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Research Article

Role of Female in Agriculture Related to Work Performance and Decision Making in Madi, Chitwan, Nepal

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Abstract

This research is a study to examine whether a "feminization of agriculture" has occurred in the study area through the household survey of the local farming system and the gendered division of agricultural labour and managerial responsibilities at Madi, Chitwan in 2018. According to the household survey (n=60), a strong gendered division of agricultural works exist in this area, thus men and women have clear responsibilities and restrictions. In activities like ploughing, irrigating, threshing and applying chemical fertilizer, men are mostly participated whereas in the most of the other activities like weeding, sowing, collecting firewood, collecting fodder, hoeing, manuring, milking, female are mostly involved. Average of about 208 rupees is paid higher to men than female in some agriculture works. Through the use of various fieldwork methods, it was observed that that women in some cases have to take on tasks that are generally considered "men's work". Although women are in charge of various managerial decisions related to the agricultural production, any major decisions are still controlled by men. The real influence of women as decision makers can therefore be questioned. The effects of different factors like caste, education and training has been analyzed which showed that with the increase of education and training, feminization in decision making role is increased. But if women get more work and just involved in the feminization of labour and no influence in decision-making processes the "feminization of agriculture" will be just a female exploitation not a feminization.

Keywords: feminization; gender; agriculture; weeding; labour; managerial.

Introduction

Agriculture is the primary source of livelihood in our country. More than 60 % of the economically active population in Nepal is involved in agriculture, and approximately one third of the country's GDP derives from this sector (CBS, 2014).The development of our country entirely depends on the change and improvement in the agricultural sector. In some parts of the country a transition from traditional and subsistence farming to a more intensive, market-oriented production has been noticed which may be due to an increasing degree of market integration, institutional development, migration and labour shortage, and the increasing value of cash crops (Adhikari, 2013).

Nepal is a patriarchal society where men have dominated over the female in most of the activities. Due to the shortage of employment opportunities in rural areas of Nepal, people are forced to move to urban centers, or abroad so, they are more likely to abandon agricultural work at home and seek waged jobs in other sectors (Bhadra and Shah, 2007; De

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Shutter, 2013). A national survey from 2001 showed that the proportion of male migrants (89 %) were significantly higher than the proportion of female migrants (11%) in Nepal (Bhadra and Shah, 2007). the distinct increase in the number of economically active women involved in agriculture in Nepal. In 2001, 73 % of the economically active women of Nepal were involved in agriculture, while in comparison only 60 % of the economically active men were involved in this sector (CBS, 2004). These numbers indicate that as the males move away, either physically, or by shifting their interest to other types of work, agriculture is increasingly becoming a female occupation (Jiggins, 1986; Jiggins, 1998; Upadhyay, 2005). There is increase of feminization or female participation in agriculture. De Brauw *et al*. (2008) divides the feminization of agriculture into two types, namely a feminization of labour and a feminization of management. The feminization of agricultural labour occurs when women perform an increasing share of on-farm work within the household. Similarly, the feminization of farm management occurs in two possible ways; either when women increasingly become the primary decision-makers on the farm, or when they gain greater access to agricultural income (De Brauw *et al*., 2008). Feminization is not only related to the participation in the labourious work only but also in the mental and managerial work of the agriculture.

This research discusses the significance of this "feminization of agriculture" in my study area, which is Madi village and its surroundings located in Chitwan district in the central region of Nepal. The basis of this study is to examine various indicators and potential effects of a feminization of agriculture in the study area.

Methodology

Study Area

The survey was conducted in the western part of Chitwan in the Madi village. The Chitwan district is one of 77 districts of Nepal, and is located in the south-western part of Province No. 3 covering an area of 2,238.39 km^2 (National Population and Housing Census, 2011). Similarly, Madi is the municipality in the district which has about 50000 population having the latitude and longitude as 27.4129 and 84.3752 respectively (https://en.wikipedia.org/w/index.php?title=Madi,_Chitwan&oldid=801745580).

Population Sampling

We gathered the name of the farmer in the Madi Village by the help from the cooperative there by. We randomize the list of the farmers, from the list of 100 farmers, we randomize into the list of 50 and finally gone to the total 60 respondents. The household survey was conducted with 60 respondents and provided an important part of the fieldwork data. Even though the sample size is relatively small, the number and composition of the respondents were sufficient to address my research questions. The aim of this survey has been to provide an understanding of the general characteristics of the local farming system and some aspects of the nature of gender roles and relations in Madi. The sample of respondents selected for the household survey can be defined as purposive.

Data collection and Analysis

The primary data of this research is the result of a fieldwork or household survey conducted from the beginning of April to the end of May 2018. With the help of the application like kobo tool box, we have managed to input the data directly into the application during the field survey. First of all, our group of 4 get well acquainted with the KOBOTOL BOX application. The survey included 15 structured and unstructured questions. Some of the questions were used as a basis for the quantitative analyses conducted in SPSS and MS Excel, consisting of frequencies, cross-tables and correlation analyses.

Result and Discussions

From the field survey and some interviews, we analyzed and got some major findings. First of all, we are interested in the socio demographic condition of the region which helps us in shaping background of the people culture and their livelihood.

Socio Demographic Information

In the region, there are major four castes of people viz, brahmin, chhetri, janjati like gurung and magar and dalits. Most of the people about 53.3 percent are Brahmin. They are called as the high caste, by the virtue of the traditional spirit. Similarly, next to brahmin the majority are of janjati occupying about 15 percent of the total respondents. Only there are 10 percent of chhetri caste and 6.7 percent of dalit of the total respondents. This shows that this place is largely occupied by the high caste holdings and less by the dalits as low caste.

Majority of the family is nuclear family, with 66 percent of respondents have the nuclear family. People have trend to separate from the joint family and have their own house after they earn their living for their family, spouse and potential children.

In the region, according to our sample, there are majority of the economically active population about 53.3 percent of the respondents are under the age 15-59. About 20 percent of the respondents' family have at least one member migrated aboard. This information can be visualized under Table 1. The number of female migration is zero. It is because of perception that men are thought to be more responsibility holder of the family which are thought more innovative and dutiful for the generation of monetary income while the females are under the umbrella of the household chores.

Table 1: Socio - demographic information in interviewed households (n=60)

Information	**Categories**				
Caste	Brahmin	Chhetri	Gurung	Dalits	Other janjati
	32(53.3)	3(10)	2(3.3)	4(6.7)	8(13.4)
Family size	Nuclear	Joint			
	40(66)	20(33.3)			
Age of members	0-15	15-59	60+		
	14(23.3)	32(53.3)	8(26)		
Migration	Migrated	Non migrated			
	12(20)	48(80)			

The figure in the parenthesis indicate the percentage of the total household. Source: Field survey,2018

Table 2: Information related to land in the interviewed household (n=60)

Land types per year	**No of observation**	**Percentage of observation**	**Average land per year (in ropani)**
Khet owned	46	76.67	17.29
Khet cultivated	42	70	12.87
Bari owned	44	73.3	5.29
Pakho land owned	12	20	1.53
Land previously cultivated but not cultivated at present	14	23.3	1.13

Source: Field survey, 2018

Table 3: Information related to crops grown in the interviewed households (n=60)

Major crops grown	**Production in ton per year**	**Area in ropani**	**Productivity (tonn/ ropani)**
Rice	29.10	14.36	2.02
wheat	29.01	16.68	1.73

Source: Field survey, 2018

Land

On this region, majority of the people have their own khet or lowland. Every house hold have their own land about 18 ropani of land. The majority of the khet is cultivated. About 77 percent of the respondents have their own land whereas about 70 percent of the respondents cultivate the khet or lowland. Similarly, about 73.3 percent of the respondents have bari and about 20 percent have the pakho land. Similarly, due to scarcity of labor and supporting in the old method of cultivation, people are leaving the land fallow (Table 2). About 7 percent of the respondents are under such conditions which have left the cultivated land bare.

Crops Grown

Majority of the people grow rice and wheat. Some of the people in this area grow mustard, cauliflower, broccoli,

spinach etc. The productivity of wheat is compared low than that of rice.

Livestock

In the region, most of the people about 50 percent of the respondents have buffaloes. Average no of buffalo per household is just above 1. Excluding buffalo. the major livestocks are goat (about 46.67 percent), chicken (about 33 percent). There is about 23.33 percent of household have ox which is used mainly for ploughing purpose. Willingness to Take Over Farm

While interviewing with the respondents, we have one of the major question related to the willingness of their son or daughter to take over the farm. About two times more willingness is seen on the son side than that of the daughter side to take over their farm of their family in future. It is shown in Table 5. It may be due to the trend of the society of Nepalese context, although female works harder in the farm, they are not given major role to control the farm. So may be the perception of the daughter is built like this, she don't have interest in the farm activities.

In this area, although both genders are actively participating in the farming system. But through our survey we have found some differences in the participation in agriculture system according to gender.

Table 5: Children willingness to take over farm

Children	No of observation	Percentage of the observation
Son	8	13.3
Daughter	4	6.7

Source: Field survey,2018

Gender Division of Agriculture Task

From the Fig. 2, we can clearly see the major involvement of women in most of the agriculture activities. In ploughing, irrigating, threshing and applying chemical fertilizer, men are mostly participated. About 91 percent of the respondents family, male are involved in ploughing. But in the most of the other activities like weeding, sowing, collecting firewood, collecting fodder, hoeing, manuring, milking, females are mostly involved. Out of 14 major agriculture activities mentioned above in table, 8 major activities are due to the major involvement of female.

Table 4: Information related to livestock keeping in the interviewed households (n=60)

Livestock types	No of observation	Percentage of observation	Average livestock
Buffalo	30	50	1.33
Cow	16	26.67	1.45
Ox	14	23.33	0.59
Goat	28	46.67	4.18
Chicken	20	33.33	2.67

Source: Field survey,2018

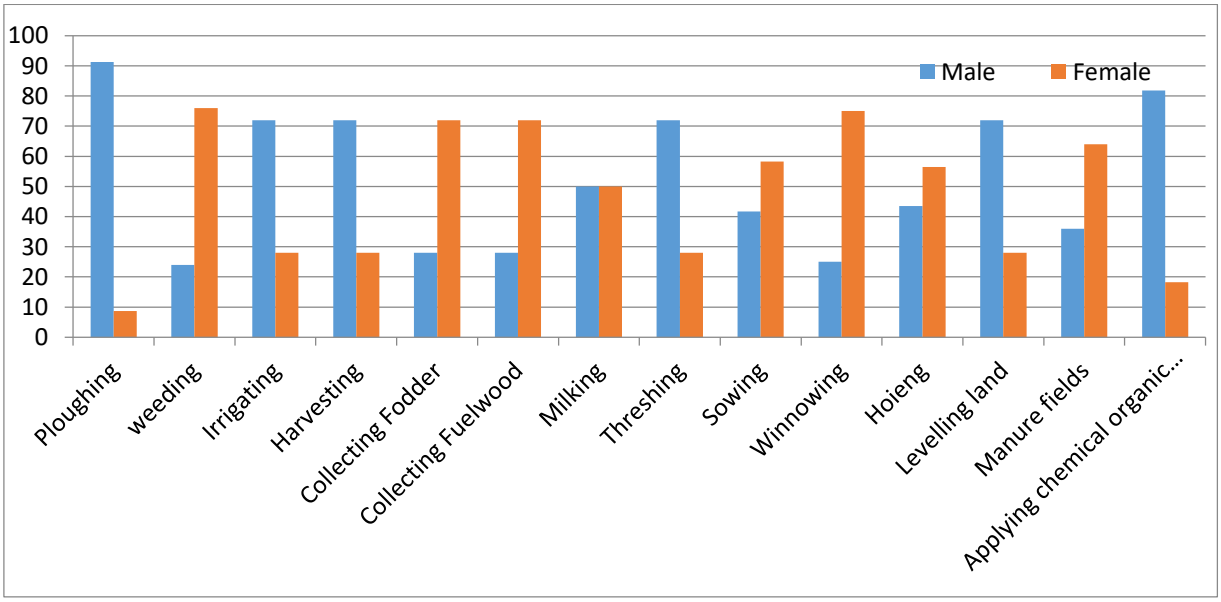

Fig. 1: Gender division in different agriculture activities. The Y axis represents the percentage of observation.

Gender Division on Decision Making in Agriculture

In most of the agriculture work, there is involvement of female but in the decision making process of agriculture activities, the scenario is different. Most of the managerial activity is under the control of male because of our patriarchal society. In activities like sowing cereals, keeping livestock, growing cash crop, using fertilizer and hiring of outside labour, men controls other decision making process. But only in few activities, growing vegetables and using household income, female plays some part in the decision making process of the agriculture. It is shown in Fig. 3.

Caste Wise Involvement in Different Agriculture Sector

Amongst the medium caste, the involvement of male and female is near to be equal but in the case of the high and low caste, there is the gap between the involvement of the different gender in the various agriculture activities. It is clearly depicted from the Table 9.

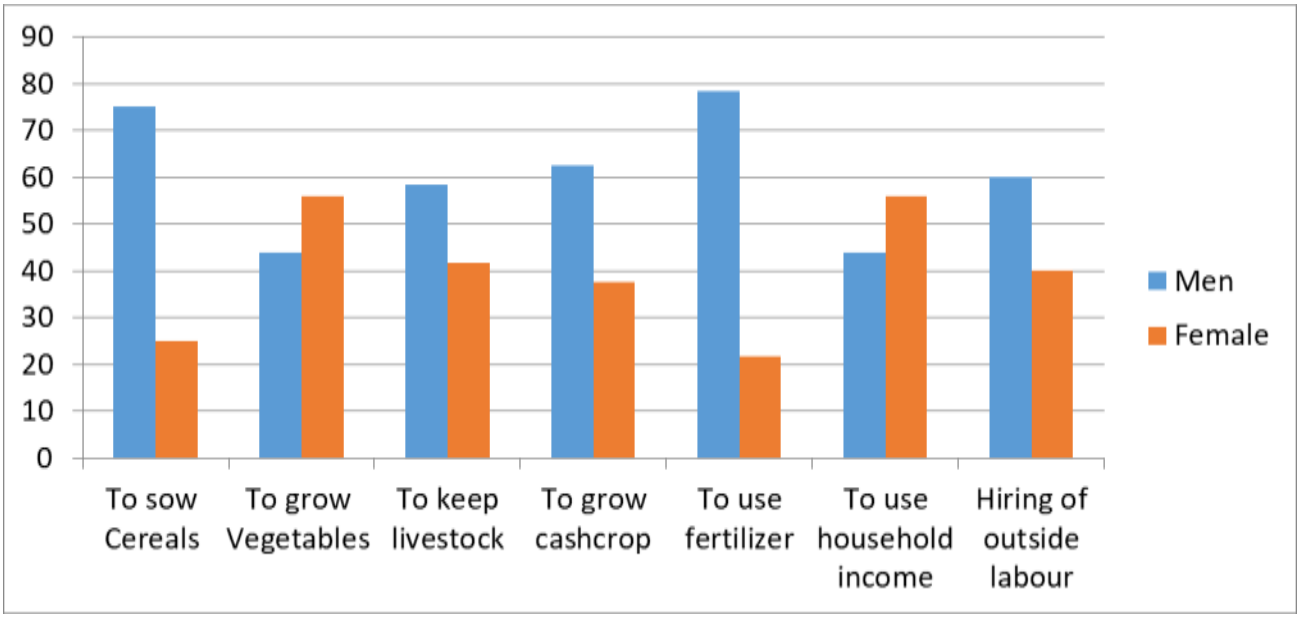

Fig. 2: Gender division on decision making in Agriculture. The Y axis represents the percentage of observation.

Table 9: Caste wise involvement in different agriculture sector

Task	High caste(%)		Medium caste(%)		Low caste(%)		Chi square
	Male	Female	Male	Female	Male	Female	value
Ploughing	88.2	11.8	100	0	100	0	0.773
Irrigation	83.3	16.7	25	75	100	0	7.128***
Weeding	16.7	83.3	50	50	33.3	66.7	2.156
Harvesting	72.2	27.8	75	25	100	0	1.090
Sowing	35.3	64.7	75	25	33.3	66.7	2.198
Hoeing	44.4	55.6	50	50	33.3	66.7	0.167
Leveling of land	77.8	22.2	75	25	33.3	66.7	2.541
Collecting fodder	22.2	77.8	33.3	66.7	50	50	1.301
Milking	47.1	52.9	75	25	33	66	1.392
Threshing	72.2	27.8	75	25	100	0	1.090
Winnowing	17.6	82.4	50	50	33.3	66.7	1.935
Manuring field	33.3	66.7	50	50	33.3	66.7	0.405
Applying chemical fertilizer	76.5	23.5	100	0	100	0	1.709

***: P <0.001; *Source: Field survey,2018*

Wage Difference Between Men and Women

About 73.3 percent of the respondents have said about the wage difference exists between men and women. Average of about 208 ruppes is paid higher to men than female in some agriculture works. It is shown in the Table 8.

The wage difference is due to the discrimination in perception about the different capacity of work between the gender. About 73.3 percent of respondents think that women can perform all task. Similarly, about 80 percent of the respondents think that men can do any task of agriculture which can be clearly seen in the Fig. 4. It shows that comparatively few persons think that women can do any task of agriculture than the men can do.

Effect of Migration on the Decision Making Role of Gender in Agriculture

Only in few activities, growing vegetables and using household income, female plays some part in the decision making process of the agriculture. But under migrated condition, major of the decision making role is under the control of female. Out of major seven decisions, female has dominated in six decision making process of agriculture. It can be seen from Fig. 5. So it was observed that that women in some cases have to take on tasks that are generally considered "men's work", in most of cases like migration of male to abroad.

Table 8: Wage difference between gender

Wage difference	No of observation	Percentage of observation	Average ruppes of wage difference
Yes	17	73.3	208.67

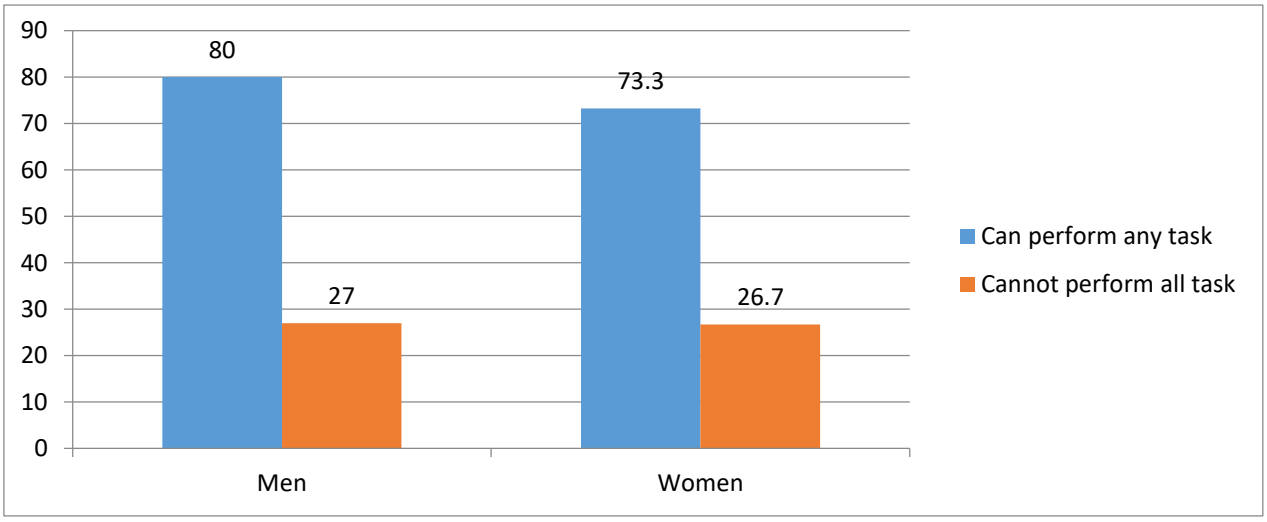

Fig. 3 :Perception on the different gender's capability to perform different task. The Y axis represents the percentage of observation.

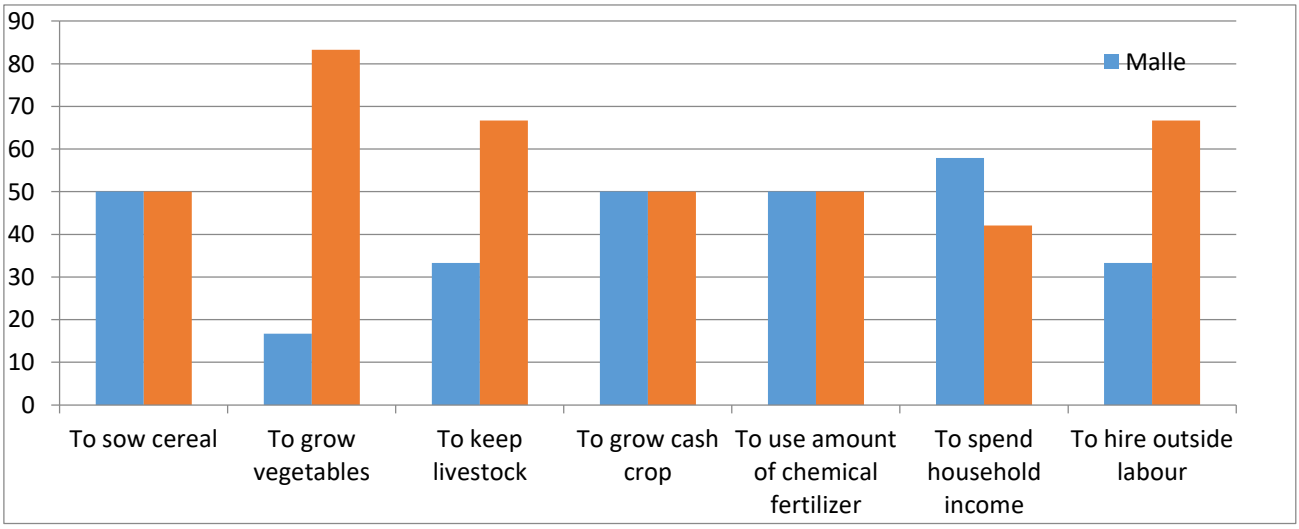

Fig. 4: decision making role of gender in migrated condition. The Y axis represents the percentage of observation.

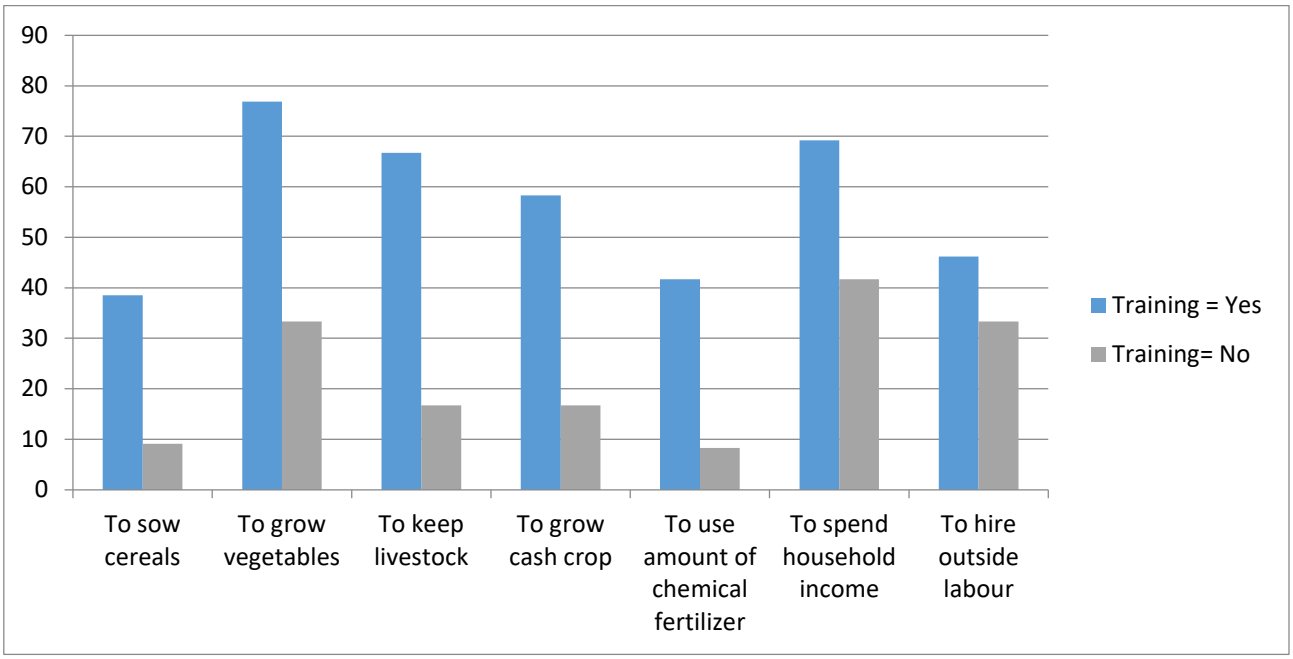

Fig. 5: Effect of training in female decision making. The Y axis represents the percentage of observation.

Effect of Training in Female Decision Making in Agriculture Activities

We asked all our respondents if they have got any training or education related to agriculture. Most of the training has got by female. About 36.67 percent of respondents' household having training are female and remaining 30 percent are male. But no of male getting training per household is higher than the no of female.

Training and education activity has dramatically increased the number of female in the decision making process in almost all the agriculture activities. The fig no 6 shows the enhancement of the female decision making power in the agriculture field.

If we compare the Fig. 5 and 6 with the Fig. 3, we can easily see the increment of the female role in the agriculture aspects due to migration of male and awareness due to training respectively. It stresses the need and how the feminization is being on its way in the area. Majority of female in the household where male have migrated abroad, have taken all responsibility of agriculture in their own hand. So decision making as well involvement is autonomous to female in that case.

Similarly, with the awareness of different agriculture techniques to handle and manage different agricultural problems through knowledge gathered through the trainings, female role in the decision making has been enhanced.

Conclusion

In the surveyed area, there is the feminization of labour but still lacks the feminization of management. Women involvement in the different farming systems is still high but the decision making power is fully controlled by men in most of the cases. Only agriculture activity like growing vegetables and to use household income, the women have their control over the decision. There is the need of assuring the proper gender roles in the agriculture to possibly imagine to increase the production to ensure food security. There is the need of giving proper space of management to that gender who have gathered a lot of experience and expertise of farming in the different farming system through their high involvement and work performance which can be achieved through training and education.

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