

Chapter – IV

Agricultural Diversification In Kumbhi River Dam Command Area

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4.1 Introduction :

Agriculture is the main occupation of India and villagers. Nearly 60% of the total population depends on agriculture and allied sector. The significance of agriculture in India arises also from the fact that the development in agriculture is an essential condition for the development of national economy. The main objective of Indian planning is economic development and the main objective of economic development is to reduce the unemployment and poverty. Indian planners learn a better lesson doing the second and third five year plan and in recent year, during 2002-03, for example, when failure of agricultural sector spelt disaster to the entire planning process. Thus any change in agriculture sector-positive or negative – has multiplier effect on the entire economy. During 50 years of planning, planners failed to achieve the above mentioned objectives. However the development had taken place but not as per the estimation.

The inadequate irrigation facility old technology, inadequate market facilities and many other factors have decreased agriculture production.

Water is indispensable to agriculture production. During the 50 years, since independence, the Government had spent about Rs. 2,31,400 crores (at 1996-97 priced) on major, medium and minor irrigation works.

In Maharashtra many dams have been built on different rivers to store water. These are 'Koyana', 'Jaykawadi', 'Kalamuladi' dam etc. In Kolhapur district they have built special Kolhapur type weir. In Kolhapur District, in Sangrool village co-operative (Dam) was built on Kumbhi river in 1952, which is the first co-operative dam in India. We will see how the socio-economic impact laid on the people of this dam area.

4.2 Information About The Command Area Of Sangrool

Co-Operative Dam:

There are 8 villages under ' Sangrool Co-operative Irrigation Dam'. Out of total village, 6 village are from Karver Tahasil, where as 2 village are from Panhala Tahasil. The names of villages from Karveer tahsil are 1) Sangrool 2) Koparde 3) Adur 4) Kalambe 5) Bhamate 6) Chinchavade and from Panhala Tahasil are 1) Marali and 2) Savarde

There are 2839 members of this co-operative dam society. The researcher has selected 96 members for the study. The researcher has selected 12 members form each villages for the study. The details about the socio-economic impact is given in detail as follows.

4.3 Caste And Category Wise Size Of Respondents :

Table No : 4.1

Cast Wise Size Of Sample Farmers

Sr.No.	Caste	Farmers	Percentage (%)
1.	Maratha	73	76.0
2.	SC	8	8.4
3.	OBC	14	14.6
4	Other	1	1.00
	Total	96	100.00

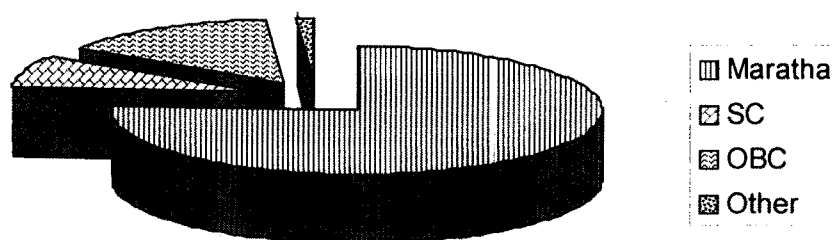
Source : Field work

Other : ST,NT,VJNT

The table shows the caste wise sample farmers. The caste wise size of farmers shows that the majority of farmers (76%) were from Maratha category while the farmers from SC, OBC and other category were very few i.e. 8.4, 14.6, 1.0 per cent respectively.

Chart No : 4.1

Castwise size of sample farmers



4.4 Caste Wise Education Of Sample Farmers :

The information of respondents about castwise education is given in following table.

Table No : 4.2
Caste Wise Education Of Sample Farmers

Sr. No.	Education Of Farmers	Name of the Caste				Total
		Maratha	SC	OBC	Other	
1	Primary	28	5	4	1	38
		73.7%	13.2%	10.5%	2.6%	100.0%
		38.4%	62.5%	28.6%	100%	39.6%
2	Secondary	24	1	8	0	33
		72.7%	3.0%	24.2%	0%	100%
		32.9%	12.5%	57.1%	0%	34.4%
3	Higher Secondary	11	1	2	0	14
		78.6%	7.1%	14.3%	0%	100%
		15.1%	12.5%	14.3%	0%	14.6%
4	Under Graduate	9	0	0	0	9
		100%	0%	0%	0%	100%
		12.3%	0%	0%	0%	9.4%
5	Graduate	1	1	0	0	2
		50%	50%	0%	0%	100%
		1.4%	12.5%	0%	0%	2.1%
	Total	73	8	14	1	96
		76%	8.3%	14.6%	1.0%	100%
		100%	100%	100%	100%	100%

Source : Field work

Above table shows the category wise educational level of sample farmers. The table shows that 39.6% farmers have obtained primary education, while 34.4%, 14.6%, 9.4% and 2.1% farmers had completed their secondary higher, secondary, under graduate, graduate educational degrees respectively.

If we analyze the above table on caste basis, it is observed that 38.4% Maratha farmers have obtained primary education, whereas 1.4% Maratha farmers had completed their graduation.

The table shows that 62.5% SC category farmers have obtained primary education, while 28.6% OBC category farmers have obtained primary education. No farmers had completed graduation from OBC category. The level of education seems satisfactory.

4.5 Cast Wise Occupation of Sample Farmers :

Caste wise occupation of sample farmers in studied is shown in the following table.

Table No : 4.3
Cast Wise Occupation Of Sample Farmers

Sr.No.	Education Of Farmers	Name of the Caste				
		Maratha	SC	OBC	Other	Total
1	Farmer	61	5	9	1	76
		80.3%	6.6%	11.8%	1.3%	100%
		83.6%	62.5%	64.3%	100%	79.2%
2	Agriculture labour	4	2	0	0	6
		66.7%	33.3%	0	0	100%
		5.5%	25.0%	0%	0%	6.3%
3	Service	3	0	0	0	3
		100%	0%	0%	0%	100%
		401%	0%	0%	0%	3.1%
4	Self Service	0	1	0	0	1
		0%	100%	0%	0%	100%
		0%	12.5%	0%	0%	1%
5	Other	5	0	5	0	10
		50%	0%	50%	0%	100%
		608%	0%	35.7%	0%	10.4%
	Total	73	8	14	1	96
		76%	8.3%	14.6%	1.0%	100%
		100%	100%	100%	100%	100%

Source : Field Work

Other : Shop, Poultry

The above table shows that 79.2% of the surveyed farmers were exclusively devoted to agriculture, where as 21.8% farmers were doing part-time agriculture in the study area.

If we analyze the above table on the caste basis, it is observed that 83.6% of the Maratha farmers were doing exclusively agriculture where as 16.4% farmers were part time agriculture.

The observation of the table shows that highest per centage of exclusive agriculture farmers belonged to Maratha category i.e. 83.6% and remaining were busy in farming and allied sector.

4.6 Caste Wise Nature Of Family Of Sample Farmers :

The cast wise nature of family of surveyed area is shown in following table.

Table No: 4.4

Caste Wise Nature Of Family Of Sample Farmers

Sr.No.	Name of the caste	Nature of family		Total
		Joint	Nuclear	
1	Maratha	38	35	73
		52.1%	47.9%	100.0%
		73.1%	79.5%	76.0%
2	SC	4	48	
		50%	50%	100%
		707%	9.1%	8.3%
3	OBC	9	5	14
		64.3%	35.7%	100%
		17.3%	11.4%	14.6%
4	Other	1	0	1
		100%	0%	100%
		1.9%	0%	1.0%
	Total	52	46	96
		54.2%	45.8%	100.0%
		100%	100%	100%

Source : Field work

The above table shows that out of total family were 54.2% Joint families were as 45.8 families were nuclear.

The table shows that the highest joint families were in other category i.e. 100% percent. The highest nuclear families were in SC category i.e. 50 percent. In case of Maratha caste, there were 73 farmers. Out of total Maratha farmers 52.1% were joint family whereas 47.9% were nuclear family. In case of SC category there were 50 families in nuclear family.

Table shows that out of total families 52 families were living joint family where as 46 families were nuclear families. It means there were joint families higher than nuclear families, which is the sign for co-operation even at home.

4.7 Sex Wise Family Size Of Sample Farmers :

The information about the sex wise family size of respondent is explained with the help of following table.

Table No: 4.5
Sex Wise Family Size Of Respondents

Sr. No.	Size	Male (1)		Female (2)		Children (3)		Family (4)	
		Respondent	%	Respondent	%	Respondent	%	Respondent	%
1	0	1	1%	0	0	0	0	0	0
2	1-2	40	41.7%	39	40.6%	15	15.6%	0	0
3	2-4	25	26.0%	32	33.3%	14	14.6%	36	37.5%
4	4-6	0	0	25	26.0%	40	41.7%	35	36.5%
5	6-8	30	31.3%	0	0	27	28.1%	9	9.4%
6	8-10	0	0	0	0	0	0	7	7.3%
7	10-above	0	0	0	0	0	0	9	9.4
	Total	96	100	96	100	96	100	96	100

Source : Field work

The above table shows that there is different structure of families of respondent. In first column there were 41.7% male in 1 to 2 number, where as 31.3% male were in 4-6 members size and 1 family whereas no male. In column 2 there were 39 families who have 1to 2 number of female and there proportion is 40.6 per cent. As well as 25 families who have 4-6 number of female there proportion is 26 percent. In column no.3 there were 15.6 percent families who have 1-2 number of children and 41.7 percent families who have 4-6 number of children. The size of family is shown in column no. 4. There were 37.5 percent family in 2-4 number and 36.5 percent family were in 4-6 number, where as very few families were as above than 10 members i.e. 9.4%. It means the size of family of area were medium.

4.8 Caste Wise Land Holding Of Surveyed Area :

Table No : 4.6
Caste Wise Land Holding Of Sample Farmers

Sr. No.	Name of the caste	Category of farmers			Total
		Small (0.01ha. to 1.0)	Medium (1ha. to 2ha)	Large (above than 2ha)	
1	Maratha	40	24	9	73
		54.8%	32.9%	12.3%	100%
		66.7%	88.9%	100%	76.0%
2	SC	7	1	0	8
		87.5%	12.5%	0%	8.3%
		11.7%	3.7%	0%	8.3%
3	OBC	13	1	0	14
		92.9%	7.1%	0%	100%
		21.7%	3.7%	0%	14.6%
4	Other	0	1	0	1
		0%	100%	0%	100%
		0%	3.7%	0%	1%
		60	27	9	96
	Total	62.5%	28.1%	9.4%	100%
		100%	100%	100%	100%

Source :Field work

The above table shows the caste and category wise land holding of sample farmers. There were 60 farmers in small and remaining 9 farmers in large category.

If we analyze the above table on caste basis, were 66.7%, Maratha farmers in small category, where as 11.5%, 2.5%, and 0% small farmers belonged to SC, OBC and other category.

The table shows that 88.9% medium farmers were in Maratha category where as 3.7%, 5.7% and 3.7% medium farmers were in SC, OBC and other category. As well as 100% large farmers were in Maratha category and no large farmers in SC, OBC, and Other category. It means there were large quantity of farmers in small category and very few farmers in large category of surveyed area.

4.9 Production Of Various Crops :

Comparative production of various crops is explained in the following table.

Table No: 4.7

Production Of Various Crops

Sr.No.	Particulars	2005-06	2006-07	% Growth
1	Sugarcane (tone)	6208	6687	7.72
2	Rice (Quintal)	1211	1366	12.80
3	Sunflower (Quintal)	30.43	53.57	76.04
4	Maize (Quintal)	158.50	206.67	30.39
5	Vegetable (Quintal)	50.90	53.20	4.52

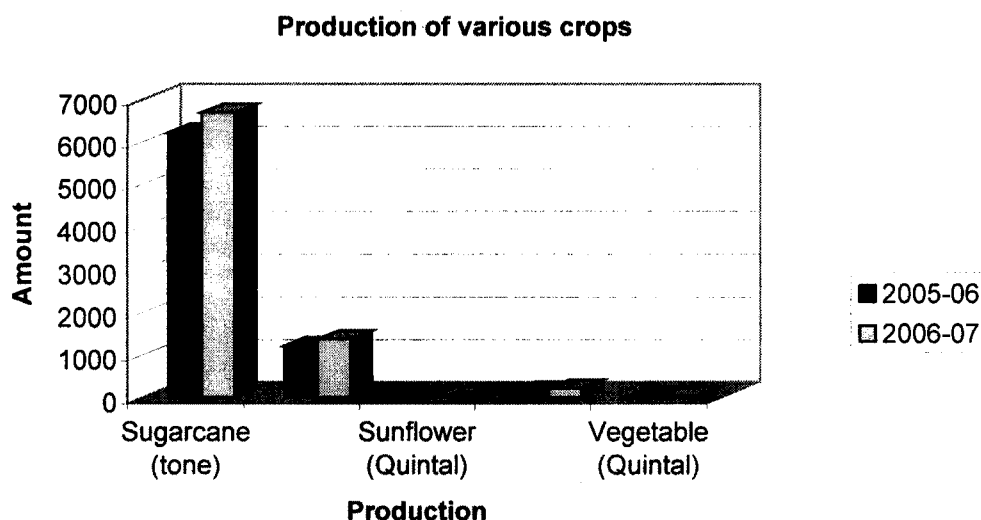
Source : Field work

Above table shows the production of various crops of surveyed farmers of two years. This output is summation of output of all sample

farmers. In case of sugarcane the output was 6208 tone in 2005-06 which increased up 6687 tones in 2006-07. The growth rate was 7.72 percent. In case of rice, the output was 1211 Qt in 2005-06 which increased to 1366 Qt in 2006-07. The production is increased by 12.80 percent. The production of sunflower, maize and vegetable increased from 30.43 Qt, 158.50 Qt and 50.90 Qt in 2005-06 to 53.57 Qt, 206.67 Qt and 53.20 Qt in 2006-07 respectively. The growth rate of sunflower, maize and vegetable for 2005-06 to 2006-07 was 76.04%, 30.39% and 4.52% respectively. Among all the crops the growth rate of sunflower is highest than other crops.

This table shows that the growth rate of all the crops in increased, because in year 2005-06 the big flood affected to all crops and the production of all crops declined. But in 2006-07 the flood did not affected. So 50 farmers got higher production than previous year.

Chart No:4.2



4.10 Cost Of Various Crops Of Surveyed Farmers :

Comparative cost regarding the various crops for the year 2005-06 to 2006-07 is explained in the following table.

Table No : 4.8
Comparative Cost Of Various Crops

(In Rs.)

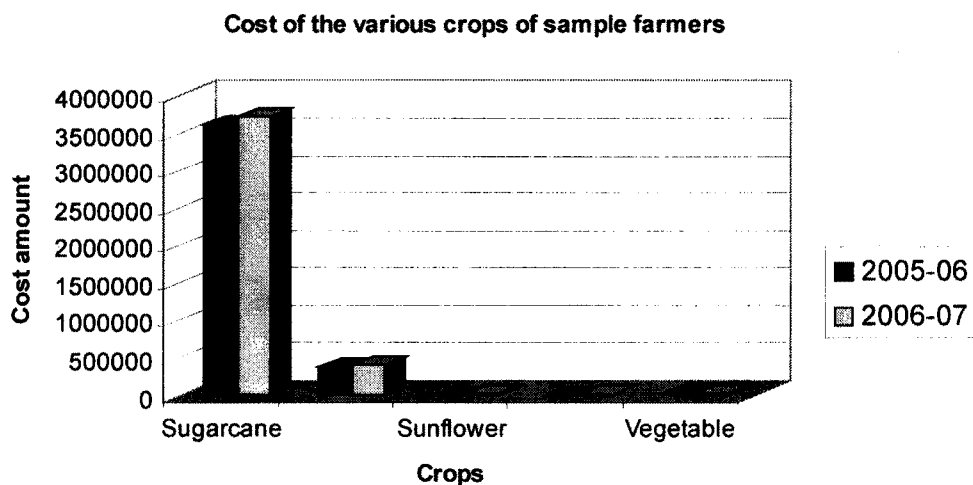
Sr.No.	Particulars	2005-06	2006-07	% Growth
1	Sugarcane	3620260	3719010	2.73
2	Rice	385200	414900	7.71
3	Sunflower	11350	34050	200.0
4	Maize	16560	20760	25.36
5	Vegetable	31460	31320	-0.45
	Total	4064830	4220040	3.82

Source : Field work

Above table shows the difference in cost of each crops for 2005-06 and 2006-07. This cost is the summation of all sample farmers. The cost of sugarcane was Rs. 3620260 in 2006-07 and the growth rate of cost was 2.73 percent during the same period. In case of Rice the cost increased from Rs. 385200 in 2005-06 to Rs. 414900 in 2006-07 the growth rate was 7.71 percent during same period. The growth rate of cost of sunflower, maize and vegetable was 200%, 25.36% and – 0.45% respectively. Among all the crops the growth rate of sunflower is higher than other crops. The growth rate of all the crops except vegetable is increased positively but the growth rate of cost of vegetable declined.

The cost of crops, increased because the prices of input increased. In case of sugarcane the farmers took production newly.

Chart No:4.3



4.11 The cost of sugarcane :

The cost of sugarcane is explained in following table.

Table No. 4.9
The cost of Sugarcane in detail

(In Rs.)

Sr.No.	Particulars	2005-06	2006-07	% Growth
1	Seed	565400	632600	11.89
2	Fertilizers	1118200	1125200	0.63
3	Irrigation	774450	774450	0.00
4	Ploughing	203300	211200	3.89
5	Inter cultivation			
	a) Bhangalani	599800	618100	3.05
	b) Wakuri	118200	120300	1.78
	c) Bharani	1300000	129750	-0.19
6	Others	110910	107410	- 3.16
	Total	3620260	3719010	2.73

Source : Field work

Other : Pesticide, Sugarcane cutting.

The difference between the cost of sugarcane is shown in above table. The total cost of sugarcane was 3.62 crore in 2005-06 which increased to 3.71 crore in 2006-07, the proportionate increased 2.73 percent. The cost of seed increased 11% from 2005-06 to 2006-07, it was the higher growth rate than other cost of sugarcane. There were no changes in the cost of irrigation. The other cost declined to the same period the growth rate of other cost was 3.16 percent. In case of fertilizer cost there were very few changes i.e. only 0.63 per cent. The growth rate of ploughing cost was 3.89 percent during the above period.

The table shows that the cost of seeds of sugarcane is higher increased because in year 2005-06 the flood extremely damaged the sugarcane crops 50 the farmers took newly production.

4.12 Comparative Income Of Various Crops :

Income of various crops is illustrated in the following table.

Table No. 4.10
Comparative Income Of Various Crops

(In. Rs)				
Sr.No.	Particulars	2005-06	2006-07	% Growth
1	Sugarcane	7449600	8024400	7.75
2	Rice	484400	546400	12.80
3	Sunflower	21300	37500	76.06
4	Maize	95100	124000	30.39
5	Vegetable	50900	53200	4.52
	Total	8098600	8785500	8.48

Source : Field work

The above table shows the difference between the income of various crops. The income of various crops is the summation of the income of all farmers. The income of growth rate of Sugarcane, Sunflower, Rice, Maize and Vegetable was 7.75%, 12.80%, 76.06%, 30.34% and 4.52% respectively. For the period 2005-06 to 2006-07. The total growth rate of all crops was 8.48 percent for the same period. Among all the crops the growth rate of sunflower is higher than other crops, whereas the income growth rate of vegetable is very low than other crops. The income of all crops increased because the production of these crops increased.

4.13 Income From Trees of Sample Farmers :

Category wise income from trees of respondent is explained in the following table.

Table No : 4.11

Category Wise Income From Trees

(In Rs.)

Sr.No.	Income of Trees	2005-06	2006-07
1	No Income	86 (89.6%)	30(31.3%)
2	Upto 500	2(2.1%)	66(68.7%)
3	500-1000	4(4.2%)	0(0%)
4	1000-1500	1(1%)	0(0%)
5	1500-2000	2(2.1%)	0(0%)
6	2000 above	1(1%)	0(0%)
	Total	96(100%)	96(100%)

Source : Field Work

Bracket figure shows percent of total farmer.

The above table shows the income of trees of respondent, In year 2005-06 there were 89.6 percent farmers who did not get income from trees, where as remaining 10.4% farmers earned income from trees. In year 2006-07 31.3 percent farmers were in income group, where as 68.7% farmers earned money from trees. It means in year 2006-07 there was increased income from trees. The trees were planed on the farmers fields only after the water was available from the dam.

4.14 Category Wise Irrigation Implements Of Surveyed Area :

The irrigation implements of respondents is shown in the following table as category wise.

Table No: 4.12

Irrigation Implement Of Respondents

Sr. No.	Type of Irrigation Employment	Category of Respondents			Total
		Small	Medium	Large	
1	No Pump	44	7	1	52
		(45.7%)	(7.5%)	(1%)	(54.2%)
2	Electric pump	14	20	8	42
		(14.6%)	(20.8%)	(8.3%)	(43.7%)
3	Diesel pump	2	0	0	2
		(2.1%)	(0%)	(0%)	(2.1%)
	Total	60	27	9	96
		(62.5%)	(28.1%)	(9.4%)	(100%)

Source : Field Work

Bracket figure shows the percent of total farmers.

The above table shows the category wise, electric and diesel pump of sample farmers. Out of total sample farmers, 52 farmers did not had their own pumps, where as 42% and 2% farmers have their own electric and diesel pump respectively. Out of small farmers there were 73.3% farmers who did not have any type of own pump, where as 23.3% and 3.3% small farmers owned electric pump and diesel pump respectively. Out of total medium farmers 47.65% farmers had own electric pump. In case of large farmer 88.9% farmers had their own electric pump. It means the majority of small farmers did not have there own pump, where as more of the large farmers have their own pump.

Conclusion :

People of different caste were living the region. Maratha caste was dominating in the region. More than 1/3 people primary educated, whereas 2.1% people were graduate. It shows the educational backwardness of the farmers. More than half families were living in join family. An average size of farming was 4-6. Nearly 2/3 people were small farmers whereas 9.4% people were large farmer; Sugarcane was the crop main crop of the farmers. After sugarcane ^{and} rice was most important crops of the surveyed area. The growth rate of all crops was increased from 2004-05 to 2005-06. Because in year 2004-05 the big flood were affected to the crops.

Due to this dam peoples are taking cash crops as like sugarcane, rice, soybean etc. In surveyed area sugarcane is main crop of the farmers. Since long they were took sugarcane production. It is causes

to decline soil fertility. Consequently production of sugar can decline except sugar cane the farmers of command area took rice, sunflower, maize and vegetable production from their forms, but it was very low proportionate. So farmers have more chances to increased their income through horticulture, vegetable farming flower farming etc.