Gender Bias in Farm Activities: Evidences from Household Level Data of a Developing Economy

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Abstract Despite the fact that women remained socially subordinate to men, they participated in resource control, decision-making, and production. Yet the status of farm women in general is much lower than that of male counterparts largely because of the customary male dominance in the society, inherent shyness of farm women, lack of opportunities and very poor accessibility to modern technologies. The present study is an endeavor to address this issue in a traditionally agrarian society, i.e. Odisha, India. The data are analyzed through descriptive statistics like mean, standard deviation, cross tabulation and Logit regression estimation techniques is adopted. For estimation of the aforesaid regression model the statistical packages like SPSS 20.0 and Stata 13.0 are used. Land is mostly owned by male person, which is basically due to hereditary reason (82.9 %). But cultural reason and to get the Government benefits are the minor factors. So far as reasons for land ownership at district level is concerned hereditary is the only reason to own the land. Factors like age, year of education and income from Primary Occupation do not improve the knowledge of parents regarding the property right of their girl children as these factors are not significant.

Keywords: *gender, farming, property rights, rural agrarian society*

1. Introduction

Even though women's contribution was central in both the agricultural division of labor and its reproduction, traditional structures of resource allocation have provided them little or no access to the basic factors of production in agriculture with some exception. Despite the fact that they remained socially subordinate to men, they participated in resource control, decision-making, and production. Yet the status of farm women in general is much lower than that of male counterparts largely because of the customary male dominance in the society, inherent shyness of farm women, lack of opportunities and very poor accessibility to modern technologies. The present study is an endeavor to address this issue in a traditionally agrarian society, i.e. Odisha, India. The rest of the paper is organized as follows: the following section reviews the relevant literature to identify the research gap and set the objectives for the study. The third section gives an outline of the research design while the results are discussed in the fourth section. The last section concludes the study with some policy implications.

2. Review of Literature and the Research Gap

It was [2] who first ever showed the adverse conditions of women in agriculture. Reference [2] analyzed how work was divided between men and women, the types of jobs that constituted productive work, and the type of education women needed to enhance development. It argued that women's contributions, both domestic and in the paid workforce, contributed to national economies. But it was found that their contribution to the society was overlooked and ignored. The persistence decline in women labour force participation is a trending phenomenon a matter of serious concern. The recent data NSSO (2011) survey showed that in the period between 2005 - 2010 the female labour force participation declined from 33.3 % to 26.5 % in rural areas. The ILO [6] ranked India at the 120th place out of 130 countries so far as women labour force participation is concerned.

According to [1] found that women participation had a positive impact in decision making. In observing the impact of women labor force participation in economic growth several studies found that women’s economic

activity and their development have shown a U-shaped relationship [3,5,7,10]. It indicates that initially female labour force participation will decline with growing economic development and remain stable for some time and rise again to give it a "U" shape. The reason behind it is due to structural shifts of women condition, imp-act of income effect and increase in education level of women in the society [5].

As household incomes increase women tend to leave the labour forces as they don't need to contribute to the family earnings. Reference [4] studied from secondary data trend of women participation in agricultural activities in India and found that there is an increasing participation in the agricultural sector. Reference [8] revealed in his paper the actual role of women in agricultural and allied activities. He talked about their real problems, barriers and status in the agricultural sector. Women spend long hours in fetching water, preparing food, and all other activities including agricultural activities. It is also revealed that that total household income is positively related with farm size, number of female earning member and income of the women. It is found that income was affected when family size was large. From the analysis it was found that input availability, credit facility, education, motivation, training and support have the potential to increase gender participation in farm activities. The recent trends in women's employment participation in NSS and Census data show a marginal increase while increase causalisation and informalisation of women's work is the trend [11,12]. Reference [9] pointed out that accelerated shift toward the cash crops leads to commercialization of agriculture. It resulted in reduced employment opportunities for women.However, there is dearth of study with respect to the role of women in agriculture in Odisha. Toward this there lies a gap in the literature. The proposed study is an endeavour to bridge this gap.

3. Research Design

3.1. Coverage

Universe of the study – The study is carried out in ten Agro-climatic Zones of the state of Odisha.

Sampling methods –In the study, a multi-stage simple random sampling is used.

Sampling size – A maximum of 1020 respondents constitute the sample size.

Units of observation - The households who are involved in the farm and allied activities are the unit of observation.

3.2. Data Collection

The present study has used both secondary and primary data. Relevant secondary data are collected from various published sources of Government of India, Government of Odisha and other organizations. The study has used the various census data, data from the directorate of Agriculture, directorate of Economics and Statistics, Government of Odisha. Primary data are collected through a self-administered semi open questionnaire, which was specifically developed for this study. Before the data were collected a pilot survey was undertaken to validate the questionnaire. The analytical base of the study comprises of cross sectional survey based data from 1020 households.

3.3. Data Analysis

The data are analyzed through descriptive statistics like mean, standard deviation, cross tabulation and Logit regression estimation techniques is adopted. For estimation of the aforesaid regression model the statistical packages like SPSS 20.0 and Stata 13.0 are used.

4. Result and Discussion

4.1. Socio-Economic Profile of the Respondents

It is apparent from the Table 1 that out of the sample respondents of different districts of the study, 87.9 % respondents are male and 12.1 % respondents are female. So far as the sample respondents at district wise is concerned, there are only male respondents in the districts of Cuttack, Koraput, Bhadrak, Ganjam, Boudh, Puri and Bargarh. The share of respondents of these districts within the same gender of the total sample respondents are 6.6 %, 6.8 %, 6.9 %, 6.8 %, 5.9 %, 6.8 %, and 6.3 % respectively. On the other hand, the male respondents in the remaining districts are very substantial except Nayagarh district (female 98.3 %). In contrary to this, the respondents of the remaining sample districts are belonging to nuclear family. The Table 3 reflects that out of total sample respondents, the highest number of respondents (35.1 %) is in the age group of 41-50 followed by 24.2 % of respondents in the age group of 31-40 and 19.9 % of respondents in the age group of 41-50. It is apparent in the Table 4 that most of the respondents (51.9 %) in all the sample districts are equal or below 5 years of education and 40.9 % of them are in the range of 6-10 years of education. Furthermore, it is noticed that a few respondents whose years of education are 11-12 (+2) and 13-15 (+3).

The Table 5 reveals that most of the households (32 %) are having four number of family members followed by 23 % of households with five members, 14 of households with three members, 12.1 % of households with seven members and only 7.3 % of households with two members in the study area. It is also noticed the district level scenario from the table that the households having four family members are highly intensified in most of the sample districts like Cuttack (28.3 %), Koraput (31.7 %), Dhenkanal (41.7 %), Sundargarh (37.1 %), Keonjhar (30 %), Anugul (32.2 %), Bhadrak (44.3 %), Nayagarh (31.7 %), Ganjam (36.7 %), Boudh (53.8 %) and Khurda (39.3 %). Table 6 expresses that with regards to income generated from Primary Occupation (PO) annually, most of the respondents (62.3 %) in all the sample districts are less than or equal to Rs.10000 and only 29.8 % of them are in the range of Rs.10001-Rs.50000. From the Table 8 it is seen that the total annual income of almost half of the respondents (50.4 %) in all the sample districts are equal or less than Rs.10000 followed by 21.2 % and 15.8 % of respondents fall in the range of Rs.10001-25000 and Rs.25001-50000 respectively.

Table 1. Gender wise distribution of respondents

District		Gender		Total
		Male	Female	
Cuttack	% within District	100.0%		100.0%
	% within Gender	6.6%		5.8%
	% of Total	5.8%		5.8%
Koraput	% within District	100.0%		100.0%
	% within Gender	6.8%		6.0%
	% of Total	6.0%		6.0%
Kalahandi	% within District	83.6%	16.4%	100.0%
	% within Gender	5.2%	7.4%	5.5%
	% of Total	4.6%	.9%	5.5%
Dhenkanal	% within District	93.3%	6.7%	100.0%
	% within Gender	6.4%	3.3%	6.0%
	% of Total	5.6%	.4%	6.0%
Sundargarh	% within District	91.9%	8.1%	100.0%
	% within Gender	6.5%	4.1%	6.2%
	% of Total	5.7%	.5%	6.2%
Jharsuguda	% within District	86.9%	13.1%	100.0%
	% within Gender	6.0%	6.6%	6.1%
	% of Total	5.3%	.8%	6.1%
Keonjhar	% within District	91.7%	8.3%	100.0%
	% within Gender	6.3%	4.1%	6.0%
	% of Total	5.5%	.5%	6.0%
Anugul	% within District	93.2%	6.8%	100.0%
	% within Gender	6.3%	3.3%	5.9%
	% of Total	5.5%	.4%	5.9%
Malkangiri	% within District	91.9%	8.1%	100.0%
	% within Gender	6.5%	4.1%	6.2%
	% of Total	5.7%	.5%	6.2%
Bhadrak	% within District	100.0%		100.0%
	% within Gender	6.9%		6.1%
	% of Total	6.1%		6.1%
Jajpur	% within District	65.0%	35.0%	100.0%
	% within Gender	4.4%	17.4%	6.0%
	% of Total	3.9%	2.1%	6.0%
Nayagarh	% within District	1.7%	98.3%	100.0%
	% within Gender	.1%	48.8%	6.0%
	% of Total	.1%	5.9%	6.0%
Ganjam	% within District	100.0%		100.0%
	% within Gender	6.8%		6.0%
	% of Total	6.0%		6.0%
Boudh	% within District	100.0%		100.0%
	% within Gender	5.9%		5.2%
	% of Total	5.2%		5.2%
Khurda	% within District	98.2%	1.8%	100.0%
	% within Gender	6.3%	.8%	5.6%
	% of Total	5.5%	.1%	5.6%
Puri	% within District	100.0%		100.0%
	% within Gender	6.8%		6.0%
	% of Total	6.0%		6.0%
Bargarh	% within District	100.0%		100.0%
	% within Gender	6.3%		5.5%
	% of Total	5.5%		5.5%
Total	% within District	87.9%	12.1%	100.0%
	% within Gender	100.0%	100.0%	100.0%
	% of Total	87.9%	12.1%	100.0%
Chi-Square	517.949*			

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 2. Distribution of respondents on the basis of family type

Districts		Family Type		Total
		Joint	Nuclear	
Cuttack	% within District	8.6%	89.7%	100.0%
	% within Family Type	.7%	15.9%	5.8%
	% of Total	.5%	5.2%	5.8%
Koraput	% within District	70.0%	30.0%	100.0%
	% within Family Type	6.3%	5.5%	6.0%
	% of Total	4.2%	1.8%	6.0%
Kalahandi	% within District	25.5%	74.5%	100.0%
	% within Family Type	2.1%	12.5%	5.5%
	% of Total	1.4%	4.1%	5.5%
Dhenkanal	% within District	78.3%	21.7%	100.0%
	% within Family Type	7.0%	4.0%	6.0%
	% of Total	4.7%	1.3%	6.0%
Sundargarh	% within District	67.7%	32.3%	100.0%
	% within Family Type	6.3%	6.1%	6.2%
	% of Total	4.2%	2.0%	6.2%
Jharsuguda	% within District	78.7%	21.3%	100.0%
	% within Family Type	7.1%	4.0%	6.1%
	% of Total	4.8%	1.3%	6.1%
Keonjhar	% within District	98.3%	1.7%	100.0%
	% within Family Type	8.8%	.3%	6.0%
	% of Total	5.9%	.1%	6.0%
Anugul	% within District	42.4%	57.6%	100.0%
	% within Family Type	3.7%	10.4%	5.9%
	% of Total	2.5%	3.4%	5.9%
Malkangiri	% within District	72.6%	27.4%	100.0%
	% within Family Type	6.7%	5.2%	6.2%
	% of Total	4.5%	1.7%	6.2%
Bhadrak	% within District	90.2%	9.8%	100.0%
	% within Family Type	8.2%	1.8%	6.1%
	% of Total	5.5%	.6%	6.1%
Jajpur	% within District	100.0%		100.0%
	% within Family Type	8.9%		6.0%
	% of Total	6.0%		6.0%
Nayagarh	% within District	100.0%		100.0%
	% within Family Type	8.9%		6.0%
	% of Total	6.0%		6.0%
Ganjam	% within District	6.7%	93.3%	100.0%
	% within Family Type	.6%	17.1%	6.0%
	% of Total	.4%	5.6%	6.0%
Boudh	% within District	84.6%	15.4%	100.0%
	% within Family Type	6.5%	2.4%	5.2%
	% of Total	4.4%	.8%	5.2%
Khurda	% within District	57.1%	42.9%	100.0%
	% within Family Type	4.8%	7.3%	5.6%
	% of Total	3.2%	2.4%	5.6%
Puri	% within District	100.0%		100.0%
	% within Family Type	8.9%		6.0%
	% of Total	6.0%		6.0%
Bargarh	% within District	54.5%	45.5%	100.0%
	% within Family Type	4.5%	7.6%	5.5%
	% of Total	3.0%	2.5%	5.5%
Total	% within District	67.1%	32.8%	100.0%
	% within Family Type	100.0%	100.0%	100.0%
	% of Total	67.1%	32.8%	100.0%
Chi-Square	413.783*			

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 3. Age wise distribution of respondents

Districts		Age						Total
		<= 20	21 - 30	31 - 40	41 - 50	51 - 60	61+	
Cuttack	% within District			15.5%	31.0%	1.7%	51.7%	100.0%
	% within Age			3.7%	5.1%	.5%	30.0%	5.8%
	% of Total			.9%	1.8%	.1%	3.0%	5.8%
Koraput	% within District		26.7%	33.3%	16.7%	16.7%	6.7%	100.0%
	% within Age		15.0%	8.3%	2.8%	5.0%	4.0%	6.0%
	% of Total		1.6%	2.0%	1.0%	1.0%	.4%	6.0%
Kalahandi	% within District		23.6%	29.1%	29.1%	10.9%	7.3%	100.0%
	% within Age		12.1%	6.6%	4.6%	3.0%	4.0%	5.5%
	% of Total		1.3%	1.6%	1.6%	.6%	.4%	5.5%
Dhenkanal	% within District	1.7%	6.7%	15.0%	40.0%	23.3%	13.3%	100.0%
	% within Age	50.0%	3.7%	3.7%	6.8%	7.0%	8.0%	6.0%
	% of Total	.1%	.4%	.9%	2.4%	1.4%	.8%	6.0%
Sundargarh	% within District			12.9%	41.9%	35.5%	9.7%	100.0%
	% within Age			3.3%	7.4%	11.1%	6.0%	6.2%
	% of Total			.8%	2.6%	2.2%	.6%	6.2%
Jharsuguda	% within District		1.6%	14.8%	31.1%	34.4%	18.0%	100.0%
	% within Age		.9%	3.7%	5.4%	10.6%	11.0%	6.1%
	% of Total		.1%	.9%	1.9%	2.1%	1.1%	6.1%
Keonjhar	% within District		8.3%	21.7%	35.0%	23.3%	11.7%	100.0%
	% within Age		4.7%	5.4%	6.0%	7.0%	7.0%	6.0%
	% of Total		.5%	1.3%	2.1%	1.4%	.7%	6.0%
Anugul	% within District		10.2%	25.4%	39.0%	18.6%	6.8%	100.0%
	% within Age		5.6%	6.2%	6.6%	5.5%	4.0%	5.9%
	% of Total		.6%	1.5%	2.3%	1.1%	.4%	5.9%
Malkangiri	% within District	1.6%	19.4%	33.9%	21.0%	11.3%	12.9%	100.0%
	% within Age	50.0%	11.2%	8.7%	3.7%	3.5%	8.0%	6.2%
	% of Total	.1%	1.2%	2.1%	1.3%	.7%	.8%	6.2%
Bhadrak	% within District		1.6%	24.6%	36.1%	36.1%	1.6%	100.0%
	% within Age		.9%	6.2%	6.3%	11.1%	1.0%	6.1%
	% of Total		.1%	1.5%	2.2%	2.2%	.1%	6.1%
Jajpur	% within District		8.3%	25.0%	33.3%	26.7%	6.7%	100.0%
	% within Age		4.7%	6.2%	5.7%	8.0%	4.0%	6.0%
	% of Total		.5%	1.5%	2.0%	1.6%	.4%	6.0%
Nayagarh	% within District		20.0%	25.0%	28.3%	18.3%	8.3%	100.0%
	% within Age		11.2%	6.2%	4.8%	5.5%	5.0%	6.0%
	% of Total		1.2%	1.5%	1.7%	1.1%	.5%	6.0%
Ganjam	% within District		11.7%	25.0%	31.7%	25.0%	6.7%	100.0%
	% within Age		6.5%	6.2%	5.4%	7.5%	4.0%	6.0%
	% of Total		.7%	1.5%	1.9%	1.5%	.4%	6.0%
Boudh	% within District		9.6%	25.0%	44.2%	17.3%	3.8%	100.0%
	% within Age		4.7%	5.4%	6.6%	4.5%	2.0%	5.2%
	% of Total		.5%	1.3%	2.3%	.9%	.2%	5.2%
Khurda	% within District		17.9%	37.5%	35.7%	8.9%		100.0%
	% within Age		9.3%	8.7%	5.7%	2.5%		5.6%
	% of Total		1.0%	2.1%	2.0%	.5%		5.6%
Puri	% within District		1.7%	21.7%	53.3%	21.7%	1.7%	100.0%
	% within Age		.9%	5.4%	9.1%	6.5%	1.0%	6.0%
	% of Total		.1%	1.3%	3.2%	1.3%	.1%	6.0%
Bargarh	% within District		16.4%	27.3%	50.9%	3.6%	1.8%	100.0%
	% within Age		8.4%	6.2%	8.0%	1.0%	1.0%	5.5%
	% of Total		.9%	1.5%	2.8%	.2%	.1%	5.5%
Total	% within District	.2%	10.7%	24.2%	35.1%	19.9%	10.0%	100.0%
	% within Age	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	.2%	10.7%	24.2%	35.1%	19.9%	10.0%	100.0%
Chi-Square	302.186*							

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 4. Distribution of respondents on the basis of year of education

Districts		Year of Education				Total
		<= 5	6 - 10	11 – 12	13 - 15	
Cuttack	% within District	41.4%	43.1%	6.9%	8.6%	100.0%
	% within Year of Education	4.6%	6.1%	8.5%	20.0%	5.8%
	% of Total	2.4%	2.5%	.4%	.5%	5.8%
Koraput	% within District	85.0%	15.0%			100.0%
	% within Year of Education	9.8%	2.2%			6.0%
	% of Total	5.1%	.9%			6.0%
Kalahandi	% within District	58.2%	23.6%	10.9%	7.3%	100.0%
	% within Year of Education	6.2%	3.2%	12.8%	16.0%	5.5%
	% of Total	3.2%	1.3%	.6%	.4%	5.5%
Dhenkanal	% within District	62.7%	32.2%	1.7%	3.4%	100.0%
	% within Year of Education	7.1%	4.6%	2.1%	8.0%	5.9%
	% of Total	3.7%	1.9%	.1%	.2%	5.9%
Sundargarh	% within District	35.5%	61.3%	3.2%		100.0%
	% within Year of Education	4.2%	9.3%	4.3%		6.2%
	% of Total	2.2%	3.8%	.2%		6.2%
Jharsuguda	% within District	57.4%	32.8%	4.9%	4.9%	100.0%
	% within Year of Education	6.8%	4.9%	6.4%	12.0%	6.1%
	% of Total	3.5%	2.0%	.3%	.3%	6.1%
Keonjhar	% within District	28.3%	70.0%	1.7%		100.0%
	% within Year of Education	3.3%	10.3%	2.1%		6.0%
	% of Total	1.7%	4.2%	.1%		6.0%
Anugul	% within District	55.9%	30.5%	8.5%	5.1%	100.0%
	% within Year of Education	6.4%	4.4%	10.6%	12.0%	5.9%
	% of Total	3.3%	1.8%	.5%	.3%	5.9%
Malkangiri	% within District	98.4%			1.6%	100.0%
	% within Year of Education	11.8%			4.0%	6.2%
	% of Total	6.1%			.1%	6.2%
Bhadrak	% within District	40.0%	53.3%	3.3%	3.3%	100.0%
	% within Year of Education	4.6%	7.8%	4.3%	8.0%	6.0%
	% of Total	2.4%	3.2%	.2%	.2%	6.0%
Jajpur	% within District	41.7%	36.7%	21.7%		100.0%
	% within Year of Education	4.8%	5.4%	27.7%		6.0%
	% of Total	2.5%	2.2%	1.3%		6.0%
Nayagarh	% within District	60.0%	36.7%	1.7%	1.7%	100.0%
	% within Year of Education	6.9%	5.4%	2.1%	4.0%	6.0%
	% of Total	3.6%	2.2%	.1%	.1%	6.0%
Ganjam	% within District	71.7%	23.3%	3.3%	1.7%	100.0%
	% within Year of Education	8.3%	3.4%	4.3%	4.0%	6.0%
	% of Total	4.3%	1.4%	.2%	.1%	6.0%
Boudh	% within District	34.6%	63.5%	1.9%		100.0%
	% within Year of Education	3.5%	8.1%	2.1%		5.2%
	% of Total	1.8%	3.3%	.1%		5.2%
Khurda	% within District	19.6%	75.0%	1.8%	3.6%	100.0%
	% within Year of Education	2.1%	10.3%	2.1%	8.0%	5.6%
	% of Total	1.1%	4.2%	.1%	.2%	5.6%
Puri	% within District	66.7%	28.3%	5.0%		100.0%
	% within Year of Education	7.7%	4.2%	6.4%		6.0%
	% of Total	4.0%	1.7%	.3%		6.0%
Bargarh	% within District	16.4%	78.2%	3.6%	1.8%	100.0%
	% within Year of Education	1.7%	10.5%	4.3%	4.0%	5.5%
	% of Total	.9%	4.3%	.2%	.1%	5.5%
Total	% within District	51.9%	40.9%	4.7%	2.5%	100.0%
	% within Year of Education	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	51.9%	40.9%	4.7%	2.5%	100.0%
Chi-Square	284.568*					

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 5. Distribution of respondents on the basis of total family size

District		Total Family Size						Total
		2	3	4	5	6	7+	
Cuttack	% within District	10.9%	8.7%	28.3%	10.9%	21.7%	19.6%	100.0%
	% within Total Family Size	6.9%	2.8%	4.1%	2.1%	9.7%	7.5%	4.7%
	% of Total	.5%	.4%	1.3%	.5%	1.0%	.9%	4.7%
Koraput	% within District	1.7%	13.3%	31.7%	16.7%	20.0%	16.7%	100.0%
	% within Total Family Size	1.4%	5.5%	6.0%	4.3%	11.7%	8.3%	6.1%
	% of Total	.1%	.8%	1.9%	1.0%	1.2%	1.0%	6.1%
Kalahandi	% within District	5.5%	21.8%	20.0%	27.3%	12.7%	12.7%	100.0%
	% within Total Family Size	4.2%	8.3%	3.5%	6.4%	6.8%	5.8%	5.6%
	% of Total	.3%	1.2%	1.1%	1.5%	.7%	.7%	5.6%
Dhenkanal	% within District	6.7%	10.0%	41.7%	16.7%	13.3%	11.7%	100.0%
	% within Total Family Size	5.6%	4.1%	7.9%	4.3%	7.8%	5.8%	6.1%
	% of Total	.4%	.6%	2.5%	1.0%	.8%	.7%	6.1%
Sundargarh	% within District	1.6%	8.1%	37.1%	25.8%	14.5%	12.9%	100.0%
	% within Total Family Size	1.4%	3.4%	7.3%	6.9%	8.7%	6.7%	6.3%
	% of Total	.1%	.5%	2.3%	1.6%	.9%	.8%	6.3%
Jharsuguda	% within District	3.3%	6.6%	9.8%	24.6%	19.7%	36.1%	100.0%
	% within Total Family Size	2.8%	2.8%	1.9%	6.4%	11.7%	18.3%	6.2%
	% of Total	.2%	.4%	.6%	1.5%	1.2%	2.2%	6.2%
Keonjhar	% within District	15.0%	18.3%	30.0%	26.7%	8.3%	1.7%	100.0%
	% within Total Family Size	12.5%	7.6%	5.7%	6.9%	4.9%	.8%	6.1%
	% of Total	.9%	1.1%	1.8%	1.6%	.5%	.1%	6.1%
Anugul	% within District	18.6%	13.6%	32.2%	20.3%	10.2%	5.1%	100.0%
	% within Total Family Size	15.3%	5.5%	6.0%	5.2%	5.8%	2.5%	6.0%
	% of Total	1.1%	.8%	1.9%	1.2%	.6%	.3%	6.0%
Malkangiri	% within District	24.2%	4.8%	19.4%	29.0%	12.9%	9.7%	100.0%
	% within Total Family Size	20.8%	2.1%	3.8%	7.7%	7.8%	5.0%	6.3%
	% of Total	1.5%	.3%	1.2%	1.8%	.8%	.6%	6.3%
Bhadrak	% within District	1.6%	14.8%	44.3%	23.0%	9.8%	6.6%	100.0%
	% within Total Family Size	1.4%	6.2%	8.5%	6.0%	5.8%	3.3%	6.2%
	% of Total	.1%	.9%	2.7%	1.4%	.6%	.4%	6.2%
Jajpur	% within District	3.3%	11.7%	25.0%	31.7%	11.7%	16.7%	100.0%
	% within Total Family Size	2.8%	4.8%	4.7%	8.2%	6.8%	8.3%	6.1%
	% of Total	.2%	.7%	1.5%	1.9%	.7%	1.0%	6.1%
Nayagarh	% within District	3.3%	20.0%	31.7%	10.0%	11.7%	23.3%	100.0%
	% within Total Family Size	2.8%	8.3%	6.0%	2.6%	6.8%	11.7%	6.1%
	% of Total	.2%	1.2%	1.9%	.6%	.7%	1.4%	6.1%
Ganjam	% within District	11.7%	20.0%	36.7%	15.0%	6.7%	10.0%	100.0%
	% within Total Family Size	9.7%	8.3%	7.0%	3.9%	3.9%	5.0%	6.1%
	% of Total	.7%	1.2%	2.2%	.9%	.4%	.6%	6.1%
Boudh	% within District	5.8%	11.5%	53.8%	23.1%	1.9%	3.8%	100.0%
	% within Total Family Size	4.2%	4.1%	8.9%	5.2%	1.0%	1.7%	5.3%
	% of Total	.3%	.6%	2.8%	1.2%	.1%	.2%	5.3%
Khurda	% within District	5.4%	32.1%	39.3%	23.2%			100.0%
	% within Total Family Size	4.2%	12.4%	7.0%	5.6%			5.7%
	% of Total	.3%	1.8%	2.2%	1.3%			5.7%
Puri	% within District		5.0%	33.3%	45.0%	1.7%	15.0%	100.0%
	% within Total Family Size		2.1%	6.3%	11.6%	1.0%	7.5%	6.1%
	% of Total		.3%	2.0%	2.7%	.1%	.9%	6.1%
Bargarh	% within District	5.5%	30.9%	30.9%	29.1%		3.6%	100.0%
	% within Total Family Size	4.2%	11.7%	5.4%	6.9%		1.7%	5.6%
	% of Total	.3%	1.7%	1.7%	1.6%		.2%	5.6%
Total	% within District	7.3%	14.7%	32.0%	23.6%	10.4%	12.1%	100.0%
	% within Total Family Size	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	7.3%	14.7%	32.0%	23.6%	10.4%	12.1%	100.0%
Chi-Square	261.026*							

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 6. Distribution of respondents on the basis of income from PO

Districts		Income from PO				Total
		<= 10000	10001 - 50000	50001 - 100000	100001+	
Cuttack	% within District		65.5%	31.0%	3.4%	100.0%
	% within Income from PO		12.8%	31.0%	9.5%	5.8%
	% of Total		3.8%	1.8%	.2%	5.8%
Koraput	% within District	91.7%	8.3%			100.0%
	% within Income from PO	8.9%	1.7%			6.0%
	% of Total	5.5%	.5%			6.0%
Kalahandi	% within District	89.1%	10.9%			100.0%
	% within Income from PO	7.9%	2.0%			5.5%
	% of Total	4.9%	.6%			5.5%
Dhenkanal	% within District	23.3%	73.3%	1.7%	1.7%	100.0%
	% within Income from PO	2.3%	14.8%	1.7%	4.8%	6.0%
	% of Total	1.4%	4.4%	.1%	.1%	6.0%
Sundargarh	% within District	77.4%	22.6%			100.0%
	% within Income from PO	7.7%	4.7%			6.2%
	% of Total	4.8%	1.4%			6.2%
Jharsuguda	% within District	31.1%	68.9%			100.0%
	% within Income from PO	3.1%	14.1%			6.1%
	% of Total	1.9%	4.2%			6.1%
Keonjhar	% within District	100.0%				100.0%
	% within Income from PO	9.7%				6.0%
	% of Total	6.0%				6.0%
Anugul	% within District	21.1%	73.7%	3.5%	1.8%	100.0%
	% within Income from PO	1.9%	14.1%	3.4%	4.8%	5.7%
	% of Total	1.2%	4.2%	.2%	.1%	5.7%
Malkangiri	% within District	100.0%				100.0%
	% within Income from PO	10.0%				6.2%
	% of Total	6.2%				6.2%
Bhadrak	% within District		11.5%	60.7%	27.9%	100.0%
	% within Income from PO		2.4%	63.8%	81.0%	6.1%
	% of Total		.7%	3.7%	1.7%	6.1%
Jajpur	% within District	6.8%	93.2%			100.0%
	% within Income from PO	.6%	18.5%			5.9%
	% of Total	.4%	5.5%			5.9%
Nayagarh	% within District	98.3%	1.7%			100.0%
	% within Income from PO	9.5%	.3%			6.0%
	% of Total	5.9%	.1%			6.0%
Ganjam	% within District	57.6%	42.4%			100.0%
	% within Income from PO	5.5%	8.4%			5.9%
	% of Total	3.4%	2.5%			5.9%
Boudh	% within District	90.4%	9.6%			100.0%
	% within Income from PO	7.6%	1.7%			5.2%
	% of Total	4.7%	.5%			5.2%
Khurda	% within District	98.2%	1.8%			100.0%
	% within Income from PO	8.9%	.3%			5.6%
	% of Total	5.5%	.1%			5.6%
Puri	% within District	93.3%	6.7%			100.0%
	% within Income from PO	9.0%	1.3%			6.0%
	% of Total	5.6%	.4%			6.0%
Bargarh	% within District	85.5%	14.5%			100.0%
	% within Income from PO	7.6%	2.7%			5.5%
	% of Total	4.7%	.8%			5.5%
Total	% within District	62.3%	29.8%	5.8%	2.1%	100.0%
	% within Income from PO	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	62.3%	29.8%	5.8%	2.1%	100.0%
Chi-Square	1193.805*					

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 7. Distribution of respondents on the basis of income from SO

Districts		Income from SO				Total
		<= 10000	10001 - 50000	50001 - 100000	100001+	
Cuttack	% within District	37.9%	44.8%	5.2%	12.1%	100.0%
	% within Income from SO	2.8%	13.3%	50.0%	70.0%	5.8%
	% of Total	2.2%	2.6%	.3%	.7%	5.8%
Koraput	% within District	56.7%	43.3%			100.0%
	% within Income from SO	4.4%	13.3%			6.0%
	% of Total	3.4%	2.6%			6.0%
Kalahandi	% within District	100.0%				100.0%
	% within Income from SO	7.0%				5.5%
	% of Total	5.5%				5.5%
Dhenkanal	% within District	70.0%	28.3%		1.7%	100.0%
	% within Income from SO	5.4%	8.7%		10.0%	6.0%
	% of Total	4.2%	1.7%		.1%	6.0%
Sundargarh	% within District	88.7%	11.3%			100.0%
	% within Income from SO	7.0%	3.6%			6.3%
	% of Total	5.5%	.7%			6.3%
Jharsuguda	% within District	96.7%	3.3%			100.0%
	% within Income from SO	7.6%	1.0%			6.1%
	% of Total	5.9%	.2%			6.1%
Keonjhar	% within District	100.0%				100.0%
	% within Income from SO	7.7%				6.0%
	% of Total	6.0%				6.0%
Anugul	% within District	21.1%	78.9%			100.0%
	% within Income from SO	1.5%	23.1%			5.7%
	% of Total	1.2%	4.5%			5.7%
Malkangiri	% within District	100.0%				100.0%
	% within Income from SO	7.9%				6.3%
	% of Total	6.3%				6.3%
Bhadrak	% within District	24.6%	72.1%	3.3%		100.0%
	% within Income from SO	1.9%	22.6%	33.3%		6.1%
	% of Total	1.5%	4.4%	.2%		6.1%
Jajpur	% within District	87.0%	13.0%			100.0%
	% within Income from SO	6.0%	3.6%			5.4%
	% of Total	4.7%	.7%			5.4%
Nayagarh	% within District	98.3%	1.7%			100.0%
	% within Income from SO	7.4%	.5%			5.9%
	% of Total	5.8%	.1%			5.9%
Ganjam	% within District	78.3%	21.7%			100.0%
	% within Income from SO	6.0%	6.7%			6.0%
	% of Total	4.7%	1.3%			6.0%
Boudh	% within District	90.4%	7.7%		1.9%	100.0%
	% within Income from SO	6.0%	2.1%		10.0%	5.2%
	% of Total	4.7%	.4%		.1%	5.2%
Khurda	% within District	100.0%				100.0%
	% within Income from SO	7.2%				5.6%
	% of Total	5.6%				5.6%
Puri	% within District	96.7%	3.3%			100.0%
	% within Income from SO	7.4%	1.0%			6.0%
	% of Total	5.8%	.2%			6.0%
Bargarh	% within District	94.5%	1.8%	1.8%	1.8%	100.0%
	% within Income from SO	6.7%	.5%	16.7%	10.0%	5.5%
	% of Total	5.2%	.1%	.1%	.1%	5.5%
Total	% within District	78.7%	19.7%	.6%	1.0%	100.0%
	% within Income from SO	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	78.7%	19.7%	.6%	1.0%	100.0%
Chi-Square	514.824*					

Source: Calculated and Compiled from Field Survey 2016, *Implies significant at 1% level.

Table 8. Distribution of Households According to Farming Decisions

Districts		Who takes the Decision in the HH regarding Farming Activities			Total
		Male	Female	Both	
Cuttack	% within Districts	36.2%	13.8%	50.0%	100.0%
	% within FD	3.1%	9.1%	12.9%	5.8%
	% of Total	2.1%	.8%	2.9%	5.8%
Koraput	% within Districts	74.6%	1.7%	23.7%	100.0%
	% within FD	6.5%	1.1%	6.2%	5.9%
	% of Total	4.4%	.1%	1.4%	5.9%
Kalahandi	% within Districts	74.5%	16.4%	9.1%	100.0%
	% within FD	6.0%	10.2%	2.2%	5.5%
	% of Total	4.1%	.9%	.5%	5.5%
Dhenkanal	% within Districts	95.0%	5.0%		100.0%
	% within FD	8.4%	3.4%		6.0%
	% of Total	5.7%	.3%		6.0%
Sundargarh	% within Districts	67.7%	21.0%	11.3%	100.0%
	% within FD	6.2%	14.8%	3.1%	6.2%
	% of Total	4.2%	1.3%	.7%	6.2%
Jharsuguda	% within Districts	36.1%	6.6%	57.4%	100.0%
	% within FD	3.2%	4.5%	15.6%	6.1%
	% of Total	2.2%	.4%	3.5%	6.1%
Keonjhar	% within Districts	6.8%	22.0%	66.1%	100.0%
	% within FD	.6%	14.8%	17.3%	5.9%
	% of Total	.4%	1.3%	3.9%	5.9%
Anugul	% within Districts	96.6%	1.7%	1.7%	100.0%
	% within FD	8.4%	1.1%	.4%	5.9%
	% of Total	5.7%	.1%	.1%	5.9%
Malkangiri	% within Districts	80.6%	1.6%	17.7%	100.0%
	% within FD	7.4%	1.1%	4.9%	6.2%
	% of Total	5.0%	.1%	1.1%	6.2%
Bhadrak	% within Districts	96.7%		3.3%	100.0%
	% within FD	8.7%		.9%	6.1%
	% of Total	5.9%		.2%	6.1%
Jajpur	% within Districts	66.7%	26.7%	6.7%	100.0%
	% within FD	5.9%	18.2%	1.8%	6.0%
	% of Total	4.0%	1.6%	.4%	6.0%
Nayagarh	% within Districts	95.0%	1.7%	3.3%	100.0%
	% within FD	8.4%	1.1%	.9%	6.0%
	% of Total	5.7%	.1%	.2%	6.0%
Ganjam	% within Districts	36.7%	10.0%	53.3%	100.0%
	% within FD	3.2%	6.8%	14.2%	6.0%
	% of Total	2.2%	.6%	3.2%	6.0%
Boudh	% within Districts	78.0%	8.0%	14.0%	100.0%
	% within FD	5.7%	4.5%	3.1%	5.0%
	% of Total	3.9%	.4%	.7%	5.0%
Khurda	% within Districts	85.5%	5.5%	9.1%	100.0%
	% within FD	6.9%	3.4%	2.2%	5.5%
	% of Total	4.7%	.3%	.5%	5.5%
Puri	% within Districts	58.3%	5.0%	36.7%	100.0%
	% within FD	5.1%	3.4%	9.8%	6.0%
	% of Total	3.5%	.3%	2.2%	6.0%
Bargarh	% within Districts	78.2%	3.6%	18.2%	100.0%
	% within FD	6.3%	2.3%	4.4%	5.5%
	% of Total	4.3%	.2%	1.0%	5.5%
Total	% within Districts	68.3%	9.0%	22.7%	100.0%
	% within FD	100.0%	100.0%	100.0%	100.0%
	% of Total	68.3%	9.0%	22.7%	100.0%
Chi-Square	412.115*				

Source: Compiled and Calculated from Field Survey 2016, *Significant at 1 % level.

Table 9. Reasons for Farming Decisions

Districts		Reasons for farming decision					Total
		Availability of information on agricultural activities	Accessibility	Time constraints due to household and other activities	Experience	Others	
Cuttack	% within Districts	17.2%	10.3%	6.9%	65.5%		100.0%
	% within FD	5.7%	20.7%	6.9%	5.2%		5.8%
	% of Total	1.0%	.6%	.4%	3.8%		5.8%
Koraput	% within Districts	81.7%	3.3%	5.0%	10.0%		100.0%
	% within FD	28.0%	6.9%	5.2%	.8%		6.0%
	% of Total	4.9%	.2%	.3%	.6%		6.0%
Kalahandi	% within Districts	23.6%	16.4%		60.0%		100.0%
	% within FD	7.4%	31.0%		4.5%		5.5%
	% of Total	1.3%	.9%		3.3%		5.5%
Dhenkanal	% within Districts			1.7%	98.3%		100.0%
	% within FD			1.7%	8.1%		6.0%
	% of Total			.1%	5.9%		6.0%
Sundargarh	% within Districts	38.7%	4.8%		54.8%	1.6%	100.0%
	% within FD	13.7%	10.3%		4.7%	25.0%	6.2%
	% of Total	2.4%	.3%		3.4%	.1%	6.2%
Jharsuguda	% within Districts	19.7%		42.6%	37.7%		100.0%
	% within FD	6.9%		44.8%	3.1%		6.1%
	% of Total	1.2%		2.6%	2.3%		6.1%
Keonjhar	% within Districts	1.7%		3.4%	94.9%		100.0%
	% within FD	.6%		3.4%	7.7%		5.9%
	% of Total	.1%		.2%	5.6%		5.9%
Anugul	% within Districts				96.6%	3.4%	100.0%
	% within FD				7.8%	50.0%	5.9%
	% of Total				5.7%	.2%	5.9%
Malkangiri	% within Districts	3.2%			95.2%	1.6%	100.0%
	% within FD	1.1%			8.1%	25.0%	6.2%
	% of Total	.2%			5.9%	.1%	6.2%
Bhadrak	% within Districts				100.0%		100.0%
	% within FD				8.3%		6.1%
	% of Total				6.1%		6.1%
Jajpur	% within Districts	11.7%	6.7%	35.0%	46.7%		100.0%
	% within FD	4.0%	13.8%	36.2%	3.8%		6.0%
	% of Total	.7%	.4%	2.1%	2.8%		6.0%
Nayagarh	% within Districts	10.0%	6.7%		83.3%		100.0%
	% within FD	3.4%	13.8%		6.8%		6.0%
	% of Total	.6%	.4%		5.0%		6.0%
Ganjam	% within Districts		1.7%	1.7%	96.7%		100.0%
	% within FD		3.4%	1.7%	7.9%		6.0%
	% of Total		.1%	.1%	5.8%		6.0%
Boudh	% within Districts	22.0%			78.0%		100.0%
	% within FD	6.3%			5.3%		5.0%
	% of Total	1.1%			3.9%		5.0%
Khurda	% within Districts	40.0%			60.0%		100.0%
	% within FD	12.6%			4.5%		5.5%
	% of Total	2.2%			3.3%		5.5%
Puri	% within Districts	15.0%			85.0%		100.0%
	% within FD	5.1%			7.0%		6.0%
	% of Total	.9%			5.1%		6.0%
Bargarh	% within Districts	16.4%			83.6%		100.0%
	% within FD	5.1%			6.3%		5.5%
	% of Total	.9%			4.6%		5.5%
Total	% within Districts	17.6%	2.9%	5.8%	73.3%	.4%	100.0%
	% within FD	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	17.6%	2.9%	5.8%	73.3%	.4%	100.0%
Chi-Square	678.970*						

Source: Compiled and Calculated from Field Survey 2016, *Significant at 1 % level.

Table 10. Distribution of Households according to Land Ownership

Districts		Land Ownership Who owns land				Total
		Male	Female	Both	Others/No Land	
Cuttack	% within Districts	84.5%	5.2%		10.3%	100.0%
	% within LO	5.5%	6.3%		100.0%	5.8%
	% of Total	4.9%	.3%		.6%	5.8%
Koraput	% within Districts	98.3%		1.7%		100.0%
	% within LO	6.6%		1.8%		6.0%
	% of Total	5.9%		.1%		6.0%
Kalahandi	% within Districts	94.5%	1.8%	3.6%		100.0%
	% within LO	5.8%	2.1%	3.6%		5.5%
	% of Total	5.2%	.1%	.2%		5.5%
Dhenkanal	% within Districts	98.3%	1.7%			100.0%
	% within LO	6.6%	2.1%			6.0%
	% of Total	5.9%	.1%			6.0%
Sundargarh	% within Districts	85.5%	14.5%			100.0%
	% within LO	5.9%	18.8%			6.2%
	% of Total	5.3%	.9%			6.2%
Jharsuguda	% within Districts	67.2%	3.3%	29.5%		100.0%
	% within LO	4.6%	4.2%	32.7%		6.1%
	% of Total	4.1%	.2%	1.8%		6.1%
Keonjhar	% within Districts	68.3%	13.3%	18.3%		100.0%
	% within LO	4.6%	16.7%	20.0%		6.0%
	% of Total	4.1%	.8%	1.1%		6.0%
Anugul	% within Districts	88.1%	5.1%	6.8%		100.0%
	% within LO	5.8%	6.3%	7.3%		5.9%
	% of Total	5.2%	.3%	.4%		5.9%
Malkangiri	% within Districts	96.8%	1.6%	1.6%		100.0%
	% within LO	6.7%	2.1%	1.8%		6.2%
	% of Total	6.0%	.1%	.1%		6.2%
Bhadrak	% within Districts	98.4%		1.6%		100.0%
	% within LO	6.7%		1.8%		6.1%
	% of Total	6.0%		.1%		6.1%
Jajpur	% within Districts	56.7%	33.3%	10.0%		100.0%
	% within LO	3.8%	41.7%	10.9%		6.0%
	% of Total	3.4%	2.0%	.6%		6.0%
Nayagarh	% within Districts	100.0%				100.0%
	% within LO	6.7%				6.0%
	% of Total	6.0%				6.0%
Ganjam	% within Districts	95.0%		5.0%		100.0%
	% within LO	6.4%		5.5%		6.0%
	% of Total	5.7%		.3%		6.0%
Boudh	% within Districts	98.1%		1.9%		100.0%
	% within LO	5.7%		1.8%		5.2%
	% of Total	5.1%		.1%		5.2%
Khurda	% within Districts	96.4%		3.6%		100.0%
	% within LO	6.1%		3.6%		5.6%
	% of Total	5.4%		.2%		5.6%
Puri	% within Districts	91.7%		8.3%		100.0%
	% within LO	6.2%		9.1%		6.0%
	% of Total	5.5%		.5%		6.0%
Bargarh	% within Districts	100.0%				100.0%
	% within LO	6.2%				5.5%
	% of Total	5.5%				5.5%
Total	% within Districts	89.1%	4.8%	5.5%	.6%	100.0%
	% within LO	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	89.1%	4.8%	5.5%	.6%	100.0%
Chi-Square	373.77*					

Source: Compiled and Calculated from Field Survey 2016.

4.2. Role and Status of Women in Various Agricultural Activities

The decision on farming activities are mostly taken by male persons in farming HHs. In the study area, 68.3 % male, 9.0 % female only and 22.7 % both genders take decision on farm activities. With regards to genders' decision on farming activities, male people are largely involved in almost all the sample districts except Keonjhar, implying least engagement in decision making on farming activities. This is due to the fact that men have better knowledge about farm activities, more experiences on farming, and better network with stack holders. So far as joint decision on farming activities are concerned Keonjhar (66.1 %) district is reported as the top position followed by Jharsuguda (57.4 %), Ganjam (53.3 %) and Cuttack (50 %). A peculiar result is noticed in Dhenkanal district where the farming decision is not all taken jointly, rather individually by men (95 %) and women (5 %).

From the above Table 10, it is clearly noticed that experience plays a vital role in taking decision about the farming activities. The other factors attributed to farming decision are availability of information on agricultural activities (17.6 %), accessibility of information (2.9 %), time constraints due to households and other activities (5.8 %), experience (73.3 %) and others (0.4 %). Experience is the crucial factor to determine the farming decision in many sample districts like Cuttack (65.5 %), Kalahandi (60 %), Dhenkanal (98.3 %), Sundargarh (54.8 %), Jharsuguda (37.7 %), Keonjhar (94.4 %), Anugul (96.6 %), Malkangiri (95.2 %), Jajpur (46.7 %), Nayagarh (83.3 %), Ganjam (96.7 &), Boudh (78 %), Puri (85 %) and Bargarh (83.6 %). The same reason is solely attributed to the farming decision in Bhadrak district. In Koraput district, availability of information about agricultural activities is highly intensified whereas in Jharsuguda, time constraints due of household and other activities, especially for women, are highly powerful in determining the farming decision.

Table 7 highlights the facts that as far as earning of income from Secondary Occupation (SO) are concerned most of the sample respondents (78.7 %) whose annual income is equal or below Rs.10000 followed by 19.7 % of respondents in the range of Rs.10001-Rs.50000. With regards to the respondents at district level, the annual income of sample respondents are only equal or less than Rs.10000 in Kalahandi, Keonjhar, Malkangiri and Khurda districts. In most of the districts, the income of respondents falls in the same income slab. On the other hand, only in few districts like Cuttack, Bhadrak and Anugul where the highest number of respondents whose annual income from SO lies between Rs.10001 and Rs.50000. In the entire sample districts, the annual income of a major chunk of respondents lie in the low income slab whereas a marginal number of respondents are in the high income slab.

The Table 8 reflects that there exists a high degree of gender discrimination in taking decision about farming activities. The decision on farming activities are mostly taken by male persons in farming HHs. In the study area, 68.3 % male, 9.0 % female only and 22.7 % both genders take decision on farm activities. With regards to genders' decision on farming activities, male people are largely involved in almost all the sample districts except Keonjhar, implying least engagement in decision making on farming activities. This is due to the fact that men have better knowledge about farm activities, more experiences on farming, and better network with stack holders. So far as joint decision on farming activities are concerned Keonjhar (66.1 %) district is reported as the top position followed by Jharsuguda (57.4 %), Ganjam (53.3 %) and Cuttack (50 %). A peculiar result is noticed in Dhenkanal district where the farming decision is not all taken jointly, rather individually by men (95 %) and women (5 %). It is clearly noticed that experience plays a vital role in taking decision about the farming activities. The other factors attributed to farming decision are availability of information on agricultural activities (17.6 %), accessibility of information (2.9 %), time constraints due to households and other activities (5.8 %), experience (73.3 %) and others (0.4 %). Experience is the crucial factor to determine the farming decision in many sample districts like Cuttack (65.5 %), Kalahandi (60 %), Dhenkanal (98.3 %), Sundargarh (54.8 %), Jharsuguda (37.7 %), Keonjhar (94.4 %), Anugul (96.6 %), Malkangiri (95.2 %), Jajpur (46.7 %), Nayagarh (83.3 %), Ganjam (96.7 &), Boudh (78 %), Puri (85 %) and Bargarh (83.6 %). The same reason is solely attributed to the farming decision in Bhadrak district. In Koraput district, availability of information about agricultural activities is highly intensified whereas in Jharsuguda, time constraints due of household and other activities, especially for women, is highly powerful in determining the farming decision.

With regards to land ownership, it is clearly seen in the Table 10 that land is mostly owned by male person (89.1 %). Furthermore, it is reported by the respondents that a marginal percentage of women (4.8 %) own the land and likewise, both male and female jointly owned the land is also very diminutive (5.5 %). Looking at the district level figure, it is apparent that in almost all the sample districts the land ownership is entitled in the hand of male persons. But in Bargarh and Nayagarh districts the entire lands are owned by only male person and the women debarred from the right of ownership of land. In Jajpur district, 56.7 % of land is owned by male, 33.3 % by female and 10 % by both the gender. Similarly, a major portion of land is owned by male persons in Cuttack (84.5 %), Anugul (88.1 %) and Sundargarh (85.5 %) districts. A peculiar result is found in Jharsuguda district that 29.5 of land is owned by both men and women, which is highest percentage of ownership among all the sample district. In the remaining districts, above 90 % of land is owned by male persons.

The Table 11 shows that income from SO and agricultural output have a significant effect on knowledge about property right of girl children. But the factors like age, year of education and income from PO do not improve the knowledge of parents regarding the property right of their girl children as these factors are not significant.

Table 11. Logistic Regression result (Dependent variable: Knowledge about Property right of Girl Children)

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	Age	-.002	.009	.050	1	.823	.998
	Year of Education	.002	.025	.008	1	.930	1.002
	Income from PO	.000	.000	.082	1	.775	1.000
	Income from SO	.000	.000	8.660	1	.003	1.000
	Agricultural Output	.000	.000	9.945	1	.002	1.000
	Constant	-.475	.459	1.071	1	.301	.622

-2 Log likelihood	Cox & Snell R Square	Nagel kerke R Square
661.661	.044	.062

5. Conclusion

The result shows that land is mostly owned by male person (89.1%). Furthermore, it is reported by the respondents that a marginal percentage of women (4.8 %) own the land and likewise, both male and female jointly owned the land is also very diminutive (5.5 %). Looking at the district level figure, it is apparent that in almost all the sample districts the land ownership is entitled in the hand of male persons. But in Bargarh and Nayagarh districts the entire lands are owned by only male person and the women debarred from the right of ownership of land. In Jajpur district, 56.7 % of land is owned by male, 33.3 % by female and 10 % by both the gender. Similarly, a major portion of land is owned by male persons in Cuttack (84.5 %), Anugul (88.1 %) and Sundargarh (85.5 %) districts. A peculiar result is found in Jharsuguda district that 29.5 of land is owned by both men and women, which is highest percentage of ownership among all the sample district. In the remaining districts, above 90 % of land is owned by male persons. Land is mostly owned by male person, which is basically due to hereditary reason (82.9 %). But cultural reason and to get the Government benefits are the minor factors. So far as reasons for land ownership at district level is concerned hereditary is the only reason to own the land in the districts of Kalahandi, Bhadrak, Ganjam and Puri. However, in Jajpur district the ownership of land is basically caused by cultural reason (73.3 %) and to get the Government benefits (21.7) but not by hereditary reason (5 %). In Anugul district, mostly the Government benefits (81.4 %) causethe people to own the land. Similarly, in Jharsuguda district, the of land is caused by hereditary (39.3 %), cultural reasons (32.8 %) and the Government benefits (27.9 %). In rest of the districts, hereditary factor is highly intensified to the land. The Table 11 shows that income from SO and agricultural output have a significant effect on knowledge about property right of girl children. But the factors like age, year of education and income from PO do not improve the knowledge of parents regarding the property right of their girl children as these factors are not significant.

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