

CHAPTER VI

DATA ANALYSIS

The present chapter is allotted for analysing the collected primary data pertaining to the socio economic conditions of the 400 selected respondents of the study area during the study period under consideration. The researcher divided the data analysis into three parts in the first part primary data related to socio economic conditions are analysed. In the second part the researcher analysed the data related to production and marketing of paddy cultivation during the study period. In third part the researcher analysed the data related to cost and revenue aspects of paddy cultivation of the study.

6.1 Age Wise Distribution of the Respondents

The Table 6.1 shows the age wise classification of the selected respondents of the present study during the study period.

TABLE 6.1
AGE WISE DISTRIBUTION OF THE RESPONDENTS

Age Group	Size of the Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers.	
21-30	28 (22)	23 (21)	13 (13)	7 (12)	71 (18)
31-40	83 (66)	66 (59)	78 (72)	40 (72)	267 (67)
41-50	8 (7)	13 (12)	9 (8)	4 (8)	34 (8)
<51	7 (5)	9 (8)	8 (7)	4 (8)	28 (7)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	15.329 with 9 degree of difference				

Source: Primary Data

It can be noted from the table that among the 400 selected respondents majority of the respondents i.e. 267 (67%) farmers are in the age group of 31-40 i.e. 83 marginal farmers, 66 small farmers, 78 medium farmers and 40 large farmers. 21-40 age group is the next highest representation with 71(18%). Among them 28 are marginal, 23 are small, 13 are medium and 7 are large farmers. The third highest representation of the respondents was in the 41-50 age group with 34 (8%) in which 8 are marginal farmers, 13 are small farmers, 9 are medium farmers and 4 large farmers. It was noticed from the table that highest numbers of farmers in all categories are in the age group of 21-40. It was also noticed that only 28 members having more than 51 years of age were involved in the paddy cultivation.

From the tabular analysis it was noticed that the highest middle aged representation was found in large farmers with 72 percent followed by marginal farmers with 66 percent, small farmers with 59 percent and medium farmer with 70 percent. The Chi-Square test shows that there was no significant difference between the age and the categories of farmers.

6.2 Educational wise Distribution of the Respondents

The Table 6.2 shows the educational wise distribution of the selected respondents of the study period.

TABLE 6.2

EDUCATIONAL WISE DISTRIBUTION OF THE RESPONDENTS

Level of Education	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low (Primary)	26 (20)	30 (27)	54 (50)	28 (50)	138 (37)
Medium (High School)	81 (65)	62 (56)	42 (39)	22 (39)	207 (50)
High (College)	19 (15)	19 (17)	12 (11)	5 (11)	55 (13)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>11.545 with 6 degree of difference</i>				

Source: Primary Data

It can be identified from the table that among the 400 selected respondents the majority of the farmers i.e. 207 (50%) are having high school education followed by 138 farmers (37%) are having low level education, 55 farmers (13%) of the respondents are having college level education.

It was also found that in the size of farmers, high percentages of large farmers are having low level education with 50 percent. The high level of medium educational status was found in marginal farmers with 65 percent followed by small farmers with 56 percent, medium farmers with 39 percent and large farmers with 39 percent. It was also identified that only 17 percent of small farmers, 15 percent of marginal farmers, 11 percent of medium farmers and 11 percent of large farmers are having high level of educational status i.e. college education. It can be found from the above

tabular and percentage analysis that the small and marginal farmers are more educated than the other farmers.

It was shown by the chi-square test that there was a significant difference between the farmers and the educational status.

6.3 Community wise Distribution of the Respondents

The following Table 6.3 shows community wise classification of the selected respondents of the present study.

TABLE 6.3

COMMUNITY WISE DISTRIBUTION OF THE RESPONDENTS

Community	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Backward Class (BC)	92 (73)	70 (63)	56 (53)	30 (55)	248 (62)
Most Backward Class (MBC)	18 (14)	29 (26)	39 (36)	14 (25)	100 (25)
Scheduled Caste (SC)	5 (4)	4 (4)	4 (3)	01 (2)	14 (3)
Scheduled Tribes (ST)	11 (9)	8 (7)	9 (8)	10 (18)	38 (10)
Total	126 (100)	111 (100)	108 (100)	56 (100)	400 (100)
χ^2	16.322 with 9 degree of difference				

Source: Primary Data

From the above tabular and percentile analysis it can be identified that among the 400 selected respondents the majority of 248 respondents are belongs to Backward Community which constitute 63 percent of the total followed by Most Backward Community with 100 respondents (25%), Scheduled Tribe with 38 respondents (10%) and Scheduled Caste with 14 respondents (3%).

It was also noticed that the highest percentage of marginal farmers in Backward Community was (73%) followed by Most Backward Community with 14%, Scheduled Tribe with 9% and Scheduled Tribe with 4%. Among the small farmers Size of Farmers the highest percentage was found in Backward Community with 63 percent, followed by Most Backward Community with 26 percent, Scheduled Tribe with 7 and Scheduled Caste with 4 percent. Among the medium Size of Farmers respondents the highest percentage was found in Backward Community with 53 percent followed by Mot Backward Community with 36 percent, Scheduled Tribe with 8 percent and Scheduled Caste with 4 percent. In large farmers Size of Farmers the highest percentage was found in Backward Class with 55 percent, followed by Most Backward with 25 percent, Scheduled Tribe with 18 percent and 2 percentages in schedule caste.

From the study it was found that the representation of scheduled caste and scheduled tribes

Chi-square value shows that there was a significant difference between the community and the Size of Farmers of the respondents

6.4 Level of Experience of the Respondents

The Table 6.4 portrays the level of experience of the selected paddy cultivators of the present study during the present study.

TABLE 6.4
AGRICULTURAL EXPERIENCE OF THE RESPONDENTS

Level of Experience	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low (Below 5 years)	87 (69)	30 (27)	30 (28)	15 (28)	162 (38)
High (More than 5 years)	39 (31)	81 (73)	78 (72)	40 (72)	238 (62)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>6.813 with 3 degree of difference</i>				

Source: Primary Data

It was identified from Table 6.4 that among the 400 selected respondents 238 of them are having high level experience and remaining 146 of the respondents having low level experience. Among marginal farmers 87 (69%) are having low level experience and 39 (31%) are having high level experience. Among Small farmers 81 (73%) are having high level experience and 30 (27%) are having low level experience. Among medium Size of Farmers 78 (72%) are having high experience and 30 (28%) are having low level experience. In large size farmers 40 (72%) are having high experience and 15 (28%) are having low experience.

From the above tabular and percentile analysis it was found that the highest numbers of marginal farmers are having low experience with 69 percentages it was

due to their young age. It was also found that there was a slight difference between the large farmer and small farmer in the agricultural experience.

Chi-Square test shows that there is a significant difference between the level agricultural experience and the Size of Farmers of farmers.

6.5 Occupation Pattern of the Respondents

. The Table 5.5 shows the occupational pattern of the selected paddy cultivators of the present study during the study under consideration.

TABLE 6.5
OCCUPATIONAL PATTERN OF THE RESPONDENTS

Occupational Pattern	Size of the Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Only Agriculture	114 (91)	98 (88)	98 (91)	52 (91)	362 (90)
Agriculture with other Occupation	12 (9)	13 (12)	10 (9)	3 (9)	38 (10)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	6.940 with 3 degree of difference				

Source: Primary Data

It was noticed from the above tabular analysis that among the 400 selected paddy cultivator of the present study 362 farmers are doing agricultural work only it constitute 90 percent of the total farmers. Remaining 38 selected farmers are doing agricultural along with other business. It was also found that irrespective of categories of farmers majority of them are engaged in agriculture only.

The chi-square test also proves that there was no significant difference between the farmers by land size and the occupation.

6.6 Nature of Family

The following Table 6.6 shows the type of the family of the selected respondents of the present study during the study period.

TABLE 6.6
NATURE OF FAMILY

Nature of family	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Joint	10 (8)	21 (19)	81 (75)	42 (75)	154 (44)
Nucleus	116 (92)	90 (81)	27 (25)	13 (25)	246 (56)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>7.815 with 3 degree of difference</i>				

Source: Primary Data

It can be found from the above analysis that among the 400 selected paddy cultivators of the study area 246 of them are belongs to nucleus type of family. It was also noticed that remaining 154 paddy cultivators are belongs to joint family.

The highest percent of nucleus family was found with marginal farmers with 92 percent followed by small farmers with 81 percent, large farmers with 25percent and medium farmers with 25 percent. It was also noticed that the highest percent of

joint family system was found in both large and medium size farmers with 75 percent followed by small farmers with 19 percent and marginal farmers with 8 percent.

Chi-Square test proves that there is a significant difference between the farmers and the size of family.

6.7 Types of Houses

The following Table 6.7 shows the nature of the houses of the selected respondents of the present study.

TABLE 6.7
TYPES OF HOUSES

Types of House	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Thatched	88 (70)	14 (13)	7 (6)	4 (6)	113 (24)
Tiled	38 (30)	88 (79)	30 (27)	14 (26)	170 (40)
Terraced	00	9 (8)	71 (67)	37 (68)	117 (36)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>12.592 with 6 degree of difference</i>				

Source: Primary Data

It was identified from the above table that out of 400 selected farmers 170 of them are living in tiled type houses, 117 of them living in terraced type houses remaining 113 of the respondents are living in thatched houses.

In marginal size of farmers 88 (70%) are living in thatched houses and 38 of them are living in tiled houses and there was no representation in terraced type of houses. In small farmers 88 (79%) of them are living in Tiled houses, 14 of them are living in Thatched houses and remaining 9 of them are living in Terraced houses. In medium farmers 71 of them are living in Terraced houses, 30 of them are living in Tiled houses and 7 of them are living in Thatched houses. In large farmers 37 of them living in Terraced houses, 14 of them living in Tiled houses and 4 of them are living in Thatched houses.

It was found from the chi-square test that there was a significant difference between the types of house and the size of farmers.

6.8 Types of Land Holdings of the Respondents

The following Table shows the nature of land holdings of the respondents of the present study during the study period.

From the following table it was found that the gross operational land holding was 1935 acre in the study area in which the marginal farmers having 126 acres (31 percent) and the small farmers having 111 acres (28 percent) medium farmers having 107 acres (27 percent) and large farmers having 14 percent. From the table it was also found that the net operational land holding during the study period is 1785 acres. The mean value of each group of the farmers is 1.30 acres for marginal farmers 4.10 acres for small farmers 8.57 acre medium farmer and 8.60 large farmers. The mean value of all respondents is 3.364 acres of land. It was also known from the table that the wetland covers the largest area than the garden land and dry land.

TABLE 6.8
TYPES OF LAND HOLDINGS OF THE RESPONDENTS

Types of Land	Size of Farmers								Total	
	Marginal		Small		Medium		Large			
	No.	Size of land	No.	Size of land	No.	Size of land	No.	Size of land	No.	Size of land
Wet land	126 (31)	410	111 (28)	415	108 (27)	560	55 (14)	550	400 (100)	1935
Garden land	2 (8)	2	4 (15)	8	10 (38)	19	10 (38)	19	29	51
Dry land	2 (6)	3	5 (16)	13	12 (39)	20	12 (39)	20	32	56
Total Gross land	-	380	-	438	-	554	-	554	-	1926
Net operational land	-	362	-	412	-	510	-	501	-	1785
Mean value of land size	-	1.30	-	4.10	-	8.57	-	8.60	-	3.364
χ^2	<i>12.592 with 6 degree of difference</i>									

Source: Primary Data

6.9 Sources of Irrigation

In the study area the major sources of irrigation are canal, river, tanks, well and tube well. In the northern parts of the Karur district are irrigated by Cauvery River. Some of the areas are also benefited by the river Amaravathi.

From the above tabular analysis it was noticed that among the 400 selected respondents of the present study 281 respondents are irrigated their lands with the help of well and 181 respondents irrigated their land through canals. From the analysis it was inferred that the majority of the farmers depends upon canal and well irrigation simultaneously.

TABLE 6.9
SOURCES OF IRRIGATION

Sources of Irrigation	Size of Farmers				Total	%
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers		
Canal	76	44	25	36	181	45.25
River	24	2	15	-	47	12.0
Tanks	10	05	03	04	22	5.5
Well	100	78	61	42	281	70.0
Tube well	12	8	10	3	33	8.25
χ^2	21.026 with 12 degree of difference					

Source: Primary Data

6.10 Animal Assets Owned by the Respondents

The Table 6.10 shows the animal assets owned by the selected respondents of the present study during the study period.

It can be noted from the table 6.10 that among the 400 selected paddy cultivators of the present study 261 (66%) respondents are owned high level of animal assets and remaining 139 (34%) paddy cultivators are possessing low level of animal assets. Among marginal size farmers 56 percent are having high level animal assets and 44 percent having low level animal assets. In Small farmers 78 percent are got high level animal and 22 percent got low level animal. In medium 60 percent having high level and 40 percent are in low level. In large farmers 70 percent are in high level and 30 percent are having low level of animals.

TABLE 6.10
ANIMAL ASSETS OWNED BY THE RESPONDENTS

Animal Assets	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low (Upto 2 animals)	55 (44)	24 (22)	44 (40)	16 (30)	139 (34)
High (More than 2 animals)	71 (56)	87 (78)	64 (60)	39 (70)	261 (66)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>7.815 with 3 degree of difference</i>				

Source: Primary Data

It was found from the chi-square test that there was a significant difference between the movable assets and the categories of farmers.

6.11 Mechanical Assets Owned by the Respondents

The following Table 6.11 shows the mechanical assets owned by the respondents. According to the number machines owned by the respondents it was classified into low and high level.

It was noticed from the table among the 400 selected paddy cultivators of the present study 241 respondents are having high level of mechanical power which constitutes 60 percent to the total respondents, and remaining 159 selected respondents are owned low level of mechanical assets.

TABLE 6.11
MECHANICAL ASSETS OWNED BY THE RESPONDENTS

Level of Mechanical power	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low	60 (48)	33 (30)	44 (41)	22 (40)	159 (40)
High	66 (52)	78 (70)	64 (59)	34 (60)	241 (60)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>7.815 with 3 degree of difference</i>				

Source: Primary Data

Among the marginal farmers 52 percent are having high mechanical assets and 48 percent are having low level of mechanical assets with them. In small size farmers 70 percent are possessing high level of mechanical assets and 30 percent are having low level. In medium size of farmers 59 are having high level mechanical assets and 41 percent are having low level of mechanical assets with them. In large size farmers 60 percent are having high level of mechanical assets and 40 percent are having low level.

The Chi-square test also proves that there was a significant relationship between the mechanical assets and size of farmers.

6.12 Consumer Durables Owned by the Respondents

The following Table 6.12 shows the consumer durables owned by the selected respondents of the present study.

TABLE 6.12
CONSUMER DURABLES OWNED BY THE RESPONDENTS

Level of consumer durable	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low Level	83 (66)	37 (33)	33 (31)	18 (32)	171 (41)
High Level	43 (34)	74 (67)	75 (69)	37 (68)	229 (59)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>6.124 with 3 degree of difference</i>				

Source: Primary Data

It can be found from the above table that out of 400 selected respondents of the present study 229 selected respondents are having high level consumer durables which constitute 59 percentages to the total respondents. Remaining 171 respondents are having low level of consumer durables with them. It was also noticed that the consumer durable is more or less equal between small farmers and large farmers in

both low and high categories but comparatively with marginal farmers the low size of farmers are higher. Chi-square test also proves the above facts.

6.13 Average Family Annual Income of the Respondents

The following Table 6.13 shows the average family annual income of the respondents of the present study during the period under consideration. According to the value of income, the income was classified into low, medium and high level.

TABLE 6.13

AVERAGE FAMILY ANNUAL INCOME OF THE RESPONDENTS

Types of Income	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low	122 (97)	61 (55)	23 (21)	12 (22)	218 (55)
Medium	3 (2)	48 (43)	41 (38)	20 (36)	112 (28)
High	01 (1)	2 (2)	44 (41)	23 (42)	70 (17)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>12.592 with 6 degree of difference</i>				

Source: Primary Data

It was found from the Table 5.13 that out of 400 selected paddy cultivators of the present study 218 (55%) of them are in low level annual income, 112 of them are medium level income, remaining 70 of them falls under high level income group.

It can be noted that among the marginal size farmers 122 (97%) of them are having low level income percent falls in the medium level annual groups and 1 percent of the respondents falls under the high level income group. Among the small size farmers 55, 43 and 2 percent are in low, medium and high level of family annual income respectively. In medium size farmers 23 respondents are having low level income, 41 respondents are having medium level income and remaining 44 of them are falls under the high level income.

The variability is found in all the groups of farmers. Chi-square test proved that that there was a significant correlation between the categories of farmers and the family annual average income.

6.14 Social Participation of the Respondents

The involvement of the respondents in Social activities such as farmers association, village panchayat, agricultural credit societies, land development bank, milk societies, marketing societies, political links will enable the farmers to know the update information.

TABLE 6.14
SOCIAL PARTICIPATION OF THE RESPONDENTS

Level of Social Participation	Size of Farmers				Total
	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	
Low	80 (64)	68 (61)	67 (63)	36 (64)	251 (63)
High	46 (36)	43 (39)	41 (37)	19 (36)	149 (37)
Total	126 (100)	111 (100)	108 (97)	55 (100)	400 (100)
χ^2	<i>7.815 with 3 degree of difference</i>				

Source: Primary Data

It was noticed from the Table that out of 400 selected respondents of the present study 251 (63%) of them are low level participation in social activities and 149 (37%) respondents are in high level participation. 64 percent of marginal farmers, 61 percent of small farmers, 63 percent of medium farmers and 64 percent of large farmers are in low level participation in the social activities. It was also found that there was no significant difference between the categories of farmers and the social participation.

6.15 Economic Motivation of the Respondents

Economic motivation is considered in terms of profit maximization and the value obtained by a farmer on economic ends. It is measured with the help of Likerts scaling method.

The scale having six statements in which the first five are positive and the last one in negative. The responses for each statement are rated over a five – point range, which ranged from ‘strongly agree’ to strongly disagree’. The following Table 5.15 shows the scoring procedure followed by the researcher. The maximum score that individual could obtain on this scale is 30 and minimum is 6.

TABLE 6.15
MEASUREMENT OF LINKERTS SCALING

Response	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Scores for positive statements	5	4	3	2	1
Scores for negative statements	1	2	3	4	5

Source: Primary Data

The following Table 6.16 shows the economic motivation of the respondents of the present study

TABLE 6.16
ECONOMIC MOTIVATION OF THE RESPONDENTS

Level of Economic motivation	Size of Farmers				Total
	Marginal farmers	Small farmers	Medium farmers	Large farmers	
Low	100 (80)	98 (88)	101 (94)	50 (90)	349 (88)
Medium	14 (11)	6 (5)	6 (5)	4 (9)	30 (7)
High	10 (9)	7 (7)	1 (1)	1 (1)	21 (5)
Total	126 (100)	111 (100)	108 (100)	55 (100)	400 (100)
χ^2	<i>12.592 with 6 degree of difference</i>				

Source: Primary Data

It can be identified from the above tabular and percentile analysis that 101 (94 percent) of medium size farmers, 90 percent of large, 88 percent of small 88 percent of small and 80 percent of marginal farmers are having low level of economic motivation. The highest Medium level of economic motivation was found with marginal farmer with 11 percent followed by large farmer with 9 percent medium farmers with 5 percent and small farmers with 5 percent. High level of motivation was found in marginal farmers with 9 percent followed by small farmers with 7 percent medium farmers with 1 percent and large farmers with 1 percent. In overall selected respondents, 349 respondents (88%) are having low level of economic motivation. It was proved by the chi-square test that there was no significant difference between the types of farmers and the economic motivation.

PART II Analysis of Production of Paddy

The present part of the Sixth Chapter is allotted for the analysis of primary data pertaining to the Area of cultivation in Karur district, the quantum of production of paddy, Volume of Retention of Paddy for various purposes, Retention of paddy, Price of paddy, Fixed Cost, Variable Cost, Total cost and amount of profit earned by the respondents in season wise, variety wise and group wise during the study period.

6.17 Season and Area wise Area under Paddy Cultivation

The following Table 6.17 shows the season wise area of cultivation of paddy during the study period in Namakkal district.

From the following table it was found that the highest average cultivation area (7.69) and lowest mean area of cultivation (0.91) were found in coarse variety in medium and marginal cultivators respectively during Season I. In Season II the highest average cultivation area (8.01) and lowest mean cultivation area (1.04) were found in medium and marginal cultivators respectively.

TABLE 6.17
SEASON WISE AREA UNDER PADDY CULTIVATION

Size of Farmers	Varieties of Paddy	Mean value of Area under Paddy Cultivation							
		Season I				Season II			
		No.	%	Mean	t _c	No.	%	Mean	t _c
Marginal	Coarse	106	86	1.42	9.37**	70	60	1.23	4.18**
	Fine	20	14	0.91		56	40	1.04	
Small	Coarse	97	86	3.61	11.01**	68	61	3.72	6.21**
	Fine	14	14	2.14		43	39	2.96	
Medium	Coarse	84	81	7.69	8.29**	73	69	8.01	7.50**
	Fine	24	19	3.91		35	31	5.87	
Large	Coarse	41	78	7.65	7.40**	35	65	6.53	7.21**
	Fine	14	22	6.51		20	35	4.93	
Total	Coarse	328	82	5.11	4.69**	246	62	4.80	4.19**
	Fine	72	18	3.36		154	38	3.71	

Source: Primary Data ** highly significant at 1% level.

It was also noticed that in coarse variety of marginal farmers is higher (1.42 acres) in season I than season II (1.23 acres) and the fine variety is lower in season I (0.91 acres) than season II (1.08 acres). Out of 126 marginal farmers 86 percent of the farmers cultivated coarse variety in season I and reduced to 60 percent in season II. Out of 111 small farmers, more farmers cultivated coarse variety in I season (95 percent) than II season (61 percent) and fine variety more in II season (39 percent) than I season (14 percent). It was noticed that the mean value of area of cultivation of coarse variety is higher in season II (3.72 acres) than in season (3.61 acres) and for fine variety the mean value of area of cultivation is higher in season II (2.96 acres) than in season I (2.14 acres). Medium farmer group enjoy mean value of area of cultivation of paddy is higher for both coarse variety and fine variety in season II

(7.74 acres; 5.87 acres) than in season I (7.69 acres; 3.91 acres) accordingly. Out of 108 medium farmers 81 and 19 percent of the farmers cultivated coarse variety and fine variety and 68 and 32 percent of the farmers cultivated coarse variety and fine variety in season I and season II respectively.

Among the 55 large farmers 7.65 and 6.53 percent of them cultivated coarse variety and 6.51 and 4.93 percent of them cultivated fine variety in season I and season II respectively. Also it is observed that higher area of cultivation is found with coarse variety of paddy in season I than season II. From the T-test value it was found that there is a significant difference between seasons and the area of cultivation of paddy of all the three categories of farmers individually and also collectively for both coarse and fine varieties of paddy.

6.18 Variety Wise Area under Paddy Cultivation

The Table 6.18 shows the area of cultivation in both coarse and fine varieties of paddy in season I and II during the study period of the present study.

TABLE 6.18

VARIETY WISE AREA UNDER PADDY CULTIVATION

Size of Farmers	Season	Mean value of Area under Paddy Cultivation							
		Coarse				Fine			
		No.	%	Mean	t _c	No.	%	Mean	t _c
Marginal	I	106	40	0.98	0.610	20	6	0.61	3.18**
	II	70	24	1.89		56	18	0.98	
Small	I	97	21	4.04	0.197	14	4	2.92	4.26**
	II	68	13	3.92		43	12	4.02	
Medium	I	84	12	8.12	0.314	24	3	4.67	4.64**
	II	73	12	9.17		35	6	6.68	
Large	I	41	11	8.54	0.372	14	3	2.83	1.72**
	II	35	11	8.54		20	5	2.74	
Total	I	328	84	5.39	0.992	72	16	2.75	1.36**
	II	246	59	5.44		154	41	3.24	

Source: Primary Data *** Highly Significant at 1% level

From the above analysis it was noticed that the highest area of cultivation (9.17) was found in medium Size farmers in Season II and the lowest mean cultivation area (0.98) was found in marginal size farmers in Seasonal I. The highest mean cultivation area (6.68) was found in medium farmers in season II and the lowest average cultivation area (0.61) was found in marginal farmers in Season I.

It was also identified that among the 400 selected respondents 40, 21, 12 and 11 percent and 24, 13, 12 and 11 percent of marginal, small, medium and large farmers have cultivated coarse variety of paddy in season I and in season II respectively. It was also noticed that the mean area of cultivation of marginal, small, medium and large farmers was 0.98, 4.04, 8.12 and 8.54 acres in season I and 1.89, 3.92, 9.17 and 8.54 acres in season II respectively. The analysis found that the overall mean area of cultivation of coarse variety for 328 selected respondents (84 percent) is 5.39 acres in season I and for 246 selected respondents (59 percent) is 5.44 acres in season II.

It was also found that the coarse variety was 6, 4, 3 and 3, 18, 12, 6 and 5 percent of marginal, small, medium, and large farmers have cultivated coarse variety of paddy in season I and in season II respectively. It was also noted that the mean area of cultivation of marginal, small, medium and large farmers is 0.59, 2.92, 4.67 and 2.83 and 0.98, 4.02, 6.51 and 2.74 acres of marginal, small medium and large farmers in season I and in season II accordingly. As a whole the mean area of cultivation of fine variety for 72 farmers (16 percent) is 2.75 acres in season I and for 154 farmers (41 percent) is 3.24 acres in season II.

From the above analysis it was concluded that that high number of farmers prefer to cultivate coarse variety of paddy in season I and fine variety of paddy in

season II. From the t-test it was noticed that there was a significant difference between the mean area of paddy cultivation and the coarse variety of paddy cultivated by all categories. It was also found that there is no significant difference between the mean area of cultivation and the fine variety of paddy cultivated by all categories of farmers.

6.19 Size of Farmers Wise Area under Paddy Cultivation

The following Table shows the area of paddy cultivation under various categories of farmers of the present study.

TABLE 6.19

SIZE OF FARMERS AND AREA UNDER PADDY CULTIVATION

Season	Size of Farmers of farmers	Mean value of Area under Paddy Cultivation							
		Coarse Variety				Fine Variety			
		No.	%	Mean	F- value	No.	%	Mean	F- value
Season I	Marginal	106	40	1.04	1987.64**	20	6	0.53	369.86**
	Small	97	21	4.02		14	4	2.92	
	Medium	84	12	8.04		24	3	2.14	
	Large	41	11	7.69		14	3	4.56	
Season II	Marginal	70	24	1.12	1956.78**	56	18	2.47	697.28**
	Small	68	13	3.64		43	12	3.89	
	Medium	73	12	7.52		35	6	5.74	
	Large	35	11	4.63		20	5	4.63	
Total		400	100	3.62		400	100	3.92	

Source: Primary Data ** highly significant at 1% level

From the above tabular analysis it was found that the highest mean area under paddy cultivation (8.04) was found in season I. The lowest mean area of paddy cultivation (1.04) was found in marginal farmers in Season I. In fine variety, the highest mean area of paddy cultivation (5.74) was found in medium farmers in Season II. The lowest mean area (0.53) of paddy cultivation was found in marginal farmers.

It was noticed that out of 400 selected respondents 40 and 6 percent of marginal 21 and 4 percent of small 12 and 3 percent of medium and 11 and 3 percent of large farmers have cultivated coarse variety and fine variety of paddy respectively in season I. It was also found from the table that the cultivation of coarse variety area was higher than the area of cultivation of fine variety.

It was proved from the 't' test that there is a significant difference between the area of cultivation and the groups of farmers cultivating both coarse and fine varieties of paddy in season I.

6.20 Season Wise Production of Paddy per Acre

Tables 6.20 show the season wise production of paddy by the selected respondents of the present study during the study period.

TABLE 6.20
SEASON WISE PRODUCTION OF PADDY / ACRE

Size of Farmers	Varieties	Production/Acre								t-value	P-value
		Season I				Season II					
		No.	%	Mean	SD	No.	%	Mean	SD		
Marginal	Coarse	106	40	1834.24	207.14	70	24	1567.52	19.62	16.172	0.00**
	Fine	20	6	1415.66	214.68	56	18	1446.63	124.84	0.101	0.912
Small	Coarse	97	21	1846.52	162.92	68	13	1672.96	182.53	8.356	0.00**
	Fine	14	4	1647.87	251.46	43	12	1435.64	163.74	2.604	0.006**
Medium	Coarse	84	12	1868.72	190.25	73	12	1526.76	107.52	8.462	0.00**
	Fine	24	3	1747.74	218.57	35	6	1421.45	99.74	7.621	0.002**
Large	Coarse	41	11	1896.24	246.72	35	11	1614.18	187.55	8.241	0.00**
	Fine	14	3	1635.71	239.45	20	5	1478.42	164.52	2.704	0.007**
Total	Coarse	328	84	1860.60	206.78	246	60	1595.54	124.30	21.251	0.00**
	Fine	72	16	1612.48	236.04	154	40	1444.50	138.26	139.98	0.067

Source: Primary Data ** highly significant at 1% level

From the above tabular analysis it can be noted that the highest mean production of coarse variety paddy per acre (1896.24) was found in large farmer in Season I. The lowest mean production of fine variety paddy (1415.66) was found in Marginal farmer in season I. In Season II the highest average production of coarse variety per acre (1672.96) was found in small farmers. The lowest production of fine variety per acre (1421.45) was obtained by medium farmers in Season II.

It was also observed that among the 400 selected respondents, 84 and 60 percent of farmers produced coarse variety of paddy in season I and season II and 16 and 40 percent of farmers were produced fine variety of paddy in season I and season II. It was also noticed that overall per acre production of paddy in Season I is higher than the Season II.

It was identified from the 't' test there was a significant difference between the coarse variety of paddy production per acre and the seasons and also found that there was no significant difference between the fine variety of paddy per acre and the seasons.

6.21 Variety Wise Paddy Production per Acre

The Table 6.5 shows the variety wise paddy production per acre during the study period.

It was noticed from the Table 6.21 that the highest mean production per acre (1892.93) was found in coarse variety by large farmer Size of Farmers in season I. The lowest mean production per acre (1526.76) was found in coarse variety by medium farmer in season II. In fine variety highest mean value of production per acre (1747.74) was found in medium farmer in season I and the lowest mean value of

production of fine variety per acre (1418.54) was found in medium farmer in season II.

It was observed that the mean production of coarse variety of paddy in all farmers are more or less equal (1834.24, 1846.52, 1868.72, 1892.93) in season I. It was also noticed from the analysis that the mean production of fine variety of paddy is also higher in medium farmer (1747.74 kgs) followed by small (1647.87 kgs) large (1635.71 kgs) and marginal farmer (1647.87 kgs).

TABLE 6.21
VARIETY WISE PADDY PRODUCTION / ACRE

Size of Farmers	season	Mean Value of Production/acre								t-value	P-value
		Coarse				Fine					
		No.	%	Mean	SD	No.	%	Mean	SD		
Marginal	I	106	40	1834.24	207.14	20	6	1418.62	214.68	8.904	0.00**
	II	70	24	1567.52	19.62	56	18	1446.63	124.84	7.084	0.00**
Small	I	97	21	1846.52	162.92	14	4	1647.87	251.46	4.172	0.00**
	II	68	13	1673.71	182.53	43	12	1435.64	163.74	3.007	0.002*
Medium	I	84	12	1868.72	190.25	24	3	1747.74	218.57	7.148	0.00**
	II	73	12	1526.76	107.52	35	6	1418.54	99.74	6.237	0.001**
Large	I	41	11	1892.93	246.72	14	3	1635.71	239.45	12.102	0.00**
	II	35	11	1614.18	187.55	20	5	1478.42	164.57	4.726	0.001**
Total	I	328	84	1860.60	206.78	72	16	1612.48	236.04	12.021	0.00**
	II	246	60	1595.54	236.04	154	40	1444.80	138.26	7.108	0.004**

Source: Primary Data ** Highly Significant at 1% level

It was found from 'F' test that there was a significant difference between the mean production of coarse variety of paddy and the farmers Size of Farmers in season I. The test also proves that there is a significant difference between the mean production of fine variety of paddy in kgs and the groups of farmers in season I.

6.22 Size of Farmers and Paddy Production per Acre

The Table 6.22 shows the Size of farmers and per acre paddy production during the study period.

It was identified from the table that the highest average cultivation of coarse variety paddy (1892.93) was found in large farmer in season I. The lowest mean production of coarse variety paddy (1526.76) was produced by medium farmers in season II. The highest mean production of fine variety (1747.74) was found in medium farmer during the season I. The lowest mean production of fine variety paddy (1418.54) was found in medium farmer in season II.

TABLE 6.22
SIZE OF FARMERS AND PADDY PRODUCTION /ACRE

Season	Size of Farmers	Coarse Variety					Fine Variety				
		No.	Mean	SD	F-value	P-value	No.	Mean	SD	F-value	P-value
I	Marginal	106	1834.24	207.14	3.246	0.018*	20	1418.62	214.68	5.169	0.004**
	Small	97	1846.52	162.92			14	1647.87	251.46		
	Medium	84	1868.72	190.25			24	1747.74	218.57		
	Large	41	1892.93	246.72			14	1635.71	239.45		
II	Marginal	70	1567.52	19.62	15.721	0.000**	56	1446.63	124.84	3.281	0.027**
	Small	68	1673.71	182.53			43	1435.64	163.74		
	Medium	73	1526.76	107.53			35	1418.54	99.74		
	Large	35	1614.18	187.55			20	1478.42	164.52		
Total	Marginal	176	1700.88	113.38	8.426	0.0009**	76	1432.62	169.76	6.769	0.001**
	Small	165	1760.11	172.72			57	1541.75	207.60		
	Medium	157	1697.74	148.89			59	1583.14	159.15		
	Large	76	1753.55	217.13			34	1557.96	201.98		

Source: Primary Data ** Highly significant at 1% level

It was also observed that the mean production of coarse variety of paddy in kgs is higher in small farmer (1673.71) followed by large (1614.18), marginal (1567.52) and medium (1526.76) farmers in season I. It is found that the mean production of fine variety is also higher in large farmer followed by marginal, small and medium group of farmers.

It was found from the 'F' test that there was a significant difference between the mean production of coarse variety of paddy in kgs and the groups of farmers. The test also proved that there was a significant difference between the mean production of fine variety of paddy in kgs and the groups of farmers in season I.

In total the mean production of both coarse and fine varieties of paddy was higher in the small farmer Size of Farmers (1760.11 kgs, Season I 1541.75 kgs Season II) followed by large farmer (1753.35kgs) marginal farmers (1700.88 kgs), and medium farmer (1697.74 kgs) in coarse variety of paddy and followed by medium farmer (1583.14 kgs) large former (1557.96kgs) and marginal farmers (1432.62 kgs) in fine variety of paddy. 'F' test proves that there is a significant difference between the mean production of coarse and fine variety of paddy in kgs and the groups of farmers in season I.

Testing of Hypothesis 1

The following hypothesis was tested with the use of F test.

Null Hypothesis

“There is no significant difference between the mean production of paddy and the size of farmers”.

In order to test the above hypothesis the researcher employed F test. F test shows that there is a significant difference between the mean production in kgs of coarse and fine varieties of paddy and the marginal, small, medium and large farmers in all seasons and as a whole.

Hence the null hypothesis is rejected and the alternative hypothesis “There is a significant relationship between the mean production of paddy and the groups of farmers”. is accepted.

6.23 Season Wise Retention of Paddy

Retention means that the amount of production conserved by the paddy cultivators for future uses. The amount of production saved for the future will be differed on the basis of variety, season and size of the farmers. Table 6.7 shows the season wise retention of paddy per acre during the study period of the present study.

TABLE 6.23
SEASON WISE RETENTION OF PADDY/ACRE

Size of Farmers	Varieties	Retention Paddy						t-value	p-value
		Season I			Season II				
		No.	Mean	SD	No.	Mean	SD		
Marginal	Coarse	106	627.00	386.48	70	538.64	53.52	16.371	0.00**
	Fine	20	512.00	54.13	56	518.45	56.43	0.262	0.985
Small	Coarse	97	648.16	62.52	68	569.83	78.85	9.724	0.00**
	Fine	14	524.00	91.26	43	524.65	74.64	3.643	0.009**
Medium	Coarse	84	575.65	86.53	73	464.53	63.57	4.721	0.00**
	Fine	24	462.52	79.84	35	443.83	61.47	26.181	0.002**
Large	Coarse	41	596.54	92.16	35	472.68	68.56	28.291	0.00**
	Fine	141	468.55	81.97	20	450.75	65.71	20.176	0.041
Total	Coarse	328	611.33	156.92	246	510.89	66.12	25.201	0.00**
	Fine	72	492.02	76.80	154	484.91	64.56	2.939	0.064

Source: Primary Data ** highly significant at 1% level

It can be noted from the above tabular and percentile analysis that the highest mean value of retention of coarse variety (648.16) and (569.83) were found in medium farmers in season I and Season II respectively. The lowest mean values of retention of fine variety (463.52) and (443.83) were found in medium farmers in season I and season II respectively.

It was also observed that the mean value of retention is higher in season I than season II for both varieties of paddy. It was also found that the mean value of retention was higher in coarse variety from marginal farmer followed by small, medium, and large farmers in season I and the mean value of retention is higher for

coarse variety for small farmer followed by marginal farmer medium and large farmer in season II. On the whole, the mean value of retention of coarse variety and fine variety of paddy is higher in both seasons I and II.

It was proved by 't' test that there was a significant difference between the retention of coarse variety of paddy cultivated by all the categories of farmers in both seasons.

It was also found that in two seasons, the mean value of retention of fine variety of paddy is higher than large Size of Farmers of farmers.

6.24 Variety Wise Retention of Paddy per Acre

The following Table 6.24 shows the estimation of variety wise retention of paddy during the study period.

It was identified from the table 6.8 that in coarse variety the mean value of retention was higher (646.14) in small farmer Size of Farmers in season I. The lowest mean value of coarse variety (464.53) was found in medium farmer in season II. The highest mean value of retention of fine variety (524.65) was found in small farmer in season II. The lowest mean value of fine variety (445.82) was found in medium farmer in season II.

TABLE 6.24
VARIETY WISE RETENTION OF PADDY/ACRE

Size of Farmers	Season	Retention of paddy/Acre						t-value	p-value
		Coarse variety			Fine variety				
		No.	Mean	SD	No.	Mean	SD		
Marginal	I	106	627.00	386.48	20	512.00	54.13	2.201	0.014*
	II	70	538.64	53.52	56	518.45	56.43	4.704	0.000**
Small	I	97	646.14	62.52	14	524.00	91.26	3.475	0.000**
	II	68	567.73	78.85	43	524.65	74.64	3.091	0.001**
Medium	I	84	575.65	86.53	24	463.54	79.84	3.835	0.001**
	II	73	464.53	63.57	35	445.82	61.47	4.835	0.001**
Large	I	41	596.54	92.16	14	468.55	81.97	3.950	0.17
	II	35	472.68	68.56	35	450.75	65.71	4.904	0.001**
Total	I	328	611.33	156.92	72	492.02	76.80	3.029	0.09**
	II	246	510.89	66.12	154	484.91	64.56	4.941	0.002**

Source: Primary Data ** Highly Significant at 1% level

From the above analysis it was noticed that variety wise mean value of retention is higher in coarse variety of paddy than the fine variety of paddy. The retention of coarse variety of paddy is higher in marginal farmer followed by small, medium and large in season I and higher in small farmer followed by marginal, medium and large farmer in season II. On the whole the retention of coarse variety is higher in season I than season II.

About the retention of fine variety of paddy in season I got high quantity of retention paddy than in season II. Small farmer has got more retention of fine variety in season I and II followed by marginal farmer and large farmer. As a whole retention of paddy in fine varieties was higher in season I than season II.

It was proved from the 't' test that there is a significant difference between varieties of paddy and all farmer categories.

6.25 Size of Farmers and Retention of Paddy /Acre

The following Table 6.2 shows the estimation of retention of paddy by Size of Farmers wise farmers of the present study during the study period.

In coarse variety the mean value of retention of paddy is higher in small farmer (646.14 kgs) followed by marginal farmer (627.00 kgs) large farmer (596.54 kgs) and medium farmer (575.65 kgs) in season I and in small farmer (567.73 kgs) followed by marginal farmer (538.64 kgs) large farmer (472.68 kgs) and medium farmer (464.53 kgs) in season II. On the whole the small farmer has got more retention (606.93 kgs) followed by marginal farmer (582.82 kgs), large farmer (534.61 kgs) and medium farmer (520.09 kgs).

TABLE 6.25
SIZE OF FARMERS AND RETENTION OF PADDY / ACRE

Season	Size of Farmers	Coarse Variety					Fine Variety				
		No.	Mean	SD	F-value	P-value	No.	Mean	SD	F-value	P-value
I	Marginal	106	627.00	386.48	4.532	0.042*	20	512.00	54.13	5.241	0.007**
	Small	97	646.14	62.52			14	524.00	91.26		
	Medium	84	575.65	86.53			24	463.54	79.84		
	Large	41	596.54	92.16			14	468.55	81.97		
II	Marginal	70	538.64	53.52	18.351	0.000**	56	518.45	56.43	3.624	0.034*
	Small	68	567.73	78.85			43	524.65	74.64		
	Medium	73	464.53	63.51			35	445.82	61.47		
	Large	35	472.68	68.56			20	450.75	65.71		
Total	Marginal	176	582.82	220.00	6.726	0.001**	76	515.22	55.28	8.943	0.000**
	Small	165	606.93	70.68			57	524.32	82.95		
	Medium	157	520.09	75.02			59	454.68	70.65		
	Large	76	534.61	80.36			34	459.65	73.84		

Source: Primary Data ** highly significant at 1% level

Anova test proves that there is highly significant difference between the Size of Farmers and the retention of coarse variety in seasons I and II and as a whole.

Regarding the retention of paddy in fine variety, it was found that the mean value of retention of fine variety of paddy is higher with small farmers (524.00 kgs; 524.65 kgs) followed by marginal farmers (512.00 kgs; 518.45 kgs) large farmers (468.55 kgs; 450.75 kgs) and medium farmers (463.54 kgs; 445.82 kgs) in both two seasons.

It was proved from the 'F' that there was a significant difference between the Size of Farmers of farmers and the retention of fine variety of paddy in two seasons and as whole.

6.26 Purposes of Retention of Paddy

Retention of paddy for various purposes of the farmers decides the quantum of marketable surplus. A share of paddy production is retained by the farmers for fulfilling the requirements like consumption, for wages to labour, for the payment of rent, to repay loan and interest, payment to relatives, seeds for forth coming season and wastage in storing and transportation.

TABLE 6.26
PURPOSES OF RETENTION OF PADDY

Purpose Size	Course Variety Paddy				Fine Variety Paddy			
	Marginal	Small	Medium	Large	Marginal	Small	Medium	Large
Wages	141347.16 (39.0)	155579.18 (40.0)	136150.78 (42.5)	127295.02 (41.0)	37076.29 (40.0)	41695.32 (42.0)	32056.30 (42.0)	26948.77 (42.0)
Rent/Share Crop	10872.85 (3.0)	15365.84 (4.0)	9725.05 (3.0)	13971.40 (4.5)	2780.72 (3.0)	3970.98 (4.0)	2289.73 (3.0)	1604.09 (2.5)
Repayment of loan	12685.00 (3.0)	15365.84 (4.0)	9725.05 (3.0)	10866.64 (3.5)	5561.44 (6.0)	1489.11 (1.5)	1526.49 (2.0)	1604.09 (2.5)
Interest	7248.57 (2.0)	7682.92 (2.0)	12966.74 (4.0)	31047.75 (1.0)	3244.17 (3.5)	992.74 (1.0)	1144.86 (1.5)	1283.27 (2.0)
Relatives	7248.57 (2.0)	3841.46 (1.0)	6483.37 (2.0)	9314.27 (3.0)	1853.81 (2.0)	992.74 (1.0)	763.24 (1.0)	641.63 (1.0)
Seeds	16309.28 (4.5)	17286.57 (4.5)	16208.42 (4.5)	15523.78 (4.5)	4171.08 (4.5)	4467.35 (4.5)	3434.60 (4.5)	2566.54 (4.0)
Storing Waste	1812.14 (0.5)	1920.73 (0.5)	1620.84 (0.5)	1552.37 (0.5)	463.45 (0.5)	496.37 (0.5)	381.68 (0.5)	320.81(0.5)
Transport Waste	1812.14 (0.5)	1920.73 (0.5)	1620.84 (0.5)	1552.37 (0.5)	463.45 (0.5)	496.37 (0.5)	381.62 (0.5)	320.81 (0.5)
Total Retention	362428.62 (100)	384146.14 (100)	324168.53 (100)	310475.68 (100)	92690.14 (100)	99274.58 (100)	76324.53 (100)	64163.74 (100)
Retention/ acre in Kg	610.10	601.78	404.40	353.51	501.27	513.55	379.00	336.63

Retention/ acre in Rs	5283.51	5211.42	3502.11	3061.44	5233.29	5361.53	3956.79	3514.48
Production/ acre in kg	1700.88	1760.11	1697.74	1753.55	1432.62	1541.75	1583.14	1557.06
Production/ acre in Rs	14729.62	15242.55	14702.42	15185.74	14956.55	16095.87	16527.98	16255.70
% of retention / production/ acre	(35.87)	(34.19)	(23.82)	(20.16)	(34.99)	(33.31)	(23.94)	(21.62)

Source: Primary Data. Figures in brackets are percentage value

It was noticed from the above table that the retention of paddy for consumption is higher in marginal farmer (45 percent) followed by small farmer (43 percent) medium farmer (40 percent) and large farmer (41 percent) in coarse variety and 45 percent of retention for own use is found in both small, medium farmer and large farmer and 40 percent is with marginal farmer in fine variety. It was identified that payment of wages stood second position in coarse variety (42.5 percent) and fine variety (42 percent) followed by small farmer (42 percent) in fine variety and (40.5 percent) in coarse variety and marginal farmer (40 percent) in fine variety and (39 percent) in coarse variety. It was also found from the analysis that retention for seed third place with 4.5 percent in total retention in all size farmers.

6.27 Estimation of Minimum and Maximum Price of Paddy /Acre

The following Table 6.11 shows the various price levels according to the varieties, places, season and farmers. It was evident from the study that there is price variation in variety, season, places and farmers.

TABLE 6.27

ESTIMATION OF MINIMUM AND MAXIMUM PRICE OF PADDY /ACRE

Rs. /kg

Farmers Size Season	Course Variety			Fine Variety.		
	Minimum	Maximum	Mean	Minimum	Maximum	Mean
Marginal Season – I	13.60	13.90	13.80	15.40	15.80	15.50
Season – II	13.70	13.90	13.80	15.40	15.60	15.40
Small Season – I	13.60	14.00	13.80	15.40	15.60	15.00
Season – II	13.75	13.85	13.80	15.40	15.70	15.53
Medium Season – I	13.40	14.00	13.79	15.30	15.80	15.51
Season – II	13.20	14.20	13.80	15.30	15.70	15.51
Large Season – I	13.20	13.50	13.25	15.20	15.50	15.50
Season – II	13.00	13.20	13.28	15.20	15.50	15.50
Average of whole	13.43	15.81	13.66	15.32	15.65	15.44

Source: Primary Data

From the above table it was found that the average minimum price of coarse variety is Rs. 13.43/ Kg. The average minimum price for marginal and small farmer was higher than the average minimum price but it was low in large Size farmers. In coarse variety the average maximum price was Rs. 13.81. It was also noticed that the maximum price for large farmer is higher in all seasons but it was lower in small

farmer in season II and higher in season I but lower in all seasons of marginal farmer than the average maximum price.

It was noticed from the analysis that in fine variety the average minimum price was Rs.10.32 /kg. It was also noticed that minimum price of large farmer is lower than the average minimum price but it was higher in small and large Size of Farmers farmer in two seasons. In fine variety the average maximum price was Rs.15.65/ kg.

It was identified that the maximum price is higher than the average maximum price in marginal farmer in season I and low in season II and equal in small farmer in season II but lower in season I and also higher in season I and equal in season II in large farmers.

It was found from the table that in coarse variety the average price as a whole was Rs. 13.66 and it was lower in large Size of Farmers farmer and equal in marginal and small size farmers. The average price of fine varieties in all categories of farmers was Rs.15.44, it was lower in marginal Size of Farmers in two seasons and it was lower in season I and higher in season II for small farmer and equal in season I and season II for large farmers.

6.28 Season Wise Marketable Surplus / Acre

The following table 6.12 shows the estimation of season wise marketable surplus during the study period.

TABLE 6.28
SEASON WISE MARKETABLE SURPLUS/ACRE

Size of Farmers	Varieties	Marketable surplus/acre						t-value	P-value
		Season I			Season II				
		No.	Mean	SD	No.	Mean	SD		
Marginal	Coarse	106	1124.68	396.52	70	976.40	51.76	4.451	0.00**
	Fine	20	934.72	221.18	56	947.24	98.47	0.307	0.507
Small	Coarse	97	1265.04	116.19	68	1087.76	131.52	8.921	0.00**
	Fine	14	1076.43	161.73	43	968.73	108.74	2.752	0.014**
Medium	Coarse	84	1372.65	157.54	73	1167.82	136.86	3.527	0.00**
	Fine	24	1146.73	59.72	35	998.72	114.51	2.972	0.014*
Large	Coarse	41	1442.71	169.86	35	1242.73	142.71	7.621	0.00**
	Fine	141	1188.73	158.53	20	1024.65	128.44	4.724	0.052
Total	Coarse	328	1301.27	210.02	246	1118.67	115.71	7.421	0.00**
	Fine	72	1086.65	150.29	154	984.83	112.54	1.726	0.100

Source: Primary Data ** Highly Significant at 1% level

It was identified from the table 6.28 that the highest mean value of (1442.71) marketable surplus was found in fine variety produced by large farmers in Season I. The lowest mean value marketable surplus (934.72) in fine variety by marginal farmer was found in season I. The highest mean value of marketable surplus in coarse variety (1242.73) was found in large farmer in season II. The lowest mean value of marketable surplus of fine variety (947.24) was found in Season II in the Size of Farmers of marginal farmers.

't' test proved that there was a significant difference between the two seasons in coarse variety and it was also found that there was no significant difference in fine variety of marginal Size of Farmers.

It was noticed that in coarse variety the mean marketable surplus was higher in season I (1265.04 kg) than season II (1087.70 kg) and in fine variety it was higher in season I (1076.43 kg) than season II (968.73 kg) of small Size of Farmers.

By applying 't' test it was proved that there was a significant difference between the two seasons for coarse variety of paddy at 5 percent level and for fine variety it was also significant at 1 percent level.

In medium size farmers the mean marketable surplus of the fine and coarse varieties in season I (1372.65 kgs; 1167.82 kgs) and season II (1146.73 kgs; 998.72 kgs) consequently.

In large size of farmers, mean marketable surplus of coarse variety and fine variety of paddy is higher in season I (1442.71 kgs) and season II (1242.73 kgs) and (1188.73 kgs) in season I and (1074.65 kgs) in season II correspondingly.

It was proved with the help of 't' test that in coarse there was a significant difference at 5 percent level and in fine variety it was significant at 1% level between the two seasons under consideration.

In all the categories of farmers, the mean marketable surplus for coarse variety was higher in season I (1301.27 kgs) than season II (1118.67 kgs) and in fine variety it was higher in season I (1086.65 kgs) than season II (984.83kgs).

It was proved with the help of 't' that there was a significant difference between the coarse variety and seasons at 5 percent level and no significant difference for fine variety and seasons.

Test of Hypothesis 2

The following hypothesis formulated by the researcher was tested.

Null Hypothesis

There was no significant relationship between seasons and marketable surplus.

Alternative Hypothesis

There was a significant relationship between seasons and marketable surplus.

In order to test the above hypothesis the researcher employed t test. From the test it was proved that there was a significant relationship between seasons and the marketable surplus of fine variety of small farmer and other farmer at 5 percent level hence the null hypothesis is rejected and the alternative hypothesis is accepted.

But in the case of marginal farmer and overall, there was no significant difference between the season and the marketable surplus of fine variety. Therefore the null hypothesis is accepted and the alternative hypothesis is rejected.

6.29 Variety Wise Marketable Surplus/Acre

The following Table 6.13 shows the analysis of variety marketable surplus during the study period.

From the following tabular analysis it was found that the highest mean value of marketable surplus (1442.71) was found in coarse variety in large farmer in Season I. The lowest mean value of coarse variety (976.40) was found in coarse variety in marginal farmers in season II. In fine variety the highest mean value (1188.73) was found in large farmers during the season I. The lowest mean value of marketable surplus (934.72) in fine variety was found in marginal farmer in season I

TABLE 6.29
VARIETY WISE MARKETABLE SURPLUS/ACRE-

Size of Farmers	Seasons	Marketable surplus/acre						t-value	P-value
		Coarse variety			Fine variety				
		No.	Mean	SD	No.	Mean	SD		
Marginal	I	106	1124.68	396.52	20	934.72	221.18	3.324	0.002 * *
	II	70	976.40	51.76	56	947.24	98.47	5.115	0.00**
Small	I	97	1265.04	116.19	14	1076.43	161.73	3.721	0.00**
	II	68	1087.76	131.52	43	968.73	108.74	2.182	0.014**
Medium	I	84	1372.65	157.54	24	1146.73	59.72	5.14	0.00**
	II	73	1167.82	136.86	35	998.72	114.51	3.271	0.00**
Large	I	41	1442.71	169.86	14	1188.73	158.53	5.34	0.00**
	I	35	1242.73	142.71	20	1024.65	128.44	3.473	0.001**
Total	I	328	1301.27	210.02	72	1086.65	150.29	4.374	0.00**
	I	246	1118.67	115.71	154	984.83	112.54	6.126	0.00**

Source: Primary Data ** Highly Significant at 1% level

It was also identified that in both varieties of paddy the mean marketable surplus was higher in season I than season II in all categories of farmers. It was also noticed from the analysis that there was a significant difference at 1 percent level between the coarse variety and fine variety of paddy in the two seasons and also in total and the seasons.

Test of Hypothesis 3

The following hypotheses are formulated by the researcher.

Null Hypothesis

There is no significant difference between the varieties of paddy and the marketable surplus.

Alternative Hypothesis

There is a significant relationship between the varieties of paddy and the marketable surplus.

From the above data analysis it was proved that there was a significant relationship between the coarse and fine varieties of paddy and the marketable surplus all the categories of farmers and in total at 1 percent level. Therefore the researcher rejected the null hypothesis and accepted alternative hypothesis.

6.30 Size of Farmers and Marketable Surplus/Acre

The Table 6.30 shows the analysis of Size of Farmers wise marketable surplus per acre during the study period.

TABLE 6.30

SIZE OF FARMERS AND MARKETABLE SURPLUS / ACRE

Season	Size of Farmers	Coarse Variety					Fine Variety				
		No.	Mean	SD	F-value	P-value	No.	Mean	SD	F-value	P-value
I	Marginal	106	1124.68	396.52	7.268	0.00**	20	934.72	221.18	7.185	0.001**
	Small	97	1265.04	116.19			14	1076.43	161.73		
	Medium	84	1372.65	157.54			24	1146.73	59.72		
	Large	41	1442.71	169.86			14	1188.73	158.53		
II	Marginal	70	976.40	51.76	54.972	0.00**	56	947.24	98.47	21.341	0.00**
	Small	68	1087.76	131.52			43	968.73	108.74		
	Medium	73	1167.82	136.86			35	998.72	114.51		
	Large	35	1242.73	142.71			20	1024.65	128.44		
Total	Marginal	176	1050.53	224.14	16.439	0.00**	76	940.98	159.82	24.692	0.00**
	Small	165	1176.40	123.85			57	1022.58	138.12		
	Medium	157	1270.23	147.20			59	1072.72	87.11		
	Large	76	1342.72	156.28			34	1106.69	143.48		

Source: Primary Data ** Highly Significant at 1% level

It was noticed from the Table 6.14 that the highest mean value of (1442.71) marketable surplus of coarse was found in large farmer of Season I. and the lowest mean value (976.40) was found in Marginal farmer of Season II. In fine variety the highest mean value (1188.73) of marketable surplus was found in large farmer of season I and the lowest mean value (934.72) was found in Marginal farmer in season I.

It was supported that the marketable surplus was higher in large Size of Farmers followed by small and marginal categories in two seasons and in total of all categories.

It was also found that in fine variety marketable surplus was higher in large size farmers followed by small and marginal categories in all seasons and in all varieties of paddy and also in the total mean values of seasons of all categories.

Testing of Hypothesis 4

The following hypothesis was formulated by the researcher in the present study.

Null Hypothesis

There is no significant difference between the farm size and the marketable surplus of paddy.

Alternative Hypothesis

There is a significant relationship between the farm size and the marketable surplus of paddy.

The results drawn from the Anova Test proved that there was a significant difference between the marketable surplus of both varieties and all size farmers of all

seasons. Therefore the researcher rejected the null hypothesis and accepted the alternative hypothesis.

6.31 Season Wise Profit from Paddy Cultivation

Season wise profit earned by the selected paddy cultivators of the present study during the study period was found in the following table.

It was shown from the table that the highest average profit of Rs.7160.53 and Rs. 6076.47 are found in Season I and season II respectively in fine variety produced by large farmers. The lowest profit of Rs.3648.78 and 3064.68 was found in season I and season II respectively in coarse variety of Marginal farmers respectively.

It was also proves that the mean profit was higher in season I than season irrespective of categories and varieties. It was also found that the mean profit income was higher in fine variety than coarse variety of all categories.

TABLE 6.31
SEASON WISE PROFIT FROM PADDY CULTIVATION

Size of Farmers	Variety	Profit/acre in Rs.						t-value	p-value
		Season I			Season II				
		No.	Mean	SD	No.	Mean	SD		
Marginal	Coarse	106	3648.78	410.36	70	3064.68	98.74	17.000	0.00**
	Fine	20	4738.64	812.72	56	4700.74	476.26	0.267	0.762
Small	Coarse	97	3805.46	367.43	68	3214.82	441.23	8.002	0.00**
	Fine	14	5164.53	801.32	43	4863.54	527.19	2.263	0.007*
Medium	Coarse	84	3901.72	514.52	73	3663.45	326.34	7.282	0.00**
	Fine	24	6864.34	368.74	35	5763.48	292.46	24.65	0.001
Large	Coarse	41	3968.45	522.43	35	3784.55	342.57	6.721	0.00**
	Fine	14	7160.53	376.54	20	6076.47	289.63	17.21	0.00**
Total	Coarse	328	3831.10	453.68	246	3431.87	302.22	19.22	0.00**
	Fine	72	5982.01	589.83	154	5351.05	396.38	15.61	0.00**

Source: Primary Data ** Highly Significant at 1% level

It was found from 't' test that there was a significant difference between the seasons and the profit from the two varieties in all categories except marginal Size of Farmers in which there was no significant difference between the seasons and the profit income of fine variety of paddy.

6.32 Variety of Paddy and the level of Profit

The Table given below shows the analysis of the variety wise profit earned by the selected respondents of the study during the period under consideration.

It was identified that the highest average profit of Rs. 3968.45 and Rs.7160.53 were found in large farmers Season I in both varieties. The lowest Mean value of profits of Rs.3064.68 and Rs. 4700.74 are found in marginal farmer in season II in both varieties.

It was identified from 't' test that there was a significant difference between the coarse varieties and fine varieties of paddy and mean profit income of all the farmers in all seasons.

TABLE 6.32
VARIETY OF PADDY AND PROFIT

Size of Farmers	Season	Profit / acre in Rs.						t-value	p-value
		Coarse variety			Fine variety				
		No.	Mean	SD	No.	Mean	SD		
Marginal	I	106	3648.78	410.36	20	4738.64	812.72	10.421	0.00**
	II	70	3064.68	98.74	56	4700.74	476.26	38.742	0.00**
Small	I	97	3805.46	367.43	14	5164.53	801.32	12.147	0.00**
	II	68	3214.82	441.23	43	4863.54	527.19	-16.937	0.00**
Medium	I	84	3901.72	514.52	24	6864.34	368.74	26.714	0.00**
	II	73	3663.45	326.34	35	5763.48	292.46	21.793	0.00**
Large	I	41	3968.45	522.43	14	7160.53	376.54	27.324	0.00**
	II	35	3784.55	342.57	20	6076.47	289.63	26.782	0.00**
Total	I	328	3831.10	453.68	72	5982.01	589.83	19.872	0.00**
	II	246	3431.87	302.22	154	5351.05	396.38	-38.798	0.00**

Source: Primary Data ** Highly Significant at 1% level

6.33 Size of Farmers and Profit

It can be identified from the table about the profit earned by the selected paddy cultivators of various farm sizes during the study period.

It was noticed from the Table 6.33 that the highest mean profit of Rs.3968.45 and lowest mean profit of Rs.3064.68 are found in coarse variety in large farmer and marginal farmer in Season I and season II respectively. The lowest Mean value of profit of Rs.4700.74 and highest mean profit of Rs.7160.53 are found in fine variety in large farmers in season I and marginal farmers in season II respectively.

It was also found from the analysis that in coarse variety the mean profit was highest in large farmer Size of Farmers in season I i.e. Rs.3968.45 followed by medium farmers (Rs.3901.72), small farmer (Rs.3805.46) and marginal farmer (Rs. 3648.78) and also found with large Size of Farmers in season II (Rs. 3784.55) followed by medium farmer (Rs. 3663.45), small and marginal farmer (Rs.3214.82 and Rs.3064.68). It was noticed that in total mean profit the highest mean profit was identified in large farmer size (Rs.3876.50) followed by medium farmer (Rs.3782.58), small farmer (Rs.3510.14) and marginal farmer (Rs. 3356.73).

With the help of t test it was proved that there was a significant difference between the categories of farmers and profit income of two varieties in both seasons.

TABLE 6.33
SIZE OF FARMERS AND PROFIT

Season	Size of Farmers	Coarse Variety					Fine Variety				
		No.	Mean	SD	F-value	P-value	No.	Mean	SD	F-value	P-value
I	Marginal	106	3648.78	410.36	5.624	0.01**	20	4738.64	812.73	72.652	0.00**
	Small	97	3805.46	367.43			14	5164.53	801.32		
	Medium	84	3901.72	514.52			24	6864.34	368.74		
	Large	41	3968.45	522.43			14	7160.53	376.54		
II	Marginal	70	3064.68	98.74	21.70	0.000**	56	4700.74	476.26	10.132	0.00**
	Small	68	3214.82	441.23			43	4863.54	527.19		
	Medium	73	3663.45	326.34			35	5763.48	292.46		
	Large	35	3784.55	342.57			20	6076.47	289.63		
Total	Marginal	176	3356.73	254.55	10.09	0.000**	76	4719.69	644.49	39.653	0.00**
	Small	165	3510.14	404.33			57	5014.03	664.25		
	Medium	157	3782.58	420.43			59	6313.91	330.60		
	Large	76	3876.5	432.50			34	6618.50	333.08		

Source: Primary Data ** Highly Significant at 1% level

6.34 Estimation Maximum and Minimum Cost

In this part the researcher analysed the cost and benefits of the paddy production in the study area during the study period under consideration.

The following Table shows the maximum and minimum costs for the production of coarse variety paddy during the study period.

TABLE 6.34

MAXIMUM AND MINIMUM COST IN COARSE VARIETY /KG

Size of Farmers/ Season	Nos.	Variable cost			Fixed cost			Total cost		
		Min.	Max	Mean	Min.	Max	Mean	Mini.	Max.	Mean
Marginal Season – I	106	4.15	4.20	4.18	2.55	2.60	2.58	6.70	6.80	6.75
	Season – II	70	4.15	4.18	4.17	2.58	2.90	2.59	6.73	7.08
Small Season – I	97	4.20	4.50	4.25	2.33	2.48	2.46	6.53	6.98	6.75
	Season – II	68	3.23	4.40	4.23	2.30	2.50	2.47	5.53	6.90
Medium Season – I	84	4.15	4.25	4.19	2.40	2.50	2.46	6.55	6.75	6.65
	Season – II	73	4.10	4.30	4.22	2.35	2.45	2.42	6.45	6.75
Large Season – I	41	4.18	4.15	4.16	2.35	2.26	2.30	6.53	6.41	6.47
	Season – II	35	4.12	4.18	4.15	2.28	2.15	2.21	6.40	6.33

Source: Primary Data

It was noticed from the above analysis that regarding the variable cost for the production of coarse variety there was a slight fluctuation in all categories and in all seasons. The highest average variable cost of Rs.4.25 in small farmers in Season I

and the lowest variable cost of Rs.4.15 in large farmers in Season II were found in the analysis.

It was also found that in fixed cost also there was no much fluctuation. The highest average fixed cost of Rs. 2.59 was found in marginal farmers in season II and the lowest fixed cost of Rs.2.21 was found in large farmers' in season II.

Regarding the total cost for the production of coarse variety in all categories in two seasons it was noticed from the analysis that there was no much fluctuation. The highest total cost of production of coarse variety of Rs.6.90 was found in marginal farmers in season II and the lowest total cost of production of coarse variety of Rs.6.21 was found in small farmers in season II.

The mean variable cost is least in the case of large farmers followed by marginal, medium and small farmers.

The lowest mean fixed cost was found in large farmers followed by medium, small and marginal farmers.

In total cost the lowest mean cost of production was found in large farmers followed by medium, small and marginal farmers.

6.35 Maximum and Minimum Cost for fine variety per Kg.

The Table 6.35 shows the cost of production of fine variety paddy in all categories and in both seasons during the study period.

TABLE 6.35
MAXIMUM AND MINIMUM COST IN FINE VARIETY / KG.

Size of Farmers/ Season	No.	Variable cost (Rs.)			Fixed cost (Rs.)			Total cost (Rs.)		
		Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean
Marginal										
Season-I	20	4.40	4.55	4.49	2.70	2.75	2.72	7.10	7.30	7.20
Season-II	56	4.15	4.60	4.48	2.60	2.75	2.71	6.75	7.35	7.05
Small										
Season-I	14	4.50	4.52	4.51	2.59	2.60	2.60	7.09	7.12	7.10
Season- II	43	4.40	4.60	4.54	2.50	2.60	2.56	6.90	7.20	7.05
Medium										
Season-I	24	4.45	4.50	4.48	2.50	2.60	2.56	6.95	7.10	7.02
Season-II	35	4.45	4.60	4.54	2.40	2.58	2.53	6.85	7.18	7.01
Large										
Season-I	14	4.40	4.45	4.42	2.46	2.58	2.52	6.86	7.03	6.94
Season-II	20	4.35	4.55	4.45	2.37	2.56	2.46	6.72	7.11	6.91

Source: Primary Data

It can be found from the above table that there was a slight variation in the variable cost of production for the fine varieties of paddy in all categories of farmers and also in both seasons. The highest average variable cost of production of fine variety of paddy of Rs.4.54 was found in small and medium farmers in season II. The

lowest average variable cost of production of fine variety of Rs.4.42 was found in large farmers in season I.

The lowest average fixed cost was found in large farmers followed by marginal, medium and small.

Regarding the fixed cost of production of fine variety, it was found that there was no much difference in all categories and seasons. The highest average fixed cost of Rs.2.72 was found in marginal farmers in season I and the lowest fixed cost of Rs.2.46 was found in large farmers in season II.

The least average fixed cost was found in large farmers followed by medium, small and marginal farmers.

The highest average total cost of Rs.7.20 was found in marginal farmers in season I and the lowest average total cost of production of fine variety paddy of Rs.6.91 was found in large farmers in season II.

The lowest total average fixed cost was found in large farmers followed by medium, small and marginal farmers.

6.35 Cost Components of Paddy Production

In order to find out the accuracy in the cost of production paddy it is important to clearly study the various components of cost of cultivation. The study pertaining to the cost components also enable the farmers to take market decisions.

The following are the important cost components include in the cost of production of paddy.

Cost for Hired labour, bullock and machine – The actual rate given by the farmers.

Cost for Own labour – calculated as per the wages given to the hired labours. Own Bullock labour and own machine labours are also calculated in equivalent with hired labours.

Cost for the purchase of Seed, insecticide and pesticides manure fertilizers, irrigation charges.

Cost for own seeds, Manure. These costs are also calculated in equivalent with the purchase rates.

Cost for Depreciation on implements used for production. It was calculated at 20 percent and shared in percentage to the value of output of paddy to the total value of output of all the crops produced in a year.

Cost of Land revenue paid by the farmers per year.

Cost on interest paid to the working capital. Interest cost was calculated at 12%.

Cost of Rent paid for leased land

Cost for imputed rental value for own land

Cost for imputed interest owned fixed capital estimated at a rate of 10 percent except own land.

The following Table 6.36 shows the analysis of cost components of variable and fixed cost for the production of coarse and fine varieties of paddy during the study period in Namakkal district by the selected respondents.

TABLE 6.36
COST COMPONENTS OF PRODUCTION OF COARSE AND FINE VARIETIES

Cost Components	Cost of Paddy Production in Rs.							
	Coarse variety				Fine variety			
	Marginal	Small	Medium	Large	Marginal	Small	Medium	Large
A variable cost								
Part 1								
Seed Cost	202409.90 (3.33)	200227.37 (2.68)	193353.48 (2.25)	184007.04 (2.10)	72775.77 (4.13)	68391.75 (3.48)	60701.57 (3.05)	60691.72 (2.96)
Insecticides	51666.19 (0.85)	56780.89 (0.76)	25780.46 (0.30)	21905.60 (0.25)	14978.06 (0.85)	14936.13 (0.76)	12737.38 (0.64)	10662.06 (0.52)
Manual fertilizers	1227224.03 (20.19)	1567451.60 (20.98)	1983377.06 (23.25)	2037220.83 (23.25)	346962.46 (19.69)	402489.43 (20.48)	449390.70 (22.58)	479792.70 (23.40)
Irrigation charges	50450.51 (0.83)	58275.13 (0.78)	42967.44 (0.50)	36801.40 (0.42)	14625.63 (0.83)	15329.18 (0.78)	9951.07 (0.50)	7381.42 (0.36)
Total	(25.20)	(25.20)	(26.13)	(26.02)	(25.50)	(25.50)	(26.77)	(27.24)
Part II								
Labour (Hired)								
Human	1179204.86 (19.40)	1991066.97 (26.65)	2294461.33 (26.70)	2358795.05 (26.92)	341852.29 (19.40)	523157.64 (26.65)	531387.58 (26.70)	526336.69 (25.67)
Bullock	27352.69 (0.45)	29137.56 (0.39)	18046.32 (0.21)	15772.03 (0.18)	8810.62 (0.50)	7664.59 (0.39)	4179.45 (0.21)	3690.71 (0.18)
Machine	514230.57 (8.46)	262238.08 (3.51)	170151.06 (1.98)	33296.51 (0.38)	149075.79 (8.46)	68981.34 (3.51)	39406.27 (1.98)	25424.91 (1.24)
Total	(28.31)	(30.55)	(28.89)	(27.48)	(28.36)	(30.55)	(28.89)	(27.09)

Part III Own Labour								
Human	110626.43 (1.82)	80688.64 (1.08)	67029.20 (0.78)	54325.88 (0.62)	32070.67 (1.82)	21225.02 (1.08)	15523.68 (0.78)	12712.45 (0.62)
Bullock	79018.88 (1.30)	44079.90 (0.59)	23202.41 (0.27)	15772.03 (0.18)	22907.62 (1.30)	11595.15 (0.59)	5373.58 (0.27)	3690.71 (0.18)
machine	382329.82 (6.29)	614130.22 (8.22)	893722.76 (10.40)	1001524.05 (11.43)	110837.67 (1.29)	161546.05 (8.22)	208176.56 (10.46)	254864.24 (12.43)
Total	(9.41)	(9.89)	(11.45)	(12.23)	(9.41)	(9.89)	(11.51)	(13.23)
Part IV								
Interest on working capital	229762.59 (3.78)	231606.28 (3.10)	177025.85 (2.06)	163853.89 (1.87)	61321.95 (3.48)	55027.85 (2.80)	35027.79 (1.76)	25219.87 (1.23)
Total variable cost	4054276.47 (66.70)	5135682.64 (68.74)	5889117.37 (68.54)	5923274.31 (67.60)	1176218.53 (66.75)	1350344.13 (68.74)	1371855.63 (68.93)	1410467.48 (68.79)
Variable cost per kg	4.17	4.24	4.20	4.15	4.48	4.52	4.51	4.43

B Fixed cost								
Land revenue	70509.15 (1.16)	88159.81 (1.18)	122027.53 (1.42)	132309.82 (1.51)	19912.01 (1.13)	23190.30 (1.18)	24678.67 (1.24)	27885.38 (1.36)
Depreciation on implements	368957.39 (6.07)	474419.33 (6.35)	587794.58 (6.84)	606347.01 (6.92)	106961.00 (6.07)	124795.30 (6.35)	127771.84 (6.42)	138196.70 (6.74)
Rent for leased land	344643.89 (5.67)	144940.71 (1.94)	61873.11 (0.72)	10514.68 (0.12)	99912.50 (5.67)	38126.44 (1.94)	55327.99 (2.78)	17838.44 (0.87)
Imputed rented value of owned land	874070.41 (14.38)	1169985.32 (15.66)	1411910.10 (16.43)	1545659.16 (17.64)	253393.61 (14.38)	307762.91 (15.66)	312861.90 (15.72)	327243.43 (15.96)
Imputed interest on capital	367741.72 (6.05)	457982.76 (6.13)	530218.21 (6.17)	544135.11 (6.21)	105727.51 (6.00)	120471.68 (6.13)	122597.28 (6.16)	128764.88 (6.28)
B 1 Fixed cost	2025922.56 (33.30)	2335487.93 (31.47)	2713823.53 (31.36)	2838965.78 (32.40)	585906.64 (33.25)	614346.65 (31.26)	643237.68 (31.07)	639928.73 (31.21)
Fixed cost per kg	2.58	2.46	2.44	2.25	2.71	2.58	2.54	2.49
C 1 Total cost (A+B)	6080199.03	7471170.64	8602940.90	8762240.16	1762125.25	1964690.78	2015093.31	2050396.18
Total cost per kg	6.75	6.70	6.64	6.40	7.19	7.10	7.05	6.92

Source: Primary Data (Figures in brackets indicates the percentage).

It was noticed from the above table that the total cost of production of coarse variety per kg was estimated as Rs.6.75; Rs.6.70; Rs.6.64 and RS.6.40 and for fine variety is Rs.7.19; Rs.7.10; 7.05 Rs.6.92 by marginal, small, medium and large farmer categories respectively. The variable cost for the production of coarse variety per kg was estimated as Rs.4.17; 4.24; 4.20; and 4.15 and Rs. 4.48; 4.52; 4.51; and 4.43 for fine variety of paddy produced by the marginal, small, medium and large farmer categories respectively. The fixed cost for the production of coarse variety per kg was estimated as Rs.2.58; Rs2.46; Rs.2.44; and Rs.2.25 and Rs.2.71; Rs.2.58; Rs.2.54 and 2.49 for fine variety of marginal, small, medium and large farmer categories respectively.

Regarding the percentage of Total Variable cost for the production of coarse variety the highest percentage of variable cost incurred by the small farmers (68.74) followed by medium (68.54), large (67.60) and small (66.70). In fine variety, the highest percentage was found in medium (68.93) Size farmers followed by large (68.79), small (68.74) and marginal (66.75).

Regarding the percentage of Total Fixed Cost for the production of coarse variety the highest percentage of fixed cost was found in marginal farmers (33.30) followed by large (32.40), small (31.47) and medium (31.26) farmers. In fine variety the highest percentage was found in marginal (33.25) farmers followed by small (31.26), large (31.21) and medium (31.07) farmers.

Components of Variable Cost

The cost component of variable costs includes the cost of seed, insecticides, manures, fertilizers and irrigation charges. It was noticed from the table that for the production of coarse variety the variable cost was estimated at 25.20, 25.20, 26.13

and 26.02 percent and for the production of fine variety variable cost was 25.50, 25.50, 26.77 and 27.24 percent for marginal, small, medium and large farmers respectively. The study found that the percentage of variable cost was higher in large farmer than medium, small and marginal farmer. It was also found that among cost components, the cost for purchase of fertilizers and manures are higher in the production of both varieties.

In hired labour cost, the highest cost was found in small farmers (30.55) followed by medium (28.89) marginal (28.31) and large (27.48) for the production coarse variety and the production fine variety, the highest hired labour cost was found in small (30.55) medium (28.89) marginal (28.36) and large (27.09). The component of owned labour cost, the highest cost was found in large (12.23), medium (11.45), small (9.89) and marginal (9.41) for the production of coarse variety and for the production of fine variety the highest own labour cost was found in large (13.23) medium (11.51), small (9.89) and marginal (9.41). The component of interest cost, the highest percent of interest cost found marginal (3.78), followed by small (3.10), medium (2.06) and large (1.87) farmers in coarse variety. In fine variety the highest percent of interest cost was incurred by marginal (3.48), followed by small (2.80), medium (1.76), and large (1.23) percent for fine variety.

Components of Fixed Cost

Components of fixed cost includes cost on land revenue, cost on depreciation, cost on rent for leased land, cost on imputed rental value of owned land and cost of imputed interest on capital.

It was noticed from the tabular analysis that the percentage of imputed rental value of owned land occupied nearly 50 percent share in the total fixed cost estimated

at 14.38; 15.66, 16.43 and 17.64 percent for the production of coarse variety and it constitutes 14.38, 15.66, 15.72 and 15.96 for the production of fine variety of marginal, small, medium and large farmers. The next highest imputed cost was cost on depreciation in all the groups of farmers. Imputed cost on interest on capital estimated at 6.05; 6.13; 6.17; and 6.21 for the production of coarse variety and 6.00; 6.13; 6.16 and 6.28 percent for the production of fine variety of paddy of marginal, small, medium and large farmers respectively.

Total cost for the production of paddy per kg. in Rs.

The total cost for the production of coarse variety per kg. was shown in the Table. The highest total cost for the production of coarse variety was found in marginal (Rs.6.75), Small (Rs.6.70), medium (Rs.6.64) and large (Rs.6.40) farmers and for the production of fine variety, the highest total cost per kg. was found in marginal (Rs.7.19), small (R.7.10), medium (Rs.7.05) and large (Rs.6.92) farmers.

PART III Cost -Benefit Analysis of the Production of Paddy

In order to estimate the cost-benefit for the paddy production the researcher employed the mean money value of total cost and total revenue per acre.

The Table 6.37 shows the cost and benefit for the paddy production at including retention paddy and excluding retention paddy periods.

Total revenue is estimated by multiplying the total production per acre with the price. Net revenue or benefit is calculated by deducting total cost from total revenue to the production of paddy per acre.

TABLE 6.37

COST – BENEFIT ANALYSIS OF THE PRODUCTION OF PADDY

Size of Farmers	Coarse variety			Fine variety		
	Total revenue (Rs)	Total cost (Rs)	Net revenue (Rs)	Total revenue (Rs)	Total cost (Rs)	Net revenue (Rs)
COST-BENEFIT AT INCLUDING RETENTION PADDY						
Marginal	14729.62	11565.98	3163.64	14956.55	10171.60	4784.95
Small	15242.55	11405.51	3837.04	16095.87	10900.17	5195.70
Medium	14702.42	11340.90	3361.52	16527.98	11097.81	5430.17
Large	15185.74	11257.79	3927.95	16255.70	10774.85	5480.85
COST-BENEFIT AT EXCLUDING RETENTION PADDY						
Marginal	9446.11	11565.98	-2119.87	9723.26	10171.60	-448.34
Small	10031.13	11405.51	-1374.38	10734.34	10900.17	-165.83
Medium	11200.31	11340.90	-140.59	12571.19	11097.81	1473.38
Large	12124.30	11257.79	866.51	12741.22	10774.85	1966.37

Source: Primary Data

It can be noted from the above table in the production of coarse variety the highest benefit obtained by the large farmers (Rs.3927.95) followed by small (Rs.3837.04), medium (Rs.3361.52), and marginal (Rs.3163.64) farmers at including retention paddy. In the fine variety the highest benefit was found in large (Rs.5480.85) followed by medium (Rs.5430.17) small (Rs.5195.70) and marginal farmers (Rs.4784.95).

During the period after retention only large farmers earns benefit with Rs. 866.51 remaining categories of medium, small and marginal are incurred loss of Rs.140.59, Rs.1374.38, Rs.2119.87 respectively for coarse variety. In fine variety large farmers and medium farmers earn Rs.1966.37 and Rs.1473.38 as benefit respectively. Remaining small and marginal farmers incurred loss with Rs.165.83 and Rs.448.34 respectively. The loss incurred by the marginal, small and medium farmers is due to the higher percentage of retention of paddy than the large farmers.

6.38 Estimation of Revenue from Paddy Straw

The following Table 6.38 shows the amount of revenue earned from the sale of paddy straw.

TABLE 6.38
ESTIMATION OF REVENUE FROM PADDY STRAW

Size of Farmers	Coarse Variety	Fine Variety
Marginal	920.00	1250.00
Small	960.00	1430.00
Medium	970.00	1440.00
Large	980.00	1450.00

Source: Primary Data

From the above table it was noticed that the highest revenue earned in coarse variety was found in large farmers (Rs.980.00) followed by medium (Rs.970.00), small (Rs.960.00) and marginal (Rs.920.00) farmers and in fine variety also large farmers stood first with Rs.1450.00 followed by medium (Rs.1440.00), small (Rs.1430.00) and marginal (Rs.1250.00).

It can be understood from the above analysis that the loss in the production of paddy was compensated by the revenue through the sale of the paddy straw. The paddy straw is used by the farmers for their own cattle and also for sale. The straw income was valued at the price paid by the users. Even for own use, it was valued at the price actually paid by the users.

Test of Hypothesis 5

Null Hypothesis : There is no significant difference between the benefit and the size of farmers

Alternative Hypothesis: There is significant relationship between the benefit and the size of farmers.

With the help of Anova Test it was proved that that there was a significant difference between benefit and the categories of farmers in both coarse and fine variety of paddy and also before the reduction of retention of paddy and after the retention of paddy.

Hence the Null Hypothesis is rejected and the Alternative Hypothesis is accepted

6.39 Problems Related to Production

The paddy cultivators are facing many problems in cultivation due to their unawareness, low level in adoption of new techniques. The major problems faced by the selected paddy cultivators of the present study during the study period are listed in the following table.

TABLE 6.39
PROBLEMS RELATED TO PRODUCTION OF PADDY

Problems	No. of Respondents	Percentage
Unavailability of quality seeds	280	70
Higher price of seeds	361	91
Higher price of fertilizers & manures	383	96
Inadequate supply of fertilizers & manures	310	78
Inadequate supply of labour	383	96
Lack of irrigation facilities	186	47
Unaware of new technology	284	72

Source: Primary Data

From the above table it was concluded that the major problems like high price of seeds, higher price of fertilizers and manures, inadequate supply of labour are faced by almost all the selected paddy cultivators of the present study during the study period. It can be found from the above table that the major problems in production is higher price of fertilizers and manures and inadequate supply of labour (96 percent) , 78 percent of the farmers have reported the inadequate of fertilizers and manures, 91 percent have reported that the cost of seed is high. 70 percent by the farmers have reported that the problem is unavailability of quality seeds. 72 and 47 percent of the farmers have reported that the problems are unaware of new technology and lack of irrigation facilities respectively.

6.40 The Marketing Problems Faced By the Respondents

The following Table 6.24 shows the various marketing problems faced by the paddy producers of the present study during the study period.

TABLE 6.40
PROBLEM RELATED TO MARKETING OF PADDY

Problems	No. of Respondents	Percentage
Unavailability of proper storage facilities	313	78
Insufficient marketable facilities	301	75
Lack of transport facilities	268	67
Unavailability of levy system	394	98
Unfavourable price	386	96
Lack of market information	253	63

Source: Primary Data

It can be noted from the above table that the main problem in the study area is unavailability of levy system and government purchase of paddy. Nearly 99 percent of the farmers have reported that the unfavorable price level is present in the market. 78 and 75 and 67 percent of the farmers have reported that unavailability of proper storage, in sufficient market facilities and lack of transport facilities are the other problems respectively. Lacking effective marketing information is another problem faced by 63percent of the farmers in the study area. From the analysis it was found that unavailability of levy system and unfavourable price are the major problems faced by almost all the selected respondents of the study.