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Last cover page: Tanjore garlands in the making. The making of garlands from paddy, pith lace, sandlewood paste, cloves and cardamon, is a specialised art of Tanjore District.

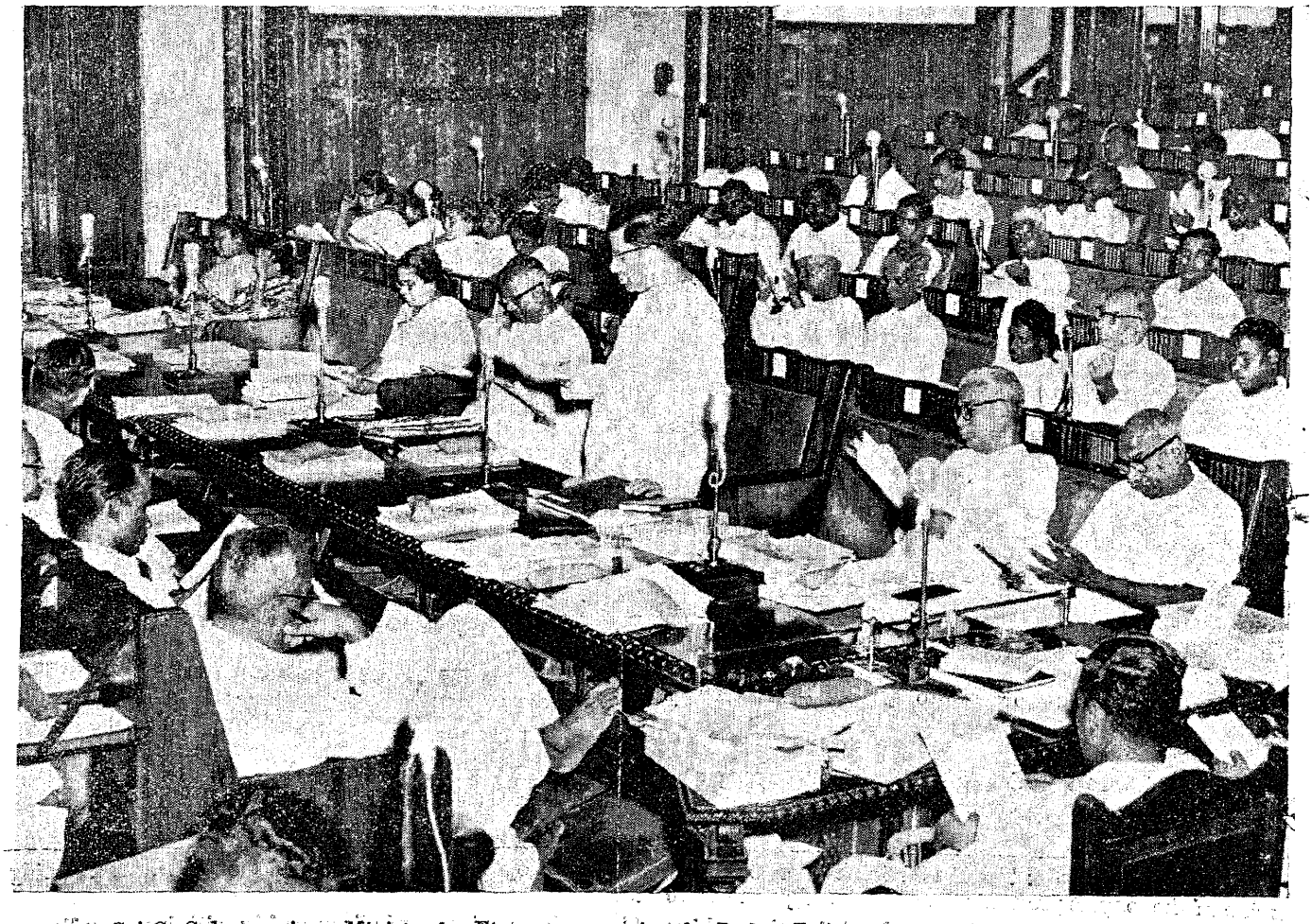
Enhanced Dearness Allowance to Village Officers

Budget Estimates for 1957-58 Presented to the Legislature

The Budget Estimates for the year 1957–58, were presented to the Madras Legislature by Sri C. Subramaniam, Minister for Finance, on June 29, 1957.

The excerpts from the Minister's speach are—

" The Revised Estimates for 1956-57 anticipated a revenue of Rs 57,08 lakhs, and an expenditure of Rs. 60,87 lakhs leaving a deficit of Rs. 3,79 lakhs. The Preliminary Actuals of the year are now available and show that our revenues for the year were Rs. 54,85 lakhs and expenditure Rs. 55,34 lakhs leaving a much smaller dificit of Rs. 49 lakhs. An expenditure of Rs. 42 lakhs was met during the year from the Contingency Fund and therefore, the actual deficit should have been Rs. 91 lakhs. Even so, the revenue position turned out to be much better than our original anticipations. Various inter-departmental adjustments have still to be made and the final position will be known only a few months hence. There has been appreciable short-fall in expenditure under development heads like Agriculture, Industries, Co-operation and National Extension Services owing to the delay



Sri C. Subramaniam, Minister for Finance, presenting the Budget Estimates for 1957–58 to the Madras Legislative Assembly on June 29, 1957.

in building up the organization for implementing some of the new schemes, and consequently there has been reduction in departmental receipts expected from the new schemes. Under Capital Expenditure also, there has been a short-fall of about Rs. 3,63 lakhs, the actuals being Rs. 20,52 lakhs against an anticipated outlay of Rs. 24,15 lakhs. These figures will be further modified, as the items now held under suspense heads are entered into the accounts, but the general picture may not be materially altered. Since there were short-falls in expenditure we have drawn Rs. 9 crores less, as loans from the Centre. Even so the year closed with an effective cash balance of Rs. 1,64 lakhs, as against Rs. 51 lakhs only anticipated in the revised budget.

Budget Estimates, 1957-58.

The figures furnished in the interim budget for the year, presented to the old Legislature last December, have now been revised keeping in mind the almost unavoidable lags in execution at the organizational stage of the new schemes in the Plan. The Budget as now framed anticipates a revenue of Rs. 56,49 lakhs on existing taxation and an expenditure of Rs. 61,32 lakhs including Rs. 1,82 lakhs on new schemes to be sanctioned in the course of the year, leaving a deficit of Rs. 4,83 lakhs. The sum of Rs. 42 lakhs which we withdrew from the Contingency Fund last year has to be refunded after the expenditure is voted and has been taken into consideration in reckoning the present deficit.

Financial concessions.

The main cause for this large deficit is the enhancement by Rs. 12 per mensem in the emoluments of non-gazetted officers and other low-paid public servants which we recently sanctioned. The extra cost of these concessions, is about Rs. 4,26 lakhs, but the Central Government has agreed to meet a portion of the cost amounting to Rs. 1,94 lakhs at the rate of Rs. 8 per mensem for those drawing Rs. 60 and less as total emoluments, and at Rs. 4 per mensem for those drawing above Rs. 60 and up to Rs. 100. The Centre does not share the cost of the concessions for those drawing above Rs. 100, but a loan of Rs. 25 lakhs will be available to us this year for that purpose. We should indeed be grateful to the Union Finance Minister for sponsoring this scheme of Central assistance but for which, we would not have been able to afford this measure or relief to our low-paid employees. Out village officers have not had the benefit of these concessions and there is some unrest among them. The question of reorganizing village establishments to meet present administrative needs, is now under the consideration of the Government, but decisions on this large issue may take time. It is now proposed to enhance the dearness allowance of village establishments by Rs. 7 for karnams, Rs. 5 for headmen, and Rs. 4 for village servants. This concession will take effect from 1st July, and will cost about Rs. 30 lakhs in a full year, and Rs. 20 lakhs in the current year. Other financial concessions to public servants included in the budget are, revision of the scale of pay of upper division clerks in the Ministerial Service to provide for larger increments in the earlier stage, upward revision of the scale of pay of audit clerks and Inspectors in the Local Fund Audit Department, provincialization of service conditions of workers in the Government Estate, enhancement of the pay of night watchmen up to the prevailing market rates, provision of recreation facilities to nursing staff in certain Government hospitals, the supply of warm clothing to village servants on the Hills, and the upgrading of 23 posts of Assistant Surgeons to a Selection Category.

Taxation proposals.

The deficit of Rs. 4,83 lakhs is large and cannot all be left uncovered at any a time, the more so now, with the present upward trend in prices and with a heavy Capital Programme, for which also we are short of resources. The following proposals to increase the existing revenue, are being made:—

(*a*) The ordinary rate of General Sales Tax was 3 pies in the rupee or 1-9/16 per cent till 31st March 1957. With the introduction of the decimal coinage from the 1st April 1957, this should normally have been rounded to 2 per cent. But the Government have continued the old rate till now, so as to give the matter full consideration. Calculation of sales tax in fractions of the percentage is inconvenient and may give unscrupulous dealers an advantage over customers in small transactions. It is now proposed to fix the rate at 2 per cent in the case of commodities other than foodgrains and to reduce the rate to 1 per cent in the case of foodgrains (paddy, rice, wheat and millets.). It is also proposed to exempt books from the levy of sales tax. The net effect of these proposals is expected to be an additional revenue of Rs. 170 lakhs in a full year but we may realize only Rs. 125 lakhs in the rest of the current year.

(*b*) It is proposed to raise the rate of Agricultural Income-tax on owners of plantations as follows:—

Income.	*Rate of tax.* *Present rate*	*Proposed rate*
	PER CENT.	PER CENT.
On the first Rs. 1,500	Nil.	Nil.
On the next Rs. 3,500	5	5
On the next Rs. 5,000	10	15
On the next Rs. 5,000	15	20
On the next Rs. 5,000	20	25
On the next Rs. 5,000	25	30
On the balance of total agricultural income and on the total income of companies.	35	45

It is expected that an additional revenue of Rs. 25 lakhs per annum will accrue from this source.

These two new measures will bring in an additional revenue of Rs. 1,50 lakhs in this year reducing the deficit of Rs. 3,33 lakhs.

The Union Finance Minister has proposed modifications in the rates of income-tax and Excise Duties, and a new surcharge on railway fares and these are now under the consideration of the Parliament. It is anticipated that a total sum of Rs. 15 crores would become available to the State Governments as their share of the proceeds of additional revenue from these sources. If the proposals go through without substantial modifications, this Government should receive about Rs. 125 lakhs as their share. But the Government of India have not yet agreed with this view and seem to think that this sum should go towards the overall Central assistance due to States as already fixed in the Central Budget. We have made re-presentations and pending a final decision on this question, no credit is being taken in the Budget for this item.

MADRAS BUDGET, 1957-58—ABSTRACT.

(*Figures in lakhs of rupees.*)

	Accounts, 1955-56.	*Revised Estimate*, 1956-57.	*Preliminary Accounts*, 1956-57	*Iterim Budget Estimate*, 1957-58.	*Present Budget Estimate*, 1957-58.
	RS.	RS.	RS.	RS.	RS.
A. REVENUE AND EXPENDITURE ON REVENUE ACCOUNT.					
(1) Revenue	52,09·48	57,08·05	54,85·51	52,64·63	56,48·63
(2) Expenditure	54,55·81	60,86·97	55,34,·31	57,70·84	61,32·19
(3) Deficit	— 2,46·33	— 3,78·92	— 48·80	— 5,06·21	— 4,83·56
(4) Estimated proceeds of additional Taxation measures.	..	..	..	..	1,50·00
(5) Net Deficit	..	..	..	..	— 3,33·56
B. TRANSACTIONS OUTSIDE THE REVENUE ACCOUNT.					
(1) Receipts—					
(*a*) Open market loans—*less* repayments	9,69·57	12,94·65	13,55·11	..	..
(*b*) Loans from the Government of India, and certain autonomous bodies—*less* repayments.	8,85·20	19,08·00	10,72·66	— 3·60·00	13,62·00
(*c*) Overdraft from the Reserve Bank	..	..	1,70·00	..	..
(*d*) Deposits, etc., transactions including sale of securities in reserves (net).	3,73·71	—80·62	—2,73·96	67·03	2,71·40
Total, Receipts ..	22,28·48	31,22·03	23,23·81	— 2,92·97	16,33·40
(2) Disbursements—					
(*a*) Capital expenditure including State Trading Schemes.	12,97·73	27,29·78	20,63·92	26,22·19	23,49·04
(*b*) Loans to local bodies, etc.—net disbursement ..	4,31·11	8,47·07	7,61·62	3,86·22	3,73·17
(*c*) Repayment of overdraft from the Reserve Bank.	..	..	..	..	1,70·00
Total, Disbursement ..	17,28·84	35,76·85	28,25·54	30,08·41	28,92·21
(3) **Receipts** *minus* **Disbursements**	**+ 4,99·64**	**— 4,54·82**	**— 5,01·73**	**— 33,01·38**	**— 12,58·81**
C. BALANCES.					
(1) Opening Balance	6,31·18	8,84·49	8,84·49	50·75	3,33·96
(2) Closing Balance	8,84·49	50·75	3,33·96	— 37,56·84	— 12,58·41

Sales Tax on Foodgrains Reduced; Rounded to 2 per cent on the rest

Economy in expenditure

There has been a large expansion in administrative services during the post-war period necessitated indeed, by the mounting tempo of the development programme. The Finance Department does scrutinze proposals for additional staff with extreme care, but it is not unlikely that an officer appointed for a special purpose may be continuing in office, even after the intensity of the special job has abated. In the interests of economy and efficient administration, this tendency has to be checked by a periodic overhaul of the structure of each department. The Government propose to appoint a Special Officer of mature experience and high rank to make an enquiry into the structure and staff requirements of each department both at headquarters and in the districts, and make suitable recommendations. He will also look into the various items of departmental expenditure and contingencies to effect economies wherever possible. He will work under the direction of a Committee of the Cabinet which will pass orders on his recommendations relating to a department, as soon as he submits his report on that department. Some savings are bound to result this way, but it is not possible to make a firm estimate now and hence no credit is being taken in this budget.

The Finance Commission met the representatives of this Government and held discussions with them in March 1957. Some of the points which we urged before the Commission are the large disparities which now exist between the emoluments of State and Central Government servants doing comparable jobs in identical localities and the necessity for a substantial measure of Central aid to reduce the disparities adequately. We have pointed out the limitations of the taxable resources exclusively in the State's sphere, and explained our case for a larger share in the divisible Central Taxes in order to meet our growing needs and commitments on the Plan. We have also pressed for the consolidation of the outstanding loans from the Centre, so as to reduce our debt charges to the level of the average borrowing rate, taking into consideration the funds now available to the Centre by deficit financing. Let us hope that the Finance Commission will find it possible to accept the general trend of our recommendations and in that hope we may perhaps be justified in leaving the Budget deficit uncovered for the present.

Capital Expenditure

The Capital Expenditure for the year is now estimated at Rs. 23,49 lakhs made up of Rs. 11,62 lakhs on Electricity, Rs. 2,93 lakhs on Irrigation, Rs. 3,67 lakhs on Roads and Buildings, Rs. 1,95 lakhs on Industrial Development and other Works, Rs. 85 lakhs on Public Health, Rs. 1,31 lakhs on State Trading Schemes, and Rs. 1,16 lakhs on other items. A provision of Rs. 20 lakhs has been made mainly for the purchase of new buses for the State Transport and improvement of workshops in Madras City and Kanyakumari district.

Loans and Advances

Under Loans and Advances, the anticipated outlay is Rs. 7,92 lakhs. This sum includes Rs. 2,25 lakhs for advance to cultivators, Rs. 1,57 lakhs for Loans to the Corporation of Madras and other Local Bodies for various purposes including Water-supply and Drainage Schemes, Rs. 1,38 lakhs for Loans for the National Extension Service and Community Development Project areas, Rs. 40 lakhs for short-term loans to the Madras Industrial Investment Corporation, Rs. 30 lakhs to Weavers' Co-operative Societies in pursuance of the schemes financed from the Handloom Cess Fund and Rs. 41 lakhs for State-Aid to Industries. Recoveries during the year are expected to amount to Rs. 4,19 lakhs leaving a net outlay of Rs. 3,73 lakhs.

Ways and Means.

Our requirements for Ways and Means during this year will be about Rs. 35,63 lakhs, made up of—

	Rs. (lakhs.)
Capital expenditure	23,49
Loans and advances—Net disbursement	3,73
Repayment of overdrafts from the Reserve Bank, outstanding at the beginning of the year	1,70
Repayment of loans taken from the Central Government and certain autonomous bodies	2,88
Revenue deficit to be covered.	3,33
Balance to be kept in the Reserve Bank of India and Treasuries	50
Total ..	35,63

As against these requirements, the resources now in sight amount only to about Rs. 22,55 lakhs as shown below :—

	Rs. (lakhs.)
Opening cash balance ..	3,34
Net receipts under Deposit, Remittance, etc., transactions	2,71
Loans (anticipated) from the Government of India on schemes eligible for Central Assistance	16,50
Total ..	22,55

Thus there is an uncovered gap of over Rs. 13 crores on the Ways and Means side. If as a result of the recommendations of the Finance Commission, our revenue resources are augmented as anticipated, this gap will be reduced, but even so, it will be of the order of Rs. 10 crores. Last year, we were able to raise an open market loan of nearly Rs. 14 crores, but extremely stringent conditions obtain in the money market at present. The Government of India have advised rather strongly, that the State Governments should not float any public loan during the current year. Taking all circumstances into consideration, the Government have taken the decision that no public loan should be raised this year. We may be able to augment our resources to some extent

Special Officer to Suggest Economy and Efficient Administration

by setting up an organization and intensifying the drive for Small Savings, but this would not go very far to cover the Ways and Means gap of this year. We must necesssarily depend on further assistance from the Centre, but there is no assurances yet on that. Hon'ble Members should therefore note that there is an element of uncertainty regarding the Capital Programme, but, for the present, let us proceed ahead in the hope that we can resolve difficulties as and when they arise.

Plan Provision.

The outlay on the Plan in the budget as now finalized, is about Rs. 32 crores, which sum is the ceiling prescribed by the Planning Commission for the year. Last year, we had programmed more ambitiously but actual accomplishments were less. Final figures are not yet available but the total may be of the order of Rs. 29 crores. Broad details are given in an Appendix to this Volume. There were short-falls in many departments, partly due to scarcity of cement, steel and foreign exchange, which conditions developed during the course of the year, and also due to our inability to set up in time the organization necessary for implementing some of the new schemes. Conditions this year are distinctly less favourable. On present indications, the foreign exchange position is likely to get more difficult during the course of the year, since a heavy programme for the import of capital goods is still pending. As the situation unfolds itself, we may even have to accept the postponment of some of the works of a lower priority involving foreign exchange. The present upward trend in prices of foodgrains and other consumer goods, is a warning that the further scope for raising resources through deficit financing, is strictly limited. But we are all agreed that the present Plan is the least that we should aim at, towards improving living standards and therefore, we should do our utmost to sustain it. We should step up agricultural production taking advantage of the further measures of intensive cultivation initiated during the year. Fortunately the south-west monsoon has set in time and the season promises to be fair, the Mettur Reservoir being already full. We must maintain an industrial truce, the management and the workers co-operating wholeheartedly and ensure the maximum output on the capital invested. These are sure means within our control to arrest the rise in prices and prevent the further drain of foreign exchange on the import of foodgrains and essential consumer goods. We must also maximise internal resources for the Plan by a well-integrated scheme of Small Savings. Our Public borrowings were hitherto restricted to the industrial and commercial sectors and to a limited extent, to the more substantial agriculturists. These are the people who usually put their savings in banks and therefore, the money is already in circulation and available for productive purposes. The increase in agricultural prices and industrial production, has put in new money in the hands of smaller agriculturists and wage earners in industry. We have to build up a proper organization to carry the message of the Plan to these people and to induce them to save a small portion of their earnings. In an expanding economy with a wide dispersal of incomes, this is the one sure way of materially augmenting capital resources. All these would mean further sacrifice and sustained effort, but without them it may not be possible to implement the whole Plan. Let us therefore explain the position to the people frankly and confidently, and I have no doubt that they will rise to the occasion.

* * *

The Lower Bhavani Project has been completed, and only small items of work remain on the Manimuthar and Mettur Canals. The Amaravathi, Krishnagiri and Sathanur reservoirs are nearing completion and some water can be stored in them even during this season. It is proposed to let down these storages for irrigation on the 15th of August from the Krishnagiri reservoir, on the 15th September from the Amaravathi reservoir and on the 2nd October from the Sathanur reservoir.

"A new development in the rural sector is the Gramdhan movement initiated by Vinobhaji and there has been very considerable response in the southern districts more particularly in Madurai. The question of evolving a pattern on the co-operative model for the settlement and development of these villages is now engaging the attention of the Government. In the meanwhile, a provision of Rs. 20 lakhs has been made in the Budget for giving loans to agriculturists in these villages for the intensive cultivation of the Gramdhan lands."

* * *

"A sum of Rs. 20 lakhs has been set apart towards slum clearance in the City of Madras. The accumulation in the Madras Cyclone Relief Fund, 1955, amounting to about Rs. 20 lakhs will be spent on a scheme of rural housing in the cyclone-affected districts of Ramanathapuram, Madurai, Tiruchirappalli and Tanjore."

* * *

"I should refer in this connection to the provision of Rs. 10 lakhs for the supply of mid-day meals to poor children in primary schools."

* * *

"With the increasing tempo of rural development work, the question whether our revenue districts are far too unwieldy in size for efficient administration, has come up for consideration. But there is considerable volume of tradition and history attached to the present configurations and there may be a good deal of local sentiment against the dismemberment of the present districts. A Committee of the Cabinet is now considering this question and would welcome the suggestions of Hon'ble Members. In the meanwhile, it has been decided to keep the Kanyakumari area as a separate district and to detach the Nanguneri taluk from the Tirunelveli district and add it on to the Kanyakumari district forthwith, so as to even out the workload of the District Officers of the two districts."

Co-operative Effort To Consolidate Handloom Industry

By Sri A. PALANIAPPA MUDALIAR, I.A.S., Registrar of Co-operative Societies, Madras.

The glories and shortcomings of the Handloom Industry and the role of co-operation to consolidate it are presented in this article. Does the Handloom Industry deserves the attention given to it? Have the public any duty towards it? The author answers these questions and explains in detail the inherent strength of this ancient Industry to survive, as it has survived—through centuries.

Appropriately enough, an All-India Handloom Week is being celebrated throughout the length and breadth of the country every year for focussing the attention of the public and the Handloom Weavers on the importance of the industry. This year too the fourth All-India Handloom Week was celebrated on an elaborate scale befitting not only the importance of the industry but also the occasion. The rightful place of the industry in the economy of the country has been recognised by the Central and State Governments. It has been estimated that roughly about 2·8 millions of handlooms are in the country and that 14 million people eke out their livelihood through this industry.

As in the case of several other industries, the handloom industry also suffered periodical crises. The Second World War no doubt, gave a fillip to the Industry, especially as the weaving mills diverted their attention to meet the demands arising out of war. The handloom industry went into the doldrums as soon as the mills, released from their war commitments, reasserted themselves on the domestic front more intensely. The foreign markets for the Indian handloom goods were almost shut out as the respective countries moved by a surge of nationalism, geared themselves to the task of national reconstruction and concerted several measures for fostering their own national industries. These and other causes seriously upset the industry and what was once a flourishing industry became the despair of the millions of weavers engaged in it.

Consolidation since 1952.

The measures adopted till the year 1952 to rescue the weavers from the slumps that overtook the handloom industry were only palliative and could provide no lasting cure to the ills that beset the industry. The Government of India realised that the industry had to be tackled firmly in all its aspects not only because it provided gainful employment to millions of our countrymen but because of its potentialities as a big producer of cloth meeting no less than one-fourth of the cloth requirements of the country. Besides it is a premier cottage industry of India, as ancient as agriculture and in importance next only to it. The Government of India therefore constituted a Cess Fund to assist the States to formulate a large number of handloom developmental schemes. The various State Governments are taking steps to consolidate the industry on a stable basis. The Madras State has achieved good progress in implementing a large number of schemes touching the several aspects of the handloom industry, technical, organisational, socio-economic, etc., through the medium of co-operatives. In the Madras State, out of 5·32 crores allotted during the past four years by the Government of India, more than Rs. 4·87 crores, have been spent. There are now 1·75 lakhs of Handloom Weavers within the co-operative fold representing nearly 34 per cent of the weavers in the State. A large number of them have been freed from working under master weavers and enabled to enjoy the fruits of co-operative effort. More than 17 lakhs of rupees have been advanced to them as interest-free loans to pay their share capital and become members of the

Glories and Shortcomings

co-operatives. Two hundred and thirty-five lakhs of rupees have been disbursed to the Madras Co-operative Bank to provide production finance to weavers co-operatives and marketing finance to the Madras State Handloom Weavers Co-operative Society, so that production could be stimulated and marketing promoted.

On account of these schemes, the number of weavers co-operative societies has risen from 566 on January 1, 1957 to about 900 societies now. The paid up share capital of weavers co-operative societies rose from 64·15 lakhs to Rs. 72·12 lakhs. Production of handloom cloth in weavers co-operatives increased from Rs. 202·92 lakhs during 1953–54 to Rs. 646·70 lakhs during 1955–56.

To stimulate consumption.

A large number of measures have also been initiated to stimulate consumption of handloom cloth. Among these may be mentioned the supply of improved appliances to tone up the quality of production.

The Madras State Handloom Weavers Co-operative Society has opened more than 300 emporia and selling depots within the Madras State and outside as also five foreign units so that its marketing organisation may tap more intensively, markets for the handloom cloth produced by its affiliated primary weavers co-operative societies.

Six mobile vans have been purchased by the Madras State Handloom Weavers Co-operative Society and placed on the road for doing publicity and conducting sales promotion.

The most important measure taken to step up the sales of handloom cloth is the grant of subsidy to weavers co-operative societies to recoup rebate allowed by them on their sales at Re. 0–1–6 per rupee. This rebate is now allowed by weavers co-operative societies on retail and wholesale sales of handloom cloth. Besides consumer co-operative societies have also been encouraged to deal in handloom cloth by being allowed subsidies to recoup the rebate allowed by them on sales of handloom cloth. On special occasions like Deepavali and Handloom weeks an enhanced rebate of two annas per rupee has been permitted on sales of handloom cloth. Under this scheme, more than 170 lakhs of rupees have been disbursed to recoup the rebate allowed on sales of handloom cloth. The measures taken to stimulate consumption of cloth have considerably improved sales. The sales which amounted to Rs. 308·30 lakhs in 1953–54 increased to Rs. 589·22 lakhs during 1955–56.

Housing Colonies for Weavers.

Six housing colonies for the benefit of weavers who are members of weavers co-operative societies have been sanctioned by the Government of India and are under various stages of implementation. Seven hundred and twenty-eight houses at a cost of about Rs. 30 lakhs will be built in the course of this year.

Of Handloom Industry

Several silk weavers co-operative societies for the benefit of silk handloom weavers have been started in various places such as Kumbakonam, Tirubhuvanam, Kancheepuram, Salem, Mannambhuchavadi and Arani, etc., with assistance from the Cess Fund. About 1,000 silk handloom weavers are benefited on account of these schemes.

Art silk handloom weavers have also not been neglected and Government have approved a scheme for the enlistment of 1,100 art silk handloom weavers as members of weavers co-operatives.

The schemes under implementation are paving the way for the consolidation of the industry and bringing it back to a prominent place in the industrial map of India.

Proposals in Second Plan.

The Second Five-Year Plan too contains quite a number of schemes intended further to stabilise the industry. At the end of the plan period it is expected that four crores of rupees would have been spent in the execution of the handloom developmental schemes. More than 50 per cent of the handlooms in the State would have been enrolled in the co-operatives. About 2,000 houses would have been built for providing well-ventilated houses for 2,000 families of weavers. Ten Industrial Co-operatives would have been started for the benefit of at least 1,000 weavers who had no looms of their own or who were thrown out of employment. One thousand and six hundred weavers would be given training in improved methods of weaving and the State Handloom Weavers' Society would have opened 50 more depots for selling handloom cloth in places where they are most needed.

Does the industry deserve the attention given to it? Have the public any duty towards it? What are its glories and shortcomings? I shall attempt to answer these questions here. The Fact-finding Committee has rightly concluded that this ancient industry will survive, as it has survived through centuries, in spite of the various stresses and strains to which it is subjected periodically. Gandhiji desired that this industry should be supported by our countrymen. The industry has many glories and advantages to its credit. It has also of course its shortcomings. I shall describe them briefly.

Inherent strength of the Industry.

The age of the industry is its first glory. It dates back to Vedic times. Even people not ordinarily touched by sentiment have realised that this is not a dead industry but has been nourished and fostered through centuries by craftsmen sensitive to rhythm and colour line and curve, size and shape. It is a hereditary profession handed over from generation to generation

in a good and improved condition. Every member of a weavers' family knows the rudiments of weaving, the various processes leading to weaving and the accessories that constitute the weaving equipment. There is also no question of there being only one bread winner in the family. There may be one chief bread winner but every one of the family contributes to the family earning by warping, by sizing by weaving or pirn winding, etc. In most of the villages weaving is a part time occupation for several people. During the off season of agriculture and spare time during cultivation seasons, many of the agriculturists who know weaving supplemented their income by plying the loom.

Weaving industry is carried on on a cottage industrial basis. Each weaver's hnt or house is a works spot wherein all processes could be attended to. The space required is not large and special costly arrangements are not necessary for making a room fit for weaving work. Weaving can be done in all parts of the day.

The equipment which a weaver uses is simple and cheap. It can also be repaired or replaced without much cost. The accessories used in weaving are easy to handle and simple of operation. They could be easily manufactured with the resources and materials available in the country.

It has been said that the nation's culture is enshrined in its handicrafts and cottage industries. This saying is true in respect of the handloom industry. Each weaver is a craftsman by tradition and knows the right type of design and colour to be introduced in his products. He is therefore capable of weaving such textures and designs, as would satisfy the most fastidious consumer. In this respect he easily scores a point over the mills. While the mills are capable of only mass production set to certain patterns, the weaver will be able to produce fabrics, each fabric being different from the other and each in its own way good and artistic.

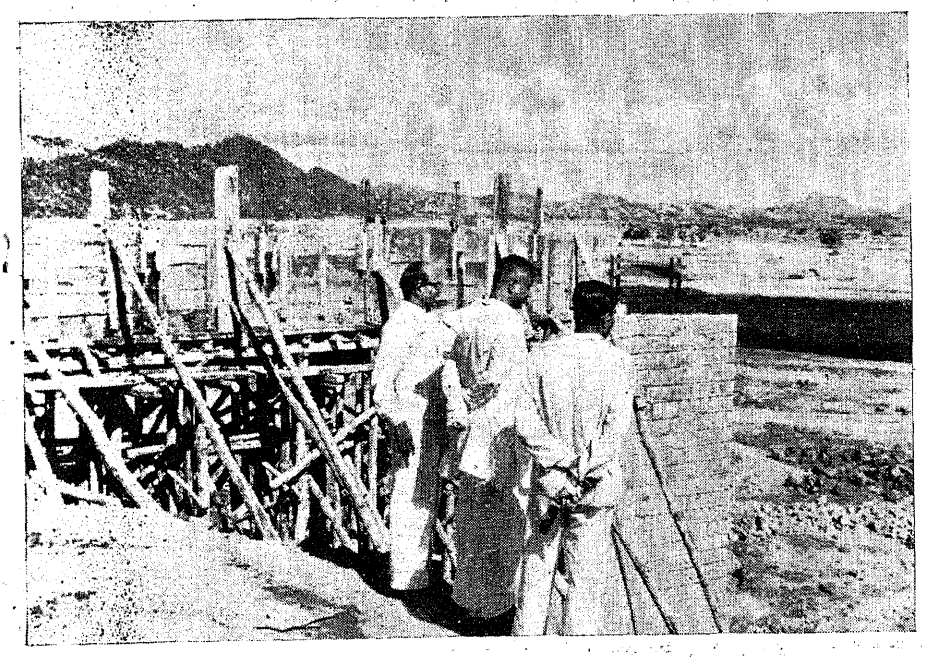
The fabrics produced by the weavers are essentially those required for every day use by the people. It is not a luxury article for which there may be demand only from some sections of the people. If the people develop a taste for handloom cloth the market for Indian Handloom goods will be vast and unlimited.

As a cottage industry dispersed in lakhs of homes and scattered throughout the country, its effective contribution to the nation's economy cannot be crippled or reduced even in times of war.

The most important characteristic of the industry is its capacity to provide gainful employment to over 28 lakhs of families. In the steps taken for the provisions of employment opportunities to the people of India, the fostering of the handloom industry should get a top place. Otherwise, it will strain the nation's effort to reduce the quantum of unemployment in the country. From this aspect alone, if not for any other reason, the handloom industry deserves the patronage of the people.

Points of weakness in the industry.

The handloom industry suffers also from certain handicaps. Being an industry carried on mainly with human efforts, its capacity and efficiency are limited by the extent of human association with it. It cannot aspire to be perfect like a machine run industry nor can it boast of a stream lined uniformity and symmetry which characterise mechanised industry. The texture may not always be flawless and the constructional particulars may not always be uniform. The degree of dyeing and the colour pattern may not conform to a rigid standard. But as far as possible, steps are being taken to bring the pattern of production to certain standards which could ensure a degree of perfection. As against the shortcomings referred to, the advantages arising from the consolidation of the handloom industry are several. The industry deserves all our support. To the extent we support the industry we will be able to solve the unemployment problem in the country and help to improve the socio-economic condition of a large section of our community. Government have realised the significance of the industry and are determined to render all facilities in their power to stabilise the industry. The handloom weaver on his part will do well to realise that public support for the industry can be sustained only if he maintains and improves the quality of his production.



About 90 per cent of the work of Krishnagiri Reservoir Project is completed and water will be soon let out to irrigate large tracks of virgin lands in Salem district. Sri P. Kakkan, Minister for Works paid a visit to the Dam site recently.

MADRAS INFORMATION Vol. XI, No. 7 July 1957

Rs. 34·5 lakh Coleroon Bridge Opened

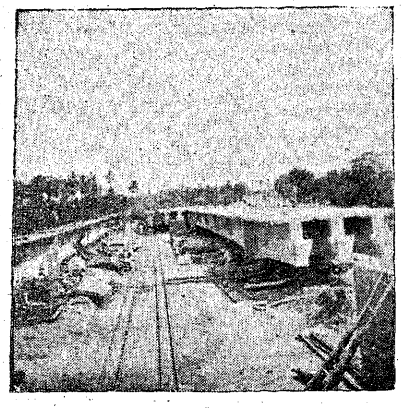
One of the Longest Prestressed Concrete Bridges in the World

The prestressed concrete bridge built across the river Coleroon is one of the longest in the world. This bridge, which is a vital link between Tanjore and South Arcot districts, is believed to be the second bridge in the whole world to adopt the method of launching massive beams in position by a steel launching girder specially designed for this work.

The scheme was sanctioned by the State Government in 1948 and Rs. 34·5 lakhs went into cost of construction. Tanjore and South Arcot District Boards contributed Rs. 8 lakhs and Rs. 4 lakhs respectively.

The bridge was declared open by Chief Minister Sri K. Kamaraj in the presence of a large gathering. Sri P. Kakkan, Minister for Works, presided and Sri K. K. Nambiar, Chief Engineer (Highways), welcomed those who were present.

That this crossing of the river Coleroon had acquired importance even more than a century ago is evident from the fact that a bridge of 42 spans of 50 feet each had been built at the site as far back as 1853. By the standards of those days it must have been a marvellous achievement and it served for half a century before it was destroyed in the great flood of 1903. The structure appears to have been perfectly sound, but it was handicapped by insufficiency of freeboard, and disaster overtook when one of the spans near the south bank was hit by a huge Arasu tree uprooted and floated down by the flood.



Launching of beams.

Since then proposals for bridging the river had been under consideration by the Government, and with the inclusion of the project in the Vipan's Scheme of Road Development, a causeway was sanctioned in 1943 ; but owing to the exigencies of war, the work could not be taken up for execution. Eventually, the persistant agitation of the public of the two districts for a pucca bridge instead of a causeway began to tell, and when the District Boards of South Arcot and Tanjore came forward with generous contribution of Rs. 4 and 8 lakhs respectively, the Government sanctioned the construction of a Bridge in 1948 under P.W.R.D. works.

The site of the bridge is 135 feet upstream of the old Arch Bridge and 1,115 feet upstream of the existing Railway Bridge, and like the latter, consists of 14 spans each 150 feet clear providing for a maximum flood discharge of 270,000 cusecs.

The piers and abutments were originally proposed to be taken down into hard compact clay some 85 to 100 feet below low water level, but were finally rested at a depth of about 60 feet on a layer of sand overlying compact clay, thereby effecting a saving of more than Rs. 1 lakh in the cost of foundation, and eliminating all the hazards and uncertainties inherent in sinking through deep clay.

The series of tests which made this possible is a special feature of the bridge and, unique in the history of deep foundations.

Usually, in order to perform load tests on the foundation soil under a bridge, the foundation well is first plugged, and then loaded with a huge quantity of kentledge. In this case, the kentledge would have amounted to as much as 810 tons. If the foundation soil stood the test successfully and further sinking was not indicated, work on the substructure could be proceeded with. On the other hand, if the test results were not satisfactory, the plugging had to be removed by blasting, which may even damage the well steining, and sinking operations resumed. The whole procedure used to be cumbersome, expensive and time consuming.

At Coleroon the Highways evolved an altogether new approach to the problem. This consisted of testing the soil at the bottom of the well shaft by loading a small bearing plate connected to a loading platform near the tope of the well through a stanchion and measuring the settlement of the plate for increments of load and time. The entire equipment was designed and built by the department in its workshop at Guindy. By interpreting the test results taking into consideration the soil characteristics to a certain depth below the well it was possible to predict with a reasonable accuracy the future behaviour of the soils under full load.

Subsequently, this method has been successfully used for the interpretation of foundation characteristics in a number of difficult cases.

The Superstructure.

The superstructure of this bridge is of the single cantilever type and is of prestressed concrete employing the Freyssinet system of anchorage. Each span except the 14th has a cantilever arm of 32 feet which supports the next span. Thus, even though all the piers are spaced at 159 feet centres, there are in the superstructure beams of three different lengths. Typical beams, i.e., those in the spans 2 to 13 are 159 feet long and the longest beams are in the first span with a total length of 191 feet. Actually, these are the longest prestressed concrete beams so far made in India and as yet there are only a few

bridges in the whole world employing such long spans in prestressed concrete.

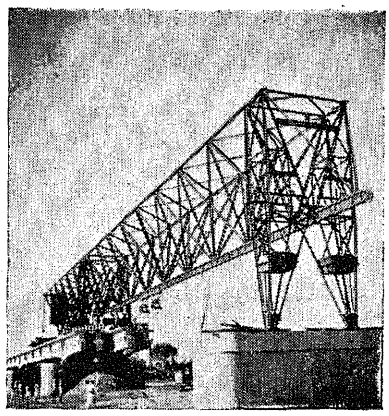
The superstructure is designed to carry, I.R.C. class " AA " loading which means a gtant 70 tons tank in battle order, compared to which our heaviest trucks are mere fleas. The bridge has a clear roadway of 22 feet with 5 feet wide cantilever footpaths on either side.

In the process of construction the beams were precast and prestressed in a specially laid out casting yard in the northern bank and launched in position by a steel launching girder specially designed for this work. Coleroon is probably the second bridge in the whole world to adopt this method of launching massive beams on such a scale, the first being the Joazerio bridge of Brazil with beams of 147 feet as against 159 feet of Coleroon.

The launching girder, 266 feet long and weighing 58 tons was fabricated at Madras and assembled at site. The moving parts—the travelling crabs —were imported from Germany. The prestressed concrete beams weighing 100 tons each were rolled forward to the launching girder by transport cars moving on rail tracks laid on the launched spans, and thence to their final position by travelling crabs crawling along the monorail of the launching girder.

The main advantage of this method of construction is that the work need not be stopped because of floods in the river. It made possible for work to go on without any kind of temporary staging or support from the riverbed and without interruption during the floods of 1955 and 1956.

After all the beams were thus launched and seated in their position



The launching girder which transferred the beams to position.

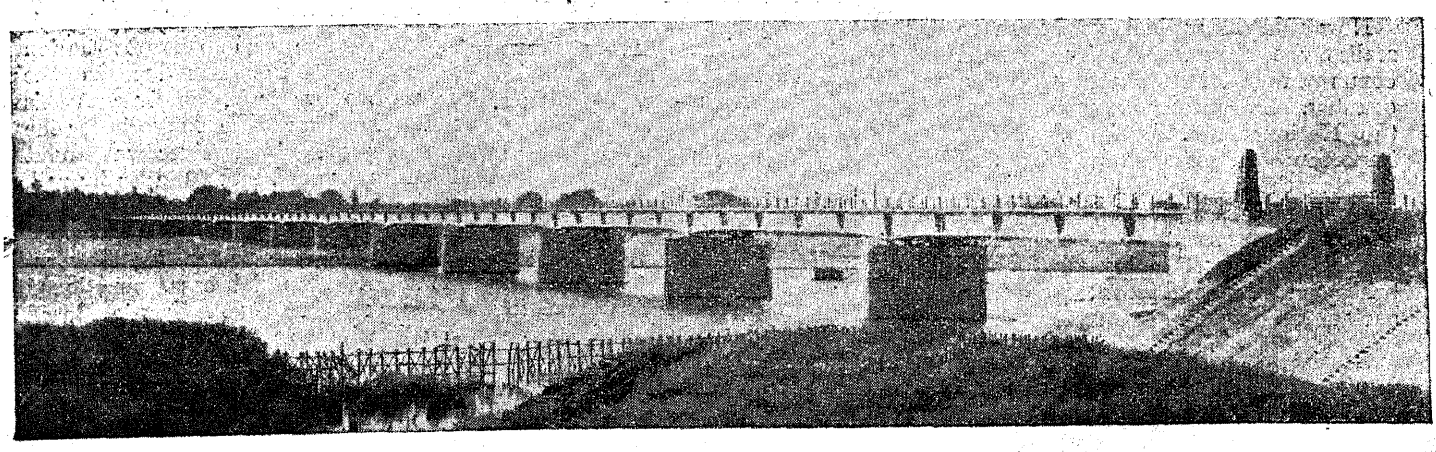
the cross beams and the gaps between the beams were concreted and prestressed transversely to form the decking. For the first time in India we have here a transversely prestressed decking as against the conventional reinforced concrete decking still in favour even where the main beams are prestressed.

Yet another distinctive feature of this bridge is the adoption of one of the highest working stresses ever used for field produced prestressed concrete in the design of this bridge. In India, the most common value is 1,500 lb. per square inch and even in France, the country where prestressed concrete originated, the maximum is in the vicinity of 1,800 lb. per square inch. For Coleroon Bridge a working stress of 2,500 lb. per square inch has been adopted. This is more than three times the value of working stress in conventional reinforced concrete, and it implies that concrete here must be consistently stronger than reinforced concrete in at least the same proportion. This has entailed upon the departmental staff a vast amount of experiment, study and analysis to design a workable concrete mix that could produce the desired crushing strength economically. The Department have succeeded so well in their efforts in this direction that they have been producing controlled concrete with crushing strength averaging more than 8,000 lb. per square inch for the beams.

To recapitulate the special features of the bridge we have adopted a system of beams with cantilever arms whereby the moments due to loads are most favourably distributed. Prestressing have been not only for the main beams but also for the decking slab as well. These, coupled with the emphasis on the use of very high grade concrete, have resulted in a degree of economy in the use of critical materials which is rare even in the field of prestressed eohcrete for we have been able to save 84 per cent of steel and 18·5 per cent of cement as compared with a conventional reinforced concreta structure.

All considered, Coleroon Bridge has been a veritable proving ground for many interesting aspects of bridge design and construction. Already the lessons learnt here have begun to bring in valuable dividends in other bridges, notably the Cauvery Bridge near Tiruchirappalli where we expect to cut the cost by more than 7 lakhs of rupees by adopting prestressed concrete. When the giant Pamban Bridge Project is taken up, it is reasonable to expect even more spectacular results.

STUP of Paris, patentees of the Freyssinet system designed the superstructure and rendered expert advise. Krupps of Germany helped with the design of the launching girder. Sri K. Veeraswamy Naidu was the contracter for the construction work.



A Vital Link from Cape to Tuticorin

Mukkani Bridge Across Tambaraparani

A submersible bridge constructed at a cost of Rs. 9·6 lakhs across the Tambaraparani river near Mukkani on Tuticorin-Tiruchendur road in Tirunelveli district was declared open by Chief Minister Sri K. Kamaraj in the first week of June. The bridge will in the long run form an integral part of a great East Coast Road from Calcutta to Cape Comorin.

The opening of the Mukkani bridge is a long awaited and memorable occasion for the people around these parts, especially for the salt manufacturers and traders in fish and palmyrah industry. Putting up bridges across troublesome rivers like this, eliminates missing links in the communication system of the country, and enables transport of men and goods with speed, comfort and safety. There were several such crossings in our road system and year after year a number of them are being provided with bridges or causeways according to a pre-arranged plan. We have achieved a good deal in this direction during the first Five-Year Plan. The Second Plan which is already underway also envisages the construction of several high level bridges, causeways and submersible bridges to make our road system more efficient.

Now-a-days people have begun to realise the importance of good road communication in the economy of a country. It touches every aspect of the National life. It is of utmost importance in planning building and locating the major industries. Hence it is very necessary that major highways should be brought to the highest serviceability by bridging all the unbridged crossings and providing superior surfacings.

Consistent with this, after many years of sustained work, a direct coastal link from Tuticorin to Cape Comorin via Tiruchendur is now made available for use. From Tuticorin to this place the road had been formed of stablised soil, a new technique in road building. Mukkani has now been connected with Tiruchendur and Kulasekarapattinam. A road formation has recently been completed connecting Kulasekarapattinam with Cape Comorin including a major bridge across the Karamaniar near Manapad which was recently declared open for traffic. There is also a scheme already on hand to form a coastal road connecting Tuticorin to Nagapattinam via Ramanathapuram. The following are some of the works sanctioned already to form part of this coastal road :—

1. Forming and metalling Anjugramam Ovari temple including minor culverts, 25 miles—Rs. 3 lakhs.

2. Forming a road from Kuttam to Manapad via Periathalai—Rs. 0·7 lakhs.

3. Forming a road from Taruvaikulam to Surangudi via Veppalodai Kallurni and Melmandai 21 miles, including bridges and culverts, etc.—Rs. 15 lakhs.

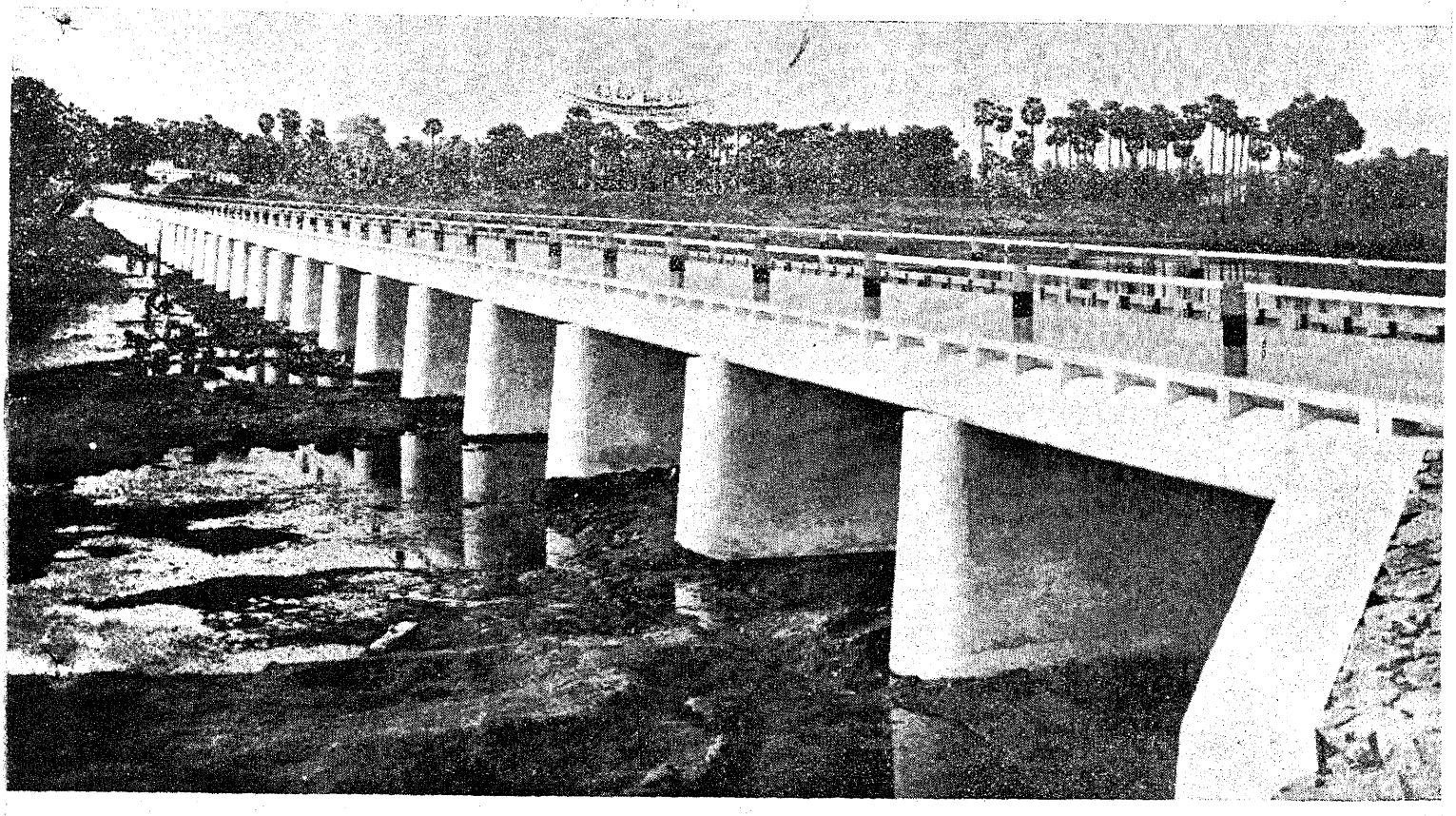
4. Improving the road from Ramanathapuram-Mandapam road (N.H. 49) to District limits to meet road in (1) above via. Utharakosamangai Sikkal Sayalgudi, 42 miles, including metalling bridges and culverts—Rs. 13·78 lakhs.

A great link.

Thus this bridge will form an integral part, in the long run of a great East Coast Road from Calcutta to Cape Comorin. This will easily vie with the Bombay-Cape Comorin Road running along the West Coast both in industrial and utilitarian point of view. The East Coast Road runs along places of moderate climatic conditions and thus will throw open a number of health resorts. The chank and pearl fishing industry, the fisheries, the salt industry, the Palmyrah products and palm gur industry on this coast are all depending only on an all weather communication system. A fresh impetus is now being given to such kind of cottage industries which form the back bone of the economy of these parts. Tuticorin is already a major Port on the East Coast and is bound to attain greater importance after the completion of the Sethu Samudram Project. Tiruchendur and Cape Comorin are great pilgrim centres, as you all know. This road will also be of strategic importance in times of emergency. May be some day, this will also form a part of the National Highway System of our country.

This bridge which is of the submersible type is very near the mouth of the Tambaraparani river wherein large floods are not expected in future after the completion of the Manimuthar Dam. Hence a high level bridge was considered unnecessary inspite of the fact that this is on a very important road.

The people of these parts have been looking forward to a bridge at this place, as there used to be obstruction right through the year due to the presence of water in the river at this end. The distance to Tuticorin for the people south of this river was about 40 miles by road and 70 miles by rail, while the bridge would reduce it to 14 miles. Hence, realising the urgent necessity for the bridge, the Government, as a special case, sanctioned the work permitting the District Board to utilise for the same a sum not exceeding Rs. 7 lakhs out of the sale proceeds of the Tirunelveli-Tiruchendur Railway



A view of the Mukkani Bridge declared open by Chief Minister Sri K. Kamaraj in the first week of June. This submersible bridge across Tambaraparani was financed by Tirunelveli District Board.

line, standing to its credit. The District Board was also permitted to recoup the expenditure by levy of tolls. Half way through the construction of this bridge, the District Board requested the Government to include this work in the Central Road Fund Scheme as in the case of such major bridges, by the Government could not include this work in view of the limited allocations of the Central Road Fund to our State.

The Government have permitted the District Board to levy tolls and recoup the money spent on the work. This system of financing large projects is adopted very widely in Western countries. In this way, it will be possible to take up large scale vital improvements by raising loans which will be repaid gradually by the user of the improvements in the form of tolls and it is also just that the user pays for the improvements instead of placing the burden on the general tax payer.

Technical features.

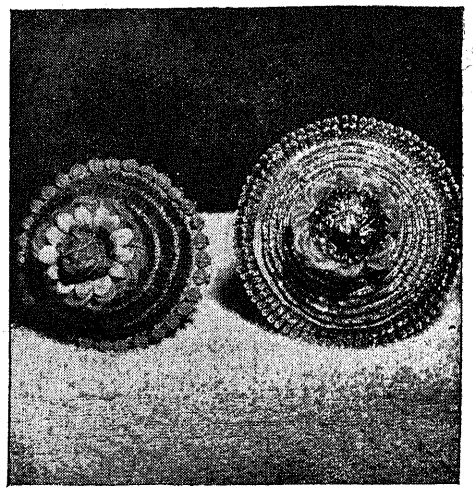
The bridge is 1,569 feet long, including the non-vented portion. The vented portion consists of 38 vents of 20 feet each spanned by reinforced concrete slab designed to carry a military tank weighing 70 tons. The foundations have been taken through circular wells 10 feet external diameter to depths varying from 14 feet to 36 feet. The piers, abutments and body walls are of Cement Concrete. The width of roadway is 22 feet clear. The cost of the complete structure is about 9·6 lakhs, as against the estimated cost of Rs. 7·7 lakhs. The increase in cost is mainly due to deeper foundations having to be adopted than envisaged at the time of preparing the estimate. About 202 tons of steel and 1,900 tons of cement have gone into this work. One cannot fail to appreciate the graceful lines of this structure which harmoniously fits into the landscape of this place.

Progress of Electricity Schemes

Sixty-four villages were electrified during April 1957 in the State. The progress of the electricity projects may be briefly stated as follows :—

Concrete lining of the irrigation and power tunnels in the Periyar Hydro-electric Scheme was continued. The progress of work in the latter was as much as 80 per cent. The entire lot of penstock pipes had been received from Japan and erection was continued. The daily average on the muster roll of this project numbered 5,400. In the Kundah Hydel Scheme, excavation for the foundation of Emerald and Avalanche dams was in progress while investigation at Upper Bhavani dam site was taken up during the month. In the Madras Plant Extension Scheme, the foundation slab work was nearing completion. Erection of cooling tower and third stage boilers was proceeding apace. The four electricity systems of the State generated 102·881 Million units of electricity in April. Of the 4,045 new services connected in April, 1,321 were for agricultural, 2,531 for domestic, 108 for industrial and 85 for street lighting purposes.

Artistic Handicrafts of Tanjore



By SRI S. VENKATASWAMY, District Publicity Officer, Tanjore.

Every one knows that Tanjore district is producing paddy, the staple food of the State. But, only a few know the fact that the genius of Tanjore has evolved an art which made the paddy, an artistic material of ornament, apart from its use as food product.

As a seat of learning and fine arts, the Tanjore Delataic area has a great cultural heritage. A number of rural arts and handicrafts have received the royal patronage for centuries, during the Chola, the Naick, and the Maratta periods, various arts, and crafts thrived in Tanjore area. One of such exquisite handicrafts developed in Tanjore was, garland-making. The special types of garlands were made of pith, lace, sandalwood paste, cloves, cardamom, etc. The latest addition to the series, is the paddy. The paddy grains (the long 'samba' variety) are carefully selected and woven into fascinating garlands with needle and thread alone.

This new handicraft was recently evolved and developed by one Sri R. Venugopalan of Tanjore town. His special skill lies in producing marvellous garlands out of ordinary material, such as the paddy and sandalwood paste. The long variety of paddy grains are used by him in making these garlands. Three or four lady members of his family, assist him in the needle-work and artistic display of the materials in the form of garlands or attractive bouquets.

Sri R. Venugopalan is a middle aged man of 43 and claims to his credit thirty years of experince in the field of garland making. It seems he was engaged in making garlands out of natural flowers in his younger days. He had an opportunity to learn the art of making lace-garlands, from a number of persons. He still remembers them with reverence and gratitude. In 1955, an opportunity was provided for exhibiting his creative genius. Sri Venugopalan was asked by the Collector of Tanjore district to manufacture a new variety of garland, which would be creditable to the artistic traditions of Tanjore. The artist in Sri Venugopalan took up the challenge. He evolved a novel kind of garland, which would be at once attractive and amazing. The result was the production of paddy and Javadu garlands, which earned an all-India reputation. The cost of each garland now varies from Rs. 50 to Rs. 750 depending on the artistic display and the materials used.

When important State guests arrive in India or Madras State, it is almost certain that they will be presented with garlands from Tanjore. When their Excellencies Marshal Bulganin, and Mr. Krushchev of U.S.S.R. visited Madras State, Tanjore garlands were presented to them. The exquisite beauty and novelty of these garlands attracted them most and were very much appreciated by the distinguished visitors. In important exhibitions, these garlands find a place and certainly bear ample testimony to the rare skill of South Indian craftsmen.

Any casual visitor, who enters the Art Gallery at Tanjore, will be struck by the beauty of the various types of fascinating garlands preserved there in glass cases. In May 1957, Sri. S. K. Dey, Union Minister for Cummunity Development, who paid a visit to the gallery during last May was fascinated at the the sight of these garlands and exhorted every Indian to be proud of this rare handicraft, and spread the art to every village in our country. He desired that people in other parts of India should know about this art and wanted the authorities concerned, to produce a special brochure on the subject.

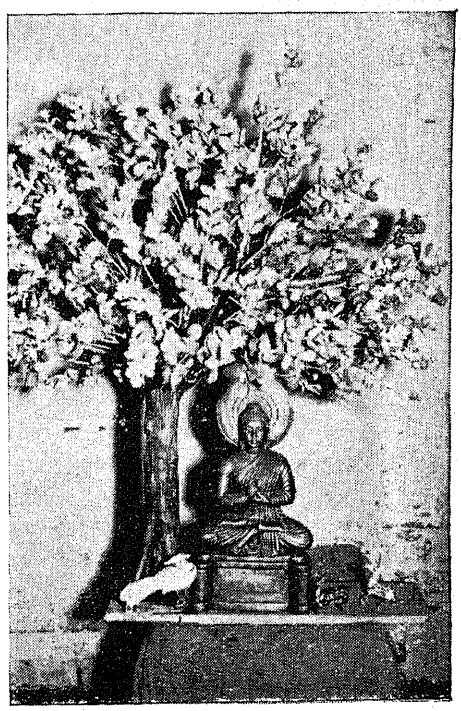
Regarding the manufacture of pith articles including garlands, the Government of Madras have taken special steps in encouraging this decaying art. A training institution has been opened at Tiruthuraipundi, where Sri Gopalakrishnan, the master-artist in the feild, is coching a number of youngmen. Out of pith, the defty hands of the trained artist, can make flowers that resemble the real ones like rose, jasmine, lotus, sun-flower, etc., and garlands which will not fade away. Suitable colours and fragrance are also added to these pith articles to make them more attractive and identical with natural ones. Apart from flowers and garlands useful models of artistic display are also made out of pith. Name boards, dolls, are made and they are becoming very popular. In the recently held Intra-State Seminar (Tiruchi and Tanjore districts) on Community Development, all the delegates (about 400) were given special kind of badges in which artistic designs made of pith were suitably incorporated. The pith designs were very much appreciated by the delegates to the seminar.

At Tanjore, which is famous for its dolls, a training centre for the manufacture of paper toys and paper machie articles, has been opened by the District Collector, on 12th May 1957. Sri V. T. Rajan, who has already earned a name for his mastery over the subject is the Principal of the institution. His articles made of paper machie, especially the Dafadar, the Watchman and the Gardner were appreciated in almost all important exhibitions held in various parts of the State. Sixteen trainees on a monthly stipend of Rs. 25 are being trained for the first year. Coaching is given to trainees in drawing mould-making, painting etc. Powder boxes, electric lampstands, writing sets, toilet sets, flower vases, ash trays and similar type of articles will be made from paper machie, in due course. The training centre will be run departmentally for one year, and afterwards, will be converted into an industrial co-operative with the trainees as members. This is also another art which was in decay and which is being revived by the efforts of the Madras Government.

There are other cottage industries which are encouraged by the Government in Tanjore district. They are (i) the Art Metal Industry-*cum*-training Centre at Swamimalai, (ii) Bell-Metal Industries-*cum*-training Centre at Nachiarkoil, (iii) a Tannery Centre on a Co-operative basis at Aduthurai.

A scheme for giving training to 15 candidates annually in Art Metal Industry on modern lines at Swamimalai, (Kumbakonam taluk) which is famous for casting of metal idols, has been sanctioned. The centre has been started on 17th February 1957. The trainees are taught by experts in Casting, Engraving, Polishing and in the manufacturing of articles of artistic beauty. Servicing is also provided in the scheme. The centre will be conducted by the Government for five years and then converted as an industrial co-operative with the trainees as members. A monthly stipend of Rs.30 is given to the trainees.

Rings and strings are made from the raw material that goes to make a garland.



Pith from a water plant is the raw material for many kinds of artistic models. In the picture above is a tree made of pith.

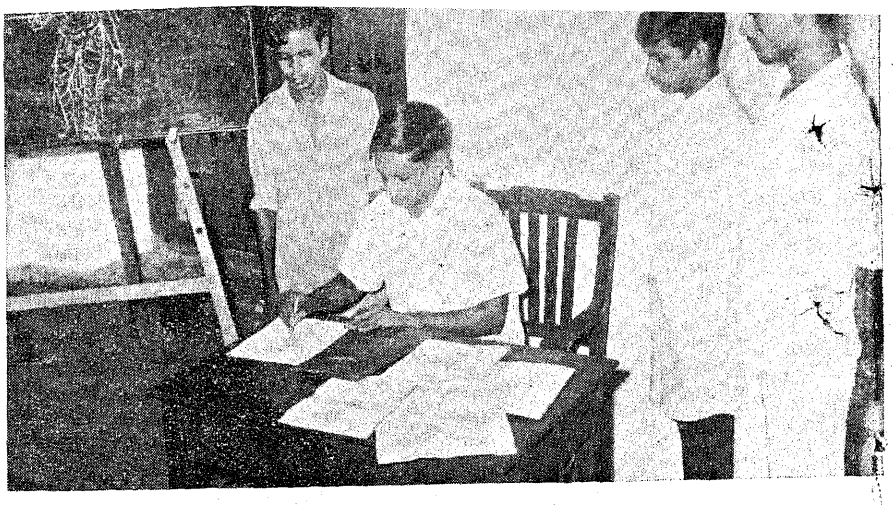
A scheme for the establishment of an Industrial School at Nagapattinam has been sanctioned. 120 candidates are receiving training in Blacksmithy and Carpentry in this school. A tannery centre on a co-operative basis has been started at Aduthurai for the development of leather industry.

Consequent on the representations made by the agriculturists of Maduranthakam taluk, the Government have directed in modification of the rules for the recovery of loans granted under the intensive manuring scheme, that only 50 per cent of the total dues recoverable in fasli 1368 in Chingleput district be collected during that fasli and the remaining 50 per cent be recovered in the next fasli.

PER TOY MAKING, TANJORE

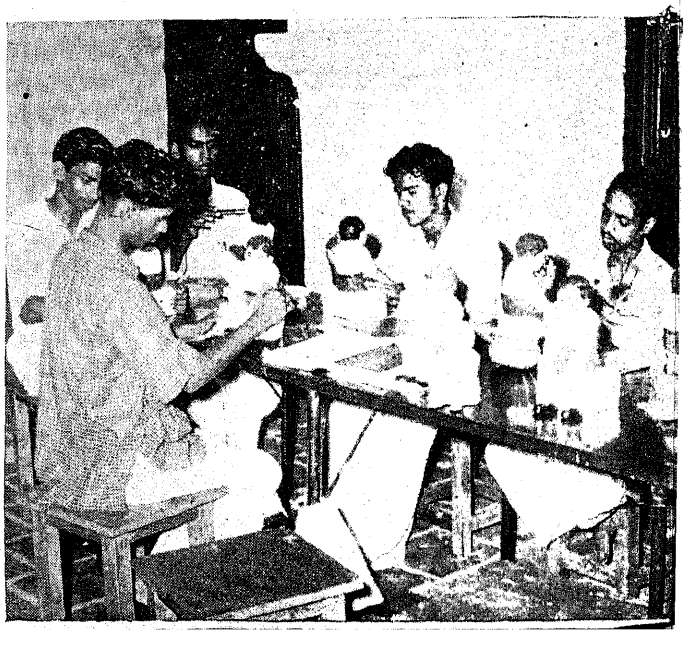
ne of the artistic handicrafts of Tanjore is ng of paper toys. The toys shaped here by t hands have already earned a name in many itions run in our country on all-India level.

his handicraft which was fast disappearing o lack of encouragement is sought to be revived e efforts of the State Government. A Centre een opened in Tanjore recently for providing ing in the art of making paper toys and ermach articles.



Sketches are drawn and used as basis for shaping the dolls. (Bottom) The paper paste is prepared.

Bottom left : *Toys are shaped from the paper paste.*
Bottom right : *The paint and brush give the life-like look to the toys*



A Shrine of Rare Art

The Madras Museum

To the State of Madras goes the credit of starting the first provincial museum in the whole of India. In the early years of the Madras Museum its chief interest was in the natural resources of the State and in its flora and fauna and ethnology. Surveys, for example, of the existence of iron ores, coal and building stones were carried out, and the results were published by the Madras Museum in the earliest years of its history. Interesting experiments were conducted on sylvicultural problems, some of the exotic trees now standing on the Museum grounds being the relics of such experiments.

The Madras Museum now has galleries devoted to Botany and Economic Products, Geology, Zoology, Archaeology, Arts and Crafts of Southern India, Ethnology, Prehistory and Numismatics.

Archaeological Galleries.

In the Museum's archaeological galleries—easily ranking with the finest in the country—Hindu temple architecture and Hindu sculptural art are illustrated by chronologically arranged series of Tamil, Telugu, Kannada and North Indian sculptures of many periods such as Pallava, Chola, Pandya, Vijayanagar, Chalukya, Nolamba, Hoysala, Gandhara, Gupta, Pala and Sena. The finest specimens of early Buddhist sculpture in the stupas of the Krishna valley are from Amaravathi in Guntur district. These consist of fine marble panels depicting numerous scenes from the life of the Buddha and the stories of the Jatakas such as the taming of the wild elephant, the division of the relics of the Buddha, the court scene, and the translation of the Buddha's bowl to heaven. Besides these world famous sculptures are the superb crystal reliquary caskets and gold ornaments from Bhattiprolu and the bronzes from Amaravati and Nagapattinam. Miniature models of the stupas of Sanchi and Amaravati give an impression of the glory of the classical age of stupa building. The evolution of the scripts of India is also illustrated in a series of stone inscriptions.

Historical collections.

The Museum has a large collection of coins from all over India representing all the epochs of Indian History from the Satamanas and Puranas dating from about Maurvan times to the English East India Company days.

The extensive trade relations between India and the Mediterranean in the early centuries of the Christian era are evidenced by the large number of Roman and Venetian coins unearthed in South India and preserved in this Museum. Antiquities from Arikamedu an Indo-Roman trading station in South India, concerned principally with the manufacture and export of textiles and beads of semi-precious stones, form another priceless collection. The history of South India in the Hindu period is writ large on the four hundred copper-plate grants housed in this Museum while arms, guns, cannon, war trophies and historical documents of the East India Company reveal phases of British-Indian history.

The natural history galleries of the Museum give a complete picture of the marine and terrestrial fauna of Southern India. Extensive collections represent outstanding types in each and every one of the groups, like corals, insects, worms, molluscs, and other invertebrates, fishes, reptiles, birds and mammals. A number of miniature diorama cases exhibit animals like the cobra and the starred tortoise in their natural habitat and a section is entirely devoted to a collection of foreign and exotic fauna.

Among the skeletons, a huge 60-feet whale skeleton is an impressive exhibit.

Botany.

In the botanical galleries are exhibited specimens of the rich flora of Southern India, of scientific as well as economic importance. The classified exhibits include, besides representatives of the various taxonomic groups, such economic products as timbers, fibres, lac, resins, oil seeds and other raw materials used in medicine and industry.

Besides exhibits illustrative of descriptive geology, minerology and palaeontology, the greater part of the geological galleries illustrate minerals of industrial importance such as mica, manganese and corundum, and industries such as glass, precious stone, building stones and lignite. A special exhibit is the illustration of flurescence of minerals under ultra-violet light.

Pre-historic period.

The life of ancient man in India over a hundred thousand years ago to the beginnings of the historic period is depicted in the prehistoric section of the Museum by a wealth of artifacts characteristic of the stone, bronze and iron ages in succession. World famous collections of palaeolithic and neolithic tools, ancient pottery, ornaments, beads, weapons of war, agricultural implements and ritual objects associated with urn burials and rude stone monuments or mogaliths help us in understanding the culture and way of life of the ancient South Indians.

The ethnological galleries of this Museum give the visitor an insight in the ways of life of some of the principal aboriginal tribes of Southern India. Among these are the pastoral

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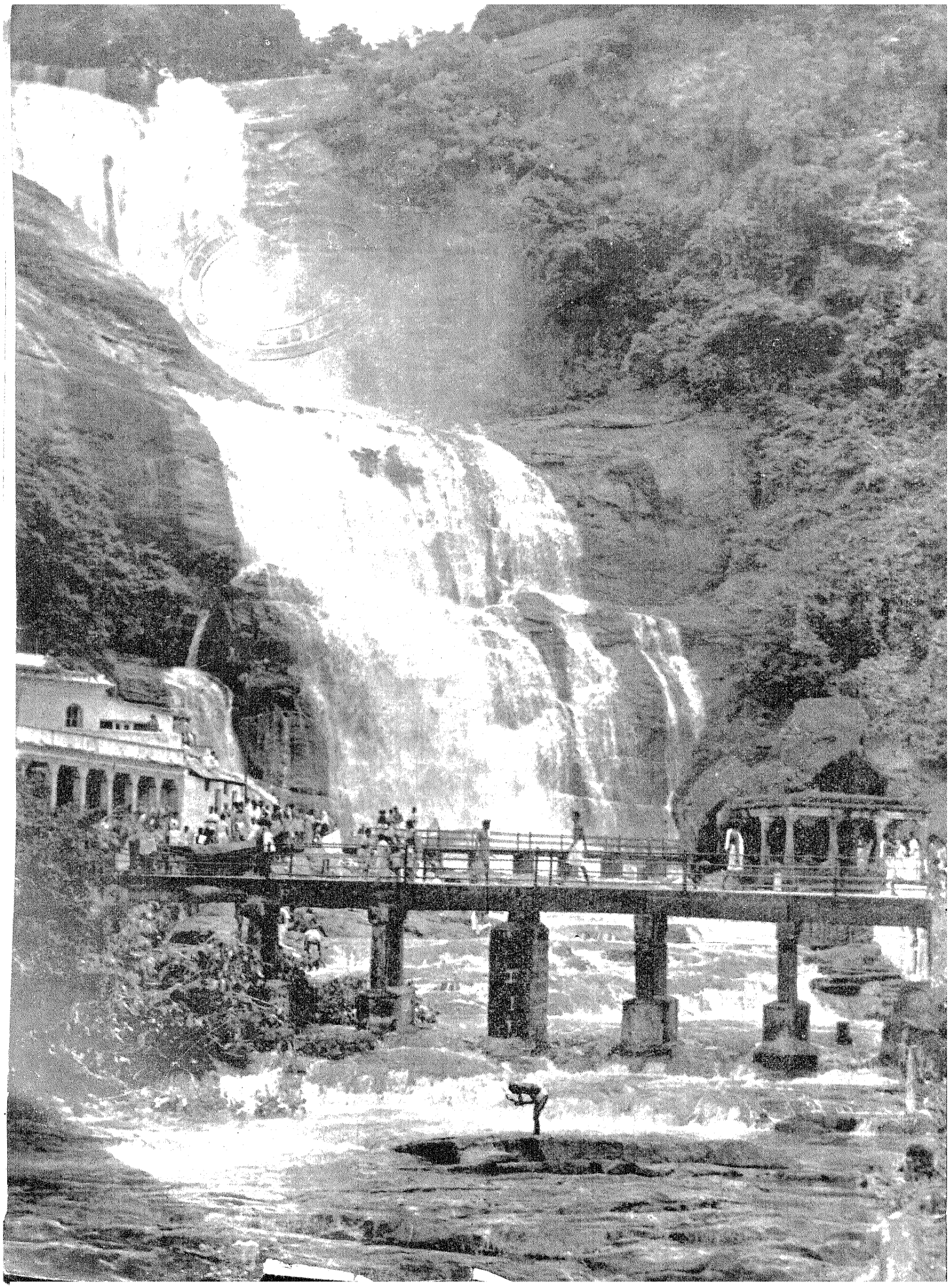


Courtallam—Spa of the South

Courtallam, known as Spa of South India is a health resort on the plains. It is situated near Tenkasi at an elevation of about 550 feet on the southern arm of a deep bay in the Western Ghats. Long before it was discovered as a health resort, Courtallam was attracting for centuries crowds of pious pilgrims because of its waterfall and the temple.

The water from the falls is said to contain mineral properties capable of curing many ailments and restoring good health.

Unlike the hill stations of Ooty and Kodai, Courtallam as a health resort is within the reach of poor and middle classes. It is becoming increasingly popular due to the interest evinced by the Madras Government to provide more amenities. Neat-looking bungalows are fast springing up around the falls and the temple.

The season at Courtallam begins with the setting in of the South West Monsoon in June and continues right up to the end of September.

Around the place is a network of branch roads connecting it by short routes with all the main roads of the neighbourhood. Possessing as it does fine waterfalls, delightful forest scenery, a temple of repute and during certain months of the year, an exceptionally cool climate, Courtallam has long been a favourite resort of the people, whose desire is to relax and have a quite time. Its annual rainfall is 58 inches, more than twice the average for the district. From June to September, the hills which overlook the Courtallam "bay" are overcast with storm-clouds beaten up through the Ariyankavu pass by the winds of the South-West monsoon ; and at a time when the rest of the district gets practically no rain, heavy showers are constantly falling along the slopes of the hills and over a few square miles of the country at their foot. Whether rain falls or not, the wind blowing through the hanging clouds reduces the temperature by ten or fifteen degrees below the average of the district and substitutes a delightful climate for raging winds and sand storms.

During this season, as also from November to January, the period of the north-east monsoon, the waterfall—the "Vada aruvi"—one of the most striking natural beauties of the place, is in full flood. It is by this cascade of nearly 200 feet that the Chitrar makes its final descent into the level country. Seen from the foot, the river comes first into sight rushing headlong from the forest above over a sheer precipice nearly half-way down, a deep trough in the face of the rock, known as "the boiling sea" (pongumakadal), breaks the fall, and it is beneath the mass of water issuing from this basin and in the pool lying at the foot of the fall that all classes of people delight to bathe. "What conduces much" (so runs a medical report of 1811) to the restoration of the invalids at this singnal abode is the little waterfall, under which most of the Europeans daily bathe. This cataract is, by a division of a rock above separated from the greater one ; and is not more than thirteen or fourteen feet high. The falling of the water, after the first shock is over, gives an indescribable feeling of pleasure, by its constant beating, it quickens the circulation and produces a fine glow all over the body ; and has besides, the further good effects of dispelling languor, raising the spirits, exciting appetite, and promoting digestion in a superior degree to any other kind of bathing that we are acquainted with. It has, in consequence of these virtues, together with the delightful climate of the valley itself, been the happy means of rapidly restoring many to health and comfort who previous to their visit to Courtallam, appeared to be hastening to their graves".

Higher up the Chitrar, within easy reach, are two more falls—"Shenbagadevi aruvi", about a mile from the foot of the hills ; and about two miles further up again, "Tenaruvi", the "Honey fall", a magnificient cascade descending a hundred feet through a vertical cleft which suggests the hollow contained by the three walls of a square chimney.

The natural scenery for which the place is justly famous is strongly reminiscent of the west coast. The road from Tenkasi leads up a gentle incline through wide stretches of paddy fields, green for nine months of the year and fringed with dense topes of cocoanut, jack, mango and arecanut trees, which drink moisture from a network of channels. Nearer the hills, the wet fields rise in tiers, deriving their supply from the numerous little tanks that intercept the hill streams before they join the Chitrar.

To the botanist and the sportsman the jungle around Courtallam is equally delightful. As early as 1835, Courtallam neighbourhood was explored and actually 1,200 species of flowering plants were collected in an area of twenty square miles. It was calculated that at least 2,000 species were to be found and that the ferns were almost equal in number. Sambhur and higher up the hills, ibex are fairly numerous ; spotted deer are less common. Tigers make occasional descents, and pigs may be met within the jungle at any time or place. Jungle-fowl and spur-fowl are plentiful.

State Aid to Industries

Six industrial concerns were recommended a total aid amounting to Rs. 3,70,000 under the Madras State Aid to Industrial Act, by the Board of Industries at its meeting on 30th May 1957. The concerns are those engaged in the manufacture of safety matches, blades, paper cutting machines, treadles, hard press, Gally proof press, etc., Radiators for automobiles, refrigerators, etc., Diesel Pump elements, delivery valves, injector nozzles, etc., Photo Mounts, Folio Mounts, Photo albums and corners, etc

To Save Livestock from Deadly Diseases:

Preparation and Use of Biological Products

By SRI S. VANCHESWARA IYER, Superintendent, Institute of Veterinary Preventive Medicine, Ranipet.

Biological products otherwise termed as 'Sera and Vaccines' are important weapons useful in the control and eradication of the different contagious and infectious diseases of men and animals. Animals like men are susceptible to various contagious and infectious diseases caused by bacteria and viruses and the annual economic loss caused by these diseases is estimated to be several crores of rupees. The importance of livestock as a national wealth especially in a predominantly agricultural country like India cannot be over-estimated and the heavy and sudden losses of livestock from these diseases upset the Agricultural economy of the ryots and cause them considerable loss and damage. Further some of the diseases of livestock like Anthrax, Brucellosis, Tuberculosis, Rabies, etc., are communicable to human beings and these diseases have to be effectively controlled in animals from a public health point of view also. Inasmuch as these diseases break out suddenly or spontaneously and as treatment in most cases is ineffective due to their acute nature and short duration, the only course left to us is to adopt the maxim that 'Prevention is better than cure' and protect the livestock at the appropriate time against these contagious and infectious diseases and make them resistant to these diseases.

As a result of experiments and research carried out in the past, it has now become possible to manufacture potent and efficient biological products which confer considerable protection in healthy and incontact animals and save them from these deadly diseases. By the judicious use of these products coupled with the adoption of appropriate sanitary measures it has been found possible to keep these diseases under check and ultimately eradicate them from certain parts of the State.

Diseases affecting Livestock.

The important diseases affecting the livestock in this State are Rinderpest, Haemorrhagic Septicaemia, Black Quarter, Anthrax, Brucellosis, Tuberculosis, Johne's disease, Foot and Mouth disease in cattle, Entero-Toxaemia in sheep, Sheep and Goat Pox and Anthrax in sheep and goats and Ranikhet Disease and Fowl Pox in poultry.

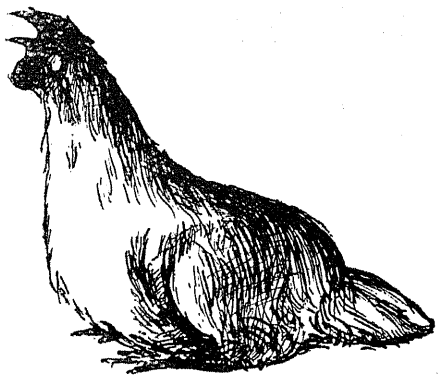
Rinderpest.

Of these, Rinderpest is the most dreaded scourage and has been responsible for about 70 per cent of the annual loss among cattle and buffaloes. For the manufacture of necessary biological products for promptly protecting the susceptible animals in the State against this disease, the Government of Madras established in the year 1932 the "Serum Institute". The Institution which was first located in the City of Madras was subsequently shifted to Ranipet in North Arcot District and the name of the Institution has also since been changed to the "Institute of Veterinary Preventive Medicine".

After the establishment of this Institute in 1932, necessary biological products for the control of Rinderpest were manufactured and made available in adequate quantities with which the staff of the Animal Husbandry Department intensified the measures for the control and eradication of this disease from the State. As a result of judicious and well planned campaign, the adoption of suitable sanitary measures, the excellent team work and constant vigilance of the staff, this disease was successfully eradicated from the State within about 20 years after the establishment of this Institute and the Madras State is now free from this dreadful scourage. This is no small achievement of the Animal Husbandry Department, Madras when compared to the havoc and loss this disease is causing in certain other parts of the country. The department is still vigilant to prevent the ingress of this disease into the State for which check posts have been established in the land frontiers of the State where all animals entering this State are compulsorily vaccinated against this disease and branded for necessary identification.

Adequate stock of potent serum and vaccine prepared by using modern methods and technique—the freeze drying process is always maintained at the Institute of Veterinary, Preventive Medicine, Ranipet to meet any emergency that may arise. During the past twenty-five years, 274, 39, 319 doses of Anti-Rinderpest

Fowl-Pox "Skin and Eye Forms".



A case of Ranikhat disease.

Serum and 9,727,535 doses of Goat Blood Virus have been manufactured at this Institute to protect the cattle of the State against this disease. In addition, 3,840,150 doses of Freeze Dried Goat Tissue Rinderpest Vaccine which is now used for protecting cattle against this disease have also been manufactured at this Institute during the last four years.

Next to Rinderpest, Haemorrhagic Septicaemia and Black Quarter are two other important infectious diseases of cattle and buffaloes in the State, accounting for an annual mortality of about 12,000 head of cattle valued at 2-3 lakhs of rupees. Efficient and potent vaccines for the prompt control of these two diseases are also being manufactured at the Institute of Veterinary Preventive Medicine, Ranipet and during the past twenty years, 9,514,110 doses of Haemorrhagic Septicaemia Vaccine and during the last 15 years 9,841,908 does of Black Quarter Vaccine have been manufactured and supplied to the field staff. As a result of the experiments and research carried out at this Institute in recent years it has been possible to improve these vaccines much and these improved vaccines confer a much more lasting immunity in vaccinated animals. Since these two diseases are found to have a predominantly seasonal incidence in the Madras State, they can be effectively controlled by carrying out vaccination of all healthy cattle in the area well in advance of the expected season and the loss on this account reduced to the bearest mininum.

Anti-Anthrax Serum and Anthrax Spore Vaccine, the products necessary for the control of Anthrax in cattle, buffaloes, sheep and goats, etc., are also being manufactured at this Institute. In addition, Brucella Abortus Vaccine and Antigens for the control and diagnosis of Brucellosis among cattle in the State are also being manufactured here. The manufcatured and supply of these products have been taken up only recently and so far 111,620 doses of Anthrax Spore Vaccine, 8,000 doses of Anti-Anthrax Serum, 17,116 doses of Brucella Abortus Vaccine, 17,450 c.c. of Brucella Abortus Tube Antigen and 1,355 c.c. of Brucella Abortus Plate Antigen have been manufactured and supplied.

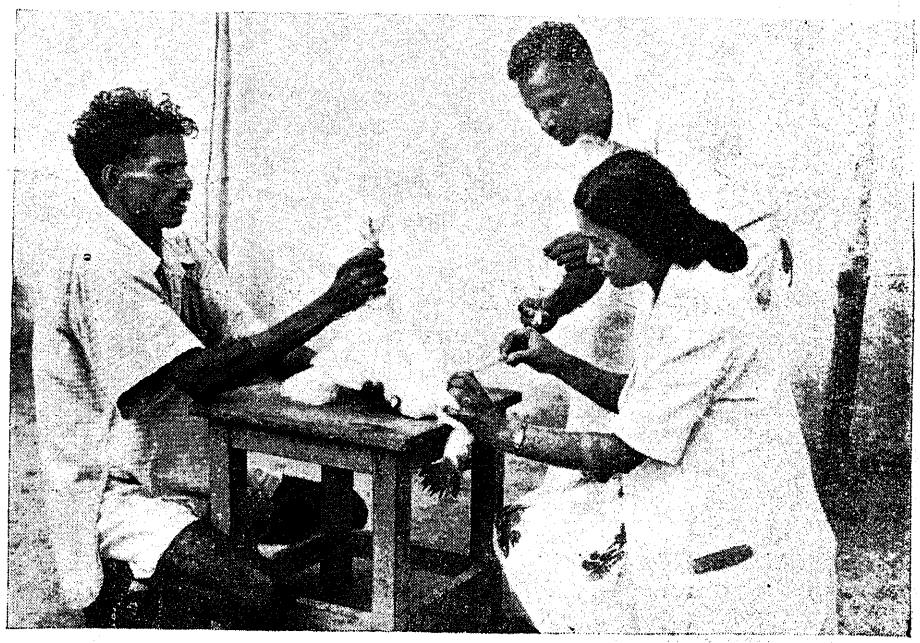
A vaccine for the control of Entero-Texaemia in sheep and a product for the control of Sheep Pox are also manufactured here. During the past 4 years, 161,100 doses of vaccine for Entero-Toxaemia and 2,91,080 doses of Sheep Pox Vaccine during the past seven years have been manufactured and supplied.

Ranikhet Disease and Fowl Pox.

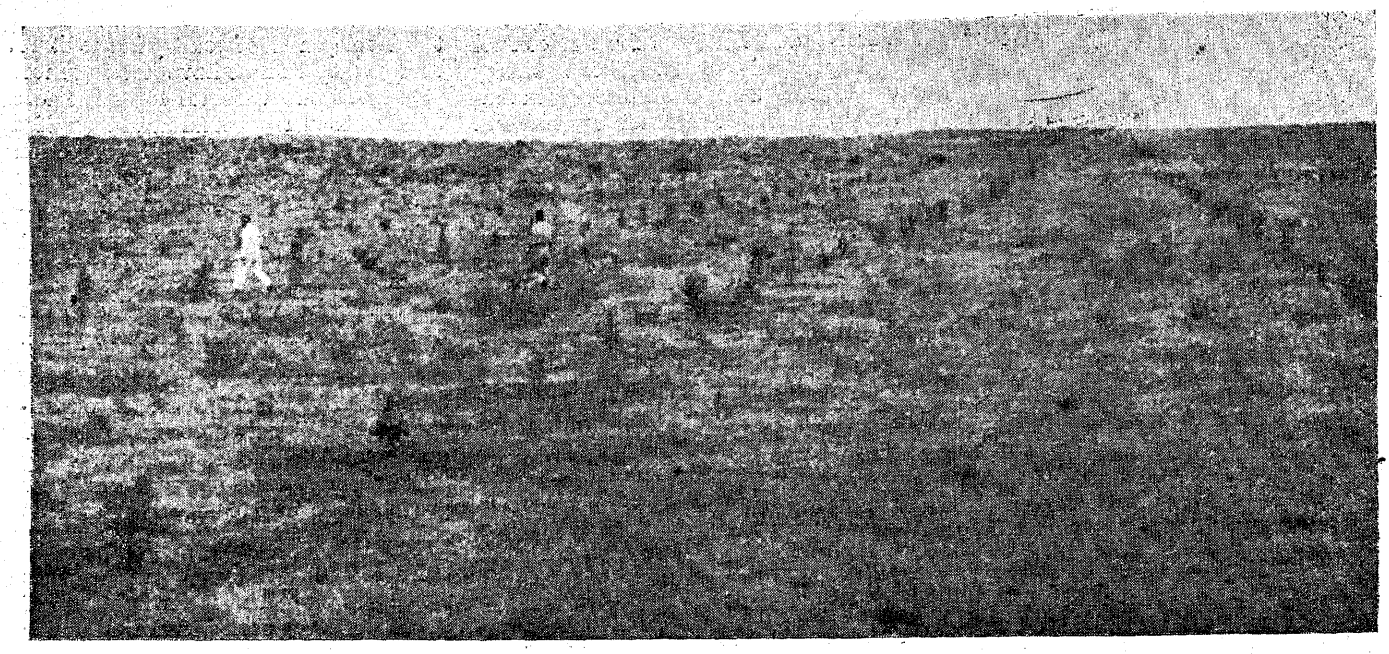
Ranikhet Disease and Fowl Pox were a great menace to the poultry breeders in the past and they were impediments for the development of the infant poultry industry. As a result of researches carried out in the past, suitable, safe and potent vaccines have been evolved for the efficient control of these two diseases and these vaccines are now being manufactured and supplied from Ranipet Institute using modern methods and technique. As a result of the availability of these two products it has now become possible to plan and undertake big schemes for the development of poultry in the State. The poultry owners have nothing more to fear as the vaccines for these two diseases now manufactured and supplied confer lasting and durable protection in the vaccinated birds. During the last 2 years 4,085,500 doses of Freeze Dried Ranikhet Disease Vaccine were manufactured and supplied. 271,042 doses of Fowl Pox Vaccine have also been manufactured and supplied to the staff during the course of last 15 years.

In addition to the manufacture of different biological products, experiments and research to improve the quality of products that are now being manufactured and to manufacture new products are also being conducted at this Institute.

Important and ambitious schemes for the development of the livestock of the State have been envisaged under the Second Five-Year Plan and some of them are already in progress in certain parts of the country. Much progress in these directions could not be achieved until and unless the different contagious and infectious diseases of livestock are effectively controlled. To facilitate this and to preserve the health of the livestock in the State, this Institute will always strive its best to manufacture and supply biological products of quality in adequate quantities and thus contribute to the ultimate noble goal of peace and plenty in the country envisaged in our National Development Plans.



At Ranipet Veterinary Institute. A white Leg-horn is injected with serum prepared at the Institute.



A new cashew plantation that has sprung in the Vandalur area, due to the continued efforts of the Forest Department. The plantation may start yielding in five to six years.

Scrub Jungles Turn into Cashew Plantations

The efforts of the Forest Department to transform the scrub jungles of Vandalur and Kattur in Chingleput district into money-spinning cashew plantations proved to be very successful. The planting was made during August and September last departmentally and the plants have already grown to a height of three feet on an average.

Sri M. Bhaktavatsalam, Minister for Home, accompanied by Sri P. S. Krishnaswamy, Chief Conservator of Forests, Sri N Murugesa Mudaliar, Deputy Secretary, Food and Agriculture, and other officials inspected the cashew plantations of Vandalur in the first week of June.

The raising of cashew in some of the degraded ex-panchayat reserved forests was examined by the Forest Department last year and was sanctioned as a Scheme in the Second Five-Year Plan with the approval of the Planning Commission. The target is the raising of cashew in about 40,000 acres during Five-Year Plan period in Chingleput, North Arcot, South Arcot, Tiruchirappalli and Tirunelveli districts. Cashew comes up well in the shallow soil in poor forest areas. It comes to fruiting in 5 or 6 years and will meet the growing demand for cashew kernels and cashew shell oil. Cashew is a doller-earning product which is much in demand from America and other countries. The cashew shell oil also finds industrial uses and as an additive to aviation petrol. Apart from these utilitarian aspect, the regeneration value to the forest lands is important. The bushy cashew plants which take up limited quantity of nutrients from the soil helps the development of the much-needed pasture for cattle without interfering with the other

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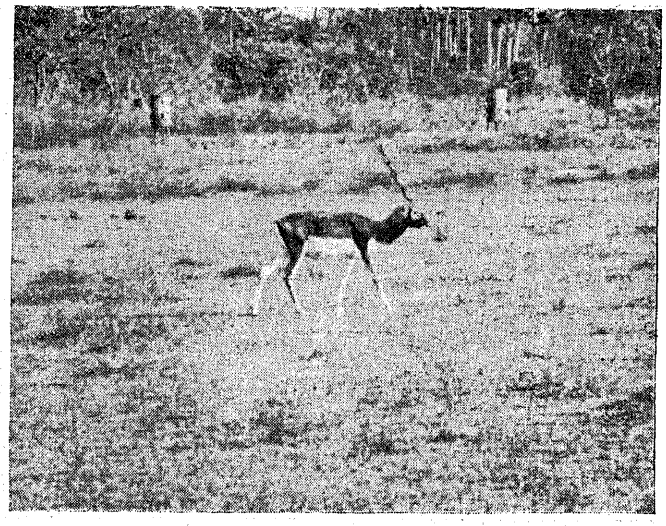
Save Black Buck from Extinction



By Sri M. A. BADSHAH, Madras Forest Service

Mother nature was extremely generous and lavish when it made a magnificient gift of Black buck, the most fascinating of the Antelope family to India exclusively. Nowhere in the world is Black buck found except India and we should be proud of this unique possession and remain grateful to nature.

It is no exaggeration to say that of all our indigenous mammals none has played so important a role in the history of India as Black buck and to-day no other species is better known or widely prized as game. Sanskrit and Urdu literature and poetry abound in references to its elegant form and attractive eyes. Black buck was the constant companion of God Mahadeva, the creator. Rishis and recluses have been adorning their bodies with the soft velvetty skins of Black buck. For performance of Puja nothing is considered more sacred than a Buck's skin.

An ornamental animal.

Its striking colour, lustrous velvetty black above and whitish beneath, with graceful spiraled horns, swift nimble feet, sparkling bewitching eyes encased in a white circular ring, all combine to give an elegance and beauty hardly equalled by any ruminant. An ornamental animal, it presents an enchanting spectacle and wherever found it is a notable asset to the landscape. A grown up stag stands about 2½′ at the shoulder and weighs about 90 to 100 lb. Females are not so large as the males. The leadership of the herd is vested in an elderly and vigilant male.

Breeding season.

Black buck breeds at all times but the main rutting season is between February and March. The rutting urge develops in the stag earlier than the doe and continues longer and this period is marked by the swelling of the neck. Black buck being polygamous, one buck will mate with as many as 10 does and possibly more. During the rutting period the males move about extensively seeking receptive females and fighting with other males. The stags strut about in a stately manner with their head thrown back and the horns almost touching the shoulders to attract does of their choice. The period of gestation is about seven months. Generally one or two fawns are delivered at a time. Does conceiving for the first time bear a single fawn. The number thereafter may be one, two, three and sometimes even four.

Changes in colour.

Black buck undergoes remarkable changes in colour. When young its coat is pale yellowish fawn, like that of a doe and as it advances in age the coat gradually changes into pompous black.

In the yearling buck the antlers have no spirals. In the second year a large single twist develops and as it gets older and older full number of spiral twists appear on the horns. Horns are 16″ to 20″ long. Unlike the deer, Antelopes do not shed their horns. The horns of deer are solid and those of Antelope hollow.

Black buck feeds on grass and other cereal crops, grazing till noon and returning to shady trees and groves for rest during the hot hours of the day. Keen eye sight, smell and speed are its defences. When alarmed the herd slowly moves off in a series of light and graceful leaps and bounds gradually culminating into a stampede.

Distribution.

A few years ago this enchanting animal was found all over the plains of India except West Coast as it has a pronounced partiality to open country and not thick forests. Herds of twenties and thirties were a common sight in the open fields and any number could be seen as one travelled in the train. But on account of merciless massacre of this animal in the recent past for personal profit and gain, its population has dwindled considerably in numbers. The few that have survived have retreated to the remote and inaccessibile regions. No other animal was more sought for and none faced such a severe persecution as the Black buck. The venision was tender and tasty, from its skin came sundry articles of clothing. The fat or tallow made excellent candles and

water-proofing material for wearing apparel. The decorative antlers were put to use as knife handles and racks for clothing and guns.

A few Black bucks could be seen in the Guindy Park Reserve (Madras) and also in the plains along sea-shore near Point Calimere. Herds of forties and thirties and single family parties consisting of four, a male and a female with two fawns, could be seen foraging in the open treeless maidans at Point Calimere between Kodaikadu Reserved Forest and the sea. The presence of Black buck in this area has added charm to the beautiful natural scenery here.

Rearing of the young.

As the time for fawning approaches the pregnant doe abandons the herd and steals away to a well-concealed spot usually under cover of bushes or small trees and gives birth to the young. The helpless young remain in the hiding till they are able to follow the mother. During this period the mother often leaves her offspring for several hours at a time for foraging in the immediate neighbourhood but during nights she remains in constant attendance. Hiding the fawns during the day and feeding them at nights appears to be the usual routine during the early period of dependency of the young. When the young gather strength, the mother leads them to the herd.

Save it from extinction.

If Black buck is not zealously protected India will soon be losing its unique possession. It will meet the same fate as the hunting leopard or cheetah, the fastest mammal in the world, so numerous in India fifty years ago and now completely extinct. There is not one cheetah in India to-day in its wild state.

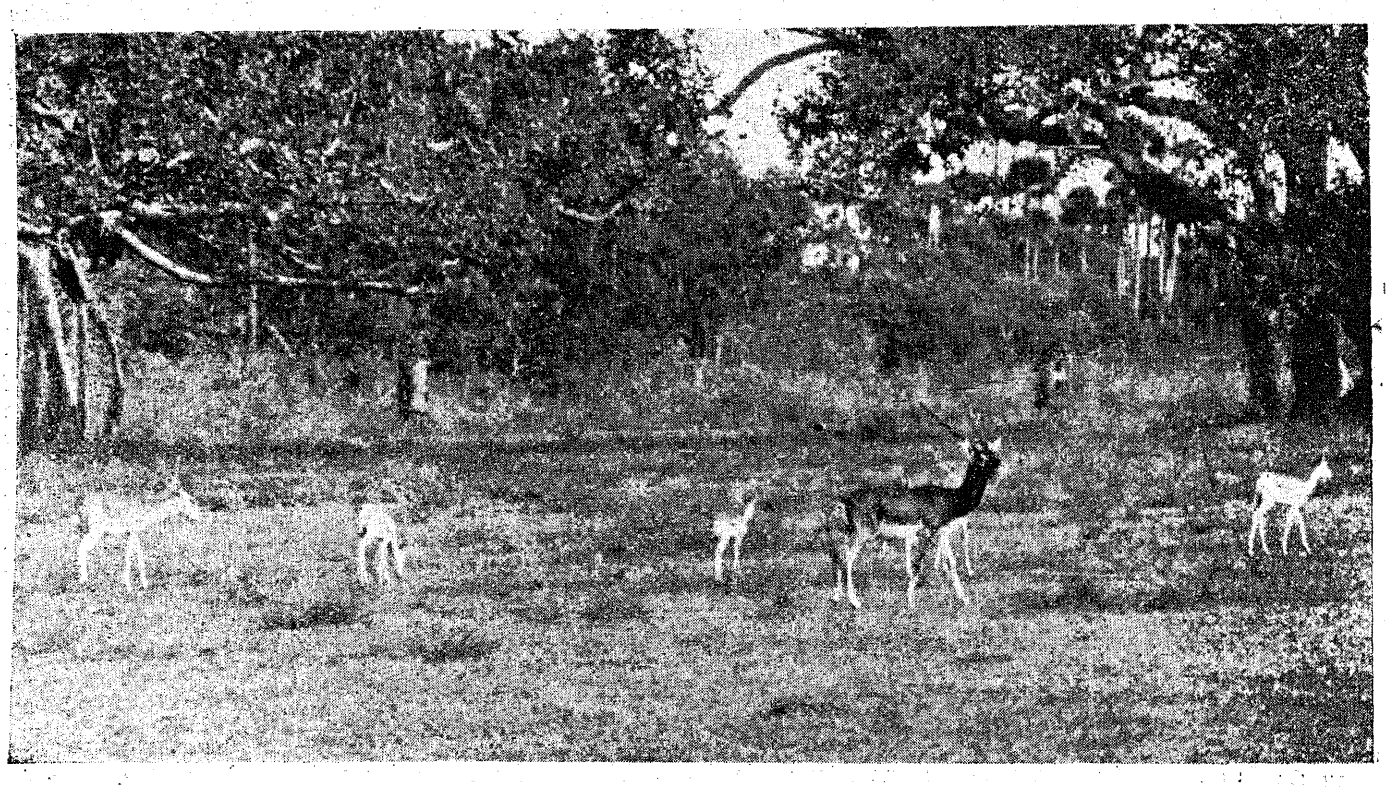
Shooting of Black buck in the Reserved Forests of the Madras State was prohibited as early as 1951. But the law will not afford it the required protection and immunity from shooting without the willing co-operation of the members of the public in general and particularly those residing in close proximity to areas where Black buck is surviving. Man the Supreme of the creation will stand condemned in the eyes of God if he fails to rush to the rescue of his less fortunate brethern specially when they look to him for protection. (Photos by the author.)

Pearl Fishery

The pearl fishery operations which commenced on 15th March off the Tuticorin coast has resulted in the fishing of over 91 lakh oysters up to the end of April, yielding Rs. 1,33,000 by way of revenue. Because of the presence of a good deal of oysters, the operations have been allowed to be continued during the month of May also.

* * *

The Government have sanctioned the establishment of 3 more Artificial Insemination Centres in rural areas in the districts of Coimbatore, Madurai and Tiruchirappalli and one Centre in connection with the dairy schemes at Kancheepuram. Under the All India Key Village Scheme, 17 Artificial Insemination Centres in rural areas and 3 Artificial Insemination Centres in conjunction with the dairy schemes are proposed to be established during the Second Five-Year Plan. During 1956-57 four such Artificial Insemination Centres were started.



A family of Black Bucks in the Guindy Park Reserve, Madras.

Ahimsa or the Atom Bomb—

The Choice Before Humanity

(A Review by Sri A. K. Venkatesan, Chief Reporter 'The Hindu')

The first half of the twentieth century witness many striking developments in the realm of science and technological advancement as well in the sphere of thought, human relations, morality and all that goes to make the larger humanism. Two of these, however, stand out above the rest as epoch-making in their character and significance to humanity, namely, the evolution of Mahatma Gandhi's weapon of non-violent *satyagraha* and the production of the atom bomb.

By a strange dispensation, the same generation witnessed both these phenomena, removed as they are as the antipodes in their ethos. Hiroshima and Bikini, Pheonix Settlement and Noakhali—these represent some of the phases in the twin currents one taking man in the direction of peace and goodwill, and the other threatening to drag him towards a veritable inferno. There can be no underestimating the potentiality of these developments for the future of man, or gainsaying their importance in the march of human civilisation.

Mahatma Gandhi and his gospel of *satyagraha*,—and in fact India's freedom struggle itself—form a unique contribution in this crisis of humanity. And it is India's pride that her particular contribution has been, once again, in keeping with her moral and spiritual traditions of Truth, Tolerence; Peace and Non-violence. Mahatma Gandhi is the author of the gospel and his life the most authentic exposition of its technique evolved through years of pondering, self-purification, disciplining and suffering. Satyagraha in South Africa and the Delhi Diary, present to the reader the opening act and the climax of the unique drama of the life of this frail but brave man of prayer. They span fifty eventful years of a life which forms the history of his country during the period, and its successful march to freedom. However, it is not the events of the march, remarkable as they were, so much as the manner of its progress and its fruition that constitute the principal interest of the drama and make the real contribution to human history and civilisation. For here for the first time we see forged and wilded successfully by a whole people a moral instrument more potent than the might of military arms,—the weapon of non-violent *satyagraha*.

In 1907, Gandhiji was assualted in the streets of Johannesburg and cudgelled by a giant pathan resulting in severe bleeding injuries, which rendered him unconscious. When he recovered consciousness, he made anxious inquiries about his assailant for whom he had nothing but pity, and refused to prosecute him. Almost forty years later, a week before his assassination, a bomb was thrown at him in his prayer meeting. His reaction again was one of pity for the misguided bomb thrower and a desire that the man should not be harassed. Gandhiji taught his followers never to harbour ill-will or bitterness and to always try to bring about a change of heart and wean away the wrong doer from his path by love and righteous action. "*Satyagraha* was a priceless and matchless weapon and those who welded it are strangers to disappointment and defeat", he writes. The essential conditions for satygraha he insisted were that "the cause must be just and the means fully non-violent." Further,

> "A *satyagrahi* bids good bye to fear. He is never afraid of trusting the opponent. Even if the opponent plays him false twenty times, the *satyagrahi* is ready to trust him for the twenty-first time; for, an implicit trust in human nature is of the very essence of his creed."

Righteous action, steadfast stand for truth, irrespective of what the opponent did was bound to succeed eventually. For, the *satyagrahi* he in sisted, the struggle itself was victory.

Satyagraha-Ahimsa and other expressions of the Gandhian vocabulary are today used in a way which shows that nethier their true implications nor even their basic concepts have been correctly understood. In quite a number of instances, the terms have been misapplied to movements totally opposed to the fundamentals of those concepts. Satyagrah in South Africa with Hind Swaraj, can therefore be read with immense profit and enlightment as to the true nature and implications of *satyagraha* and *ahimsa*, The events narrated are of much historical interest; even more interesting is the vivid yet simple manner of the narration. But even thus, the interest of the narrative occupies a subordinate place in relation to the underlying political philosophy whose expounding is so fascinating.

Gandhiji's experiments in truth continued after his coming over to India in 1915, when the mantle of the leadership of the nation fell on his shoulders.

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*1. *Satyagraha in South Africa by M. K. Gandhi.*

Page 351. *Price Rs.* 3.

*2. *Delhi Diary (Prayer speches of Mahatma Gandhi from September* 10, 1947 *to January* 29, 1948.

Page 406. *Price Rs.* 2.

Published by
Navajeevan Publishing House,
Ahmedabad.

The events of the three decades that followed represent further stages in the evolution of his gospel and its technique, beginning with the Viramgam Customs *satyagraha*, and progressing on to the Champaran *satyagraha*, Rowlatt Act and the triple boycott movement, Salt *satyagraha*, Civil disobedinence, the Quit India movement in 1942, the advent of freedom, his *padayatra* in Noakhali and his end in Delhi. India's Swaraj was born after a caesarian operation. Its birth was attended by communal massacres unprecedented in extent and fiendishness. Millions of Hindus and Muslims uprooted from hearth and home, trekked in unending caravans seeking safety on the other side of the new frontiers formed by the " incision line ". The apalling tragedy left people stunned. Even the never failing optimism of Gandhiji dried up at the turn of events. His anguished heart poured itself forth at the daily prayer meetings, and 139 of these speeches are faithfully collected in the Delhi Diary, It records his "disillusionment " which made him even speak, of death as a deliverance.

During the four and half months of his stay in Delhi from September 1947 to January 10, 1948, covered in this book, he spoke almost every day to the people gathered of evening sat his prayer. Like his earlier speeches during the Noakhali *padayatra*, at Calcutta and in Bihar, they grip the reader with a sense of portent of the tragic finale enacted on that fateful Friday of January 1948. One notice also the tremendous and increasing urgency of his appeals to the people to re-establish human standards of conduct and goodwill among the communities. Perhaps, the Mahatma had an intuitive apprehension of the shortness of the time and the stupendousness of the task still left for him, coupled with the feeling that another person might not be able to succeed if he should fail.

And thus, in the series of episodes of a continuing crisis as it were, varying only in intensity from time to time, Gandhiji practised *satyagraha* again and again. First launched against injustice in the Dark Continent, later directed against the oppression of foreign rule in hs own land, his weapon of *satyagraha* found its supreme test in the darkest hour of India's history, when "man went mad," and " brother raised the dagger against brother," and let loose hell on earth. From Noakhali to Calcutta, and on to Bihar and Delhi, the lone *satyagrahi* threw himself into the holocaust, as " the pendulum of massacre swung wider and wider, " his frail frame broken with privation and suffering, heart leaden with sorrow, but faith in his weapon still burning bright, until at the supreme moment of success the assassins' bullet spilled the last drop from his already bleeding heart. His martyrdom came as a sad but fitting crown piece to the gospel he taught and lived in his own life.

THE DELHI DIARY.

THE DELHI DIARY provides a living document of the daily happening and Gandhiji's reactions to the same and bears ample evidence to the crucifixation he was going through all the time. In the nature of things, the communal situation and the refugee problem occupied his attention most. The Diary records—

> "In the agony of his heart he cried daily, hourly, to God to bring peace. If peace did not come, he would pray to God to take him. He thought of the poor refugees in Delhi, in both East and West Punjab, today while it was raining. They were roofless and homeless,—suffering for whose sins? He had heard that convoys of Hindus Sikhs were pouring in from West Punjab into the East, 57 miles in length. It made his brain reel to think how this could be. Such a happening was unparalled in the histroy of the world and it made him, as it should make all of them, hang their heads in shame.

At the same time, Gandhiji also covered a variety of other topics in these talks, ranging from Kahsmir to compost making and linguistic States to vegetarianism. Each subject, however, was dealt with by him with characteristic clarity and incisiveness. And what is more important, his comments had not only an immediate appositeness but a permanent appeal. Thus remarking on the duty of newspapers and newspaperment in connection with the published reports of some incidents, Gandhiji said—

> "It was the duty of editors to see that no false report or report likely to excite the public was published in their newspapers . . . . . The editors and their assistants had to be extra careful about the news they gave and the manner in which they dressed it up . . . . . It was the duty of the public to keep a strict wateh on newspapers and keep them on the right path. An enlightened public would refuse to patronise inflammatory or indecent newspapers."

The Working Committee, of the Congress was engaged in considering the issue of reconstitution of the provinces on a linguistic basis and this is what Mahatma Gandhi said in his prayer meeting on January 25 :

> "The Congress had already adopted that principle and declared its intention to give effect to it constitutionally as soon as they came to power, as such redistribution would be conducive to the cultural advancement of the country. But such redistribution should not militate against the organic unity of India . . . . . If each province began to look upon itself as a separate sovereign unit. India's Independence would lose its meaning and with it would vanish the freedom of the various units as well . . . . The redistribution of provinces on a linguistic basis was necessary if provincial languages were to grow to their full height. Hindustani was to be the lingua franca—*rashtra bhasha*—of India, but it could not take the place of the provincial tongues. It could not be the medium of instruction in the provinces, much less English. Its function was to make them realise their relationship with India."

On the duty of Ministers to uphold law and justice, Gandhiji expressed himself emphatically.

> "They (Ministers) were bound to let the law take its own course. Clemency of the State had a definite place and had to be exercised under due safeguard . . . . What he wanted to stress was that no Minister had the right to interfere with the course of justice even for his dearest ones. It was the function of democracy to make justice cheap and expedetious and to ensure all possible purity in the administration. But for Ministers to dare to replace or influence courts of justice was the very negation of democracy and law.'

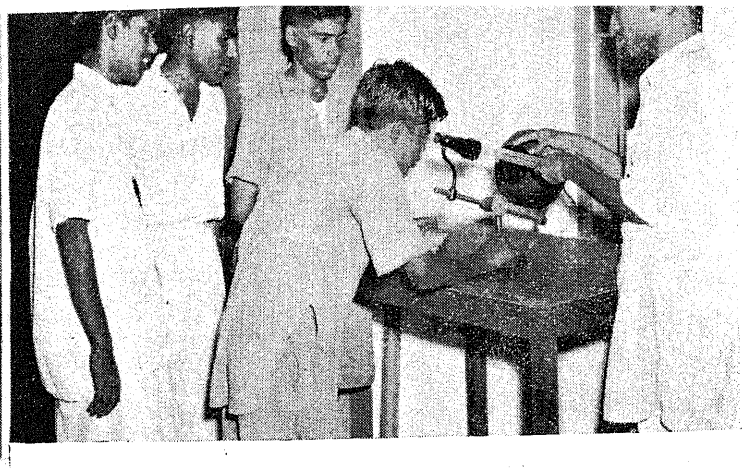
Gandhiji always had a soft corner for the people of Madras, and Tamil Nad in

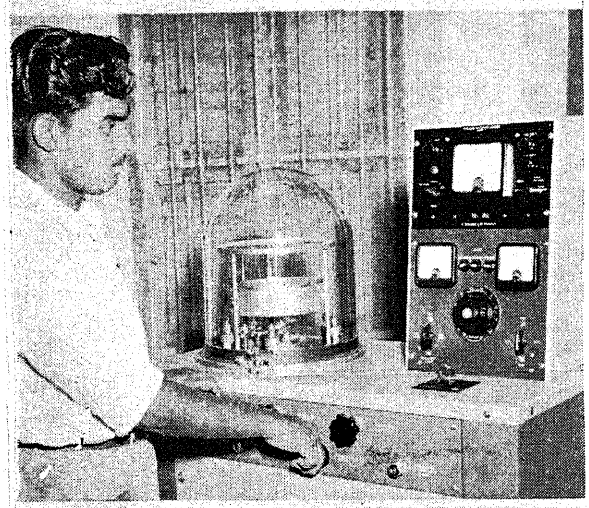
particular. His earliest followers in the satyagraha in South Africa came from this community. He pays a big tribute to their qualities and resourcefulness and how they withstood privadion and suffering during that struggle. He had some very frank comments to make on complaints of food shortage in that province, and incidentally they formed the very last words of the last prayer meeting he was destined to address.

"Emissaries on behalf of the Madras Government had approached Shri Jairamdas (then Food Minister at the Centre) to arrange for food supplies to that province. Gandhiji felt sorry at this attitute. He wished to impress on the people of Madras that they could find enough food within their own province in the shape of groundnuts, coconuts and a variety of other edibles. They had enough fish which the majority ate. Why should they need then to go with the begging bowl? It would not do for them to insist on rice and polished rice at that which was bereft of all nutritive value, or obligingly to accept wheat. What they needed was self relience and faith. He knew of the Madrasis well and had in South Africa in his ranks men drawn from all lingustic areas of the province. Whilst on the march their daily ration consisted only of a pound and a half of bread and an ounce of sugar. But wherever they encamped for the night, they astonished him by singing and cooking edibles picked from the grasses on the veldt. How could such resourceful people ever feel helpless? It was true we were all labourers. In honest labour lay our salvation and the satisfaction of all vital needs.'

The *Delhi Diary* thus closes with a reminiscence of the *Satyagraha in South Africa.*

One word about the physical part of the books. Gandhiji always insisted on tidiness and precision in all work, and was so even to the point of fastidiousness. The publishers of these volumes may be congratulated on their effort to combine neatness and clearness of print with tidy simplicity of get up.



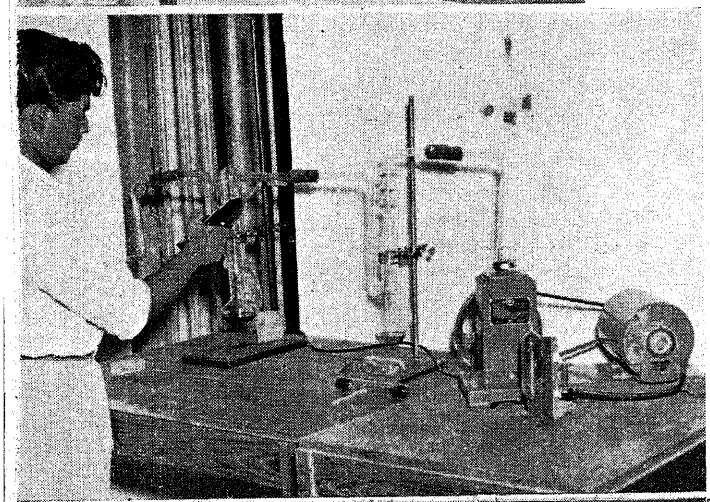


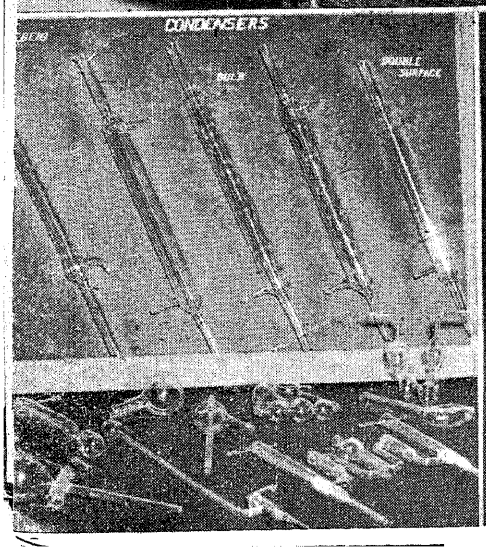
GOVERNMENT SCIENTIFIC GLASS BLOWING CENTRE, MADRAS

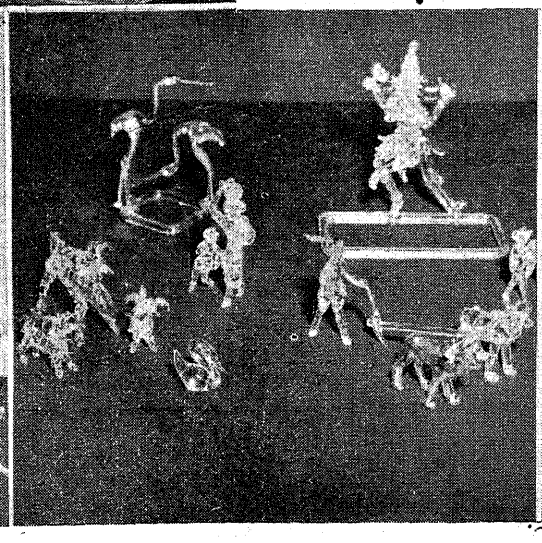
The Government Scientific Glass Blowing Centre located at Kilpauk, Madras, trains about 10 *boys who can make almost all the apparatus a scientist can conceive or a research worker can think of.*

The trainees are taught the three branches of scientific glass blowing, namely—blowing graduation and grinding. The training centre has besides these facilities several other interesting sections like neon and glass sign metal deposition on glass by evaporation and glass toy making section.

Many of the trainees have been employed as glass blowers in some of the great institutions in India. Since last year every successful trainee is given equipment worth Rs. 700 *and cash subsidy Rs.* 500 *to start his own small cottage glass blowing shop.*







Immediate Action on Petitions Presented at Pagalmedu

Roads, Schools, Water for Irrigation, Wells and House-Sites Sanctioned

Orders have been passed by Government on the majority of the two hundred and forty-seven petitions containing 256 requests presented by the villagers, at the Pagalmedu Firka Level Conference on 8th May 1957. An analysis of the petitions disclosed that the requests mainly related to supply of water for irrigation purposes, provision of schools, drinking-water wells, house-sites, culverts, community halls, drainage, formation of roads, constitution of panchayats, supply of marketing facilities, sanction of loans, opening of post offices, supply of electricity, assignment of trees, grazing facilities, etc. Action was taken on all these petitions by means of personal discussions between the District Officials and the Heads of Departments concerned and the requests of the petitioners were complied with in many cases. Some of the requests, which were impracticable had to be rejected. These related, for instance, to provision of irrigation facilities in a certain village by diversion of Araniar waters. In this case the request could not be complied with as the availability of the water in the reservoir was not sufficient to meet the requirements of ryots. In certain other cases the requests have to be investigated in detail and the proposals sanctioned by the Government. For example, the question of extending irrigation from the Araniar Project to Sivagiri, Govarthanagiri, Ramapuram, Vengalathur group of villages, requires investigation. Requests for the construction of roads, wells, provision of schools, house-sites, etc., were as far as possible complied with by the immediate sanction of works and inclusion of certain items under the Overall Plan for the development of the Uthukottai Block.

Repairs to channels.

Four requests for the supply of water for irrigation from the Araniar Project and Poondi Reservoir were complied with and four others were rejected for the reasons given above. An estimate for Rs. 12,600 has been sanctioned for repairs to the river channel from the Araniar Project leading to Vadamadurai tank and another estimate for repairs to the Manjankaranai tank has been sanctioned and the work will be started soon. The repairs to the Pudukuppam tank and the Kothacheruvu tank at Siddarajukandigai have also been sanctioned. Twenty-one requests for repairs to irrigation sources were received and of these, five were complied with and nine are pending examination. Seven of them were rejected. Twenty-three requests for the provision of schools were received and twelve of them were complied with. Nine of them were rejected and two were included in the Overall Plan. A school has been permitted to be opened at Pagalmedu and it started functioning from May 4, 1957 with 45 pupils on roll. Another school which was closed recently at Sembedu for want of enthusiasm on the part of the villagers and for want of strength will be opened again during June 1957 since the villagers have requested for its revival. A school with mid-day meals for deserving pupils will be opened at Boochiathipattu village during June 1957.

Three bus routes were requested by the villagers. One of them was to run Government Transport buses up to Vengal and this was considered necessary. This will be sanctioned soon by the Regional Transport Authority. A proposal to sanction a bus route between Pulikundram and Alapakkam will be finalised by the Regional Transport Authority soon. Another bus route to Palavakkam from Madras will be notified for sanction by the Regional Transport Authority during June 1957. Five requests were received for constitution of panchayats and two of them were complied with and one was pending. Two of them were rejected.

Provision of drinking water wells.

A majority of requests received was for the provision of drinking-water wells. Sixty-one requests were received and thirty-six of them were complied with, and seven were included in the Overall Plan. Seventeen are pending examination and only one was rejected as the petitioners had to be provided with house-sites. After the sites are assigned the question of sinking a well will be considered.

Thirty-six requests for house-sites were received and one request has been complied with and thirty-three are pending. Two were rejected. Formation of roads and construction of culverts was the next big demand and forty-three such requests were received. Of these, seven have been complied with, twenty-three were included in the Overall Plan, ten pending examination and only three were rejected.

Five requests for the construction of Community Halls were received and one was complied with and four included in the Overall Plan. The Harijans of Kannigaiper village requested electrification of the Harijan Colony. Street lights have been provided recently and house service connection will be given as soon as wiring in the houses is completed by the Harijans. Thirty-nine requests for provision of loans were received and of these excepting one which was rejected, all others are under examination.

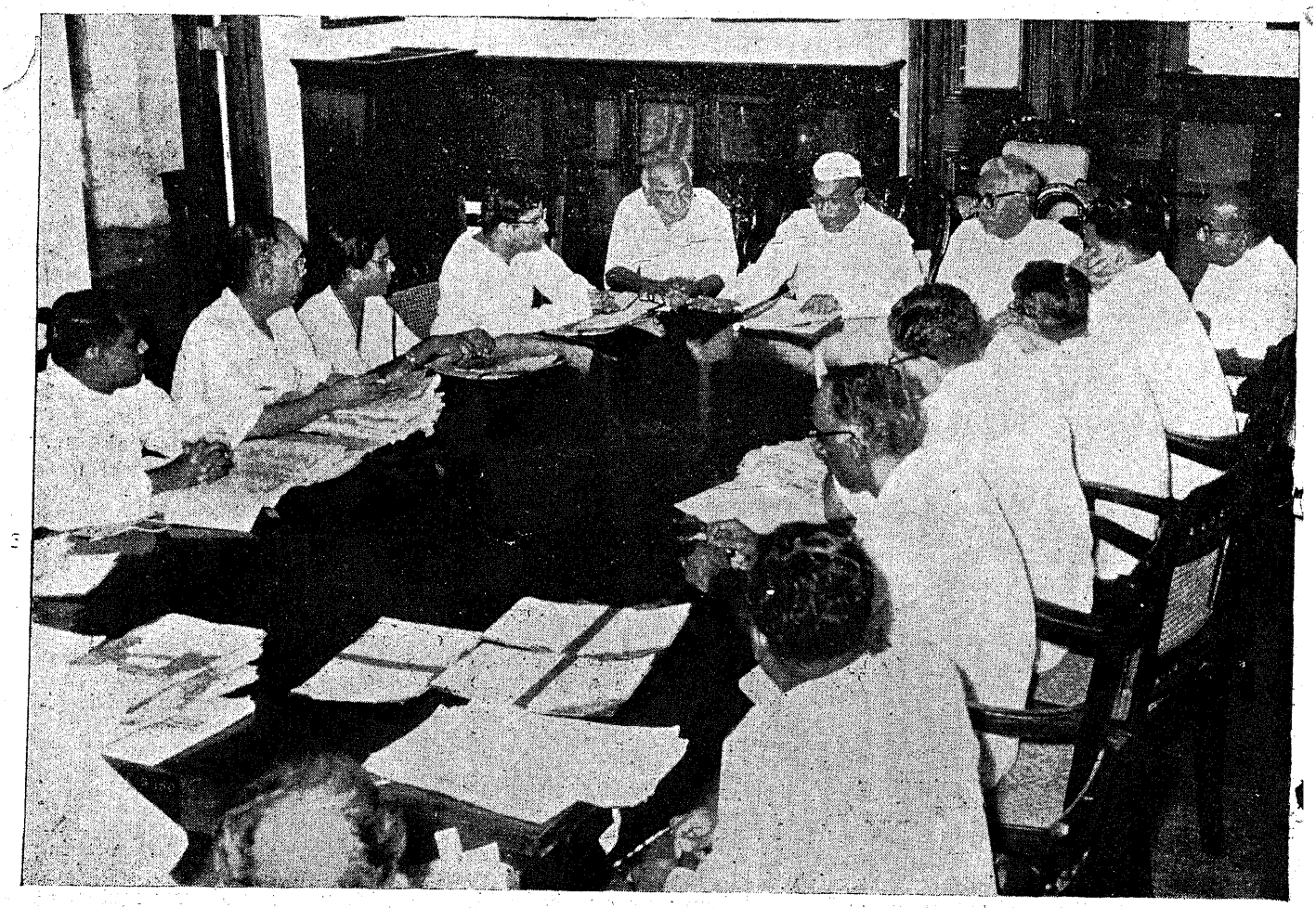
A request for the opening of a post office at Karikilavakkam or Vivasikandigai had been negatived by the Postal authorities as there were post offices within a distance of three miles. Fourteen requests for supply of electricity were received and eight of them were complied with, three are pending examination and three rejected. Two requests for supply of craft equipment to Madhar Sangams are pending examination.

Auxiliary Cadets Form Road to Vedanthangal

A three-mile road, which will greatly facilitate tourists to reach the Bird Sanctuary at Vedanthangal, was laid by nearly thousand Junior Cadets of the A.C.C. Social Service Camp during the last fortnight. The 22 feet wide road from Vedanthangal, which touches the 48th mile stone on the Southern Trunk Road at Malapalayam, shortens the distance to the Bird Sanctuary by five miles. This road also satisfies the long-felt need of the villages of Hanumanthakuppam, Pudupet and Pasumbur. The villagers apart from generously donating lands for the road also contributed manual labour and encouraged the Cadets with active co-operation.

Sponsored by Sri O. Venkatasubba Reddiar, M.L.A., the A.C.C. Social Service Camp was under the charge of Captain Gopi and Subedhar Sri K. C. Nayar. About 1,000 Cadets from Madras City, Chingleput and North Arcot Districts took part in the camp in two groups.

A pleasant function was arranged yesterday at Vedanthangal by Sri O. Venkatasubba Reddiar, M.L.A., to congratulate the Cadets on the service they rendered in the cause of the development of the countryside. The visitors to the Bird Sanctuary would remember their services for ever for the road that was laid would become an important link as the Bird Sanctuary gained importance in the days to come. Sweets were also distributed to the Cadets and children who assembled on the occasion.



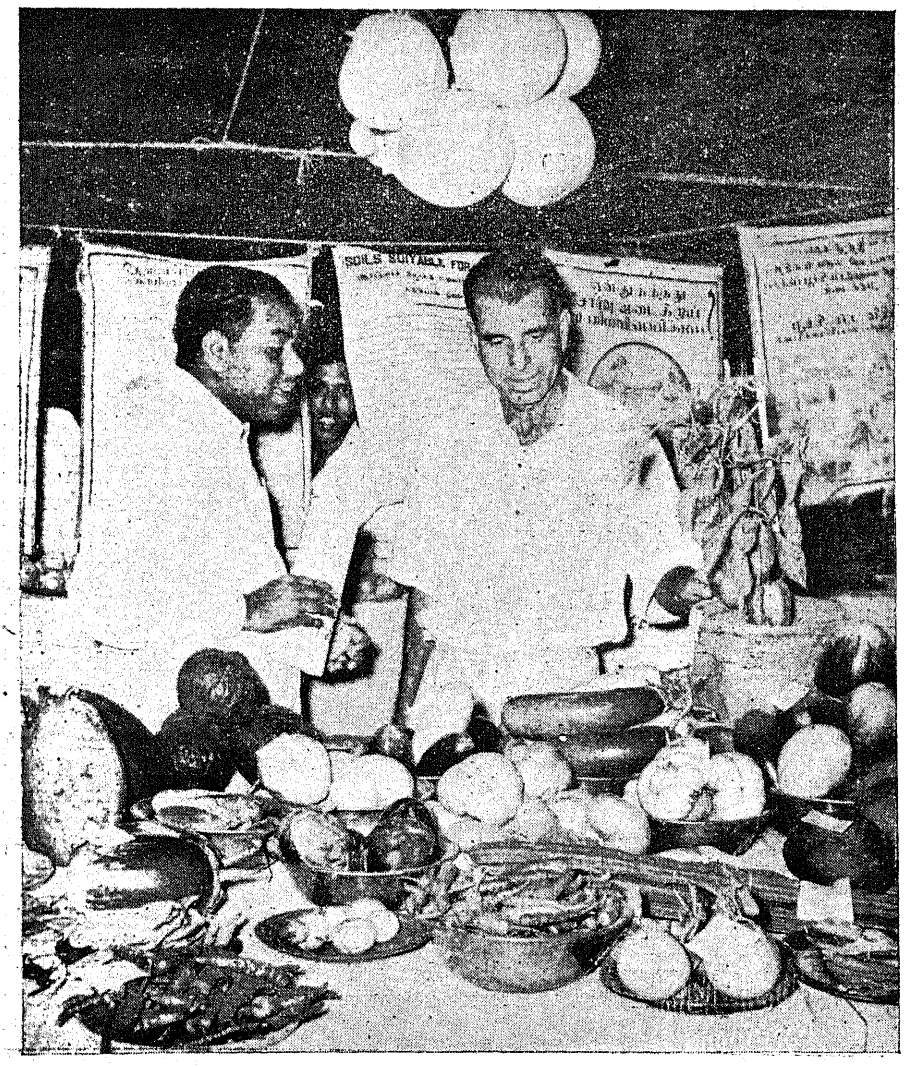
The Union Food Minister Sri Ajit Prasad Jain and Sri M. V. Krishnappa, Union Deputy Food Minister conferred with the Chief Minister Sri K. Kamaraj and other State Ministers and officials in the second week of June about the prevailing food situation in Madras State.

Cotton - Linters

Will Yield Additional Income if Tapped Properly

By SRI N. KESAVA IYENGAR, Sea Island Cotton Development Officer, Coimbatore.

The cotton plant is primarily cultivated for its convoluted fibres found on its seed coat, commercially known as '*lint*'. This product is extracted by a process known as 'ginning' and the lint extracted is utilised for spinning yarns in the mills. In most of the cotton-producing countries, particularly in India, the cotton seeds are exclusively utilised for cattle food, after reserving a small quantity for sowing purposes. In U.S.A. however the cotton seed is fully exploited by extracting by-products like 'linters', 'hulls', 'cotton-seed cake' and 'oil'. Thus, the cotton seeds are put to maximum use and are considered as important in trade as the lint and various trade regulations, are in force for cotton seed product also. Recently, certain States like Punjab, Madhya Pradesh and Andhra in India have started to crush the cotton seed for oil and they are utilising the cake either for cattle-food or manuring. In Madras State also certain industrial circles have just realised the importance of linters and are attempting to erect machines for delinting and extraction of oil. It is also interesting to record in this connection that the two reputed long-staple cottons of Madras, viz., Madras Cambodia Uganda 1 and Madras Cambodia Uganda 2 have high oil content of the order of 18 per cent or more. As large quantities of these seeds are produced annually, the potentialities for production of oil from cotton seeds have a great future in this State.



An Agricultural Exhibition was organised last month in Sirkali South Block. Sri V. Karthikeyan (left) Collector of Tanjore is seen inspecting vegetable section.

A brief account of the cotton linters and other by-products of the cotton seeds is given below for the information of the cotton cultivators, manufacturers, and industrialists.

Linters', technically termed as "*Fuzz*", refer to the large number of short fibres on the seed-coat of cotton and are distinct from the long cotton fibres called "*Lint*" which are used for spinning. Linters constituted about 3 per cent of the weight of seed in deshi cotton varieties and 9 per cent in American types. '*Linters*' are removed from the cotton seed by machines which are known as "*delinters*" and which are similar in construction and operation to saw-gins. The process of delinting is a preliminary operation that is necessary before the cotton seed is dehulled and crushed for oil. As such, it forms an important ancillary part of cotton-seed oil industry. If the seeds are run through the mill only once, the linters are styled as "*mill run*". The delinting process is generally done twice and

Sri M. Bhaktavatsalam, Minister for Home, declared open the After-Care Home at Vellore in the second week of June. Srimathi Lourdhammal Simon, Minister for Local Administration also participated in the function.

the linters obtained graded as "*first cut*" and '*second cut*". The linters are usually "purified" by treatment with caustic soda solution to remove fats and waxes and bleached by passing repeatedly through chlorine solution before it is finally washed and dried. The resultant product is turned out in loose form or into sheets before being chemically processed. The "*first cut*" linter is mostly used in chemical industry for the manufacture of acetate-rayon, paper and lacquer. The principal uses for the intermediate grades of "*mill-run*" linters are found in the felt-trade, stuffing pillows and cushions. About 40 to 200 lb. of linters are obtained from a ton of cotton seed, depending upon variety and efficiency of the delinting machinery, etc. The linters are packed in bales of 600 lb. each. Official standards for grade and staple have been established for these also like cotton lint in U.S.A.

It is reported that annually 50 million dollars worth of linters are produced in U.S.A. On the basis of one million tons of cotton seed, it is estimated that about 25,000 tons of linters may be extracted from the cotton seeds produced in India. This will provide a substantial additional income to the cotton industry and enable the crushing of cotton seed for oil, which will meet to a considerable extent the oil shortage in our country. The development of the above industries in this country, is engaging the attention of the Planning Commission and enterprising Industrialists as well.

(*Continued from page* 22)

natural jungle growth in these areas. The cutting of grass is proposed to be allowed after the plantations are at least three years old and are completely stabilised.

During the Plan period, 5,000 acres will come under this Scheme in Chingleput and 3,000 acres in Cuddalore forest divisions. The cost of the scheme in the current year is Rs. 4·38 lakhs. Seven Rangers and twenty-one Foresters are employed for the scheme and the cost of planting is only about Rs. 32 per acre.

Vandalur area on the Kelambakkam Road and the Kattur area on the Tirukkalukundram Road are over 500 acres each and the total number of such blocks will be 22 in the two forest divisions.

The planting was done last August and September departmentally by the Forest Department. The plants were planted in rows at 33 feet intervals with an interspacing of about 16½ feet. Convenient roads have been laid out with watching sheds on nearby hillocks. Sri Krishnaswami the Chief Conservator explained that 97 per cent of the plantings have come out successful and where they failed they were replanted. The stand of the plants was excellent. The operations are carried out on economic lines and this is the first project anywhere in India where cashew has been raised as forest plantation.

(*Continued from page* 17)

Todas with their buffalo-cult, the food-gathering Kadars of Cochin and the Chenchus of Andhra; the Khonds, the Savaras and the Gadabas with their bison dance and the picturesque Lambadis of Telengana. Besides these, other exhibits such as dress, ornaments, weapons, writing implements, musical instruments and ritual objects enable us to understand the wealth and diversity of rural and tribal arts and crafts.

National Art Gallery.

The opening of the National Art Gallery by the Prime Minister of India in 1951 synchronised with his inauguration of the Centenary Celebrations of the Museum. Exhibited in this gallery are some of the finest bronze sculptures of Southern India. Among these are the well-known dancing Siva of Tiruvalangadu and the exquisite Rama group. Paintings of the Rajput, Moghul, Ravi Varma, Andhra and Tanjore Schools are exhibited besides the works of some contemporary artists and sculptors such as Shri D. P. Roy Chowdhury. South India has been famous for its wood carvings, ivory carvings, brass lamps and brassware, and printed textiles, specimens of which are exhibited in the National Art Gallery.

The research publications of this Museum maintain international standards of scholarship and have built up extensive exchange relations with most foreign countries.

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