CHAPTER-V

AGRICULTURAL DEVELOPMENT AND ENVIRONMENTAL IMPACT ON SAMPLE FARMERS

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CHAPTER - V

AGRICULTURAL DEVELOPMENT AND ITS ENVIRONMENTAL IMPACT ON SAMPLE FARMERS

5.1 INTRODUCTION

This chapter deals with the "agricultural development and environmental issues" of the sample farmers of Kognoli village. For this purpose, the questionnaire was framed and the data from 75 farmers was collected. The data was collected from the personal interviews conducted with the farmers. The data have been analyzed and interpreted in this chapter. The caste, education, occupation, income, cattle-wealth, etc have been studied in details.

5.2 PRIMARY INFORMATION

Table No 5.1

CASTE AND CATEGORY WISE DISTRIBUTION OF SURVEYED FARMERS

(Figures in numbers)

5

Category Caste	SC/ST	NT/OBC	Open	Total
Marginal	5 (6:7)	(0.0)	20 (26.7)	25 (33.3)
Small	3 (4.0)	0 (0.0)	16 (21.3)	19 (25.3)
Medium	0 (0:0)	2 (2:7)	20 ::. (26.7)	22 (29.4)
Large	0 (0.0)	0 (0.0)	9 (12.0)	9 (12.0)
Total	8 (10.7)	2 +(2.7)	65 (86.7)	75 (100.00)
	Marginal Small Medium Large	Marginal 5 (6:7) Small 3 (4.0) Medium 0 (0:0) Large 0 (0.0)	Marginal 5 0 (0.0) Small 3 (0.0) Medium 0 2 (0.0) Large 0 0 (0.0) Large 0 (0.0) Total 8 2	Marginal 5 0 20 (6:7) (0.0) (26:7) Small 3 0 16 (4.0) (0.0) (21.3) Medium 0 2 20 (0.0) (2:7) (26:7) Large 0 0 9 (0.0) (0.0) (12.0)

Note: Figures in the bracket shows the percentage of total farmers.

The table shows the caste wise and land size wise bifurcation of sample farmers.

The caste wise bifurcation of sample farmers shows that majority of the farmers (86.7%) were from open category, while the farmers from SC/ST category and NT/OBC were very few i.e. 10.7% and 2.7% respectively. The data shows that 33% of the farmers were from marginal farmers category, while 25 % were from small farmers category and 29% were from medium category, while others 12 % were from large size farmers.

The maximum numbers of farmers were in open category. The table also shows that SC/ST/NT and OBC farmers were up to 13.4 % while remaining were from open category.

According to the above table we can say that, there is not a single large farmer in SC/ST and NT/OBC caste category.

Chart - 5.1
BIFURCATION OF SAMPLE FARMERS AS PER CASTE

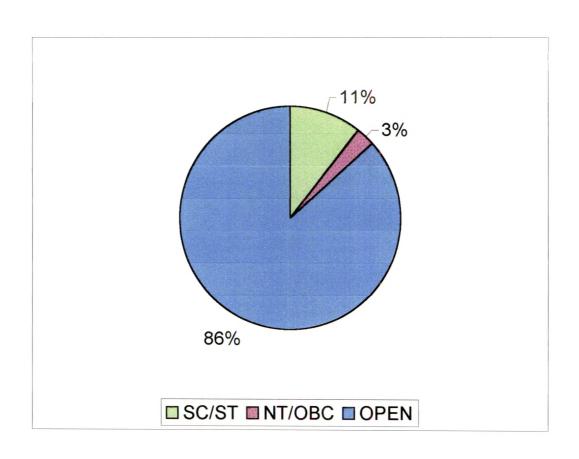


Table No.5.2

CASTE WISE EDUCATION OF THE SAMPLE FARMERS

Sr.No	Education	SC/ST	NT/OBC	Open	Total
1	Illiterate	2 (2.7)	0 (0.0)	2 (2.7)	4 (5.3)
2	Primary	3 (4.0)	1 (1.3)	17 (22.7)	21 (28.0)
3	Secondary	2 (2.7)	0 (0.0)	14 (18.7)	16 (21.3)
4	Higher secondary	0 (0.0)	0 (0.0)	9 (12.0)	9 (12.0)
5	Graduate	0 (0.0)	0 (0.0)	13 (17.3)	13 (17.3)
6	Post graduate	0 (0.0)	0 (0.0)	1 (1.3)	1 (1.3)
7	Other (B.A/M.A, B.Ed)	1 (.13)	1 (1.3)	9 (12.0)	11 (14.7)
	Total	8 (10.7)	2 (2.7)	65 (86.7)	75 (100.00)

Note: Figures in the bracket shows the percentage of total farmers.

The above table shows that 28 percent of farmers have obtained primary education and 5.3 percent farmers were just illiterate. The table also shows that 21.3, 12.0, 17.3, and 14.7 percent of farmers were completed their secondary, higher secondary, graduate and other educational (B.A/M.A., B.ED) degrees respectively. Only 1.3 percent farmers surveyed

were postgraduate. Table shows that open category of farmers have obtained all types of education. But other caste farmers were only primary, secondary and other (B.A/M.A., B.Ed). Degree.

In short, table indicates that most of the farmers (28%) have taken primary education followed by secondary (21.3%)and graduate (17.3%). About 14.7 percent farmers were high qualified such (B.A/M.A; B.Ed.).

Second thing, table shows not a single farmer had taken any agricultural diploma and this is obstacle for agriculture development. The farmers use only traditional methods in farming and they can't take into account new methods of agriculture development.

For agriculture development, it is always desirable to acquire knowledge in agriculture science, which is helpful to farmers to increase income.

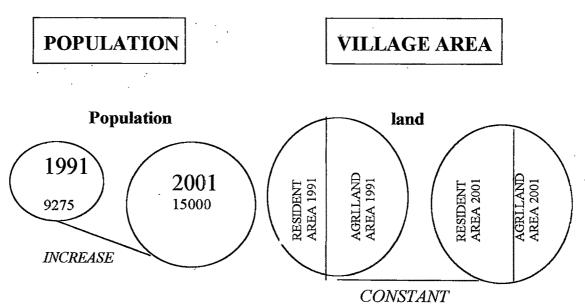
Table No. 5.3

CASTEWISE FAMILY MEMBERS OF SURVEYED FARMERS

Particulars	SC/ST	NT/OBC	Open	Total
Children in	9	7	130	146
family	(18)	(28)	(31)	(29)
Male	22	7	149	178
Male	(44)	(28)	(35)	(36)
Female	19	11	147	177
remate	(38)	(44)	(35)	(35)
Total	50	25	426	501
1 Otal	(10)	(5)	(85)	(100)

Figures in the bracket show the percentage.

In the 75-sample farmers survey, 501 total family members were found. Out of those members 146(29%) were below 18 years whereas male and females were 178(36%) and 177(35%) respectively.



Significance Of Land And Population Pressure

The above chart shows, the population of village has increased but land has remained the same. In the study area man-land ratio of sample farmers in relation to arable land is only 1.2 acare. It is likely to reduce further in the coming years because population is increasing very fast and putting heavy pressure on the environment, infrastructure and basic services. There would be chronic shortage of cultivable land. The sample village is also facing the same problem. The per man land ratio of village (2001) comes about 0.15 hectares and which will further come down in future.

Table No 5.4

LITERACY DISTRIBUTION OF SAMPLE FARMERS.

(Figures in numbers)

Sr.No.	Literacy	SC/ST	NT/OBC	Open	Total	
1	Literate	6 (8)	2 (2.7)	63 (84)	71 (94.7)	
2	Illiterate	ate 2 (2.7) 0 (0)		2 (2.7)	4 (5.3)	
	Total	8 (10.7)	2 (2.7)	65(86.7)	75 (100.00)	

Note: figures in the bracket show the percentage.

In the above table the total number of literate farmers was 71 (94.7 %) and illiterate 4 (5.3%). This shows that majority of farmers were literate in sample survey of Kognoli village, and they were able to read about agricultural practices.

Table No 5.5

CASTEWISE OCCUPATION OF THE SURVEYED FARMERS.

Occupation	SC/ST	NT/OBC	Open	Total
Agriculture	6 (8.0)	1 (1.3)	39 (52.0)	46 (61.3)
Agriculture and other	1 (1.3)	0 (0.0)	13 (17.3)	14 (18.7)
Agriculture with retirement	0 (0.0)	1 (1.3)	2 (2.7)	3 (4.0)
Agriculture and service	1 (1.3)	0 (0.0)	11 (14.7)	12 (16.0)
Total	8 (10.7)	2 (2.7)	65 (86.7)	75 (100.00)

Note: - Figures in the bracket shows the percentage.

The above table shows that, 61.3 % of the surveyed farmers were exclusively devoted to agriculture, whereas remaining 38.7 % of the farmers were doing part-time agriculture in the study area.

If we analyze the above table on caste basis, it is observed that 8% of the SC/ST farmers were doing exclusively agriculture whereas, 2.6% farmers were part-time farmers.

The observation of the above table shows that, highest percentage of exclusive farmers belonged to open category i.e. 52% and remaining 34.7% farmers were busy in farming and allied business.

Chart No 5.2

OCCUPATION OF THE SURVEYED FARMERS

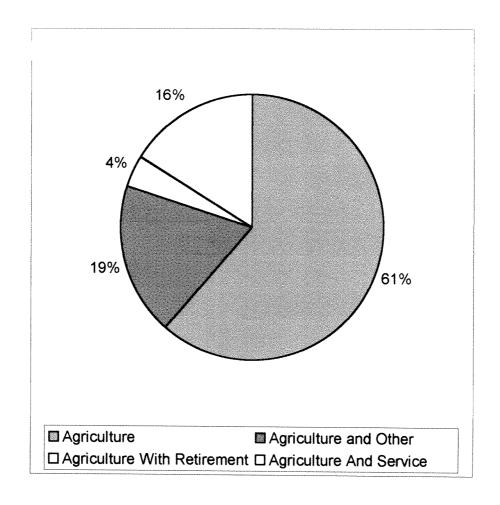


Table No 5.6

AVERAGE ANNUAL INCOME OF THE SURVEYED FARMERS

(Figures in numbers)

SR NO.	PARTICUL ARS	MARGINAL	SMALL	MEDIUM	LARGE	TOTAL
1	Agriculture	42,640.00	90,726.32	199,590.91	382,777.78	715,735.00
	rigiloultule	(4.51)	(9.60)	(21.11)	(40.49)	(75.71)
2	Dairy	14,740.00	7,815.79	8,772.73	6,000.00	37,328.52
	Dany	(1.56)	(0.83)	(0.93)	(0.63)	(3.950)
3	Employment	62,200.00	14,526.32	17,954.55	27,155.56	121,836.42
	Employment	(6.58)	(1.54)	(1.90)	(2.87)	(12.89)
4	Business	3,400.00	1,315.79	29,590.91	36,111.11	70,417.81
	Dusiness	(0.36)	(0.14)	(3.13)	(3.82)	(7.45)
	Total	122,992.65	114,396.17	255,933.03	452,088.44	945,317.75
	Total	(13.01)	(12.10)	(27.07)	(47.82)	(100.00)

Note: - I] Figures in the bracket show the percentage of the total farmers.

II] Figures outside the brackets indicate the average income of the farmers.

A). MARGINAL CATEGORY

Under this category there were 25 farmers whose total average income was Rs 1,22,992.65. This income came from three major sources,

- 1 agriculture
- 2 dairy
- 3 employment
- 4 business

The above table indicates that, agriculture and dairy sector contributes, 4.51%, 1.56% respectively to the total income; whereas, employment and business sector contributes 6.58%, 0.36% respectively.

B) SMALL CATEGORY

Under this category number of surveyed farmers was 19. The total average income of the farmers was Rs. 114,396.17

In this category 9.60% of the income was contributed by agriculture sector, 0.83% by dairy sector and 1.54% by employment sector. In this category business sector had contributed marginally i.e. 0.14% only.

C) MEDIUM CATEGORY

Analyses of the above table shows that, average income of the medium category farmers was Rs.255, 933.03, and among this 21.11%, 0.93%, 1.90% and 3.13% was contributed by agriculture, dairy, employment and business sector respectively.

D) LARGE FARMERS

Average income of this category was Rs. 452,088.44. Here it is observed that, bulk of the income came from agriculture sector i.e. 40.49%. Whereas, employment and business sector had contributed 2.87% and 3.82% respectively. The table indicates that in this category dairy sector had contributed marginally i.e. just 0.63%

Chart No. 5.3

AVERAGE ANNUAL INCOME

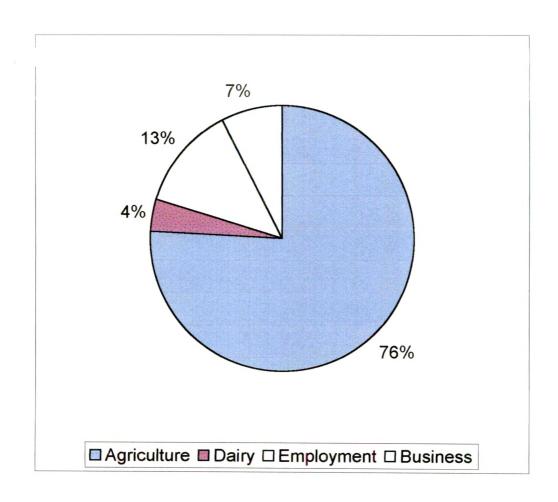


Table No 5.7

CATEGORYWISE FAMILY EXPENDITURE OF THE SURVEYED FARMERS

(Fig in Rs.)

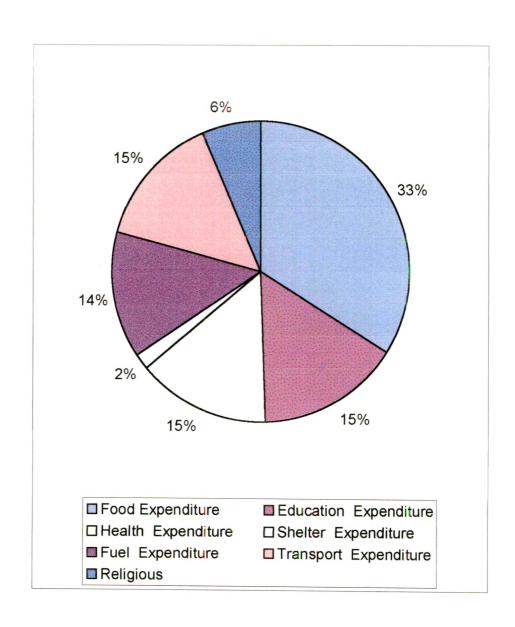
Particular	Marginal	Small	Med.	Large	Total	%
Food Expenditure	12863	17579	19045	26844	17549	33.86
Education Expenditure	8280	3737	10159	11333	8047	15.53
Health Expenditure	3900	6421	9864	14333	7540	14.55
Shelter	412	342	809	2889	808	1.56
Fuel	3779 .	6240	6892	18206	7047	13.60
Transport	3540	6289	8364	19222	7533	14.53
Religious	1300	1947	2795	13000	3307	6.38
Total	33674	42556	57928	105828	51697	100

The income has direct bearing upon the expenditure and standard of living of the cultivators. Therefore, the data on per family annual expenditure was analysed and presented in Table No. 5.7. It is revealed from the table that the annual expenditure on food, education, health, shelter, fuel, transport and religious was Rs 33674/-, 42556/-, 57928/-, 105828/-in case of marginal, small, medium, and large sized farmers. This shows that the expenditure per family was increased at overall level. It is seen that maximum

expenditure was on food (33.86 per cent) followed by education (15.53 per cent), health (14.55 per cent), transport (14.53 per cent) and remaining (21.54 per cent) on shelter, fuel, and religious functions.

Chart 5.4

PATTERN OF ANNUAL EXPENDITURE OF SAMPLE FARMERS



5.3 AGRICULTURAL INFORMATION

Table No. 5.8

LAND HOLDING OF SAMPLE FARMERS

Particulars	Marginal	Small	Medium	Large	Total
No.of Farmers	25 (33.33)	19 (25.33)	22 (29.33)	9 (12)	75 (100)
Total Land (Acare)	40.40 (6.71)	82.93 (13.78)	273.83 (45.49)	204.78 (34.02)	601.94 (100)

It was observed from the above table that out of the total (75) farmers, 33.33 percent of the farmers were in marginal category and remaining 25.33 per cent, 29.33 per cent, and 12 per cent were in small, medium, and large category respectively. It shows that, in the above-mentioned category i.e. marginal to large, number of farmers and their percent has decreased from 33.33 per cent to 12 per cent.

But the table shows, out of the total surveyed area 40.40 acare (6.71 per cent) were operating by the marginal farmers, 82.93 acare (13.78 per cent) small, 273.83 acare (45.49 per cent) medium and 204.78 (34.02 per cent) by large category respectively.

In short, table indicates that, arable land area has increased from marginal to large category i.e. 7 to 34 per cent. But at the same time and same category number of operational holders and their percent has decreased except medium category.

Following are the main soil groups observed in the village area.

1) **BLACK SOILS**: These are fertile soils, highly retentive of moisture and yield bumper crops provided that the balanced water supply is made.

2) **RED SOILS**: These soils have limited depth possessing poor fertility status. Soil is a natural body developed by natural forces acting on natural materials and it is a complex body showing great many variations in depth, colour, composition and behaviour. Its importance lies in the fact that it provides man's food, clothing and even increasing list of other needs. Nature take 400 to 500 years for produce 2.5 c.m. layer of soil. And hence, while describing the soils the soil information is also necessary to judge the optimum size of the farm, choise of the crops, application of fertilizers, cultivation and irrigation scheduling.

Soils constitute the most important basic resource for agriculture (Bennet, 1955). Besides climatic considerations, the texture and depth of the soil, its ingredients, salinity and alkalinity status, drainage conditions and the position of ground water table all go to determine the crops which would be suitable for an area and the mode and extent of irrigation to be applied to them (Government of India, 1976). The study of soils of a region including the mechanical and chemical properties and processes of formation is essential for understanding its agricultural landuse and production dynamics.

In the study area the soil type has been presented in Table No.5.9 as under.

Table No. 5.9
SOILS TYPES IN SAMPLE SURVEY

Soil Types	Marginal	Small	Medium	Large	Total
Black Soil	25.05	45.3	103.98	136.78	311.1
	(5.34)	(9.66)	(22.17)	(29.16)	(66.33)
Red Soil	9.98	30.93	70.03	46.98	157.9
	(2.13)	(6.59)	(14.93)	(10.02)	(33.67)
Total	35.03	76.23	174.01	183.76	469
	(7.47)	(16.25)	(37.1)	(39.18)	(100)



Picture shows that people have taken upper layer of soil.

5.4 LAND MANAGEMENT

Table No 5.10

LAND MANAGEMENT

Question	Marginal	Small	Medium	Large	Total	
Outside Soil	2(2.67)	6(8)	11(14.67)	6(8)	25(33.33)	
		Soil	Туре			
Blacky	-	5(6.67)	6(8)	1(1.33)	12(16)	
Murum/Ja mbh	2(2.66)	1(1.33)	5(6.66)	5(6.66)	13(17.33)	
		Wh	om?			
Govt Land	1(1.33)	1(1.33)	6(8)	3(4)	11(14.67)	
Own		3(4)	2(2.67)	1(1.33)	6(8)	
Bank of River	1(1.33)	2(2.67)	3(4)	2(2.67)	8(10.67)	
Number of Trolli	135	7 69	2190	1070	4164	
Expenditure Rs.	22300.00	89000.00	388500.00	158000.00	657800.00	
Suitable Bunding	5(6.67)	4(5.33)	9(12)	4(5.33)	22(29.33)	
Soil Testing	3(4)	5(6.67)	3(4)	4(5.33)	15(20)	
Salinity found	2(2.67)	1(1.33)	1(1.33)	2(2.67)	6(8)	
How much (Acare)	0.88	2.00	0.13	2.5	5.5	

Note: Figures in the bracket shows the percentage.

In the surveyed farmers 33.33 percent farmers were using extra soil. In these farmers, murum type soil (red) was used greater than the black soil. Also table reveals that 14.67 percent farmers were using public property (government land) and in remaining holders 8 percent and 10.67 percent have used soil from own land and bank of the river respectively and

in higher proportion of public property users were found in medium and large category respectively.

In the sample survey, it was found that, only 15(20 percent) farmers were doing soil testing. Out of this 6 farmers; field was injured by soil salinity problem.

We say that earthworm is a friend of farmer, and it makes intensive use of water and leafs of trees. But, today unfortunately our farmers are purchasing the chemical fertiliser by pay Rs. 5 /- per Kg. instead of bio-fertiliser.

An attempt was to find out how many farmers in the survey were maintaining the soil fertility by using the soil from the other farms. It was seen that 33 percent of the total farmers were using the red soil other than their own soil. This was taken from the village common property without paying any price.

Due to the improper use of water and unsuitable soil management practices; the problem of soil degradation has taken place in the village.

Table No 5.10 shows that the soil of 5.5 acare area of surveyed have been converted into partly saline soil. Hence this area is now unsuitable for the crop cultivation. The area of the remaining zones seems to be suitable for the cultivation but in future there is possibility to convert these soils into saline lands. The proportion of other inherent elements is also decline, which require attention.

RECLAMATION MEASURES FOR SALINE LANDS

The process of practice involved in bringing saline and alkaline soils into productive conditions are known as reclamation measures. The reclamations measures, chemical measures and agronomical practices.

1) Physical Measures: -

Development of artifical drainage and impotant to removing excess acid or alkali from soils. Artificial drainage system is of two types one is open and other is close. It is one of the curative measures to reclaim saline affected areas.

2) Chemical Measures: -

It includes the addition of gypsum, sulphur and molasses to affected soils in order to replace sodium in the clay complex by calcium. The press mud (waste products in sugar factory) helped them in reducing exchangeable sodium.

SOME OBSERVATION ABOUT OVER IRRIGATION AND FERTILIZERS

The water logging is a serious problem in newly irrigated areas of Rajasthan deserts. Similarly, the adverse effects of changes in traditional cropping in the States of Punjab, Bihar, West Bengal, Madhya Pradesh, Gujarath and Maharashtra are quite conspicuous. The States of Tamil Nadu and coastal districts of Andhra Pradesh are not an exception to the fast decling fertility of soils. In certain areas over irrigation is leading to water logging, while in other areas, the chemical properties are getting transformed resulting into saline and alkaline formations. Dr. Swaminathan said, "If electricity is free in Punjab; then why not people should use more/ excess water for agriculture? And the result is land salinity." The over application of chemical fertilizers is destroying the microorganism of the soil which are vital for maintaining the fertility of the soil. At the same time the changes in the cropping pattern through giving more agricultural returns, is injurious for the health of the soils, creating ecologically adverse conditions which may render the fertile plains unproductive, infertile and barren, if remedial steps are not taken.



Excessive dose of chemical fertilizers.

Table No 5.11

BULLOCKS INFORMATION

i) Number of bullocks using farmers:

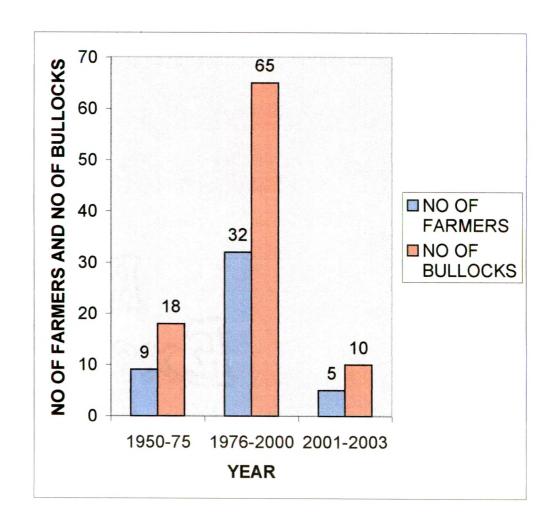
Years	Marginal		Small		Medium		Large		Total	
	farm ers	Bullo cks	farme rs	Bulloc ks	Farm ers	Bulloc ks	farme rs	Bulloc ks	farme rs	Bullo cks
1950-75	4 (25)	8 (25)	1 (17)	2 (17)	3 (20)	6 (21)	1 (11)	2 (10)	9 (20)	18 (19)
76-00	10 (63)	20 (63)	5 (83)	10 (83)	10 (67)	19 (66)	7 (78)	16 (80)	32 (70)	65 (70)
01-03	2 (13)	4 (13)	0 (0)	0 (0)	2 (13)	4 (14)	1 (11)	2 (10)	5 (11)	10 (11)
TOTAL	16 (100)	32 (100)	6 (100)	12 (100)	15 (100)	29 (100)	9 (100)	20 (100)	46 (100)	93 (100)

NOTE: - Figures in the bracket shows the percentage.

The above table shows the trends in utilization of bullocks for the farming purpose by surveyed farmers from 1950 to 2003. During 1976 to 2000 period there was increase in number of bullocks from 18 to 65. This may be due to the prosperity of farmers since there is no serious drought in this period. But after this period there is a decrease in the number of bullocks i.e. from 65 to 10 in the year 2001- 2003. This is because farmers are relied more on tractors than bullocks for farming.

In the year 1950-75 number of bullock owners was more in marginal and medium category. This trend was maintained in the year 1976 –2000. But year 2001-2003 shows drastic reduction in the bullock owner farmers.

Chart 5.7
BULLOCKS INFORMATION



The above bar diagram shows that each farmer has kept a pair (02) of bullocks, but year after year the number of farmers with bullock has declined. The village has irrigated from the year 1990 and since then the people began to cultivate sugar cane and they were using tractors instead of bullocks.



Ploughing by bullocks is environment friendly but the farmers has lost this system.

Table No 5.12

Average Ploughing Expenditure Of Sample Farmers:

SR. NO.	PARTICULARS	MARGINAL	SMALL	MEDIUM	LARGE	TOTAL
1	By Bullocks	1356	2432	3582	10778	3412
1	Dy Dullocks	(40)	(34)	(25)	(35)	(31)
_	D. T. T. otom	2008	4737	10636	20444	7443
2	By Tractor	(60)	(66)	(75)	(65)	(69)
	TOTAL	3364	7168	14218	31222	10855
	TOTAL	(100)	(100)	(100)	(100)	(100)

NOTE: - Figures in the bracket shows the percentage.

According to the above table, average 31 per cent were using bullock ploughing and 69 per cent were using tractor ploughing by surveyed farmers. If we analyse the table categorywise all category farmers were spending more on tractor ploughing as compared to bullock ploughing. This indicates the dependency of farmers on machines for farming.



The above picture shows that, the traditional system of harvesting rarely found in present day.

The farmers are how using machines for the cultivation of agriculture. They are now using tractors instead of bullocks. Each farmer was having a pair of bullocks. But now the village is having only 200 bullocks.

Table No.5.13

Trends in Area of Principal crops in Kognoli village 1995-02

(In acare)

	(In acare)					
	199)5-96	- 2001	Changes		
Crops	Area in hectare	Percentage To total	Area in hectare	Percentage To total	in %	
Sugarcane	. 128	32.	237	.57	±25	
Tobacco	142	35	61	15	-20	
Soya bean	52	13	52	12	-1	
Groundnut	39	10	334	8. 4	-2:	
Wheat	5	1	5	$1^{\frac{1}{2}}$	0	
Jowar	22	5	14	3	-2	
Rice	10	2	5	\mathbf{i}	£1.	
Cereal	37	8	24	5	-3	
Other	5	1	12	3	+2	
Total	403	100.00	419	100.00		

Figures in the bracket show the percentage.

As table 5.13 shows, the cropping pattern of Kognoli area was greatly dominated by the commercial crops including mainly Sugarcane & Tobacco. Trend shows that, cropping pattern of sugarcane cultivation was increased by 25 per cent while tobacco cultivation was decreased by 20 per cent from the year 1995-96 to 2001-2002. The main factors contributed for this change were ample availability of water and low risk factor compared to tobacco. In current scenario sugarcane has monopoly over other crops.

Table indicates the decreasing pattern in the cultivation of oil seed crops and jowar, rice, cereals etc. except wheat, which shows no change in cultivation trend. The Sugarcane crop was taken in 72 percent of the total area of commercial crops it was much higher than tobacco.

Table shows that tobacco crop had remained some in both period i.e. near about 23 percent in 95-96 & 20 percent in 01-02 year. About 13 & 12 percent area was under Soya bean & 10 & 8 percent for groundnut respectively.

Cereal group of the village was 37 percent in the years 95-96 & it was decreased by 24 percent in 01-02. But among these crops except wheat (constant) Jowar & Rice decreased by 50 percent of the previous period.

According to the above table the other crops has increased to over of 50 percent than previous period in the village.

In the surveyed area considerable monopoly is seen by occupying of the Sugarcane in the study area

The above table indicates the crops area under sugarcane and other crops (vegetables) has increased in 2001-02 as compared with 1995-96. This has occurred in sample village because in the last decade irrigated area has increased so the farmers had turned to the sugarcane crops.



Repeated use of soil (Monoculture) for Sugarcane.

Table No 5.14
SOURCEWISE IRRIGATION

SR.NO	SOURCES	IRRIGATED AREA (Acre)	
1	Well Irrigation	177 (40)	
2	River (Lift) Irrigation	269 (60)	

Note: - Figures in the bracket show the percentage.

Irrigation supply is one of the essential factors for the development of agricultural. Irrigation facility is the major contributing factor in the development of cropping pattern of the study area. The major source of irrigation in the study area is well and river. In the village total number of wells were 190. Because of the Kallammawadi Dam Project river water is available throughout the year for irrigation. The ample of water is available in the study area. Hence most farmers, in the surveyed area are depend on mainly rivers for irrigation.

Analysis of Table No. 5.14 shows that total 346 acare of land comes under irrigation.Out of this irrigated area 40 percent of the area was irrigated by wells; whereas 60 per cent of the area was irrigated by lift irrigation system.

In sample survey we can conclude that, 100 per cent of farmers were enjoying irrigation facilities.



Excessive use of water for a small plant of sugarcane.

Table No 5.15
LIVING STANDARED OF SAMPLE FARMERS

Question	Answer	Margin al	Small	Medium	Large	Total
Own		25	19	21	9	75
House		(100)	(100)	(100)	(100)	
	RCC	4	1	7	3	15
,	RCC	(16)	(5)	(32)	(33)	
Trmoof	Cim1-	19	16	15	6	56
Type of house	Simple	(76)	(84)	(68)	(67)	i
House	Old type	2	2			4
		(8)	(11)	Ann John John James		
	T.V	8		5	1	14
	1.7			(31)	(11)	
	Radio,	4	3		1	8
Entertain	Таре	4	(16)		(11)	
ment	T.V, Radio,	10	16	11	7	44
	Таре	10	(84)	(69)	(78)	
Vehicle	Two/Four Wheeler	8	10	15	9	42

Figures in the bracket show the percentage.

Among different parameters of standard of living the residential building and consumer durable articles are the important parameters which indicates the economic status of the farmer. The information pertaining to this aspect was collected from selected cultivators and presented in Table No.5.15. In the village, majority of families are having houses constructed with traditional method. However, due to increase in irrigation facilities to agriculture, the income level of the villagers is also increased. This change has been reflected in different ways. Thus, in study area also the type of

residential building indicate this change. The information in Table No 5.15 revealed that, the sample farmers of the Kognoli were having 15 R.C.C. building; out of this 3 houses were in large category and 4 houses were in marginal category.

The traditional type of buildings with simple roof were possessed by 56 house holds and remaining house holds 04 were wit old type houses.

5.5 MARKET CONDITION:

Table No 5.16

MARKET POSITION:

	MARGINAL	SMALL	MEDIUM	LARGE	TOTAL			
Market place								
Village	22(29.33)	15(20)	19(25.33)	6(8)	62(82.67)			
Taluka	3(4)	4(5.33)	3(4)	3(4)	13(17.33)			
Trader	25(33.33)	19(25.33)	22(29.33)	9(12)	75(100)			
Store Room	5(6.67)	3(4)	12(16)	4(5.33)	24932)			
	Transport facility							
Own	2(2.66)	2(2.66)	6(8)	4(5.33)	14(18.66)			
Rent	23(30.66)	17(22.66)	16(21.33)	5(6.66)	61(81.33)			
		Transport fa	icility Type					
Bullock	19(25.33)	14(18.66)	6(8)	2(2.66)	41(54.66)			
Tractor	1(1.33)	1(1.33)	5(6.66)	7(9.33)	14(18.66)			
Bullock, Tractor	5(6.66)	4(5.33)	11(14.66)		20(26.66)			

The above table shows that, nearly all surveyed farmers sell their agricultural products to the private traders. Out of the total 82.67 percent farmers sale their products at village level and remaining 17.33 percent sale in taluka level markets only 12.20 percent farmers have their own store room. According to the table 18.66 percent farmers have their own transport facility whereas, 81.33 percent had to pay rent for transport of products. And 54.66 percent farmers uses bullock force for transport; whereas remaining 18.66 and 26.66 percent farmers make use of both facilities viz bullock and tractors.

ROLE OF GOVERNMENT FOR MARKET

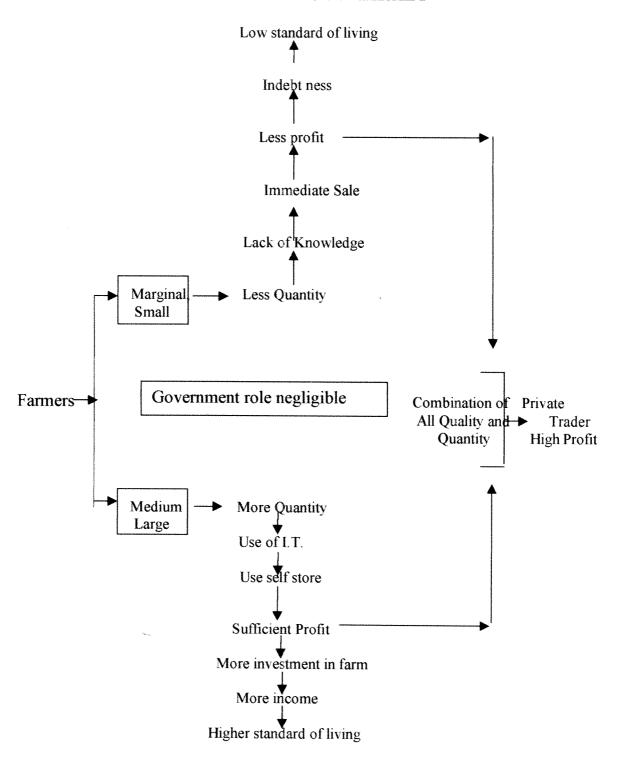
Middlemen swarm like flies and take away a substantial portion of the marketable surplus. Weighing is unreliable in many markets. These conditions are certainly not the making of farmers. Nor can farmers individually or collectively change this situation. The functionaries in the markets, with vested interests in these chaotic conditions, are the least interested in changing them. Hence, the only agency that can undertake the work of thoroughly overhauling the existing marketing structure is the government.

Small farmers can do little individually. They are in fact exploited and fleeced by a large number of middlemen. It is necessary that the government intervene to provide them protection against exploitation and to organize them into institutions so that they can be able to overcome the weaknesses of individual marketing.

The infrastructure for a healthy marketing system is grossly inadequate. To make up this deficiency, it is necessary to link all the villages with the buying centers through efficient transport, adequate

communications etc. The government must also provide for appropriate laws and procedures, which should facilitate transactions along healthy lines.

EXPLOITATION OF FARMERS IN MARKET



5.6 AGRICULTURAL IMPLEMENTS:

Table No 5.17

AGRICULTURE INSTRIUMENT OF FARMERS 1990-91 TO 2002-03

	Part -A		Part- B			
ADVANCED EQUIPMENTS			TRADITIONAL EQUIPMENTS			
EQUIP	90-91	02-03	EQUIP	90-91	02-03	
Tractor	3	7	Bullocks Carts	21	6 ·	
Wooden Plough	13	13	Kulave	18	10	
Electric Motor pump	62	78	Bandge	9	7	
Spray pumps	55	60	Par	73	74	
Cultivators	8	5	Kudal	82	89	
Cutting Machine	0	0			-	
Harvesting Machine	2	1		·		
Total						

The above table shows the use of equipments and agricultural instruments. The column of advanced equipment shows that, in 1990-91 numbers of tractor was 3 but after a decade it has increased to 07 i.e. 200 percent. Table indicates that number of wooden ploughs is constant, and remaining equipments such as, electric motor pumps and spray pumps had found increased but insignificantly from 62 to 78 and 55 to 60 number respectively. The number of cultivators and harvesting machine had decreased 8 to 5 and 2 to 1 respectively.

About the traditional equipments table shows that number of bullock's carts, Kulave had decreased from 21 to 6 and 18 to 10 respectively. At the same time remaining equipments like *bandge*, *par and kudal* were decreased but it is not considerable change.

In short table indicates that sample farmers have done technological change in their farm management system. The sample farmers had decreased the use of traditional equipments and accepted modern technology but without optimization.

The improvement in economic status of the cultivators is not only reflected through standard of living of the farm family but also sought by increase in capital asset. The farm implements and tools, which require a huge investment, play an important role in farm business. In other words it shows the solvency of the farm business. In view of this, the information was collected from the selected cultivators on this aspect and it is presented in table No 5.17-part A and part B. The number of advanced equipments, machinery and traditional equipments possessed by the farmers in the period 1990-91 to 2002-2003 are presented in table No 5.17.

5.7 SUBSIDARY OCCUPATION:

Table No 5.18

ANIMAL HUSBANDARY AND OTHER CATTLEWEATH WITH SAMPLE FARMER

	Animal Name		No. Of	animal		Total	No. Of Farmers
		Marginal	Small	Medium	Large		
1	Local Buffalo	29	24	30	18	101	48
2	Mura	, pour	6	2	0	9	5
3	Pandarpuri	0	0.0	3	1	4	3
4	Mahasana	0	0	1	0	Yahana	1
5	Cow	0	i nesend	5	9 0	6	3
		7	Fotal			121	60
6	Goat	()	2	2	0	4	2
7	Sheep	0	()	()	()	Ó	()
	Total	()	2	2	0	4	2
8	Hen	0	10	3	0	13	3
	Total	0	10	3	()	13	3

The live stock population possessed by the cultivators from all the four size groups is presented in Table No 5.18

According to the above table; out of 75 farmers 60 (80 per cent) farmers had found related with subsidiary occupation. In 48 number of families 80 per cent family were related with local buffaloes and remaining only 20 per cent were having improved animal. Hence farmers should increase improved animals. The table shows only 2 farmers were having 4 goats and 3 farmers having 13 hens.

The size of livestock possessed by marginal, small, and medium category farmers were more as compared to large farmers. The reason behind this might be the less labour power. As this need was very well fulfilled by the marginal, small, and medium farmers and hence the number of livestocks were higher than large size category of farmer in the study area.

5.8 ENVIRONMENTAL INFORMATION:

Table No 4.19
ENVIRONMENTAL INFORMATION

Sr.No.	Trees Name		Total			
		0-5	6-15	16-25	26+	
1	Babul	4(1)	24(3)	31(9)	9(11)	68(4)
2	Nilgir	255(41)	87(11)	10(3)	0(0)	352(19)
3	Limb	21(3)	23(3)	130(36)	16(20)	190(10)
4	Mango	32(5)	99(13)	29(8)	46(57)	206(11)
5	Coconut	142(23)	204(26)	79(22)	06(7)	431(24)
6	Suru	0(0)	25(3)	0(0)	0(0)	25(1)
7	Bet	4(1)	9(1)	7(2)	0(0)	20(1)
8	Sagwan	58(9)	15(2)	0(0)	0(0)	73(4)
9	Pear	10(2)	78(10)	0(0)	0(0)	88(5)
10	Chicku	16(3)	21(3)	0(0)	0(0)	37(2)
11	Other	79(13)	187(24)	72(20)	4(5)	342(19)
12	Total	621(100)	772(100)	358(100)	81(600)	1832(100)

The above table shows that, sample farmers on 601 acare area planted the total 1832 number of trees. It means that 3 trees per acare land were found. In this survey it is found that highest number of plantation was made up of coconut trees i.e., 431 (24 percent). Followed by other category trees like nilgir 19 %, mango11 %, limb 10 % etc. Remaing trees were found lowest in number i.e. 1 to 5 percent only.

If we analyse the above table on age basis it is found that aged trees (26 to 100 yrs) were cutted by the farmers in frequent numbers. In this category very less number of trees were available i.e., only 4.42 percent. The highest number i.e.,772 (42.14 %) of trees has been grown in 6 to 15 yrs of age group.

The following chart shows the relation between trees cutting and poverty.

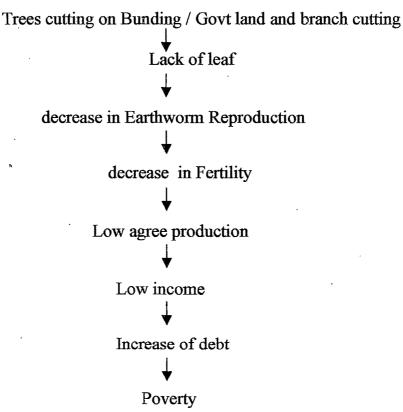
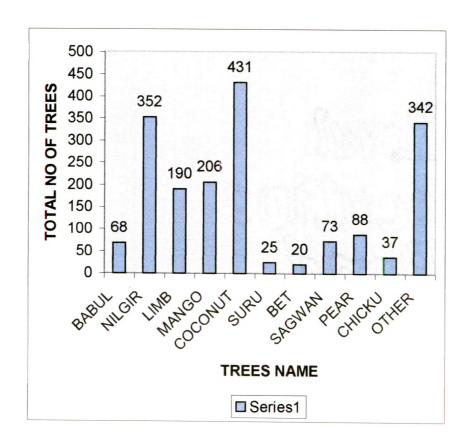


Chart No. 5.8

ENVIRONMENT INFORMATION



The tree such as mangos and other fruits needs to be increased; as it helps to environment protection and helps for rain cycle.