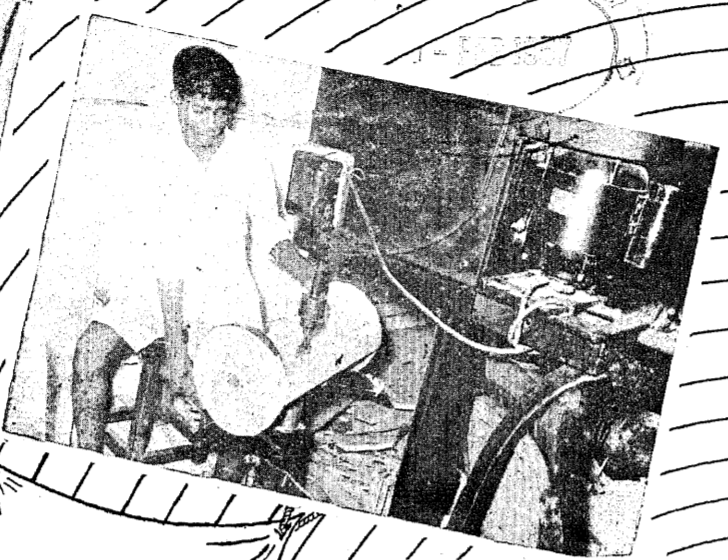
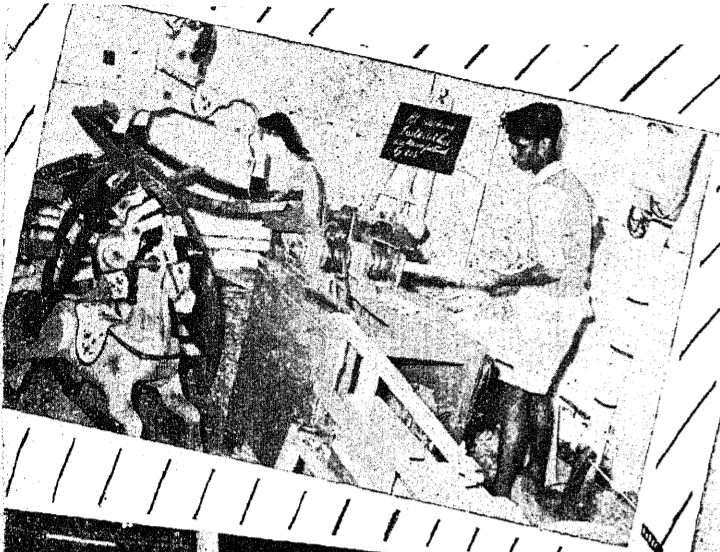
One major institute in every State in India to render technical advice and service to small industrial units will be started by the Government of India during the next financial year.

*(Continued on page 28)*



*Sri M. Bhaktavatsalam, Minister for Agriculture, inaugurating the 8th meeting of All-India Small Scale Industries Board at Rajaji Hall in the second week of January.*

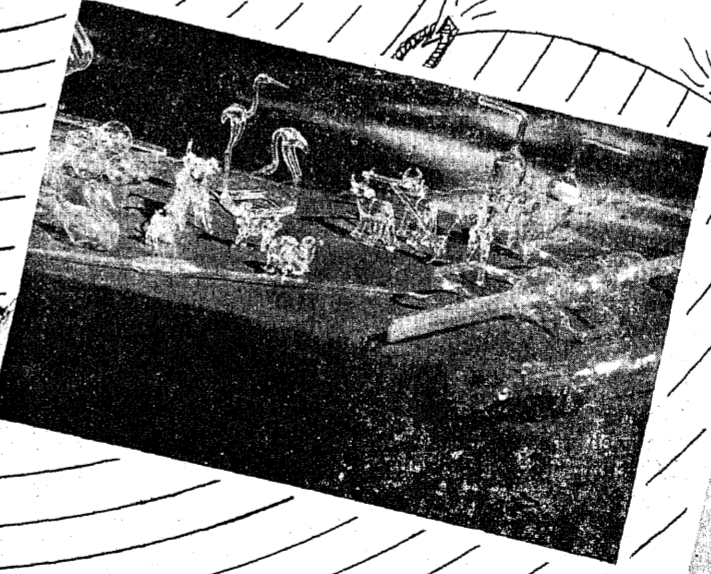
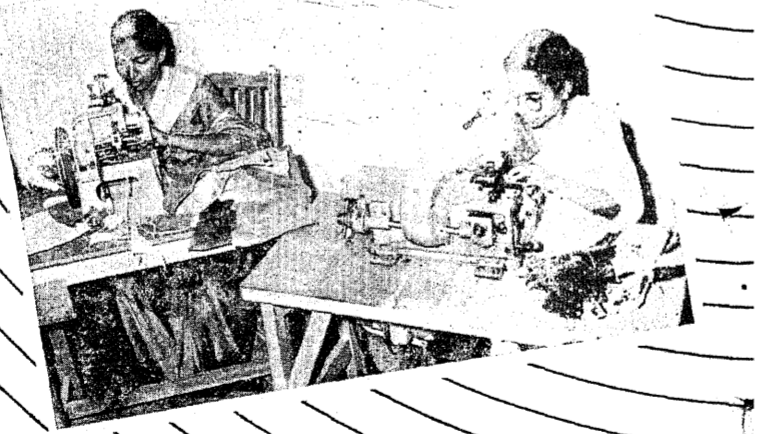
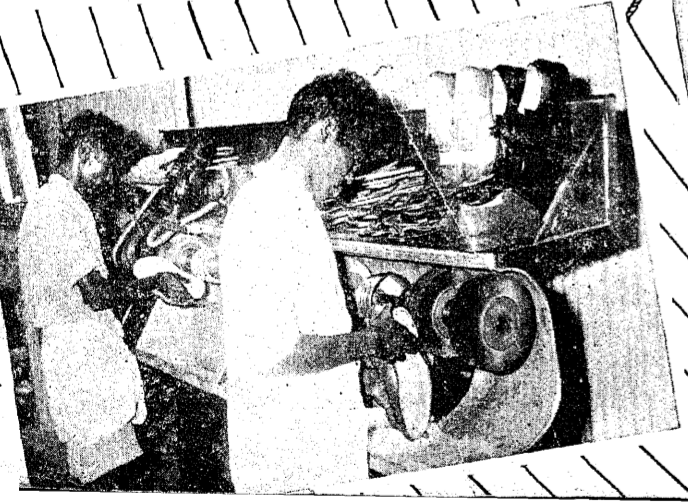
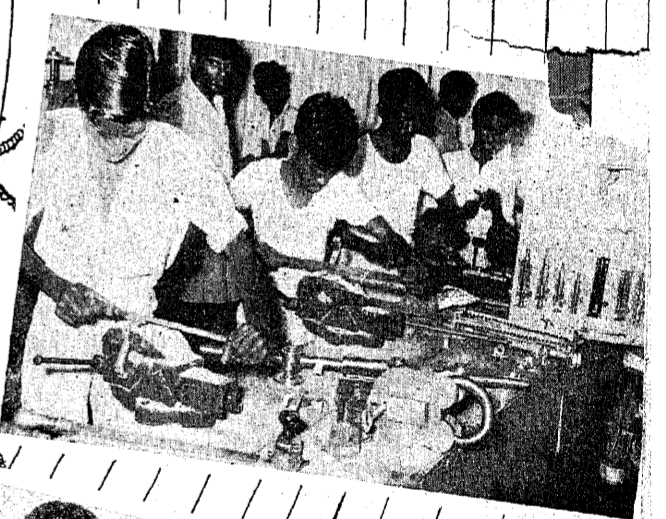
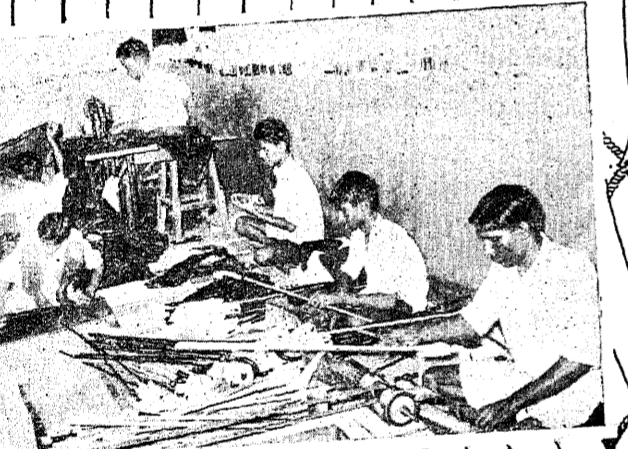
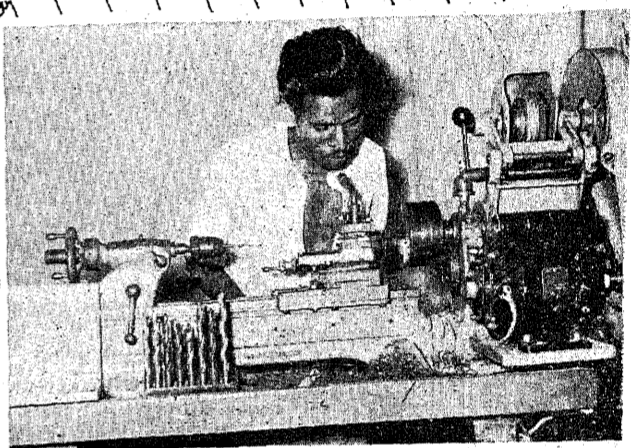




*This Exhibition had been specially arranged to give an idea of the possibilities open to men of limited resources in the field of small-scale industries.*



*The Small-Scale Industries Exhibition held at Rajaji Hall on 11th January 1957. Not only the finished products but the process of manufacture and the machinery and equipment were on view.*





*(Continued from page 15)*

amount of purchases were made by the Government in some States and as a result, the prices were prevented from falling further. But unfortunately when the prices rose, the Government were not able to bring them anywhere near the price support level of Rs. 11 with the result that the producers were left sulking. So, the price support if it is to have the confidence of the agriculturists, must be closely linked with the rate of sale to the consumer. The main factor is the selection of the level at which support policy is to be given. There is no point in trying to give price support at a level which is not a reasonably economic level, because the price support policy itself will crack up either by excessive demand from the consumers or by excessive dumping by the producers on the Government. The present price level is Rs. 16 for the sale of imported rice and about Rs. 19 to Rs. 20 for local varieties of rice. As this is not a lean month, the price of local rice can be expected to come down and stabilise itself at some level not much higher nor, probably much lower, than the Rs. 16 at which we are selling imported rice. Once the level has been ascertained, it should be possible to visualise a situation which stocks are bought at a reasonable price in the harvest time and sold at a slightly higher price when there is a demand. This will stabilise the position, but may mean a large accumulation of stocks in the hands of the Government at certain seasons. There will be no problem of a permanent accumulation of stocks in the hands of the Government because our surplus in foodgrains is a seasonal one and even if there is a carry over from year to year, the quantities involved will be marginal. The Government would also have to develop increased facilities for purchase and stocking of these surpluses as buffer stocks. These buffer stocks can be located in the main deficit pockets and urban areas and also at strategic places in the country from where movement and distribution will be relatively simple and quick. All this is being done now to some extent; but the scope of this work will have to be considerably increased, if the price levels are to be stabilised effectively.

*(Continued from page 25)*

Industrial Extension Service through these institutes for Small-scale Industries Branches and Extension Centres has been a major item of the Central Government's programme of assistance for the development of small-scale industries. Apart from the regional institutes at a number of important places, the Government of India had also approved of the starting of 48 Extension Centres during the current year. It is hoped that in about four to five months, most of the Centres will be able to function with their full complement of staff and equipments. In spite of the inadequacy of staff, it is encouraging to note that the institutes have been able to render useful technical advice and service to over 15,000 small industrial units dispersed in different parts of our country.

A new programme of activity which the institutes have taken on, has been the provision of Business Management Service to small industrial units. Steps have been taken for the appointment of qualified staff in each Regional Institute and Major Institutes for providing business management advice to small industrialists. Evening classes have been started in the Regional Institutes at Delhi for imparting instruction to small industrialists in proper business management methods. The response from the small industrialists has been very encouraging, and it has been decided to organize similar classes in the Regional Institutes at Bombay, Calcutta and Madras, immediately.

Supply of machinery on hire-purchase basis undertaken by the National Small Industries Corporation has made good headway since the Board met last. The Corporation has so far delivered machinery valued at Rs. 6.69 lakhs to small industrialists. Machinery worth Rs. 4.85 lakhs is expected to be delivered during this month. Besides, the Corporation has placed firm orders so far for the supply of machinery worth Rs. 53.28 lakhs. The hire-purchase scheme is expected to prove a good incentive for the starting of new small scale industries in our country. It has been decided to start four subsidiary Corporations, one each at Delhi, Madras, Bombay and Calcutta, to deal

## Ministerial Services

### Applicants 12 times the required number

Eighteen thousand five hundred and six candidates applied for admission to the Special and Departmental Tests held by the Madras Public Service Commission in June and November 1955 as against 15,848 in June and December, 1954.

Nine thousand seven hundred and forty-four candidates were admitted to the examination for appointment to the Ministerial Services of which 1,511 were selected for appointment.

The examiners of the Special and Departmental Tests were of the opinion that the performance of most of the candidates was, in general, not satisfactory.

The Commission held competitive examinations comprising only an oral test in the shape of an interview for direct recruitment to 65 classes of posts in the State and Subordinate Services. Competitive examinations comprising both a written and an oral test for recruitment to posts classed as non-technical in the State and the Subordinate Services (Groups I, II and III) were also held.

The Commission advised the Government on 36 appeals, 24 memorials or petitions, 10 proposals for disciplinary action, 9 cases relating to reimbursement of the costs of defence incurred by public servants and 8 references relating to grant of pension.

with applications for hire purchase of machinery expeditiously, and also to look after the marketing service activities of the region.

The experiment of Mobile Sales Vans, which was being conducted in the Delhi region has been extended to Calcutta, Bombay and Madras. The vans carry a long range of small-scale industries products of the region for ready sale to the consumers. The main object in the marketing van service is to collect the necessary data on items like quality, price, consumer taste, etc., and to convey this information to small industries producing these goods.

## Livestock Research Station, Hosur.

By SRI D. PATTABHIRAMAN, G.M.V.C., A.I.D.I., Director of Animal Husbandry, Madras.

Livestock Research Station, Hosur Cattle Farm, is located on the 4th mile on Hosur-Denkanikota Road. The altitude is 300 feet above sea level. The average rainfall in this farm is 30 inches. The climate is humid and the mean temperature is 85° F. The extent of the farm is 1,646.41 acres of which 1,186.99 acres are under pasture and cultivation. Prior to 1924 the farm was used as a Remount Depot where horse Breeding was undertaken. During 1924 the Agricultural Department of the State took over the Farm from the Army and used this farm for developing Livestock. The Livestock Farm started with a nucleus of 231 heads of cattle containing Sindhi, Kangayam and animals from Coimbatore and Bangalore. During the year 1938-39 the Farm was taken over by the Animal Husbandry Department and since then it is manned by the Animal Husbandry Department. The breeds maintained in this farm are Sindhi, Kangayam and Gir. The Gir animals were introduced into this farm during 1949 and they are coming up satisfactorily. The present strength of livestock is 985 excluding sheep numbering 274 and poultry numbering 1,721 as on 1st November 1956. The main object of the farm is to raise pedigreed seed Bulls and to supply them to the State for grading up the village cattle and to maintain the purity of the breeds, and to serve as demonstration units for Scientific management of Livestock.

### Feeding and Management

All the animals are given concentrate feed in the morning between 6 and 7 a.m. The stalls are cleaned in the morning and the animals are sent for grazing at about 8 a.m. The animals return from grazing at about 5 p.m. Dry and green fodders are given to them and they are tied in the stalls for the night.

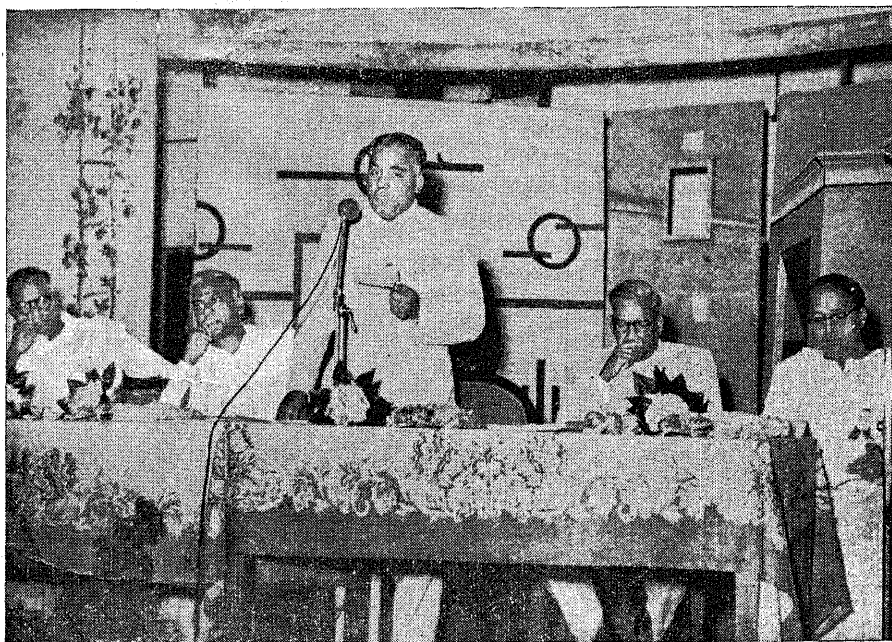
The common concentrates that are being given are, G.N. oil cake, Cotton seeds, wheat bran, Bengalgram husk and Horsegram along with a little of

salt and mineral mixture. Out of this mixture the weaned calves are given 2 lb. bulls and heifers 3 lb. special and stud bulls 4 lb, Work cattle 7 lb. and dry cows 4 lb. The animals are grouped in batches of eight or ten and each batch is fed separately. At the time of feeding the weak animals are spotted out and given special feed and attention. All the animals are weighed once a month and the animals which are not putting proper weights are attended to specially.

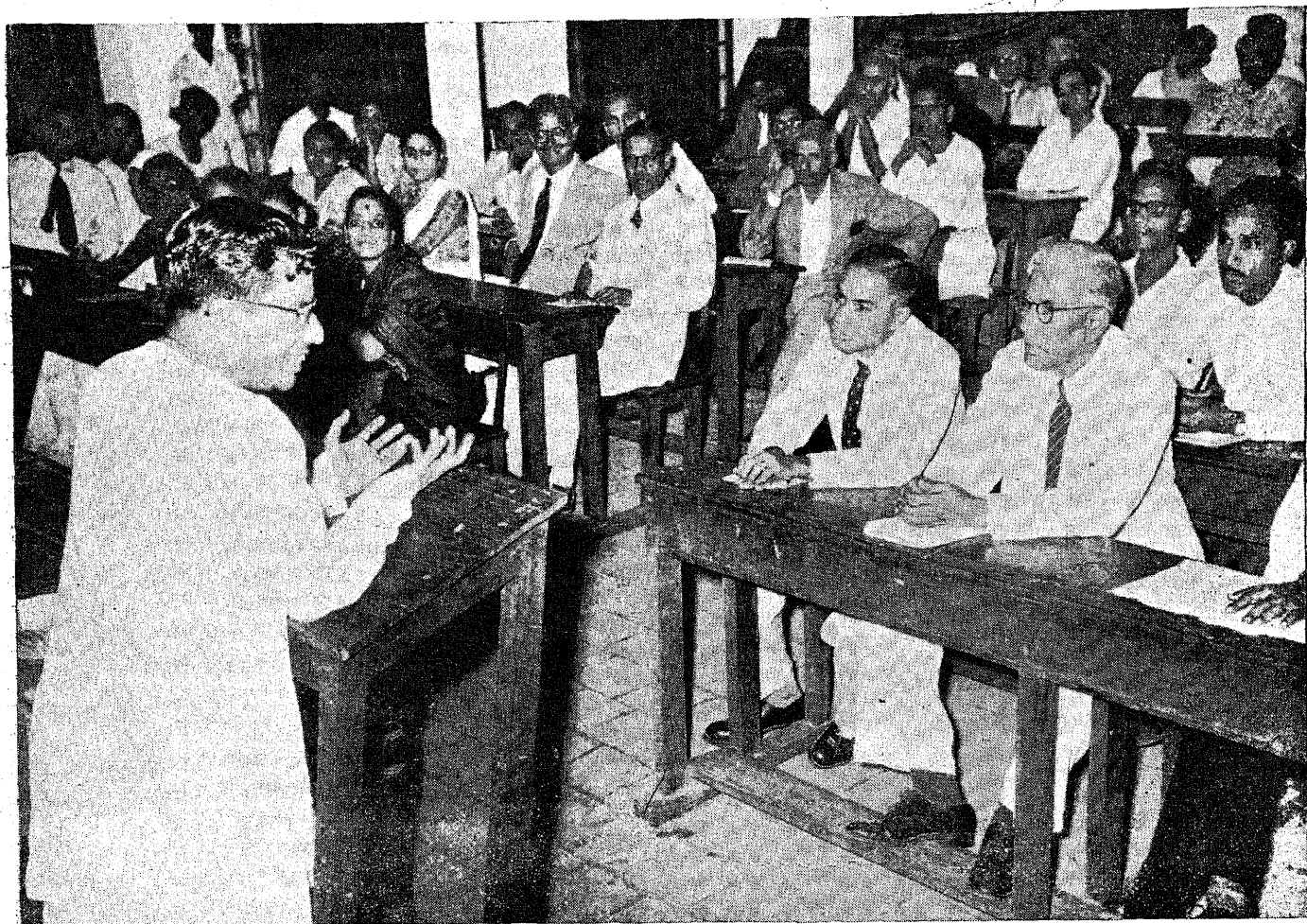
The Breeding Bulls at stud in the farm are being selected by studying their pedigree particulars and the performance of the cows at the early age of 2 years and 6 months. Records are maintained at this station for the last

30 years. This facilitates the evaluation of sires and progeny testing. The breeding programme at this farm is planned with the results of the evaluation of sires and the available number of cows and heifers at the farm.

All the young male stock between the ages of one to two years are being watched for their breed characteristics and growth. Animals that are showing promising results with their pheno-type (i.e. Physical character) and their Dam's performance, are used as breeding bulls. From the age of two years these animals are grouped separately and fed properly. These Bulls will be ready for sale, for transfers to Veterinary Institutions and for distribution



An Inter-State Regional Seminar on Community Development and National Extension Service was held at Cuddalore between 7th to 9th January 1957. Sri M. G. Raja Ram, I.A.S., Secretary, Public (Planning and Development) Department and Additional Development Commissioner, Madras, delivered the inaugural address. To his right are seated Sri G. Venkatachalapathy, Joint Development Commissioner and Sri A. Venkatesan, I.A.S., Collector of Chingleput. To his left are seated Sri Henry Peter, Collector of South Arcot and Sri G. Vagheesam Pillai, M.L.A.



*Sri C. Subramaniam, Minister for Finance and Education, addressing the All-India Seminar on the teaching of Social Studies held at the Teachers' College, Saidapet, on December 22, 1956. About 60 delegates from all over India attended the Seminar, which was arranged by the All-India Council for Secondary Education, New Delhi.*

under Government Livestock Distribution Scheme. Some of the bulls which are intended for Artificial Insemination work, are trained even at their very young age.

#### *Raising of Good Heifers*

It was generally believed some years ago that Indian breeds of cattle will not come to maturity at an early age. The mere individual feeding with rations computed as per the body weight of the animal was able to induce early maturity in Heifers. The earliest age at which the animal comes to heat at this farm was one year and seven months. Our present object is to increase the body weight of the animal in such a manner that it would be in a fit condition to receive the bull at that age. This will result in early

calving which means that the animal's potentialities could be tapped at a very early age. Only by this method we will be able to get maximum returns from the Heifer of cow within its lifetime since the life span of a cow is limited to 15 years only.

All the cows and heifers which have taken the bull are being tested for pregnancy three to four months after service. The pregnant animals are being sent to the dairy section when they are about seven months in calf to facilitate special feeding and attention so that they may be in good condition at the time of calving.

All the cows which do not take the bull within three months after calving are examined and suitable measures

are taken to make them come for service. All the Heifers over two and a half years of age which have not come to heat are examined and steps taken to see that they take the Bull as early as possible.

The following breeds of cattle are maintained in this farm.

*Sindhi herd:* This breed is maintained to raise a high milk yielding stock of Dairy Cattle. The Sindhi herd at this farm now stands as one of the finest herds in the whole of India. Since Partition the importance of the breed is greater, because the home tract of this breed is now in Pakistan. Sindhi cows are thriving very well and the farm has a rare stock of high yielders

of cows giving up to 11,480 lb. of milk in a single lactation and the average yield of a completed lactation is about 4,000 lb. Other States including Jammu and Kashmir have purchased animals from this farm.

*Kangayam herd*: Though the home of the breed is in the Coimbatore District, the Kangayam animals are bred in this farm to supplement the efforts of private breeders like the Pattagar of Palayakottai. The Kangayams are also thriving well on the farm, specially the female stock. Some of the cows have yielded more than 4,000 lb. in a single lactation.

*Gir herd*: At the instance of His Highness The Maharaja of Bhavanagar the Gir breed was introduced at this farm in the year 1949. This is a milch breed and it thrives well here, though heavier than the other breeds maintained in the farm. Some of the cows have given over 8,000 lb. of milk in a single lactation. The average milk yield of this breed is about 3,900 lb.

### *Calf Rearing*

As the future of every pedigreed herd rests on its calves and their growth, particular attention is paid to the matter of calf rearing. Inherited characters, liberal feeding with suitable ration including the direct udder feeding of the required quantity milk for the calves, and careful management on proper lines, influence the rate of growth of calves. The recording of weekly weights of calves taken at the farm is a good test of the proper management. The progenies born out of the best performers are marked out soon after birth, and are specially attended to.

The cows are never tied except at the milking hours. They are allowed plenty of grazing. Concentrates as mentioned previously, are fed to cows depending on the individual milk yields, age, weight, pregnancy and other factors being taken into consideration. Different green fadders, silage and hay are fed to cattle depending on

the grazing available. Massaging udder of pregnant animals have proved to make the cows more docile and milch tempered.

### *Dairy produce*

The average daily production is 1,600 lb. of milk at the Dairy. After meeting the requirements of Farm Livestock, the rest of the milk is sold to the public, leaving a quantity for the creamery. A small creamery unit is maintained where cream, butter, etc. are made on improved methods for demonstration and training purposes for students undergoing practical classes at Farm. The products obtained therefrom, are sold out locally, the skim milk left being utilised for livestock feeding.

### *Education and Training*

The Farm takes part in the important shows, cattle fairs, and exhibitions in the State. There are ample facilities for affording training to professional and non-professional men. Thorough

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training in the various sections of the Farm is a part of the curriculum and programme of the students of the various Agriculture, Veterinary and Dairying institutions of Madras and other States, and of late, the Gramasevaks from Community Project and Block Development areas also come on educational tour and study.

Sheep rearing is a very economical proposition for the following reasons:—

1. They can graze behind cattle in the same fields.

2. High quality of manure obtainable.

3. Sale of wool and surplus sheep yielding good income.

Sheep breeding operations are going on in the farm since the year 1925.

The following breeds of sheep namely Bellary, Bikanir and Mandya are maintained in the farm. The object of maintaining Bellary and Bikanir is to try Cross-breeding on these two breeds since it is observed that the cross bred progenies yielded better type of wool than Bellary sheep. The object of stationing Mandya sheep in the farm is to issue periodically pedigreed stock to sheep breeders for grading up their hairy sheep with a view to improve the mutton quality.

*Cultivation of fodder crops and grasses.*

The soil of the farm varies in texture from a rich and retentive loam to a poor hard red gravel. An area of 57.74 acres which is situated in the nearest of the farm is irrigable from three rainfed tanks. It comprises of 37 fields in which fodder crops like Chulam, Maize, Teosinte, fodder grasses like, napier, guinea, Rhodes and Buffalo and legumes like Lucerne, Berseem, Soyabeens and sunnhemp are grown.

Apart from these irrigable lands about 200 acres are under cultivation in which grain crops like ragi and horsegram and fodder crops like Chulam and Teosinte are raised purely under rainfed conditions.

*Silage making*

During the monsoon in October and November there will be plenty of green fodder in the farm. The surplus green fodder is conserved as silage for future in summer months. Further in summer there may not be much of green fodder for all the animals and the silage

## Delimitation : How It Affects Madras State

There will be 500 elected members in the Lok Sabha instead of the existing 486 as per the Delimitation of Parliamentary and Assembly Constituency Order, 1956 of the Delimitation Commission.

Out of the 500 elected members, there will be 76 belonging to the Scheduled Castes as against 72 as at present and 31 members of Scheduled Tribes as against 26 as at present. There will be 403 constituencies for Lok Sabha of which 91 will be double-member constituencies. Six members from Jammu and Kashmir will be elected by the members of the State Assembly and then nominated by the President. Sixteen single-member constituencies are being reserved for Scheduled Tribes.

*Forty one members representing 34 constituencies from Madras State will sit in Lok Sabha. Seven constituencies will send two members each.*

*Legislative Assemblies.*

The Legislative Assemblies of the 13 reorganised States will

have 3,102 members instead of 3,125 in the provisional Legislative Assemblies excluding Kerala. The 470 seats reserved for Scheduled Castes will continue and the number of seats reserved for Scheduled Tribes will be increased from 195 to 221.

The total number of constituencies will be 2,518 of which 584 will be two-member constituencies. Of the 1943 single-member constituencies 104 will be reserved for Scheduled Tribes. There will be 3 single-member constituencies. All of them only in West Bengal reserved for Scheduled Castes.

*After the General Elections in March, the Madras Legislative Assembly will have 205 members instead of 189. The number of seats for Scheduled Castes will be decreased from 39 to 27 and one seat for the Scheduled Tribe has been reserved in the Yercaud area in Salem District.*

*These representatives will be elected from 167 constituencies of which 38 will be double-member constituencies.*

will go as a good substitute. By ensiling the fodder the succulent condition of the green fodder is kept up and it gets the smell of wood-apple. If the cattle are fed for the first time with silage, they may not like this for the first few days and they will get used to this and begin to relish well.

All kinds of grasses and fodder crops can be made into silage. Legumes like lucerne and berseem do not form good silage. The best stage of fodder for silage is just the flowering stage. Annually about 13 lakhs lb. of silage are made in this farm. This farm, with all its activities has attracted the attention of Scientific workers in the field both in India and abroad and has won the appreciation of one and all. The Livestock Farm presents

more potentialities than before for further research work for developing the livestock of this State.

## Agricultural Information Workshop Centre

The Government have sanctioned establishment of an Agricultural Information Workshop Centre in the Government Press, Madras, for training artists in the production of Agricultural Information materials required by Extension Workers. The Indian Council of Agriculture has obtained the assistance of experts from the United States Technical Co-operation Mission for training the nucleus staff in the technique of producing visual charts and multilith posters on agriculture and animal husbandry subjects.

(Continued from page 10.)

courses and provide research facilities in Workshop Engineering (to cater to the growing needs of the Industries under the Second Five-Year Plan) with only small additions. The visiting Committees of the All-India Council for Technical Education have unanimously praised these Workshops. In technological equipment, one can never be content; further expansion has commenced.

The University situated as it is in a region of Lignite mines, has always been evincing keen interest in the Neyveli Project. The Department of Technology came into being, thanks to a munificent donation of Rs. 5 lakhs by Dr. Alagappa Chettiar. As a token of gratitude, the Annamalai University conferred on him an honorary Doctorate, made him a life-member of the Senate, named the Technology Block after him and sent him in 1950 as its delegate to the Quinquennial celebrations of the University of Glasgow. The department has well-organised laboratories and Fuel Testing Equipment. Chemical Engineering students are trained in Fuel Technology and Fuel Testing. The pattern of a four-year integrated degree course in Chemical Engineering, first introduced by the Annamalai University, has since been adopted by other Universities. Dr. Lakshmanan of this Department has had practical training in some plants in Germany; the University of London has awarded him a Doctorate for his thesis on South Arcot Lignite. After a year's study at North-Western University of Illinois, he is now doing further researches on Lignite in the North Dakota University in co-operation with the U.S. Bureau of Mines. Several other members of the University have also made a detailed study of various problems relating to Lignite and have published valuable papers.

The Department of Education gives training to prospective teachers on principles of Education, School Organisation, Educational Psychology, Methods of Teaching, etc. A citizenship Training Camp is organised every year in a rural area. The students are apprenticed to senior masters in local High Schools and required to undertake intense practice teaching. Research work is done in the department in the fields of aptitude testing, diagnostic tests, and the study of gifted children.

To meet the increasing demand for social workers, the University has opened the Department of Rural, Civic and Social Welfare. This is the only University in India in which this subject is offered as an optional subject in the degree courses. Elsewhere such courses are available only in professional training centres for social welfare.

The Annamalai University has a large library; in fact there are only two libraries in our State which are larger. The University also has hostels like the Rani Sithai Achi Hostel, a modern edifice constructed at a cost of Rs. 7 lakhs. Thus most students have ample scope to display their talents fully. They have always distinguished themselves in sports, in the N.C.C., in staging plays, concerts, etc. The students of the Annamalai University have been the sole representatives of Tamilnad in the Inter-University Youth Festivals organised by the Government of India and everytime they have come out with flying colours.

The Silver Jubilee of the Annamalai University was celebrated in 1955 with fitting pomp and splendour. Dr. A. Lakshmanaswami Mudaliar himself paid tributes to the excellent manner in which things were done and remarked that "it will help us a great deal in preparing for the Centenary of the Madras University". The Silver Jubilee was an occasion to take stock of the past and to plan wisely for the future. The University has been enjoying the unstinted support and fostering care of the Union and State Governments, ever since its inception. With the liberal grants being made by them from time to time, new buildings have sprung up, new faculties have been established and in keeping with the needs of the times, a Polytechnic (imparting instruction in basic engineering subjects at the diploma level) is being planned. In short, the University has embarked on an ambitious programme of expansion.

To conclude, the Annamalai University is a blend of many things. It is, in the words of Prime Minister Jawaharlal Nehru, "a great seat of Tamil culture and Tamil learning together with science and modern knowledge". It has brought to light several ancient Tamil songs and encouraged compositions of new ones by contemporary composers. It has helped

—through its many publications—to reconstruct the History of South India from literary sources, inscriptions and archaeological finds. It has taken the lead in the most useful work of bringing our books in Tamil on a number of Science subjects and other branches of modern knowledge. The National Academy of Letters of the Government of India, the Sahitya Akademi, has entrusted to the Dean of the Faculty of Oriental Languages of this University the great tasks of compiling the National Bibliography of contemporary works in Tamil, of writing a history of Tamil Language and Literature, of final selection and editing of the anthology of the best Tamil poems. In short, it has the germs of a great future. Through its economic surveys, the activities on its Planning Forum, its Politics Study Circle, researches on lignite, contributions to music, work of its school of painting, endowment lectures (in Allahabad and Benares) on Saiva Siddhantha and the proposal to publish monographs on several aspects of South Indian Culture, the Annamalai University is making a basic contribution to the advancement of knowledge.

### Art Purchase Committee To Meet In Madras

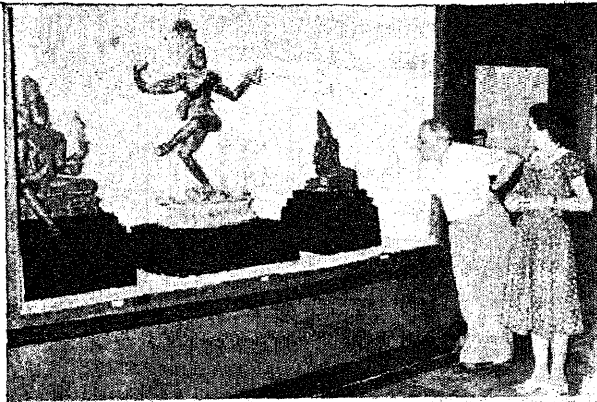
A meeting of the Art Purchase Committee will be held at the Government Museum, Egmore, Madras, on February 15 and 16, 1957, to be extended to February, 17, 1957, if necessary for the purchase of art objects as are of high artistic value or possess antique value.

Those who desire to offer art objects as specified above may write to Dr. Vikram Singh, Assistant Educational Adviser, Ministry of Education, Government of India, New Delhi, by January 30, 1957, at the latest, enclosing a complete list of the art objects and quoting the price they expect for each article. A copy of the list should simultaneously be sent to Dr. A. Aiyappan, Superintendent, Government Museum, Egmore, Madras.

All persons who want to offer art objects for sale will either have to send the art objects to the Superintendent, Government Museum, Egmore, Madras, by post or send them through their representative or to take them there personally, at their own costs and risk.

## CZECHOSLAVAK DELEGATION'S

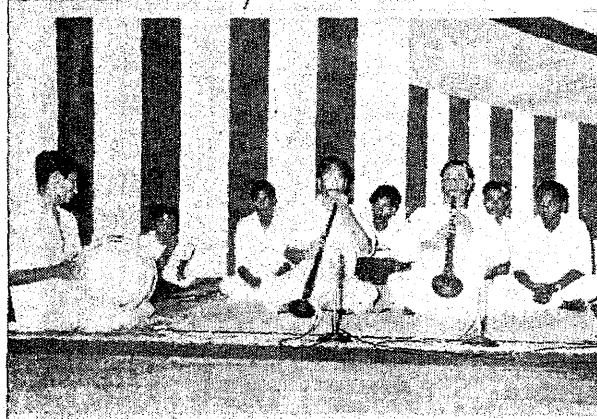
A 15-member Czechoslovakian Delegation of eminent people in the field of science, art and humanities headed by Dr. Karol Bedrna, First Deputy Minister for Education and Culture, Government of Czechoslovakia paid a five-day visit to Madras in the last week of December.



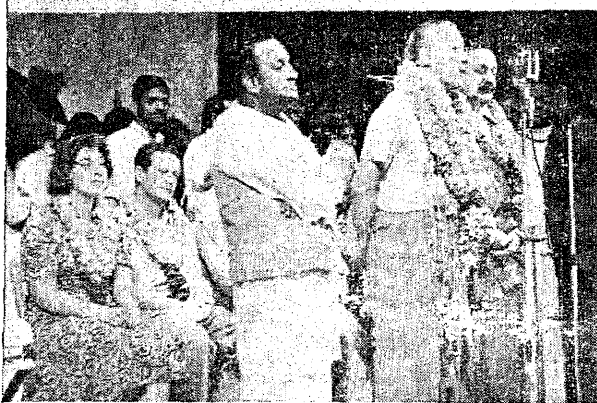
*The image of Nataraja at the Government Museum was a wonder to any foreign visitor. The Czech delegates spent long time in gazing at the intricate workmanship.*



*The Thalarathya Kacheri.*



*The Nathasivaram Kacheri by Thiruvengadu Subramaniam Pillai and Kuzikari Pichayappa, two eminent artistes in the field.*



*The Leader of the Czech Delegation replying to the felicitations. Sri K. Subramaniam is standing near him.*

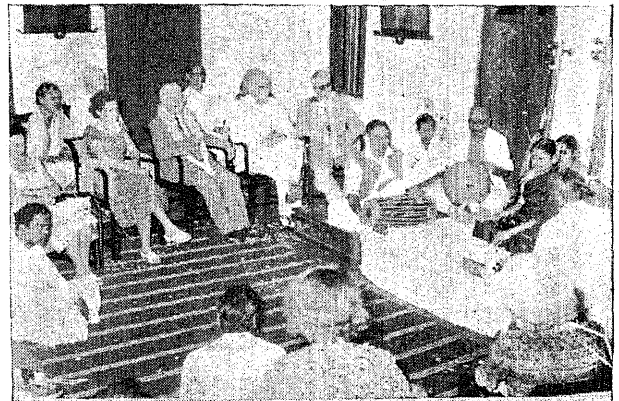


*The Governor Sri A. J. John with the delegates.*

## VISIT TO MADRAS CITY

The Government of Madras have arranged performances by leading musicians and artistes so that the visitors could have a glimpse of the traditional fine arts of Tamilnad. The performances were held at a pandal behind the Victoria Public Hall.

*Srimathi M. S. Subbulakshmi rendering vocal music at her residence without the aid of microphone.*



*Trichy Natarajan playing on clarinet.*



*A Scene from "Mohini Theevu" by Sahasranamam and Party.*



*Sri C. Subramaniam, Finance Minister gave a dinner party in honour of the delegates.*



*The delegates applauding the performance of artistes.*





*A scene in "Socrates" a drama enacted by Sivaji Ganesan and party in honour of the visit of the Czechoslovakian Delegation to Madras*

## Foot-wear Production-cum-Service Centre at Perambur

The Government have sanctioned the expansion of the Foot-wear Production-cum-Service Centre at Perambur, involving an expenditure of Rs. 2,37,740 on non-recurring items and Rs. 52,563 on recurring items. The Scheme provides for the intensive training of ten selected persons for a period of three years on payment of stipends, the expansion of the servicing activities of the Centre by the installation of additional machines and the appointment of a designer to bring out attractive designs for the benefit of private trade and for Government units. It will also increase

the production in the Centre and provide employment to local cobblers on piece work basis.

The Government of India have sanctioned a grant of Rs. 4,729 and a loan of Rs. 1,84,867 for the implementation of this proposal of the Director of Industries and Commerce which has been accepted by the Madras Government.

With a view to giving sufficient publicity for the foot-wear articles produced in the Footwear Production-cum-Service Centre at Perambur and

also in the other Foot-wear Service Centres established by the Industries Department, the Government have authorized the purchase of three Scooter demonstration vans with specially built metal and glass closed type box body with racks, etc., and for the employment of three Servicemen. The proposal involves an expenditure of Rs. 15,000 non-recurring and Rs. 12,200 recurring. The Government of India have sanctioned a grant of Rs. 17,350 representing 75 per cent of the non-recurring expenditure and 50 per cent of the recurring expenditure.

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A DIVISION OF THE DEPARTMENT OF  
INDUSTRIES AND COMMERCE,  
GOVERNMENT OF KERALA.

## Aid to Handicrafts to Sustain Against Machine

(Continued from page 21)

Nachiyarkoil (Tanjore district) and brassware in Kurumbapatti (Madurai district), a training centre for stone sculpture in Mahabalipuram, two training centres for the manufacture of paper toys and paper machine articles in Tanjore and Cuddalore, a training centre for the manufacture of artistic articles from Pith in Tiruthuraiipundi in Tanjore district, a training centre for lace and embroidery work in Palayamkottai, a training centre for the manufacture of fancy and utility articles from the famous Pattamadai mats, an Industrial Co-operative for the manufacture of glazed and artistic pottery in Karigiri, North Arcot district, four training centres for the manufacture of palm-leaf products in Manapad, Chitrakottai, Pallapattu and Mathur, a training-cum-service centre for the manufacture of cane articles in Wallajapet, a training centre for cloth and mat printing in Rajapalayam and a number of training-cum-productive centres for bamboo articles are some of the important schemes sanctioned for implementation during this year. At the end of the training period, these centres will be converted into Industrial Co-operatives with the trainees as members and the machinery and the equipment will be handed over to these co-operatives.

For the promotion of sales of the articles produced by the artisans a net work of handicrafts emporia has been proposed to be established in the State. These institutions will develop markets for these products both in and outside the country.

### Technical Education

The implementation of the various schemes for the development of industries in the State mainly depends on the availability of large numbers of suitable technical personnel particularly of the artisan and supervisory categories. To meet the ever-growing demand for technical personnel, double

shift has already been introduced in Civil, Mechanical and Electrical Engineering Diploma courses from July 1956 in the Government Polytechnics at Madras and Madurai thereby doubling the admission capacity. Four additional craftsmen training schools have also been opened at Cuddalore, Nagapattinam, Virudhunagar and Tirunelveli at the beginning of this academic year. The expansion and development of the three Government Polytechnics at Madras, Madurai and Coimbatore, the Regional School of Printing and the Institute of Leather Technology, Madras, the ten craftsmen training centres in the State and the building of hostels for the students of these institutions at a total cost of Rs. 204 lakhs have been taken up. Philanthropic individuals and institutions are being encouraged to start private

polytechnics by the offer of liberal financial assistance from the Central and the State Governments. The International Planning Team of Experts who visited this country has rightly pointed out that a resistance to modernisation derives from fears which are widely spread of technological unemployment and that perpetuation of inefficient out-dated methods has more drastically reduced employment than any modernisation could have done. At the same time our industrialisation has to be so planned as to make the Machine not the Master but the Handmaid of Man in order to ensure not only his economic survival but his and the nation's prosperity as well.

This then is the tone of the Madras Industrial Plan.



*Making of useful household articles from palmyra leaves and bamboo mats is an important cottage industry in our State.*