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CO-OPERATIVE SUGAR FACTORIES AND CHANGE IN THE METHODS OF FARMING IN SOLAPUR DISTRICT

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Abstract:-In the Solapur district some land is brought under irrigation with the help of left and right bank canals of the Bhima river. However, most of the land was unirrigated and depended on the vagaries of monsoon. The Sugar factories are trying to increase the total acreage under irrigation. Water, an important input for sugarcane cultivation, was not in ample supply due to the inadequate irrigation facilities. Sugarcane crop requires relatively larger capital for seed, fertilizers, labourers, etc., as compared to other crops. The farmers in the region were not getting loans easily from banks. This state of affairs changed after the factories came into existence.

Keywords:sugar industry, modern methods of farming, irrigation.

INTRODUCTION

Generally, in Solapur district the farmers were growing Jawar, Bajara and wheat on a large scale and they were growing other crops like sugarcane, cotton fruits, etc., on a small scale. Traditionally, the farmers were growing a single crop in a year. After the sugar factories, the acreage under irrigation increased. With adequate and reliable availability of water, the farmers started taking two and sometimes three crops in a year. From the survey, it is found that the sugar factories provided incentives directly and indirectly to take more than one crop in a year. It has already been mentioned that well irrigation and lift irrigation are promoted by the sugar factories directly. Apart from this, technical help and guidance for scientific farming are provided by the factories. The provision of credit facility, improved varieties of seeds, fertilizers, etc. by the sugar factories has made it possible for the farmers to grow more than one crop in a year.

SCOPE:

In the above research the study covers only the sugar industries in Solapur district. The started information about the research is limited in between 1995-96 to 2010-11.

METHODOLOGY:

The study is based on Primary and Secondary Data. Primary Data have collected from 239 farmers of sugarcane cultivators through questionnaires. Secondary Data have obtained from annual reports of sugar mills from Solapur district. The growth performance indicator have studied with the help of growth for 15 years at the same time information have collected from various published reports of government of Maharashtra, various reference books, research journal.

OBJECTIVE:

To study the contribution of sugar industry in the change of modern farming methods in Solapur district.

RESULTS AND DISCUSSION:

Data regarding irrigated and unirrigated land at the two points before and after the establishment of the sugar factories, collected in the survey, is presented in Table No-1.

The total land under cultivation in the surveyed area was 2519.9 acres which has increased upto 2578.1 acres i.e. by 2.31 percent. It means some fallow land had been brought under cultivation. Before the establishment of the sugar factories, the irrigated area was 840.00 acres which increased to 1320 acres in 2010-11. It means 57.19 percent more area is brought under irrigation. The proportion of irrigated area to the gross cultivated area changed to 33.33 percent in 1995-96 from 57.19 percent in 2010-11.

Table No-1
Irrigated and Unirrigated Land before (1995-96) and after (2010-11) the establishment of the Sugar Factories (Area in Acres)

Land Irrigated Under				Total Irrigated Area (Acres)	Unirrigated Area (Acres)	Gross Cultivated (Acres)
Particulars (Acres)	Wells (Acres)	Canal (Acres)	Other Sources (Acres)			
1	2	3	4	5	6	7
Before	687.7 (27.29)	152.3 (6.04)	-	840.00 (33.33)	1679.9 (66.67)	2519.9 (100.00)
After	903.9 (35.06)	416.5 (16.15)	-	1320.4 (51.21)	1257.9 (48.79)	2578.1 (100.00)
Net increase (+) or decrease(-) in the area	+216.2 (31.44)	+264.2 (173.47)	-	+480.4 (57.19)	-422 (-25.12)	+58.2 (2.31)

(Figures in parenthesis indicate percentages to the gross cultivated area in column 7).
Source - Compiled by the Researcher

Though the factories have constructed some lift irrigation projects in its area of operation, no lift irrigation project is located in the surveyed area. In this area the acreage under well irrigation has increased from 27.29 percent of the gross cultivated area to 35.06 percent in the later period. The acreage under canal irrigation has also significant increased, i.e. from 6.04 percent to 16.15 percent. As for increase of well and canal irrigation, we find from the table that the area under well irrigation has increased by 31.44 percent as compared to what it was before the establishment of the sugar factories. In the case of canal irrigation, there is a net increase of acreage by 173.47 percent. The net increase in the area under irrigation is by 57.19 percent. Thus the data from Table No-1 suggest that the establishment of sugar factories has led to increase in the acreage under irrigation. We have seen that the total area under irrigation has increased mainly because of the increase in canal irrigation.

Table No 2 shows the overall adoption of the modern methods of farming. It has already been explained that previously the majority of the farmers were taking a single crop in a year. But after the establishment of the sugar factories, the farmers could get various facilities, such as irrigation, Credit and other agricultural assistance. Hence, gradually the farmers in the region started growing more than a single crop. Formerly 8.79 per cent of the farmers were growing multiple crops. After the establishment of the sugar factories, 48.54 per cent of the farmers started growing multiple crops in their irrigated land. With the help of modern methods such as improved seeds, chemical fertilizers, etc.

The farmers were not accustomed to the use of hybrid seeds of Jawar, Bajara, cotton and they were rarely using improved varieties of wheat. But the sugar factories has introduced these hybrid and improved varieties of seeds, and it has also provided these varieties of improved seeds to the farmers. Taluka Panchayat Samiti provides seeds to the farmers on a small scale, but the farmers have to pay in cash. On the other hand, the factories provide seeds to the farmers on a large-scale basis and that too on credit. Naturally, farmers take advantage of this facility.

Table No- 2
Classification of Farmers according to the use of Modern Methods of Farming before (1995-96) and after (2010-11) the establishment of the Sugar Factories (All Size Groups of Holding)

Sr. No.	Particulars of the Modern Methods of Farming	No. of Farmers using Modern Methods Before the Sugar Factories	No. of Farmers using Modern Methods After the Sugar Factories	No. of non-users of Modern Methods	Total of the column 4 and 5
1	2	3	4	5	6
1.	Multiple cropping	21(8.79)	116(48.54)	123(51.46)	239(100)
2.	Use of improved seeds				
	a) Hybrid seeds of Jowar/ Bajra etc.	15(6.28)	138(57.74)	101(42.26)	239(100)
	b) Hybrid seed of cotton	2(0.84)	161(67.36)	78(32.63)	239(100)
	c) Improved variety of wheat	10(4.18)	149(62.34)	90(37.66)	239(100)
	Use of Fertilizers				
	a) In-organic	21(8.79)	148(61.92)	91(38.08)	239(100)
	b) Organic	-	-	-	-
	c) Green manure	13(5.44)	37(15.48)	202(84.52)	239(100)
	d) Compost	5(2.10)	73(30.54)	166(69.46)	239(100)
	Use of Pesticides				
	a) Before sowing	5(2.10)	105(43.94)	134(56.06)	239(100)
	b) After sowing	5(2.10)	144(60.25)	94(39.75)	239(100)
	Scientific method of Irrigation	1(0.42)	85(35.56)	154(64.44)	239(100)
	Practice of Mechanical Farming	7(2.93)	63(26.36)	176(73.64)	239(100)

Figures in the parenthesis indicate percentages to the total in the last column.
Source - Compiled by the Researcher

Hence, since the establishment of the sugar factories, the use of hybrid and improved seeds has been increasing. Previously, 6.28 per cent of the farmers were using the seeds of hybrid Jawar and Bajara. The percentages of the users of hybrid seed of cotton and improved varieties of wheat have increased respectively.

The proportion of users of inorganic fertilizers has also increased from 8.79 per cent to 61.92 per cent. But as compared to the use of inorganic fertilizers, the use of organic fertilizers such as green manure and compost manure has increased to a smaller extent. Previously, 5.44 per cent of the families were using green manure and 2.10 per cent were using compost manure. But after the establishment of the sugar factories, the proportion of the users of green manure increased to 15.48 per cent and the proportion of users of compost manure increased to 30.54 per cent.

In the case of users of pesticides, before and after sowing, the proportion was 2.10 per cent. After the establishment of the sugar factories, 43.94 per cent farmers were using it before sowing land, 60.25 per cent after sowing.

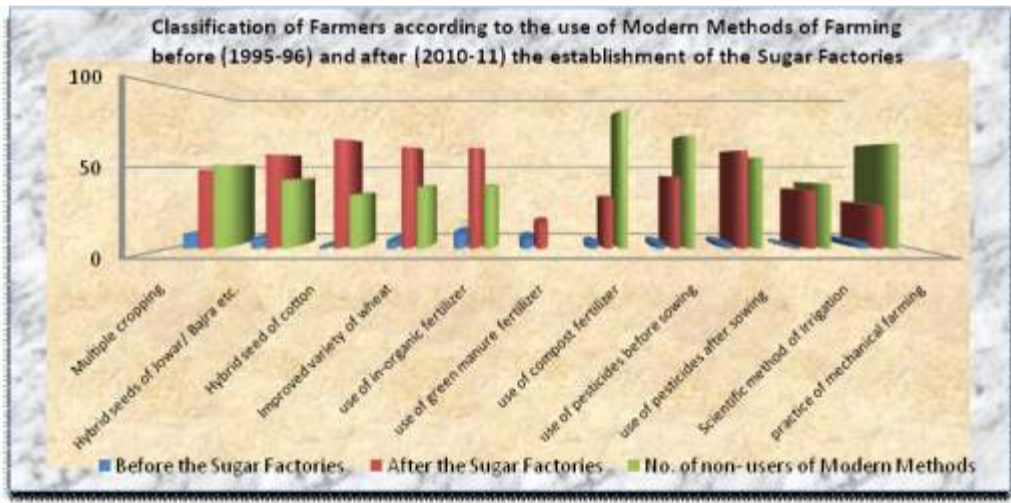


Figure No-1

After the establishment of the sugar factories, proportion of the users of scientific method of irrigation has increased from 0.42 per cent to 35.56 per cent. The scientific method of irrigation does not refer to graded furrow irrigation, because this method is applicable only on big farms. Here it refers to the use of adequate water according to the regular time schedule. For instance, a crop like sugarcane requires water after an interval of every 20 days in this region. Similarly, it requires adequate but not excessive use of water. The excessive use of water harms the proper growth of the crop. The farmers having the facility of irrigation can use the water scientifically. Those who have to depend upon canal irrigation cannot use the method properly because of the irregularity in canal rotation. The most important reasons for the adoption of scientific methods of irrigation are firstly, the increase in the well, lift and canal irrigation facilities and secondly, demonstrations of new scientific methods of irrigation given by the sugar factories.

CONCLUSION:

Sugar industry is the first largest agro-based industry in Solapur district. After 1995-96 government support the industry. We can conclude that after the establishment of the sugar factories, the farmers have been turning more and more towards modern methods of agriculture. Thus, it can be definitely said that with adequate provision of irrigation and credit facilities, a larger number of farmers will adopt modern methods of agriculture which will lead to increased agricultural productivity.

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