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An Analysis of Agricultural Development in Tamilnadu with Special Reference to Madurai District

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Abstract

The developmental plans in India have stressed the need for a revolutionary change in agriculture which can be brought about by the introduction of new and HYV of improved seeds, application of suitable doses of fertilizers and extensive use of pesticides. The 'Green Revolution' as it is otherwise called, has led to a large increase in production of food grains after 1966-67. The Community Development Projects (each covering 100 villages) were started in 1952. The main objective was to mobilize rural dwellers for labour-intensive agricultural productivity projects supported by certain land reforms, new village co-operatives in which the State would be a partner and national extension services. In the Second Five Year Plan, only 20 per cent of total outlay went to agriculture, which is lower than the percentage allotted in the First Five Year Plan. The literates and illiterates were 17.95 lakhs and 7.67 lakhs respectively in 2001. The population is spread over the entire district with 11.27 lakhs and 14.35 lakhs living in the rural and urban areas respectively. Government should encourage the farmers to start co-operative societies in the study area in order to develop a direct link between the wholesalers/retailers, processors and exporters to cut down the marketing cost incurred for lengthy channel. The Government should initiate action to improve market information system and market intelligence.

Keywords: Agriculture Development, Community Development, Revenue Divisions.

Introduction

The developmental plans in India have stressed the need for a revolutionary change in agriculture which can be brought about by the introduction of new and HYV of improved seeds, application of suitable doses of fertilizers and extensive use of pesticides. The 'Green Revolution' as it is otherwise called, has led to a large increase in production of food grains after 1966-67. The revolution has brought about self sufficiency in food grains in agriculture, reduced our dependence on foreign countries for food grains and generated progress in agriculture. The revolutionary change has attempted to break the chain of the vicious circle of poverty in Indian agriculture and paved the way for success mainly in the production of food grains. The review of agricultural development in India since Independence will show the telling impact of the new agricultural strategy. Indian agriculture during the 19th Century was almost of subsistence type. Production of food grains was mainly for consumption purposes and there has been very little rise in output. Indian

agriculture is rich in resources but low in productivity. With 2.5 per cent of the world surface area, the country cultivates 163 million hectares, which is approximately 12 per cent of the world arable area. Comparatively in the world scene, Indian rice productivity is just 40 per cent of the Chinese yields, approximately one-third of the Korean yields and around 55 per cent of Indonesian yields. Agricultural development has received priority after independence in our five year plans. Efforts were made to overcome the technical constraints, institutional drawbacks, poor extension services, etc. In the First Five Year Plan, agriculture received top priority.¹ The agricultural development programmes included the Extensive Cultivation and the Community Development Programme. The Community Development Projects (each covering 100 villages) were started in 1952. The main objective was to mobilize rural dwellers for labour-intensive agricultural productivity projects supported by certain land reforms, new village co-operatives in which the State would be a partner and national extension services. In the Second Five Year

Plan, only 20 per cent of total outlay went to agriculture, which is lower than the percentage allotted in the First Five Year Plan. The approach to development was based on the selectivity of area and concentration of efforts and it was pursued in the Third Five Year Plan also. Institutional support to development was initiated. In spite of the efforts made by the government, the chronic food shortage could not be wiped out. The Ford Foundation team visited India during January to April 1959 to suggest measures to overcome food shortages. The team submitted their report 'India's Food Crisis and Steps to meet it'. The team had found that there were no insurmountable obstacles to increase production. The team recommended intensive agricultural development through selected areas in the country, which have vast potential for improvement. Based on Ford Foundation's recommendations the Intensive Agricultural District Programme (IADP) also known as the "Package Programme" was initiated in the year 1960-61. Seven districts were chosen initially for implementation of this programme. Thus there has been a conscious effort to improve agriculture through institutional and agrarian reforms and strengthening of agricultural infrastructure.² From 1960-61, the emphasis shifted to measures for increasing agricultural productivity through the adoption of improved method and use of modern inputs. Technology was recognised as a measure to increase agricultural productivity. The IADP with improved seeds, improved farm tools, fertilizers and pesticides demonstrated the most effective way to increase agricultural production by the application of scientific know how which could be extended to areas with basic inputs. The seven districts in which the programme was implemented made considerable progress and then it was extended to 15 districts comprising the first group of 7 districts selected in 1960-61 and the second group of eight districts in 1962-63. In 1964-65, 114 districts were chosen for Intensive Agricultural Area Programme (IAAP) which was intensive agricultural development of a selected area.³

The "New Strategy" for agricultural development initiated in 1966 called for an effective implementation of IADP and IAAP with the use of High Yielding Varieties. The HYVP assumed crucial importance in the agricultural development strategy.⁴ The HYV strategy aims to increase productivity of crops per acre through multiple cropping. The Fourth Plan put the New Strategy as follows: (i) to apply scientific techniques and knowledge of agricultural production at all stages,

particularly in the fields, (ii) to select a few areas with assured rainfall and irrigation for concentrated application of a package of practices based on improved varieties of seeds, responsive to heavy doses of fertilizers and availability of inputs and to fix special targets of production of food grains. The first dwarf varieties of wheat were introduced in India by the scientists at the Indian Agricultural Research Institute (IARI), New Delhi in 1962-63 with the co-operation of Dr. Norman Borlaug.⁵ The Central Rice Research Institute at Cuttack and Rice Project Directorate at Hyderabad helped to introduce the new high yielding varieties of rice and new farm practices. There are at present 120 rice research stations in the country. The IARI is paying attention to the improvement of nutritional quality of major food grains such as wheat, rice, millet, maize, sorghum and so on. The area under HYVP which was 1.89 million hectares in 1966-67 had increased to 9.2 million hectares on the eve of Fourth Five Year Plan. In 1989-90, the area under HYVP increased to 26.53 million hectares which accounted for 31.6 per cent of the gross cropped area. The area under rice increased from 30 million hectares in 1950-51 to 56 million hectares in 1989-90, the production of rice stood at 20 million tonnes and 59 million tonnes respectively. There has been a tremendous increase in yield from 668 kg. per hectare to 1425 kg. per hectare over the period.⁶

The Sixth Plan's objectives include speedy implementation of land reforms, spread of new technology to more farmers and regions, using agriculture as a catalyst of income and employment generation in rural areas and promoting scientific, land-water use patterns based on consideration of ecology, energy conservation and employment generation. An overall view of recent trends in area under High Yielding Varieties shows that the annual rate of growth between 1980-81 and 1987-88 was 3.5 per cent. Agricultural production which suffered a setback during 1991-92 due to irregular monsoon in 1991 was expected to record a relatively high growth rate in 1992-93. Foodgrains production was targeted at 183 million tonnes during 1992-93.

The Tenth Five Year Plan (2002-2007) envisages an overall GDP growth rate of 8 per cent per annum. The National Agricultural Policy has envisaged:⁷

- ◊ Growth that is based on efficient use of resources and conserves our soil, water and bio-diversity;
- ◊ Growth with equity, i.e., growth which is widespread across regions and benefits all farmers;

- ❖ Growth that is demand-driven and caters to domestic markets as well as maximizes benefits from exports; and
- ❖ Growth that is sustainable technologically, environmentally and economically;
- ❖ Growth rate in excess of 4 per cent. The strategy to achieve the desired growth rate, exceeding 4 per cent, in the sector during the Tenth Plan, would be a regionally differentiated one based on agro-climatic conditions and land and water resources of different regions.

Table 1: Villages and Number of Selected Farmers

S. No.	I. Madurai East	Total	Male	Total	Female
1.	Chinnamangalam	321.42	14	342.33	16
2.	Kadakinara	278.12	12	267.16	12
3.	Kallakudi	213.16	9	182.36	8
4.	Mathur	178.28	8	163.74	8
5.	Valliyakandram	143.16	6	136.32	6
6.	Sakkudi	138.72	6	127.36	6
7.	Aranbanoor	102.63	4	94.34	4
8.	Narsingam	98.43	4	78.36	4
9.	Othakudai	96.73	4	71.32	3
10.	Pudithamaraiyatti	78.36	3	69.42	3
II. Madurai West					
11.	Kalamangalam	278.36	12	281.36	13
12.	Thiruppala	263.51	12	270.15	13
13.	Paruvai	196.72	9	184.32	9
14.	Kodimangalam	188.36	8	176.16	8
15.	Chinnampatti	174.78	8	167.32	8
16.	Karuvannur	163.36	7	154.31	7
17.	Kavannur	154.12	7	137.74	6
18.	Chatrapatti	148.16	6	122.16	6
19.	Veerapandi	131.21	6	101.48	5
20.	Pachikulam	104.14	5	98.36	5
	Total	3451.73	150	3226.07	150

Source: Office, Assistant Director of Statistics, Madurai, 2012-13.

Table 2: Number of Revenue Divisions, Taluks and Community Development Blocks

Revenue Divisions	Taluka	Community Development Blocks
1. Madurai	1. Madurai North	1. Alanganallur
2. Usilampatti	2. Madurai South	2. Chellampatti
	3. Melur	3. Kallikudi
	4. Peraiyur	4. T. Kallupatti
	5. Thirumangalam	5. Kottampatti
	6. Usilampatti	6. Madurai East
	7. Vadipatti	7. Madurai West
		8. Melur
		9. Sedappatti
		10. Thirumangalam
		11. Tirupparakundram
		12. Usilampatti
		13. Vadipatti

Source: District Gazette, Madurai District, No. 5, March 5, 2012-13.

Population of the District: According to the 2001 Census, the total population of the district was about 25.78 lakhs comprising 13.03 lakhs of males and 12.74 lakhs of females and with a density of 689 persons per sq.km. The density of Madurai district is higher than the densities of the State and the Nation. The proportion of women to men is 964 to 1000 in the Madurai district compared to the ratio of 978 to 1000 for the state. The literacy rate is 78.65 per cent. The literates and illiterates were 17.95 lakhs and 7.67 lakhs respectively in 2001. The population is spread over the entire district with 11.27 lakhs and 14.35 lakhs living in the rural and urban areas respectively. The birth rate is 20.6 per 1000 and the mortality rate is 8.4 per 1000, thus resulting in a natural growth rate of 12.2 per 1000.⁸

Table 3: Block-Wise Distribution of Area and Population (2012-13)

Sl. No.	Name of the Block	Total Geographical Area (in hectares)	Population		
			Men	Women	Total
1.	Alanganallur	20245	48683	47251	95934
2.	Chellampatti	21007	43516	40009	83525
3.	Kallikudi	25682	33661	33986	67647
4.	T. Kallupatti	26532	40373	40106	80479
5.	Kottampatti	32900	49261	49683	98944
6.	Madurai East	24265	61958	60277	122235

Sl. No.	Name of the Block	Total Geographical Area (in hectares)	Population		
			Men	Women	Total
7.	Madurai West	16182	64637	62471	127108
8.	Melur	39818	57665	57431	115096
9.	Sedapatti	54903	53624	51913	105537
10.	Thirumangalam	30834	42108	40364	82472
11.	Tirupparankundram	29162	103307	104362	207669
12.	Usilampatti	35522	46662	43307	89969
13.	Vadipatti	17760	55273	54076	109349

Source: Annual Credit Plan, Lead Bank (Causa Bank), Madurai, 2008.

In Madurai district, Sedapatti block has the largest area of the total geographical area in the district. In terms of population, Tirupparankundram block has largest and Kallikudi block has smallest population in Madurai district.

Irrigation: Irrigation is one of the most fundamental inputs as it helps to relieve agriculture which hitherto was a gamble in monsoon and events like severe famine and semi-famine conditions. Moreover optimum utilization of land and resources can be obtained only with assured water supply and multiple cropping could be undertaken only with better irrigation. Irrigation helps in 'increasing production per unit of land, particularly when used in appropriate combination with other inputs'. It is a proven fact that output per acre is higher in irrigated lands than in dry lands in India.⁹

Fertilizer: Intensive use of land leads to depletion of nutrients in the soil which has to be replenished with the use of manures and fertilizers to increase soil productivity. Meller estimated that 53 per cent of the incremental food grains production in India during 1973-74 was attributable to fertilizer use and its contribution was expected to increase to 79 per cent during 1983-84. A Food and Agriculture Organisation (FAO) annual study has described the importance of fertilizer use as a spearhead of agricultural development. Because wherever efforts are made to raise agricultural efficiency and production for expanding populations, more fertilizers and manures have been invariably needed. The Intensive Agricultural District Programme (IADP) and High Yield Variety Programme (HYVP) increased the importance of fertilizers to compensate for the nutritional loss. The use of fertilizers has increased from 1.20 million tonnes in 1966-67 to 5.4 million tonnes in 1988-89.¹⁰

Mechanization: Farm mechanization is another

essential input for increased agricultural productivity. Assured irrigation at appropriate time and quantity, uniform application of fertilizers, seed-bed preparation of a good quality and early harvesting and threshing to sow the next crop with well adapted machinery and implements can only lead to timely farm operations of satisfactory quality. Much-headway is made in this direction in States like Punjab, Haryana, Uttar Pradesh, Andhra Pradesh and Tamil Nadu. Economists differ as to the possible loss and gain of farm mechanization. On the one hand it is opined that "Mechanization therefore contributes to meeting these peak power needs with better land preparation and higher cropping intensity leading to substantially bigger harvests which in turn require more labour during post-harvest slack periods for threshing, storage, transport and even quadruple the number of field operations".¹¹

Conclusion

In the light of this study, this section presents of the details of agriculture. The economy of Madurai district is basically agrarian in character and a vast majority of its population is dependent upon agriculture for income and employment either directly or indirectly. The agricultural sector not only generates employment but also fulfills the food requirements of the growing population.¹² the main crops cultivated in Madurai district are paddy, maize, cumbu, ragi, cotton, sugarcane and groundnut. of these crops, paddy and sugarcane are grown under irrigated conditions and the remaining crops are cultivated in irrigated and unirrigated conditions in Madurai district. The farmers in the study area were of the opinion that they could not achieve the maximum yield due to severity of diseases and pest attacks. It is suggested that the farmers should be educated properly to apply the pesticides at the prescribed level and this may be done through the agricultural department officer attached to the panchayat unions. The marketing cost

constitutes a major portion of the consumer price. Hence, Government should encourage the farmers to start co-operative societies in the study area in order to develop a direct link between the wholesalers/retailers, processors and exporters to cut down the marketing cost incurred for lengthy channel. The Government should initiate action to improve market information system and market intelligence. Existing techniques disseminating marketing information should be reviewed.¹³ Visual media like television can be used for providing market information to farmers of rural areas. Modern devices such as computers may be employed wherever necessary to make a meaningful estimate of marketable surplus and daily average price.

Ethical Clearance: Completed

Source of Funding: Self

Conflict of Interest: Nil

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