

Participation and role of rural women in decision making related to farm activities: A study in Burdwan district of West Bengal

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ABSTRACT

This study analysed women's participation and decision making process in farming activities in Katwa Block- I of Burdwan district, India. Most rural women farmers sampled in this study were young in the age group between 20-35 years; predominantly on nuclear families; and from Hindu SC & ST and Hindu OBC households. WPR in farming activities decreased with the increase of education levels. Large number of women respondents was engaged in agricultural labours. It was observed that decision making power was positively correlated with the age of the women. Education of farm women was found effective in the participation of farm women in agricultural decision making process. Respondents of forward castes participated in farming decisions with greater frequencies than SC and ST. Although, the decision making score was higher among the male farmers, most decisions were taken jointly by both female and male participants indicating the development of social status of the farming women.

Keywords: Women participation, decision making, age, caste, education, socio-economic condition

Women play a pivotal role in agricultural and rural economies in all developing countries. Their roles

vary considerably between and within regions and are changing rapidly in many parts of the world, where economic and social forces are transforming the agricultural sector. Rural women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and

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maintaining their homes (Team & Doss, 2011; Arshad *et al.* 2010; Pal, 2013). According to Ahmed & Hussain (2004) rural women play key roles in agriculture sector production by working with full passion in production of crops right from the soil preparation till postharvest activities. Aggregate data show that women comprise of around 43 per cent of the agricultural labour force both globally and in developing countries (FAO, 2011). Moreover, according to the data of World Bank (2013), global female labour force participation is around 50 per cent. But, in fact, less value is given to their contributions, and rural women are less likely to realize their capacity to make a life better for themselves, families and communities (Akinsanmi, 2005).

Although, women's participation in the decision-making process has a significant impact on their improved status and greater role in society (Begum, 2002), their involvement in decision making process specially related to money matters is low (Raju and Rani, 1991). Gender equality in democratic governance is very uneven; in most of the world, women are under-represented in positions of power (Mumtaz and Aysha, 1982; Slovenia, 1998; Habib, 2000; FAO, 2003; Rahman, 2008). In rural families, type and size of the family, caste, size of land holding, socio-economic status of the families, education level of rural women, their employment status and rational position affect their involvement in decision-making. Illiteracy, poverty and unemployment are the major problems of many developing countries, of which India is no exception. The growing problem of poverty in our country has promoted the economic planners to come up with various programmes to curb poverty. Keeping the above facts in mind, present study was conducted to find out the participation and decision making of rural households in various farming activities.

DATABASE AND METHODOLOGY

This study was conducted in Katwa block-I under Katwa sub-division of Burdwan district (12°12' and 12°33' north latitude and between 75°55' and 76°55' east longitude), where women play a crucial role both in farming and decision making in terms of labour contribution and active involvement in decision making process. Usually rice is cultivated by the farmers followed by

potato, jute, vegetables and mustard. The important commercial crop grown in this district is sugarcane. Vegetable crops like cauliflower, beans, leafy vegetables, and plantation crops like coconut and banana are also grown in considerable area. From this block, Koshigram gram panchayat was selected for this study because of the desired demographic characteristics needed for the study.

A sample of 200 rural households (100 women and 100 men) from four villages which have higher concentration of women workers working in the fields have been selected randomly. Survey was mainly done on a pretested and modified format by open ended interviews about the gender participation of both males and females in different on-farm activities related to crop production. The impact of factors such as age, family type, caste composition, education and relative time spent in different daily chores and on farm activities particularly by women was also documented.

The sample respondents were classified based on caste in Forward caste, Other Backward Caste (OBC), Schedule Caste (SC), Schedule Tribes (ST), and Minority. Respondents with their unmarried children were considered as Nuclear families and respondents with their married children living together was considered as joint families. The age of respondents was studied at three levels i.e. 20-35 yrs., 35- 50 yrs., and > 50 yrs. while the education level was distributed as illiterate, primary level and middle level or above. A stratified random sampling technique was used for this purpose.

In order to quantify the extent of farmer's role in decision making in various areas, they were asked to mention their degree of involvement in decision making and responses were considered on five point scales. The decision scores were worked out separately for production decisions.

Decisions	Score
No Involvement (NI)	0
Opinion was sought (OS)	1
Opinion was considered (OC)	2
Joint Decision (JD)	3
Independent Decision (ID)	4

It was calculated by the following formula:

$$\text{Decision Score} = \frac{NI \times 0 + OS \times 1 + OC \times 2 + JD \times 3 + ID \times 4}{100}$$

Data collected in this study were normally distributed. A Pearson's chi-square model was followed to examine variations among the women participants in relation to age, family type, caste, education, activities on livestock, labour force in agriculture on own farms and in others' farms. Paired t-test was used to examine the differences between woman and man respondents in relation to participation in farm activities and also in decision making process. Pearson's coefficient of correlation was used in this study to calculate the relation between the socio-economic characteristics and decision making.

Analysis of variance ANOVA was used to test the variations among the respondents in relation to participation in decision making process. Probability level for rejection of the null hypothesis was set at $P < 0.05$.

RESULTS AND DISCUSSION

The distribution of respondents in Table 1 shows that 57% of the woman respondents and 62% of the man respondents belonged to young age (20-35 yrs.). Therefore, young women as well as young men in the age group between 20 to 35 years participated in farming activities with a greater frequencies ($\chi^2 = 45.74$, $df = 3$, $P < 0.005$, $\chi^2 = 48.75$, $df = 3$, $P < 0.0001$ respectively). Among the respondents, mean (\pm S.E.) age was 31.7 (\pm 0.9) years for woman respondents and it was 30.2 (\pm 0.9) years for man respondents (Table 1). Therefore, there were significant age differences between the woman and man respondents in relation to their participation in farming activities ($t = 2.63$, $df = 99$, $P < 0.01$) and it is in agreement with the studies of Mishra *et al.* (2008), Bhardwaj and Gebrehiwot (2012), Pal (2014).

The classification of sample households based on family type shows that among the woman households, 67% belonged to nuclear families and 33% belonged to joint families. On the other hand, among the man households, 77% belonged to nuclear families and 23% from joint families (Table 1). Therefore, the sample was collected

predominantly on nuclear family type ($\chi^2 = 11.56$, $df = 1$, $P < 0.0005$) in the case of man households as well as in the case of woman households ($\chi^2 = 29.16$, $df = 1$, $P < 0.0001$). The similar pattern was found in NABARD model III (Bhardwaj and Gebrehiwot (2012) where nuclear families appeared in largest proportion (72%). Perhaps due to inability to maintain large families with meager income may not be sufficient to fulfill needs and joint families are only an added burden. Although reference is scant, among the respondents of nuclear families, 67% women and 77% men participated in farming activities, and there were no significant differences between woman and man respondents in relation to their participation in farming activities ($\chi^2 = 0.69$, $df = 1$, $P > 0.05$).

Table 1: Distribution of respondents according to their demographic characteristics

Characteristics	Category	Respondents	
		Women	Men
Age (Years)	Young (20 – 35 yrs.)	57 (57)	62 (62)
	Middle (36 – 50 yrs.)	40 (40)	33 (33)
	Old (above 50 yrs.)	3 (3)	5 (5)
	Mean (\pm S.E.)	31.7 (\pm 0.9)	30.2 (\pm 0.9)
Family size	Nuclear family	67 (67)	77 (77)
	Joint family	33 (33)	23 (23)
Castes	Forward caste (Hindu)	1 (1)	4 (4)
	Forward caste (Muslim)	0 (0)	2 (2)
	OBC (Hindu)	28 (28)	25 (25)
	OBC (Muslim)	1 (1)	5 (5)
	SC & ST (Hindu)	70 (70)	64 (64)
Education	Illiterate	35 (35)	28 (28)
	Functionally literate	30 (30)	15 (15)
	Primary	20 (20)	24 (24)
	Middle	10 (10)	19 (19)
	High school	5 (5)	10 (10)
	College	–	4 (4)

Occupation	Agriculture	8 (8)	14 (14)
	Agriculture labour	38 (38)	30 (30)
	Agriculture and Agril. labour	24 (24)	36 (36)
	Agriculture and others	30 (30)	20 (20)
	Total respondents	100 (100)	100 (100)

*Other activities include own business, working in private firms, rickshaw driver, puffed rice vending, colouring etc.

From the Table 1 it was understood that work participation rate among the woman respondents sampled in this study, 70% belonged to Scheduled caste and Scheduled tribe (Hindu) and then 28% to OBC (Hindu); and therefore, most woman respondents were from Hindu Scheduled caste and Scheduled tribe ($\chi^2 = 184.30$, $df = 4$, $P < 0.0001$). Among the man respondents sampled in this study, 64% belonged to Scheduled caste and Scheduled tribe (Hindu) and then 25% to OBC (Hindu); and therefore, most man respondents were from Hindu Scheduled caste and Scheduled tribe and Hindu OBC ($\chi^2 = 138.30$, $df = 4$, $P < 0.0001$). From this study, it may be presumed that in rural areas, respondents of Hindu Scheduled caste and Scheduled tribe and also of Hindu OBC participate with a greater frequency in farming activities; and it is in agreement with the findings of Amutha (2011), Pal (2013, 2014), Singh and Mishra (2013). The striking feature of this study was that very few Muslim women participated in agriculture. It was previously also reported by Pal (2013). Poor Muslim men work as agricultural wage labourers, but Muslim women, rarely, if ever, do so. They earn income from preparing puffed rice, rolling beedi cigarettes, baby-sitting, working as housemaids, and handcraft work (such as making baskets, brooms, and mats, and embroidering). It was previously also suggested by Chakraborty and Chakraborty (2010). Moreover, there were no significant differences between the responding women and men in relation to their caste composition ($t = 0.0001$, $df = 4$, $P > 0.0001$).

Table 1 indicates that literacy among the responding women was 56% and it was 72% among the responding men. So, mostly literate women and men respondents participated in farming activities ($\chi^2 = 9.00$, $df = 1$, P

< 0.0005 ; $\chi^2 = 19.36$, $df = 1$, $P < 0.0001$ respectively). Moreover, there were no statistical differences between the responding women and men ($t = 0.00$, $df = 5$, $P > 1.0000$) in relation to their educational status. From this study, it may be assumed that education among the rural women varies with the socio-economic status of the families. Furthermore, percentage of literate men was greater than the percentage of literate women. It is established that higher levels of education are indeed associated with higher WPR for male, both in rural and urban areas. However for female, WPR is higher for illiterate women than for women with higher levels of school education but this trend is reversed for women with graduates or technical/vocational education (Srivastva and Srivastva, 2010). The interesting feature of this study was that WPR in agriculture decreased with the increase of education levels for both men and women labours; and it was also previously reported by Singh and Mishra (2013).

The women respondents were engaged in various occupations such as agriculture, agriculture labour, agriculture and agriculture labour, agriculture and others, and others. Among the responding women ($N = 100$), 38% were engaged as agriculture labour and then 30% in agriculture and others, (Table 1). Therefore, there were significant differences among the responding woman in relation to their occupation ($\chi^2 = 19.36$, $df = 3$, $P < 0.0001$); and it may indicate that women enter to labour force for want of money. The social, economic and cultural conditions of the area determine women's participation in home and farm activities. It also varies from region to region and within a region, their involvement varies among different farming systems, castes, classes and socio-economic status (Swaminathan, 1985).

Among the responding men ($N = 100$), 36% were engaged in agriculture and agriculture labours and then 30% in agriculture labour (Table 1). Therefore, there were significant differences among the responding men in relation to their occupation ($\chi^2 = 11.68$, $df = 3$, $P < 0.0005$). Moreover, there were no statistical differences between the responding women and men. ($t = 0.00$, $df = 5$, $P > 1.0000$) in relation to their occupation.

From Table 2, it was observed that 20% of responding women had no participation in decision making in the area of farm production. In most cases (33.18%), responding women took joint decisions. Opinion was considered in 21.36% cases, opinion was sought in 12.27% cases and 13.18% respondents took decision independently. Therefore, in the case of responding women, there were significant variations among the types of decision making in relation to farm production ($F = 22.14$; $df = 4, 54$; $P < 0.0001$).

From Table 2, it was observed that only 1.36% men respondents had no participation in decision making in the area of farm production. In most cases (33.18%), responding men took joint decisions. Opinion was considered in 17.27% cases, opinion was sought in 8.18% cases and independent decision was taken in 40.00%

cases. Therefore, in the case of men respondents there were significant variations among the types of decision making in relation to farm production ($F = 23.88$; $df = 4, 54$; $P < 0.0001$).

Among the responding women, decision score was highest in crop and variety to be sown (2.6), followed by sale of farm products (2.3) and savings (2.1); and there were no significant variations among the decision making areas ($F=0.00$; $df = 10, 54$; $P > 1.000$). On the other hand among the responding men, decision making was highest in the area of land preparation and sale of farm products (3.3), followed by purchase and sale of farm machinery and fertilizer application (3.2); and there were no significant variations among the decision making areas ($F = 0.1$; $df = 10, 54$; $P > 1.000$).

Table 2: Participation of rural respondents (percentage) in decision making process in relation to farm production

Decision making areas	Decision making by woman respondents						Decision making by man respondents					
	NI	OS	OC	JD	ID	Score	NI	OS	OC	JD	ID	Score
Plot selection	10	15	25	35	15	1.9	0	5	20	35	40	3.1
Crop & variety to be sown	5	10	25	40	20	2.6	5	10	25	40	20	2.6
Land preparation	20	15	35	15	15	1.9	0	5	15	25	55	3.3
Fertilizer application	30	10	15	35	10	1.9	0	5	15	35	45	3.2
Pesticide application	30	10	15	35	10	1.9	0	10	20	30	40	3.0
Labour hiring	15	15	20	35	15	2.2	5	10	15	25	45	3.0
Harvesting	20	15	25	30	10	2.0	0	10	15	45	30	3.0
Sale of farm produce	15	10	20	40	15	2.3	0	5	10	35	50	3.3
Purchase and sale of farm machinery	25	10	20	30	15	2.0	0	5	15	35	45	3.2
Purchase & sale of land	30	10	20	30	10	1.8	0	10	20	30	40	3.0
Saving	20	15	15	40	10	2.1	5	15	20	30	30	2.7
Mean	20.00	12.27	21.36	33.18	13.18	2.10	1.36	8.18	17.27	33.18	40.00	3.00
± S.E.	± 2.52	± 0.79	± 1.79	± 2.16	± 1.02	± 0.10	± 0.71	± 1.02	± 1.24	± 1.82	± 3.02	± 0.10

NI: No Involvement, JD: Joint decision, OS: Opinion sought, ID: Independent decision, OC: Opinion considered

Mean (\pm S.E.) decision score for women respondents was 2.1 (\pm 0.1) and for men respondents it was 3.0 (\pm 0.1). Therefore, decision making power in relation to farming activities was higher among man respondents than woman respondents ($t = 8.20$, $df = 10$, $P < 0.0001$).

These findings indicate that decision making on farms continues to display the same general patterns suggested decades ago in research on American farm families conducted by Wilkenning and Bharadwaj (1967), Wilkenning (1981) with men playing a larger role in farm

production decisions and farm women's involvement in decision making process in agriculture field is quite minimal. It was also previously reported by Pandey *et al.* (2011), Chayal *et al.* (2013), Mulugeta and Tadesse (2014). Patel *et al.* (1995) and Parveen (2007) also found that decisions on cropping pattern and marketing of produce were made solely by men. Although, decision making score was higher among the man respondents, woman respondents participated in decision making processes in the areas of crop and variety to be sown,

sale of farm products and savings. From this studies it may be presumed that rural women have significant role in making decisions regarding to some farm activities, although their competence has been often questioned (Olawoye, 1989). Moreover, decision making by rural woman varies with the farming activities. Similar results were also presented by Sharma *et al.* (2013). More or less similar results were also presented by Katiyar *et al.* (2008), Goudappa *et al.* (2012) and Mulugeta and Tadesse (2014).

Table 3: Relationship of personal, socio-economic characteristics of respondents with extent of participation in decision making

Sl. No.	Characteristics	Category	Woman respondents	Man respondents	Correlation coefficient (r)
1	Age	Young	1.2	1.8	0.9947*
		Middle	2.1	3.2	
		Old	3.0	3.9	
2	Family size	Nuclear	2.7	3.8	1.000*
		Joint	1.5	2.2	
3	Education	Illiterate	1.2	1.9	0.9000*
		Functionally literate	1.8	2.5	
		Primary	2.1	3.1	
		Middle	2.4	3.1	
		High school	3	3.4	
		College		3.9	
4	Caste	Forward caste (Hindu)	3.5	4.2	0.9871*
		Forward caste (Muslim)	1.5	3.8	
		OBC (Hindu)	2.9	3.0	
		OBC (Muslim)	1.0	2.0	
		SC & ST (Hindu)	1.5	1.9	

*Significant

However, both woman and man respondents had taken joint decision in 33.18% cases, and there were no significant differences between woman and man respondents in relation to joint decision making power in farm activities ($t = 0.00$, $df = 10$, $P > 1.000$). Decision making is an important aspect of farm, home and social

life. Much of the success in agriculture depends upon, how well the family takes decision. In this context, the states like Punjab and Haryana should be mentioned where positive roles of women in decision making process are observed in most of the families. Overall decision making pattern in this study clearly indicated

that man and woman respondents took joint decisions in 33.18% cases. Without active participation of women and incorporation of women perspectives at all levels of decision-making, the goals of equality development and peace cannot be achieved (Karl, 1995). From this point of view it may be suggested that women should be encouraged to take decisions and make plans jointly with the man members not only to achieve the peace of the family but also to improve to the socio-economic status of the family. It was previously also observed by Pandey *et al.* (2011) Pal (2014).

Factors affecting involvement of farm women in decision making process were identified and presented in Table 3. It was clear from the results that older respondents participated more in decision making process in the different areas of agriculture than their younger age group counterpart; and there was a positive correlation between the age of the respondents and the decision making power of the respondents. Moreover, there were significant differences between the decision making scores of woman and man respondents ($t = 5.97$, $df = 2$, $P < 0.0270$) in relation to the age of the respondents. Decision making score decreased with the increased number of family members of the households (Table 3).

Decision making score increased with the level of education, and there was a positive correlation between the level of education and the decision making power of the respondents. Moreover, decision making score was marginally higher among the man than woman respondents in relation to their educational status. ($t = 2.12$, $df = 9$, $P > 0.06$). Respondents of forward caste participated in farming decisions with greater frequencies than SC and ST respondents; and so, caste was found to have significant influence on the level of women's involvement in farming decisions.

It was clear from the results of this study that age of farm women was positively and significantly correlated with level of involvement of farm women in decision making. Previously Chayal *et al.* (2013) and Damisa and Yohanna (2007) also reported that older women participated more in decision making process in the different areas of agriculture than their younger age group counterpart. Education of farm women was found effective in the participation of farm women in agricultural decision

making process (Chayal *et al.* 2013). Respondents of forward caste participated in farming decisions with a greater frequency than SC and ST; and so, caste was found to have significant influence on the level of women's involvement in farming decisions. From this study it may be suggested that in rural families, type and size of the family, caste, size of land holding, socio-economic status of the families, education level of rural women have significant influences on the involvement in decision-making; and it agrees with the results of Sharma *et al.* (2013).

CONCLUSION

From the findings and discussion stated above, it could be mentioned that the farm women's participation in agricultural activities as well as decision-making were not satisfactory. Rural women are the major working forces of farming activities in the study area. They regularly engaged and participated in agriculture, agriculture labour, agriculture and agriculture labour, and agriculture and others. However, the level of their participation was limited in ploughing farmland, spreading fertilizers and pesticides which traditionally consider only implemented by men. Despite their incredible role in agricultural sector, their involvement in decision-making regarding farm management still seems questionable. Most rural women did not have any role in decision making with regard to purchase/sale of farming implements, land preparation and determination of type and amount of chemicals (pesticides, herbicides) used. Rural women's participation in farm management decision making is quite minimal. This can be attributed to the age, education, land tenancy and the wealth status of the woman. Majority of the women interviewed were however found not to be formally educated and are of the low Assessment of the Contribution of Women to family income group.

Since women's contribution to economic development is vital, there is a need of proportionate increase in her involvement in decision making process, because the success and progress of any production depends upon the plans made and decisions taken. The following action programmes need to be undertaken by the Government and other welfare organizations.

1. Investment of adequate amount of funds by the Government for conducting programmes related to farm management and income generation work.
2. The state government needs to arrange intensive literacy programmes for developing essential agricultural skills and farm management.
3. Women should be given experience in decision-making process, including participatory personnel management and budget management.

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