CHAPTER – V

SOCIO – ECONOMIC IMPACT OF KUNDAL COOPRATIVE IRRIGATION SOCIETY

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INTRODUCTION:

This chapter deals with the socio - economic impact of lift irrigation society area of Kundal. Socio economic impact had measured on the basis of the wastage of water, Decrease quality, Maximum use of chemical fertilizer, Change in cropping pattern, increased food intake, Reduction in migration, Change in occupation etc. The details of the above are given below,

1) Wastage of water:

Water is most important and natural resource on the earth. Now a day's efficient water management has required CLIS are not careful to managing this resource. Lack of water management leads to wastage of water. It is cheatings lowly but very diverted effect on the society.

2) Decrease quality:

Total samples are using Hybrid seeds using of hybrid seeds can leads to increase the output or production of crops. No doubt it increases growth rate of agricultural sector also it has created some major negative impact on quality of crops. Yields increases but quality of crop decreases.

3) Maximum use of chemical fertilizer:

All 100 % farmer mostly prefer the chemical fertilizer. Chemical fertilizer negatively affects on quality of soil. It creates long life effect on productivity of lands. Now a day's farmer focused on only outputs profitability but it will created major problem for farmers and also for economic wealth.

4) Change in cropping pattern:

Before materialization of CLIS, farmers were taking only kharif crops. In case of delay to raining or non occurrence of last one or two showers, there be 25 is 50 percent loss of the Kharif crop. After establishment of CLIS it becomes possible to farmers to save their kharif crops. Since they get support it irrigation farmers started taking wheat and vegetable in the rabbi season and groundnut, gram, black gram and

vegetables in summer. Farmers of the study area started to take various cash crops e.g. Grapes and Sugarcane. This leads to develop the financial position of farmers.

5) Increase in income:

Lift irrigation society ensures satisfactory income to farmers.Supplying adequate water from CLIS income of farmers increased from 1000 to more than 10,000 rupees increased level of income has developed living standard of farmers.

6) Increase in Assets:

After introducing CLIS there is significant change in assets. Majority of farmers used to live in thatched huts. Now they have build cement concrete houses they also have invested in gold and silver ornaments, utensils, furniture and vehicles etc there is remarkable improvement in food content.

7) Increased in food intake:

There is both qualitative and quantitative change in consumption of food earlier marginal and small farmers hardly used to manage two meals a day particularity in summer and rainy seasons. Now they get full nutritious food which contains wheat pulses and vegetables. Their intake of sweet also increased. many farmers is producing small quantity of vegetables purely for domestic consumption. Thus, their diets now comprise a much greater quantity of green vegetable. In addition vegetables are available almost year round in most of the village at lower prices so even non beneficiaries have access to better food.

8) Reduction in migration:

The major impact of LIS is on out migration which has been cubed. Prior to lift irrigation rain fed agriculture land cultivated only one season. Thus, when the kharif season come to an end villagers were forced to migrate. With the introduction of lift irrigation farmers are able to cultivate their land in two to three seasons since they have a regular income for most part of the year. Migration of labor is no longer a compulsive option. People do still migrate to earn some money but for lesser number of day. An earlier person used to migration for 120 to 150 days in a year, migration has reduced to30 to 40 days in a year. Now Majority time they stay back and work on their fields for rabbi and kharif crops .At present, migration is a choice not a necessity.

9) Change in occupation:

In the kundal cooperative society, after harvesting kharif crop people sought employment in other area. Now they spend majority of their time in improvement of their fields. A peculiar feature is that some landless villagers have started farming with availability of irrigation facility. Crop intensity has increased leasing out land to landless for share cropping in the village. Even people from outside the schemes through availability of labor and availability of agriculture products such as grain and vegetables at cheaper price with increase in agricultural produce Agriculture residue is available as fodder either free of cost or at a cheaper rates which led people to adopt animal husbandry as secondary occupation .

CONCLUSION:

Lift irrigation society has their own social and economic impact. Wastage of water, decrease quality, maximum use of chemical fertilizer, change in cropping pattern , increases in asset , increase in food intake , reducing migration , change in occupation, impact on food intake , reducing migration , change in occupation are the major impacts affects on social and economic life of the farmers in the study area .

TABLE NO 5.1

EDUCATION OF FAMILY HEAD

SR. NO	TITLE		PERCENTAGE			
		Primary	Secondary	Higher	Graduate	Total
1	Satyeshwar	27.8	35.2	27.8	9.3	100
2	Basweshwar	64.7	23.5	11.8	-	100
3	Tupari	43.3	43.3	13.3	-	100

The table no 5.1 describes education of family head. Satyeshwar cooperative classified in to four categories i.e. Primary, Secondary, and Higher, secondary and graduate level. Comparatively Satyeshwar CLIS had high rate of graduate level education and Busweshwar CLIS had higher rate of primary level education.

GRAPH NO 5.1

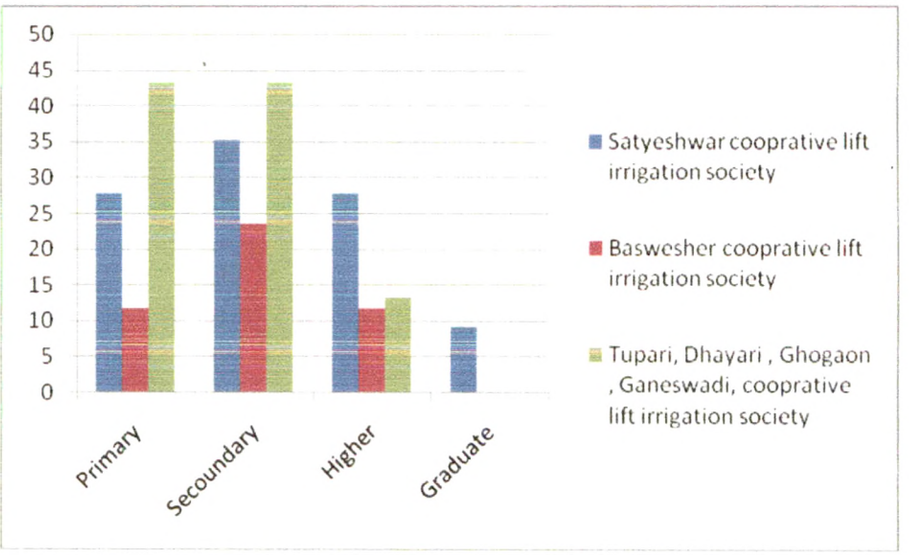


TABLE NO 5.2

SIZE OF AGRICULTURAL LAND HOLDING

SR NO	TITLE		PERCENTAGE			
		2 Acre	2 to 5 acre	5 to 10 acre	Above 10	Total
1	Satyeshwar	11.1	29.6	14.8	14.8	100
2	Basweshwar	23.5	41.2	17.6	17.6	100
3	Tupari	13.3	30.0	30.0	26.7	100

The Table no 5.2 describes size of Agricultural land Holding. For convenience of the study researcher made four group of land holding .e. 2 Acre, 2 to 5 Acre, 5 to 10 Acre, Above 10 Acre. Comparatively Basweshwar CLIS has higher percentage of land holding. i.e. 41.2 %

GRAPH NO 5.2

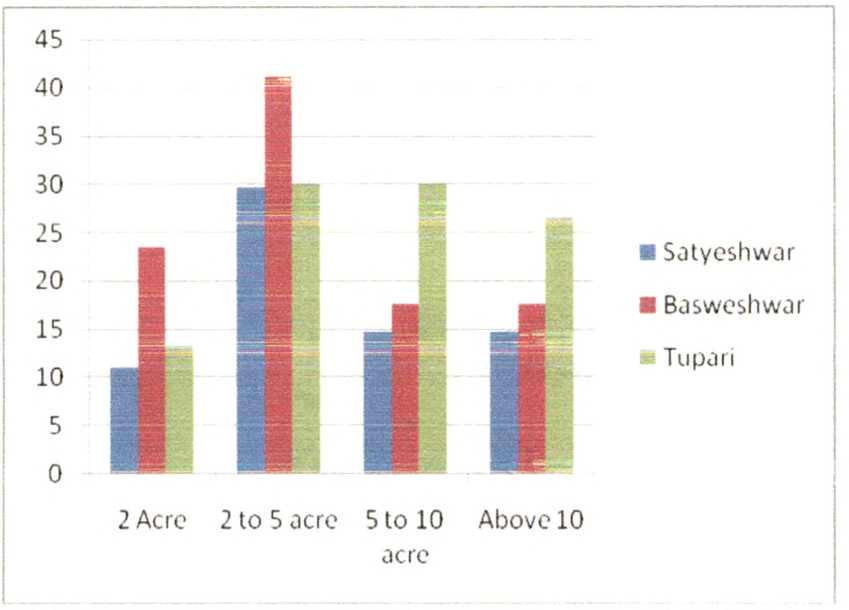


TABLE NO 5.3

CLASSIFICATION OF CULTIVABLE LAND

SR NO	TITLE	PERCENTAGE		
		Jirayat	Bagyat	Total
1	Satyeshwar	51.9	48.1	100
2	Basweshwar	70.6	29.4	100
3	Tupari	43.3	56.7	100

The table no 5.3 indicates classification of cultivable land. CLIS categorized in two groups viz jirayat and Bagyat . It is observed that Basweshwer CLIS has 70.6% jirayat land and Tupari CLIS has 56.7% Bagyat land. It means Tupari CLIS having higher command area.

GRAPH NO 5.3

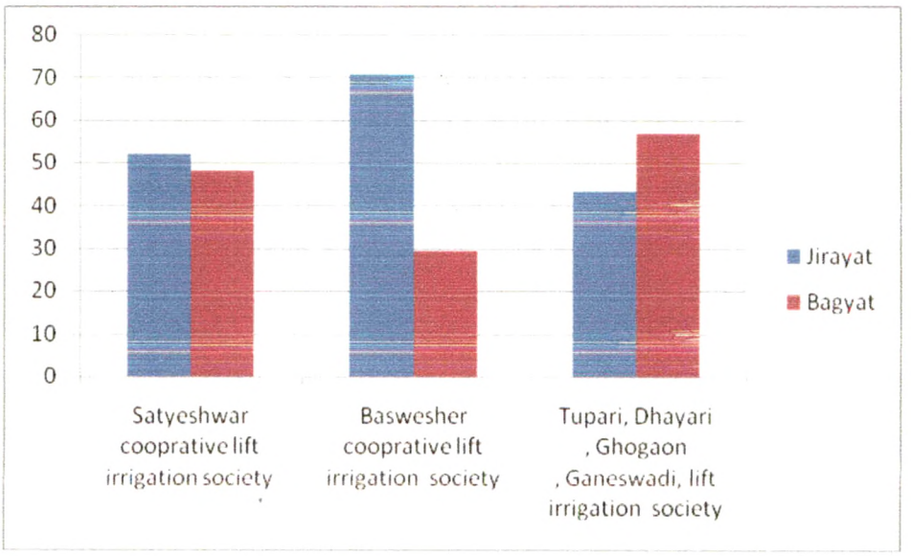


TABLE NO 5.4

SOURCE OF IRRIGATION

SR NO	TITLE	PERCENTAGE			
		Well	Tube well	Others	Total
1	Satyeshwar	38.9	31.5	29.6	100
2	Basweshwar	41.2	58.8	-	100
3	Tupari	60.0	36.7	3.3	100

The Table No 5.4 describes sources of irrigation. They categorized in three group viz Well, Tubewell and Others. Percentage of well irrigation is high in Tupari CLIS, Tube well irrigation sources are high in Basweshwar CLIS and other sources are high in Satyeshwar CLIS.

GRAPH NO 5.4

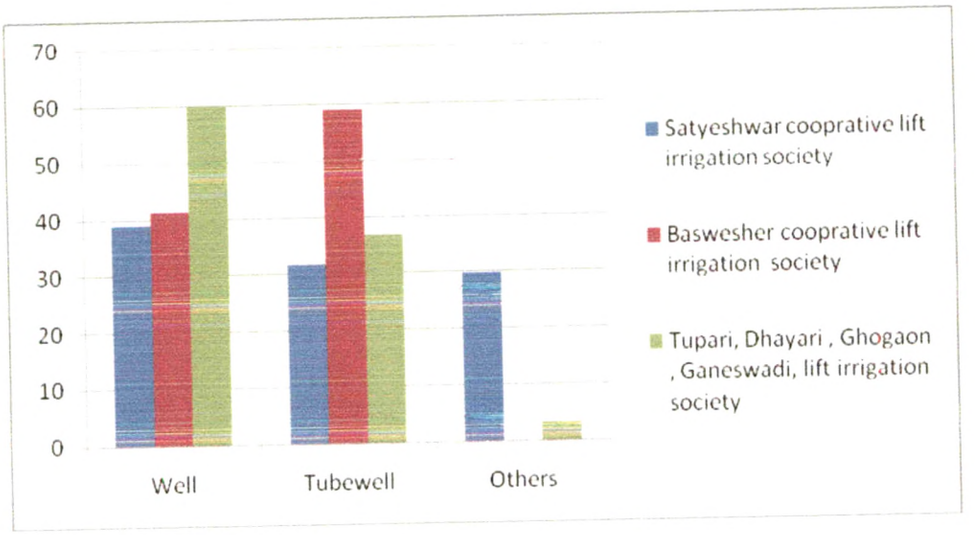


TABLE NO 5.5

USE OF WATER FOR DIFFERENT CROPS

SR NO	TITLE		PERCENTAGE		
		Food grains	Sugarcane	Oilseeds	Total
1	Satyeshwar	16.7	51.9	31.5	100
2	Basweshwar	52.9	47.1	-	100
3	Tupari	33.3	46.7	20.0	100

The Table No 5.5 Describes use of water for different crops. Crops divided in to three group i.e. Food grain, Sugarcane and Oilseeds. The Satyeswar CLIS society had higher percentage 51.9 % of sugarcane crop. Basweshwar society food grain percentage higher 52.9 %, Tupari CLIS had higher percentage food grain and sugarcane 33.3 % and 46.7 %

GRAPH NO 5.5

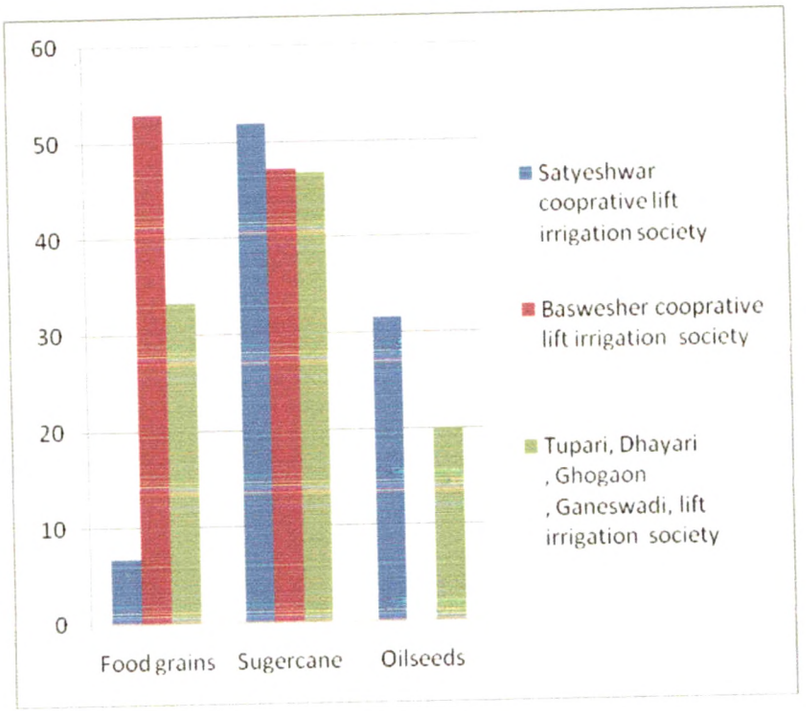


TABLE NO 5.6

PER ACRE COST OF FERTILIZER

SR NO	TITLE		PERCENTAGE				TOTAL
		10,000 to 20,000	20,000 to 30,000	30,000 to 40,000	40,000 to 50,000	50,000 and above	
1	Satyeshwar	7.4	44.4	44.4	1.9	1.9	100
2	Basweshwar	5.9	11.8	41.2	29.4	11.8	100
3	Tupari	36.7	46.7	10.0	3.3	3.3	100

Table No 5.6 indicates the per acre cost of fertilizer .In comparison with Satyeshwar CLIS and Basweshwar CLIS the rate of income between 10,000 to 20,000 is higher in Tupari CLIS .The rate of income between 20,000 to 30,000 is less for Bashwar in comparison with Satyeshwar CLIS and Tupari CLIS . The rate of income between 40,000 to 50,000 and above 50,000 the rate is similar in Satyeshwar CLIS but it is less than other CLIS.

GRAPH NO 5.6

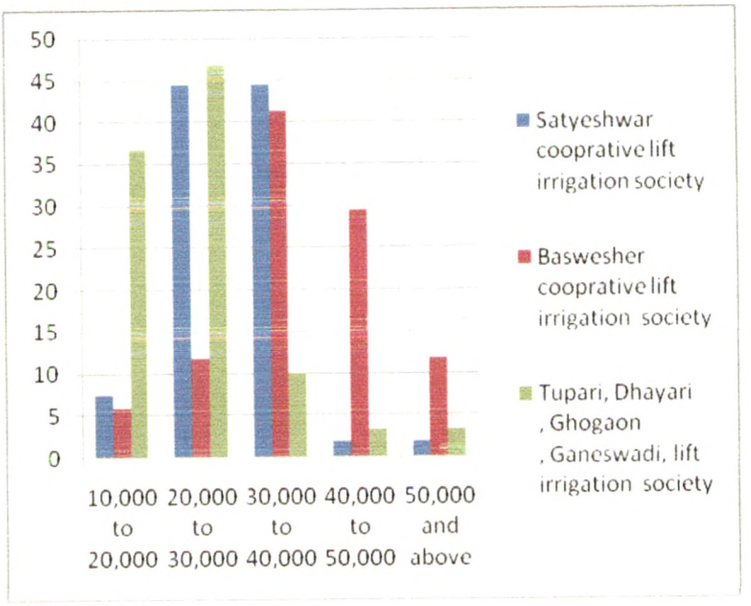


TABLE NO 5.7

PAYMENT OF BILLS TO CLIS

SR NO	TITLE	PERCENTAGE		TOTAL
		Cash payment	Cutting through sugar factory	
1	Satyeshwar	50.0	50.0	100
2	Basweshwar	47.1	52.9	100
3	Tupari	60.0	40.0	100

Table No 5.7 describes payment bills to CLIS. Payment of bills to CLIS is categorized in to two groups viz. In cash payment and cutting through Sugar factory. Payment of both the bills of Satyeshwar and Basaweshwar CLIS is similar means almost 50-50 percent but payment of both the bills of Tupari CLIS is 60-40 percent.

GRAPH NO 5.7

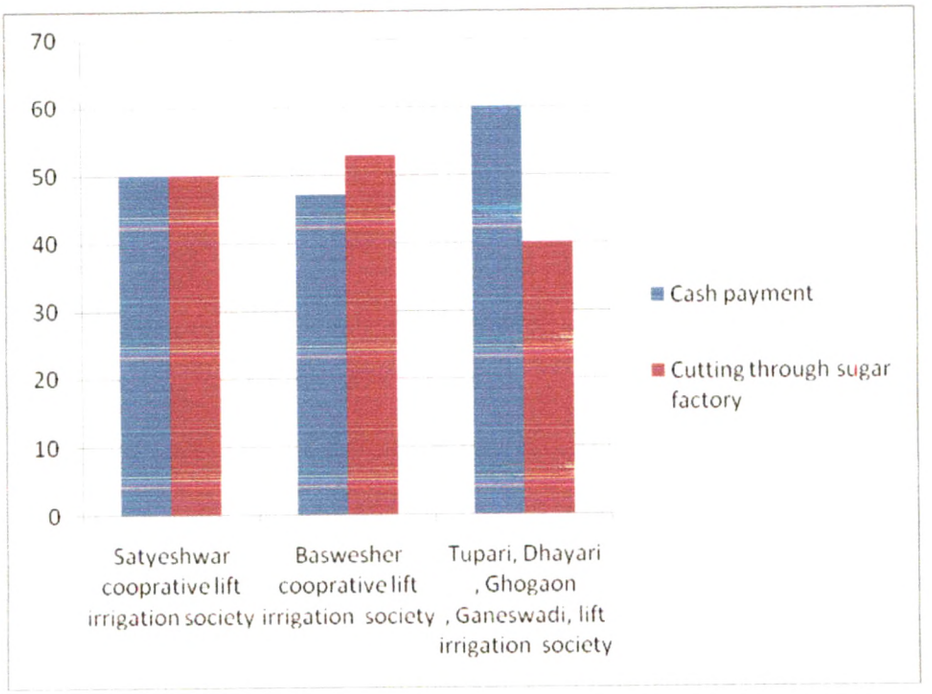


TABLE NO 5.8

OVER DUES OF CLIS

SR NO	TITLE	PERCENTAGE		TOTAL
1	Satyeshwar	55.6	44.4	100
2	Basweshwar	41.2	58.8	100
3	Tupari	63.3	36.7	100

Table No 5.8 describes the over dues position of CLIS .Tupari CLIS had higher 63.3% over dues and Basweshwar CLIS had lower 41.2 % over dues means working of Basweshwar CLIS better than another two CLIS.

GRAPH NO 5.8

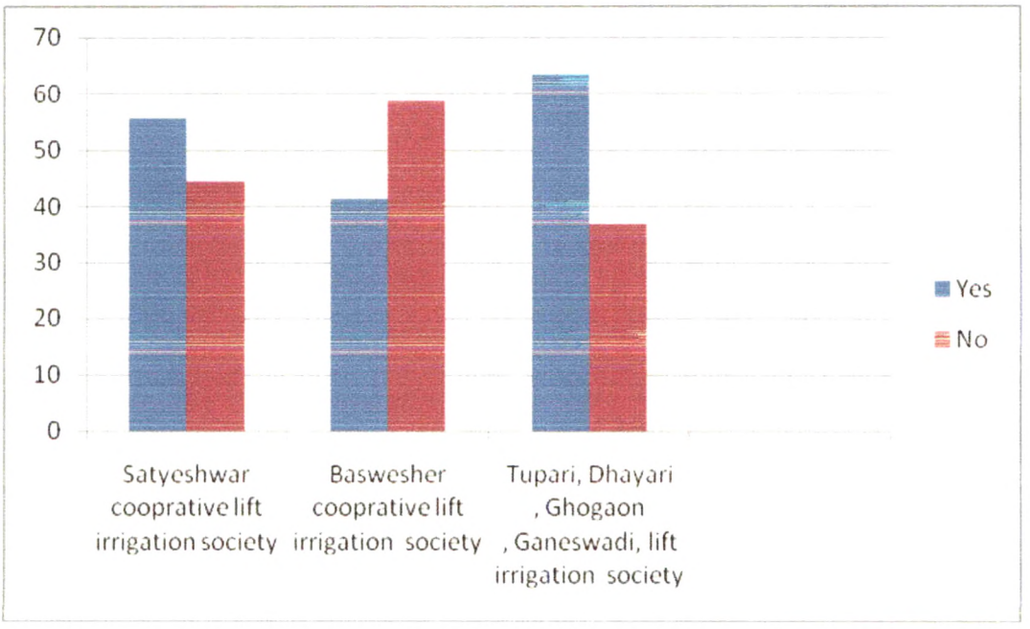


TABLE NO 5.9

CROPPING PATTERN OF CLIS

SR NO	TITLE	PERCENTAGE			TOTAL
		Pulses to vegetable	Vegetable to sugarcane	Pulses to grapes	
1	Satyeshwar	22.2	44.4	33.3	100
2	Basweshwar	17.6	41.2	41.2	100
3	Tupari	16.7	40.0	43.3	100

Table No 5.9describes changing cropping pattern of CLIS changing cropping pattern is categorized in three groups's i.e. Pulses to Vegetable, Vegetable to Sugarcane and pulses to Grapes. Satyeshwar CLIS had higher percentage vegetable to Sugarcane. Basweshwar CLIS had higher percentage 41.2 of change in both group i.e. Vegetable to Sugarcane and pulses to Grapes. Now a day there is the change in percentage of Vegetable to Sugarcane and pulses to Grapes had major changes.

GRAPH NO 5.9

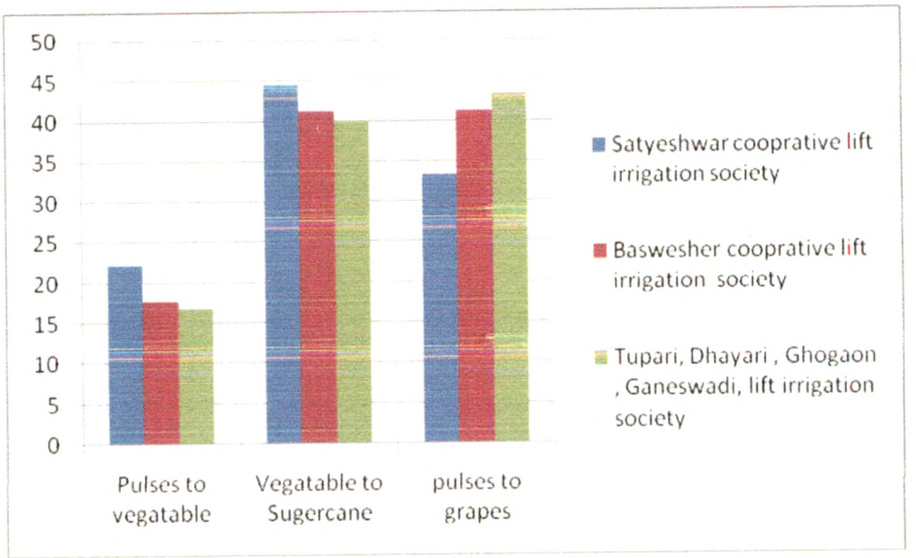


TABLE NO 5.10

PER ACRE GROWTH IN ANNUAL INCOME OF MEMBER OF CLIS

SR NO	TITLE	PERCENTAGE				TOTAL
		1000 to 2000	2000 to 5000	5000 to 10,000	10 and above	
1	Satyeshwar	3.7	14.8	42.6	38.9	100
2	Basweshwar	-	17.6	41.2	41.2	100
3	Tupari	6.7	36.7	26.7	30.0	100

Table No 5.10 shows the picture of per acre growth in annual income member of CLIS. Per acre in annual income of the category of Rs 5000 to 10,000 and has significant change.

GRAPH NO 5.10

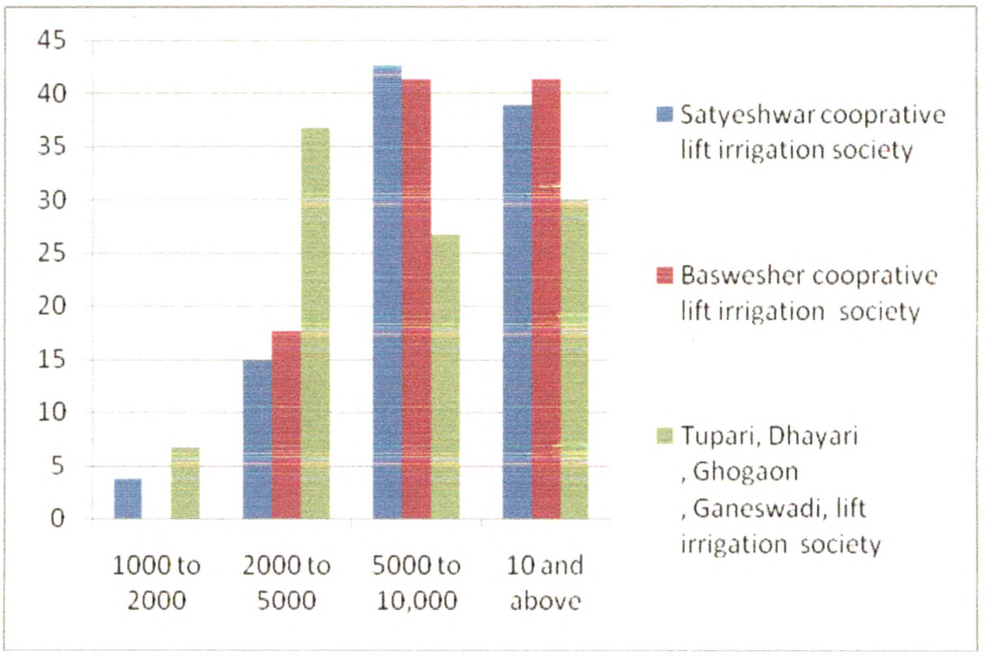


TABLE NO 5.11

PER WEEK INCOME FROM MILK PRODUCTION

SR. NO.	TITLE	PERCENTAGE					
		Rs 100 to 1000	1001 to 2000	2001 to 3000	3001 to 4000	Zero income	Total
1	Satyeshwar	13.0	20.4	14.8	3.7	48.1	100
2	Basweshwar	23.5	35.3	23.5	17.6	-	100
3	Tupari	3.3	36.7	30.0	30.0	-	100

Table No 5.11 indicates per week income from milk production. Compare to other two Societies member of Satyeshwar CLIS earns less income from milk production. Per week income from milk production of Tupari is than Basweshwar CLIS.

GRAPH NO 5.11

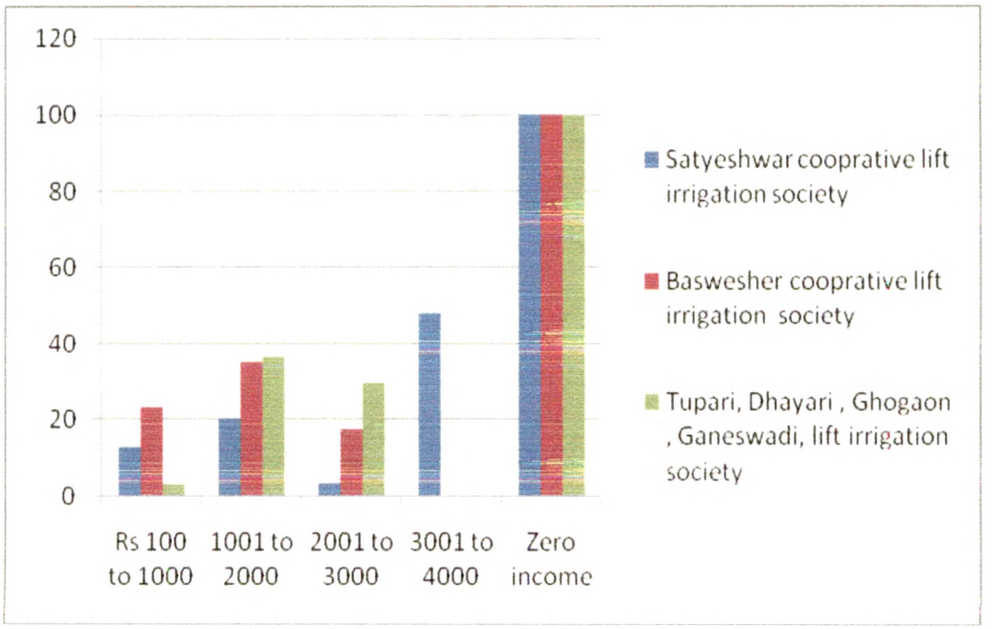


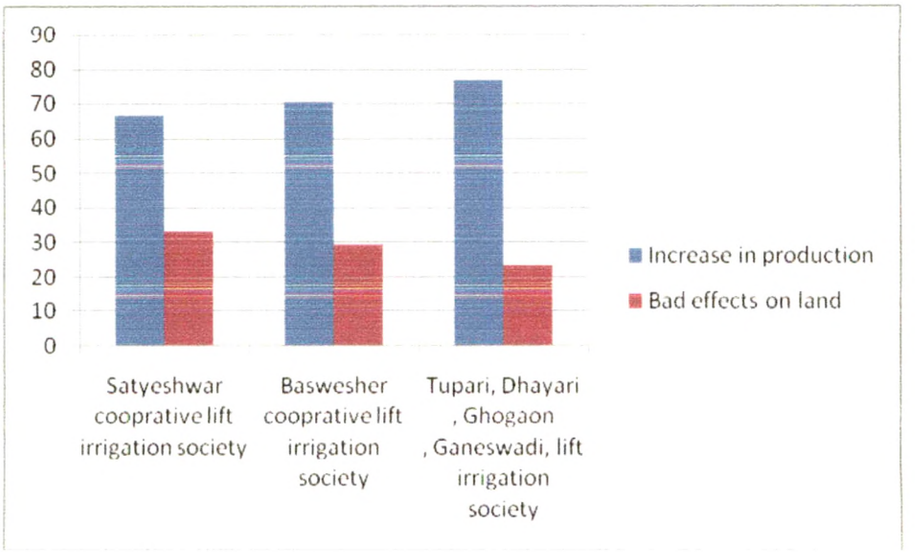
TABLE NO 5.12

EFFECT OF IRRIGATION AND FERTILIZER

SR. NO.	TITLE	PERCENTAGE		TOTAL
		Increase in production	Bad effect on land	
1	Satyeshwar	66.7	33.3	100
2	Basweshwar	70.6	29.4	100
3	Tupari	76.7	23.3	100

In Table No 5.12 Describes effects of irrigation and fertilizer on production and land degradation. Due to irrigation facilities percentage of increase in production of Tupari is higher than Basweshwar CLIS and Basweshwar CLIS is higher than Satyeshwar CLIS.

GRAPH NO 5.12



HYPOTHESES

Hypothesis 1 **Z-Test**

H0= There is no association between area under irrigation and the education level of the farmers

H1= There is association between area under irrigation and the level of education of the farmers.

Observations	100
Z Score	2.4
Confidence level	95%
significance Level	5%
Table value	1.96
R(Z<=z) one-tail	0.12
Z Critical one-tail	6.31
R(Z<=z) two-tail	0.25
Z Critical two-tail	12.71

As H0 is two sided in hypothesis applying two tailed test for determining the rejection region at 5% level of significance which comes to as under, using normal curve area table

R: L 3I> 1.96

The observed value of Z is 2.4 which is the acceptance of region since R: IZ 1> 1.96 and therefore H0 is accepted

Since the p value is greater than t stat the alternative hypothesis is accepted.

Hypothesis 2 F-Test

Ho= The average variation of area under irrigation and income level of the farmers is same

H1= The average variation of area under irrigation and income level of the farmers is not same

Observations	100
df	3
calculated F	51.5
P(F<=f) one-tail	0.10
Significance level	5%,
Degree of Freedom	6
Confidence level	95%,
F Critical one-tail	215.71

The calculated value of F is 51.5 which lies within the rejection region therefore H1 is accepted and H0 rejected .

Hypothesis: 3

Ho= The income of the farmer is closely associated with irrigation and cropping pattern.

H1= There is no association between income level of the farmers and irrigation and cropping pattern

ANOVA techniques

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.984325945
R Square	0.968897566
Adjusted R Square	0.906692699
Standard Error	7.344085056
Observations	100

ANOVA

	df	*SS*	*MS*
Regression	2	1680.192	840.096
Residual	1	53.93559	53.93559
Total	3	1734.128	
	Coefficients	*Standard Error*	*t Stat*
Intercept	35.6470198	16.15072	-2.20715
Cropping pattern	0.221343159	0.509456	-0.43447
Irrigation	1.32738207	0.273661	4.850469

PROBABILITY OUTPUT

Percentile	*Income*
12.5	3.7
37.5	14.8
62.5	42.6
87.5	55.6

It is clear from the above ANOVA table that there is strong association between income level and cropping pattern and irrigation facility, therefore H0 is accepted

Regression equation

Income level Y=35.64+0.22*Cropping pattern +1.32* Irrigation Facility 35.64