

## C H A P T E R - 3

### AGRICULTURAL PRACTICES AND USE OF RESOURCES.

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### 3.1 INTRODUCTION

In this Chapter an attempt is made to trace out the problems of farmers in Sangameshwar Taluka. Three hundred and sixty five farming families were interviewed and the questionnaires administered up. In following paragraphs the findings of the survey are discussed.

### 3.2 FAMILY SIZE AND LITERACY RATE

The average family size of the surveyed 365 families was 6.43 persons per family. Only 3 surveyed villages were having <sup>above</sup> the average family size. There were 2143 persons in all these families above five years age which 61 percent were literate. It was also found that the literacy rate in the female population was considerably high. About 55.82 percent of the female population was literate. But total illiterate population shows that female population were more illiterate (57 percent to the total) than the male population which were 43 percent only. Of the 1305 of literate persons 89 percent were either studying or had left school before reaching higher secondary-Standard. The remaining 11 percent were studying or had studied up ~~to~~ to the graduate level. From the above information it can be stated that the farmers on the whole were literate and illiteracy was not the main hurdle in adopting new methods and technology in farming. Table 3.1 gives the details of the literate population.

TABLE 3.1

Details of the Literate Population of the Surveyed Areas  
and Families.

Family members	Educational Level	Educated up to Higher Secondary	Below Post Graduate.	Illiterate	Total
Number of Surveyed Family members above 6 years.	<u>MALE</u>	613 (57.78)	88 (8.29)	360 (33.93)	1061 (100)
	<u>FEMALE</u>	552 (51.01)	52 (4.81)	478 (44.18)	1082 (100)
Total		1165 (54.36)	140 (6.53)	838 (39.10)	2143 (100)

NOTE: The figures in paranthesis are indicate percentages to the total.

### 3.3 SIZE OF THE HOLDING.

The total farm holding of the 365 families was 487.58 hectares or on an average the farming family was holding 1.33 hectares of land. There were 146 families residing in the villages where irrigation facilities are available. But none of them was availing of these irrigation facilities. The land holding of these families aggregated 193.42 hectares in total. The farming families of

non-irrigated villages totalled 219 and there total land holding was 294.16 hectares. On an average, the farming families of irrigated villages was having 1.32 hectares of land per family and farming families of the non-irrigated. Villages was having 1.34 hectares of land per family.

It was found that fragmentation of land was the main problem of the area. There were 1121 plots in total having an average size of 0.43 hectares. The farmers have to move from plot to plot, to prepare land for cultivation which invariably involved wastage of time. Considering the short sowing season and scattered land. The time lost in moving from one plot to other was considerable. In many cases, the farmers were unable to complete the agricultural operations in the specific season and it affected the total output. Table 3.2 gives the details of land fragmentation in the surveyed area.

#### 3.4 EARNINGS.

The total earnings of the surveyed farmers included agricultural earnings, wages, transfer earnings and earnings from supplementary business. However the main source of income was agricultural earnings. Of the total earnings 38 percent of earnings was from agricultural income.

Details of the various incomes are discussed below.

TABLE 3.2

Fragmentation of Land in Irrigated and Non Irrigated area.

Size of plots (In hectares)	Total Irrigated villages land holding	Non-irrigated villages land holding	PLOTS		TOTAL	
			Irrigated Villages.	Non-irrigated villages	Holdings (in Hectare)	Plots
0.0 to 0.5	9.82	12.96	37	77	22.78 (4.67)	114 (10.17)
0.5 to 1.00	26.80	44.00	84	161	70.80 (14.53)	245 (21.86)
1 to 2.0	85.60	100.80	197	254	186.40 (38.23)	451 (40.23)
2 to 3.0	42.40	76.00	69	135	118.40 (24.28)	204 (18.20)
3 and above	28.80	60.40	64	43	89.20 (18.29)	107 (9.54)
<b>Total</b>	<b>193.42</b>	<b>294.16</b>	<b>451</b>	<b>670</b>	<b>487.58</b> (100)	<b>1121</b> (100)

NOTE: Figures in paranthesis indicate percentages to the total.

AGRICULTURAL INCOME

On an average the per hectare agricultural income was Rs. 1428 only. This average income was lower than the average per hectare income in other districts of the States. The per hectare income was lower mainly because irrigation facilities were not available sufficiently and the land fertility is also very low. The farmers were cultivating mostly paddy crop, which is not a commercial crop. The income from horticulture is included in agricultural income. There were very few farmers with horticultural income.

It was very surprising that the farmers from the villages where irrigating facilities are available were having lower per capital income (about 11.5 percent) than the per hectare income in non-irrigated villages. Though according to -- government there are 74 villages having irrigation facilities and of these six were surveyed and it was found that river water was available for irrigation, but none of the surveyed farmers was making use of it. This neglect was mainly because of insufficient water in river beds and the distance of the farm from the river. The Table 3.3 gives the details of earnings from agriculture.



TABLE 3.3

The Details of Agricultural Earning in the Surveyed Area.

Details	Agricultural area (in hectare)	Total earnings (Rs.)	Average earnings (Rs.)	Average Holding Size (in hectare)
Irrigated	193.42	2,56,225	1324.70	1.32
Non-Irrigated	294.16	4,40,155	1496.31	1.34
Total	487.58	6,96,380		

NOTE: The average earnings were calculated by deviding total earnings by agricultural areas. And holding the average size was calculated by dividing the total area of farms by the number of farmers.

#### EARNINGS FROM WAGES

The farmers in the area earn about 20 percent of there total income from wages. The farmers had to seek employment else where, mainly because the full employment was not possible on their holdings. The work available on their plots was only for six months and per capita income from agriculture was just Rs. 295 per annum. To make both ends meet the farmers were forced to undertake employment on other fields. It was found that most of the wages were earn from employment under the employment guarantee Scheme

of the Government of Maharashtra. The other sectors of employment were horticulture, construction, domestic work etc. Very few farmers were employed in government sector mainly as primary teachers. This fact indicates that there exist partial unemployment on a very large scale.

#### TRANSFER EARNINGS

It was found that at least one member from every surveyed family was employed out side the district. Migratory nature is the main feature of the district population. The migrated individuals send regular financial help to the family members residing in the taluka and looking after their property. It was also found that much do return to villages to meet their relatives to participate in religious functions, to help in cultivation etc. These members also send regular financial help. These transfer earnings accounted for about 17 percent of the total - earnings of farmers in the area. The transfer earnings in the case of farmers in irrigated villages and non-irrigated villages was to a large extent same.

#### SUPPLEMENTARY EARNINGS

As the income from agriculture was not sufficient for the family expenses. Most of the farmers were engaged in some or other supplementary occupation



and this supplementary occupation was mainly dairy farming. On an average every family was earning Rs. 1254 per annum from dairy farming. The share of this income in total income was about 25 percent. The farmers in the irrigated villages and non-irrigated villages were having same share of supplementary income in their total earnings. Table 3.4 gives the distribution of total income.

TABLE 3.4

Earnings from various Heads in the Surveyed Area of Sangameshwar Taluka for the Surveyed Families.

Village	Source of Income	Agricultural income.	Wages	Transfer earnings.	Supplementary earnings	Total
Irrigated Villages		2,56,225 (21.0)	1,44,690 (17.20)	1,18,600 (24.61)	1,69,600 (37.19)	6,89,115 (100)
Non-Irrigated Villages.		4,40,155 (19.10)	2,17,920 (17.00)	1,94,450 (25.27)	2,88,175 (38.59)	11,40,700 (100)

NOTE: The figures in paranthesis indicate percentages to the totals.

### 3.5. EXPENDITURE ANALYSIS

The expenditure side includes expenses on seeds, pesticides, fertilizers, ploughing and other expenses. The other expenses mostly include expenses on wages paid to the casual workers. The analysis of expenditure side are discussed below:

Total expenditure for cultivation of these 365 farmers was Rs. 106976. On an average the farmers were spending Rs. 219.40 per hectare on cultivation. In the cases of villages having irrigation facilities the per hectare expenditure was Rs. 191.53. In non-irrigated areas the average per hectare expenditure was larger by about 8.4 percent. The difference in per hectare expenditure between irrigated and non-irrigated area was mainly because of higher expenditure on wages and ploughing charges.

#### EXPENDITURE ON SEEDS

Expenditure on seed accounted for 8.74 percent of the total expenditure on agriculture. On an average the per hectare expenditure was Rs. 19.17 only on this head. The expenditure on seeds was low because the large number of farmers received high yielding variety seeds in free of charge under different rural development programmes, as well as many farmers used previous year's paddy product as seeds. In case of irrigated areas the average per - hectare expenditure on seeds was Rs. 17.49 only, and in cases of non-irrigated areas, it was Rs. 20.28 only.

#### EXPENDITURE ON PESTICIDES.

The total expenditure on pesticides was only Rs. 1040. This accounted for only 0.97 percent of the total expenditure on agriculture. The farmers have not adopted the practice of using pesticides. The average per hectare expenditure on pesticides was Rs. 2/-. The farmers

in non-irrigated areas were using more pesticides than the farmers in irrigated areas.

#### EXPENSES ON PLOUGHING

Total expenses on ploughing were Rs. 19630. The average expenditure per hectare ploughing was Rs. 40.3, ploughing expenses include purely ploughing charges. The ploughing charges were low because the farmers owned on an average 1.14 oxes. There was a difference of Rs. 20 on per hectare ploughing between the farmers in irrigated areas and the farmers in the non irrigated areas. This was mainly because of the per hectare ox population. The ox population in irrigated areas was lower than the ox population in non irrigated areas.

#### EXPENSES ON WAGES.

Other expenditure includes the wages of labourers employed for farm work other than ploughing. These charges were approximately Rs. 53 per hectare. It was found that in addition to the family workers about 5 outside labourers were employed per hectare for a day. The expenses on wages are low because the family members return from Bombay whenever there is a busy season, secondly even today there exists an element of co-operation, the farmers help each other in completing their work in time. In the irrigated areas the average per

hectare expenses were lower than the average per hectare expenses in non-irrigated areas. The average family size in the irrigated areas was larger than the family size in the non-irrigated area. This also can be the reason for lower expenses on wages in the irrigated area.

#### EXPENSES ON FERTILIZERS

The expenses on fertilizers were very high they accounted for about 45 percent of total expenses. There was no much difference in use of fertilizers in irrigated as well as non irrigated area. The farmers from the villages which are (according to government) are the irrigated villages cultivated the land only once and therefore their expenditures on fertilizers was almost same as the farmers from non irrigated areas. Table 3.5 gives the details of various expenses incurred.

Overall expenditure income ratio for the surveyed farmers comes to 1:651. But the ratio differed from village to village. In 9 villages, the ratio, was below the average and in case of other remaining villages it was above the overase. The maximum expenditure income ration 1:17.24 profitability was found that the agricultural activity was profitable in case of the farmers from Bhimnagar village. The lowest profitability was 1:2.57 in the case of farmers from village Nivadhe. Horticulture is a neglected activity in this area mainly because of higher profitability in

TABLE 3.5

Expenses on Agriculture by the Surveyed Farmers in  
Sangameshwar Taluka.

(In Rupees)

Heads	Total	Total Agricultural Expenditure.	Total Agricultural Expenditure in Irrigated villages.	Total Agricultural Expenditure in Non-Irrigated Villages.
Seeds	9351 (8.74) [19.17]	3383 (9.13) [17.49]	5968 (8.53) [20.58]	
Pesticides	1040 (0.97) [2.13]	240 (0.65) [1.24]	800 (1.14) [2.72]	
Fertilizers	51190 (49.86) [104.98]	20094 (54.24) [103.88]	31096 (44.46) [105.71]	
Ploughing	19630 (18.34) [40.26]	5475 (14.78) [28.30]	14155 (20.24) [48.12]	
Other	25765 (24.08) [52.84]	7855 (21.20) [40.61]	17910 (25.63) [60.88]	
Total	106976 (100) [219.40]	37047 (100) [191.53]	69929 (100) [237.72]	

NOTE The figures in paranthesis indicate percentage to the totals and the figures in brackets indicate per <sup>hectare</sup> expenditure.

Cereal farming. It was also found that horticulture was a practiced in this area on the bunds of the farms and near by residential areas. The income from horticulture was as good as negligible. Table 3.5.1 indicates the profitability (Expenditure-Income ratio) of a individual surveyed villages.

TABLE 3.5.1

The Profitability (Expenditure-Income ratio) of a Individual Surveyed villages from Sangameshwar Taluka.

Sr. No.	Name of the Village.	Agricultural Expenditure.	Agricultural Income.	Ratio of Income and expenditure.
1.	Ambavali.	11900	108450	1:9.11
2.	Ghodavali.	2917	22750	1:7.80
3.	Kasar-Kolvan	2417	14950	1:6.19
4.	Kudavali	2780	16750	1:6.02
5.	Pur	6610	28875	1:4.36
6.	Ujgaon	13365	64450	1:4.83
7.	Agrewadi	5725	24550	1:4.28
8.	Bhimnagar	1919	33100	1:17.24
9.	Den	4260	27550	1:6.47
10.	Kandlkond	12321	42450	1:3.44
11.	Kirdadi	640	7420	1:11.59
12.	Kumbharkhani	13442	128405	1:9.55
13.	Meghi	12030	90250	1:9.50
14.	Nivadhe	7810	20080	1:2.57
15.	Pochari	8392	41950	1:4.99
16.	Talvade	3390	24400	1:7.20
Total		106976	696380	1:6.50

The per hectare profitability for all farmer was Rs. 1208. This was considerably high when it is compared with the expenditure incurred on agriculture.

### 3.5 PRODUCTIVITY

In surveyed area of land, the profitability of land (Expenditure-Income ratio) was larger (1:6.50). But the average productivity of land was lesser when compared to the district's average productivity. In the surveyed areas, paddy is the main crop. The farmers in the surveyed area had used 480.46 hectares out of total 487.58 hectares to cultivate paddy. But it was found that they had taken 6,19,378 Kgs. of paddy crop, which gives an average production of 1289 Kgs. per hectare and it was less than average per hectare production of Ratnagiri district (2100 Kgs. approx.)

The remaining 7.12 hectares of land was used for secondary crop. Ragbi(Nachane). It had given production of 7080 Kgs. on an average 994 Kgs. per hectare, which is less than per hectare production of district. (1300 Kgs. approx.)

### 3.7 LOANS AND ADVANCES.

The foregoing discussion shows that the agricultural per capital income was very low. The farmers were not practicing modern farming techniques such as

irrigation, use of high yielding variety etc. To improve the agriculture, heavy capital investments are needed. But it was found that none of the farmers had availed of the facilities of loan under any scheme. Only 2.29 percent of the surveyed farmers were indebted and their average loans accounted to Rs. 6,888. Of these 66 percent of took loans to develop their dairy industry. 22 percent to solve their energy problem i.e. for the construction of Gobar-Gas Plant. And only one farmer utilised the loan for protecting his farm by construction compound wall. Of the nine farmers taking loans, one was assisted by the State Bank of India and one by the Government Scheme. -- Ratnagiri District Consumer Co-Operative Bank sanctioned loans to 33 percent of borrowing farmers. The Ratnagiri-Sindhudurga Rural Bank and Bank of India financed two farmers each. It was learnt that the borrowing farmers were repaying their loan installment regularly. It was found that the large number of farmers were having a no knowledge of the schemes implemented by government. There were farmers who were in need of financial assistance but none of them were approached to the banks because of their time consuming procedure and Requirement to complete number of documents. About 27 percent of the surveyed farmers were of the opinion that taking loans from the organised institutes like banks was very difficult. Table 3.6 showing the details of loan.



TABLE 3.6

The Details of Loans taken by Surveyed Farmers in  
Sangameshwar Taluka.

Details of Amount of Loans)Rs.)	Purpose for the loan	Name of the Bank/ financial Institute.
7500 (12.10)	Purchase of Cow	R.D.C.C.
5000 ( 8.06)	Purchase of Cow	Rural Bank.
3200 ( 5.16)	Gobar-Gas Plant.	R.D.C.C.
15000 (24.20)	Purchase of Cow/Ox	Bank of India.
12000 (19.36)	Purchase of cow	Bank of India.
1200 ( 1.93)	Purchase of Cow	Rural Bank.
7500 (12.10)	Purchase of Cow	R.D.C.C.
5000 (8.06)	Gobar-Gas Plant	S.B.I.
5600 ( 9.03)	Compound wall to land	Govt.Scheme.
----- 62000 ( 100 )		

NOTE: The figures in paranthesis indicate percentage to the totals.

### 3.8 AGRICULTURAL MARKETING.

As the agriculture was carried out on subsistence level. None of the surveyed farmer was selling his product. The production in agriculture in the district is so limited that the population of the district depends for foodgrains on surrounding districts like Kolhapur and Sangli. As discussed earlier productivity in agriculture was so low that the produced foodgrains were insufficient for farming families own needs.

### 3.9 USE OF MODERN TECHNIQUES.

Agricultural productivity was very low when compared with the average productivity of district. It was mainly because of farmers inability to use more modern farming techniques. It was found that all the 365 surveyed farmers were using 'primitive' techniques and equipments. The use of electricity in case of surveyed farmers was nil where as power utilisation for the purpose of agriculture was 17 percent out of total Electricity supplied on all India basis. The surveyed farmers were using ploughs and draught animals for the purpose of cultivation. The number of draught animal was less than two per farmers, which indicates that most of the farmers were depending on other rich

farmers, who were having at least two bullocks. This has affected their productivity as the land preparation was not completed within a specific period.

It was found that because of heavy rainy season, the farmers were spending only about Rs.105/- on chemical fertilizers. But the other fertilizers like compost were not used at all. The fertilizer expenditure and compost utilisation for horticulture was a very large (by about 10 times appx.) when compared with the use of the same for paddy, vari, and other cereals.

It was found that all the farmers were using primitive techniques like replanting of plants, burning the waste material on land surface for preparation of land etc. No farmer used modern techniques like the Japanies paddy cultivation methods. The ploughs used were mostly wooden ploughs. All other implements used for cultivation were also of primitive nature.

### 3.10 SUPPLY OF FERTILIZERS, SEEDS ETC.

The interviewed farmers stated that there was timely and regular supply of fertilizers, pesticides and high yielding variety seeds. The farmer felt that

excess use of chemical fertilizers may destroy the fertility of land. Though the new variety seeds are available but the farmers were unwilling to use the new variety. This was because they feel that, use of these new varieties in cultivation will create the problem of fodder. Even though the paddy product is high with high yielding varieties as the plants are drought, they do not provide sufficient fodder to feed their animals during the dry season. The fodder available in the area is only hay and paddy hucks. Secondly, the farmers feel that the new variety of rice is proteinless. Thirdly, the farmers feel that the new varieties are pest prone. Due to all these reasons modern techniques and methods are not practiced in the region.

### 3.12 CATTLE POPULATION

The dairy farming is mostly neglected as a supplementary occupation in the area. On an average the surveyed farmers earnings were Rs. 550/- per buffalo/cow. At current market rate of milk (on an average Rs. 4/- per litre. The Government dairy rate) every cow and buffalo was producing 137 litres of milk per year. It is mainly because the majority of the cow and buffalo population is of local variety whose yield is very low. On an average the surveyed farmers were having more than 1 cow (1.75) and less than 1 buffalo (0.52).

### 3.12 CO-OPERATIVE MOVEMENT

Co-operative movement is neglected in the district and the same is the case with the surveyed area. There was no co-operative society supplying fertilizers seeds and agricultural implements. Most of the purchase were from private shop keepers and government offices. There were 6 working milk societies in the surveyed area. The milk collection centre is at a walking distance and most of the farmers are members of the milk- Co-operative society. There are no agricultural co-operative processing society in the surveyed areas.

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