

The Cotton Package Programme for the Summer Cambodia Tract of Madras State *

by
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Synopsis: In this paper, the progress and problems of the Cotton Package Scheme implemented during 1963—'64 in the summer irrigated cotton area of Ramanathapuram and Tirunelveli districts are discussed.

Introduction: The Government of India recommended the Package Programme for increasing the production of raw cotton in Madras State during 1962—'63 and also offered to give additional help to the State for implementing the scheme in specified areas. It was however, recommended that the specified area should, as far as possible, have assured water supply for irrigation and that such areas should have well developed Co-operatives and Panchayat Institutions and be free from natural hazards, problems of drainage, salinity and susceptibility to floods. Based on this recommendation, the Madras Government sanctioned the Cotton Package Scheme from 1—9—1962. This report presents the progress of work done in the Cotton Package Programme implemented in the 3,000 acres of summer Cambodia cotton in Tirunelveli and Ramanathapuram districts during 1963—'64. The problems encountered in the actual implementation and the extent to which it was tackled are also discussed with some suggestions for future work.

Programme of work: The work under the scheme involves: 1. Survey of the summer Cambodia tract, preparation of farm plans and provision of credit facilities to cotton growers, 2. Use of MCU. 2. an improved strain of cotton recommended by the Agricultural department, 3. Application of inorganic fertilisers, 4. Adoption of plant protection measures, 5. Adoption of improved agronomic practices and 6. Lay out of fertiliser and composite demonstration plots.

Staff: For the implementation of the Cotton Package Programme in the summer Cambodia tract, a unit consisting of two Cotton Development Assistants and ten Fieldmen was sanctioned.

The Cotton Development Assistant, Srivilliputhur was incharge of 20,000 acres in Srivilliputhur taluk with six Fieldmen to assist him. The Assistant at Sankarankoil was placed in charge of 10,000 acres in Sankarankoil

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with four Fieldmen to help him. Each fieldman of the scheme had to cover, on an average, 66 villages situated at a distance ranging from 2 to 16 miles from their head-quarters. The field staff were placed under the supervision of the Assistant Cotton Development Officer, Srivilliputhur. No ministerial staff was sanctioned for the scheme. In actual working, the staff were found to be inadequate for the programme envisaged in the scheme.

Survey: The survey conducted during 1963 revealed certain interesting features about the cotton growers of Srivilliputhur and Sankarankoil taluks. Though the pests like jassids and boll worm and the blackarm disease, have contributed to a large extent for the reduction of yield of cottons in this area, only less than five per cent of the cotton growers of this area were taking up plant protection as a curative measure.

Generally, the cotton growers were applying 5-10 tons of farm yard manure or compost with top dressing of ammonium sulphate or urea at the rate varying from ten to forty pound of nitrogen per acre. The use of MCU. 2. the improved seed of cotton was popular here.

S. No.	Name of Blocks	Number of cotton growers cultivating cottons (Irrigated)	Villages in which distributed	Area under cotton (in acres) 1963-'64	Co-operative institution in the area		
					Agriculture Bank	Credit Union	Multipurpose Co-operative Societies
Srivilliputhur taluk :— (in Ramanathapuram district)		20,000 (acres)					
1.	Srivilliputhur	3,553	116	9,118	3	1	19
2.	Rajapalayam	3,200	74	7,873	2	2	21
3.	Watrap	1,066	46	3,287	...	2	21
Total		7,819	236	20,278	5	5	61
Sankarankoil taluk :— (in Tirunelveli district)		10,000 (acres)					
1.	Vasudevanallur	2,300	43	4,233	25
2.	Sankarankoil	1,650	41	3,206	1	...	27
3.	Kuruvikulam	1,130	96	2,600	1	...	36
4.	Melaneelithanallur	1,246	58	2,011	...	3	15
Total		6,326	283	12,050	2	3	103
Grand total		14,145	574	33,328	7	3	164

From the above table, it will be seen that the average holding of a cotton grower of this area is 2.3 acres. The average cotton area per village is 58 acres. The well distributed Co-operative institutions numbering about 179 cater to the credit requirements of ryots of this summer Cambodia tract.

Another peculiar feature of this tract is that the production of cash crop like cotton does not interfere with the production of food crops. The paddy crop is raised with the help of water in the tanks filled up during the North-East monsoon rains. As the tankfed wet lands are provided with wells mostly fitted with electric motor pumpsets, they are able to raise the cotton crop in summer months after the harvest of paddy in January.

Preparation of farm plans: Due to the non-receipt of printed forms of farm plans, plans for 1963 summer crop could not be prepared. During 1964, 7152 farm plans covering 15,192 acres were prepared to provide credit to the tune of Rs. 30-38 lakhs for cotton package ryots.

Due to lack of experience of the field staff, in his line of work, 4560 farm plans had to be rejected for the reason that the growers were either non-members or members with overdues to the society either on their score or on their surities. In the initial stages, the Bank Supervisors of the District Co-operative Central Bank of Tirunelveli and Ramanathapuram insisted on advance payment of share capital of Rs. 10/- for every hundred rupees which resulted in the rejection of the large number of plans. However, this rule was relaxed after January, 15, 1964.

Credit Facilities to the Cotton Growers: In the initial period of the working of the scheme, a loan of Rs. 12.9 lakh provided for cotton growers of package area under intensive manuring scheme could not be disbursed due to the operation of full finance scheme in some of the blocks. Therefore, the Director of Agriculture, Madras convened a meeting of the Agricultural Officers in-charge of Package Scheme as well as the officials of the Co-operative Department and Co-operative Banks of package area at Madras on 15-3-1963 and decided to adopt the procedure for providing credit adopted in Cuddalore Groundnut Package Scheme, for cotton also. It was also resolved that the Government may be addressed for the introduction of full finance scheme to the entire area covered by the Package Scheme. The following time schedule was fixed; the preparation of farm plans to be completed before 15th January, the issue of loans to be completed in February-March and recovery to be done by 1st December.

After ascertaining the opinion of the representatives, it was decided that a loan of Rs. 200/- per acre may be given with the break up given below :—

	Rs.
Seeds	5
Manures	40
Pesticides	25
Labour charges	130
Total	200

The recommended dose of manure will be given as ammonium sulphate or urea to give 40 lb. of nitrogen per acre, the pesticides will be at 50 per cent subsidy for five sprayings and the seeds will be given in kind while labour charges will be paid in cash.

During 1964 summer, a loan of Rs. 11.50 lakhs was disbursed to the 2,592 cotton growers, cultivating an area of 5,525 acres in the Summer Cambodia Package area of Srivilliputhur and Sankarankoil taluks in spite of severe competition from cotton traders.

Supply of Improved Quality Seeds: The superior quality Cambodia cotton strain MCU. 2. was recommended. Six thousand bags of MCU. 2. cotton seeds were required to cover the 30,000 acres at the rate of one bag for every five acres.

The long standing well organised units of seed multiplication scheme placed at the disposal of the Srivilliputhur Uganda Cotton Growers' Co-operative Marketing Society, Srivilliputhur arranged for running seed farms and supply of quality seeds of MCU. 2. cotton required for the package area. The above Society was authorised to distribute the MCU. 2. seeds in the package area of Srivilliputhur taluk. The distribution of MCU. 2. seeds required for the 10,000 acres of Sankarankoil taluk was done through the four block development offices.

Six thousand bags of MCU. 2. seeds in 1963 and 6,305 bags of MCU. 2. seeds in 1964 were distributed to cover the entire package area with improved seeds.

Inorganic Fertiliser Distribution: A normal dose of 40 lb. nitrogen as ammonium sulphate or urea over five tons of basal dosage of cattle manure or compost and 40 kg., super and 16 kg. muriate of potash was recommended per acre for the irrigated Cambodia cotton.

There are 14 whole-salers who have got 33 retailers for distribution of fertilisers to the cotton growers in the Srivilliputhur taluk. The Tirunelveli Co-operative Stores at Sankarankoil was the Government stockists as well as sole whole-saler who has got 49 retailers for distribution of the fertiliser requirements of Sankarankoil taluk.

In 1963 the allotment of fertiliser to package area was made in June, at the time of cotton picking. However, in 1964 the Revenue authorities were personally contacted and the allotment of fertilisers was obtained as early as February, and supplied in advance of sowing.

The quantities of fertiliser distributed through the various Co-operative institutions for the cotton crop during 1963 and 1964 summer in the package area were as follows:

	1963 Summer		1964 Summer	
	Tons	kg.	Tons	kg.
1. Ammonium sulphate	852	248	1,084	740
2. Urea	351	370	900	319
3. Calcium ammonium nitrate	5	203	16	620
4. Cotton mixture	66	625	203	635

The use of urea and cotton mixtures showed an upward trend after the impact of Package Programme.

Supply of pesticides : The following prophylactic plant protection schedule was recommended for adoption under the package programme, commencing from the 20th day onwards at the interval of three weeks:

1. Seed treatment with Agrosan at one oz. per 9 kg.
2. Spraying Endrin 250 ml. in 80 gallons of water.
3. Spraying Folidol 200 cc. and 1 kg. Copper fungicide in 100 gallons of water.
4. Spraying a mixture of B. H. C. 50% and D. D. T. 50% $1\frac{1}{2}$ kg., each and $\frac{1}{2}$ kg. wettable sulphur in 100 gallons of water.
5. Spraying Folidol 200 cc. in 100 gallons of water.

The following quantities of plant protection chemicals were distributed at fifty per cent subsidised rate to the cotton growers of summer Cambodia area through the depots of the seven Panchayat Unions.

S. No.	Name of pesticides	1963 Summer	1964 Summer
1.	Agrosan	Details on exact quantity not available.	118 kg.
2.	Endrin	447 litres	1,280 litres
3.	Folidol	731 „	2,695 „
4.	D. D. T. 50%	67 kg.	3,880 kg.
5.	B. H. C. 50%	171 kg.	7,419 kg.
6.	D. D. T. 50%	509 kg.	nil
7.	B. H. C. 10%	449 kg.	nil
8.	Copper fungicide	635 kg.	5,490 kg.
9.	Wettable sulphur	3 kg.	1,642 kg.
10.	Sulphur dust	20 kg.	nil

The quantity of pesticides consumed for Summer Cambodia cotton has increased considerably after the impact of the intensified production programme.

The growers of this area who were not used to take up prophylactic spraying showed resistance for the issue of pesticides worth Rs. 50/- for five rounds of spraying. Despite the vigorous propaganda and publicity by the departmental staff, some growers went to the extent of refusing loans due to the issue of pesticides.

Follow up: The field staff were fully engaged in follow up of the ryots who obtained cotton package loan by laying out demonstration trials, and giving publicity and propaganda of technical know-how for adoption of improved agronomic practices like early sowing, line sowing, use of improved implements for preparatory and intercultivation, adoption of optimum spacing and clean picking. Besides the scheme staff, the services of the Gramasevaks of the Panchayat Unions were also utilised for this work.

Fertiliser Demonstration Trial: In order to popularise the use of calcium ammonium nitrate and to show its beneficial effects, forty demonstration trials were arranged in the summer package area.

Each trial was laid out in 1.50 acres divided into three equal plots of 50 cents each. One plot received 40 kg. superphosphate and 8 kg. muriate of potash. Another plot was given 45 kg. of ammonium sulphate, and 22½ kg. of superphosphate and 8 kg. of muriate of potash and the third plot was control. The fertiliser requirement for these demonstration plots were supplied free of cost to the ryots.

It was demonstrated to the cultivators that calcium ammonium nitrate was as efficient as ammonium sulphate and the application of inorganic fertiliser enhanced the yield of seed cotton by 20—35 per cent over no manure plots.

Demonstration of Intensive Cultivation Methods: To demonstrate the methods and benefits of intensified cultivation practices recommended by the department, thirty Composite Demonstration plots were laid out at the rate of one trial for every 1,000 acres.

Each plot of one acre was divided into two equal parts of 50 cents each. In one plot, the ryots' method was followed; in the other, departmental recommendation was adopted. To serve as an incentive to the cultivators for sowing the trials and for carrying out all the departmental recommendations, a subsidy of Rs. 50/- to each demonstration was given. The Composite Demonstration trials conducted during 1963 and 1964 summer have shown that the departmental method enhanced the yield of seed cotton by 22 per cent over ryots' method.

Crop Cutting Experiments: After the implementation of the Package Programme in the Summer Cambodia tract of Madras State from 1963 onwards, every concerted effort is made for the realisation of maximum benefit by the adoption of improved cultural practices. From the results of sixty crop cutting experiments laid out in 1964 season under the guidance of the Director of Statistics it was assessed that an increased yield of 403 lb. of seed cotton per acre or 42.60 per cent higher yield was obtained by the adoption of the package of practices in this tract.

Suggestion for future work: To overcome the resistance for pesticides in this area, intense publicity and personal contact of the ryots by the agricultural staff is required. They should also help the cotton growers by timely supply of adequate number of sprayers and by arranging for the repairs of plant protection equipments in time.

2. Village squads have to be formed and trained for plant protection work and in the repair and maintenance of plant protection appliances to solve the major problem of this area.

3. Provision of funds to the project officer to print publicity materials locally explaining the scheme work will help the dissemination of scientific method of cotton cultivation to the growers.

4. The supply of seeds, fertilisers and pesticides through one agency at Srivilliputhur and Sankarankoil will facilitate quicker and timely flow of these important agricultural inputs.