

Participation of Rural Women in Homestead Fruit Production Activities: A Study in Muktagachha Upazila under Mymensingh District

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Abstract

The main purposes of this study were to assess the extent of participation of rural women in homestead fruit production activities and to explore the relationship between the selected characteristics of rural women and their participation in fruit production activities. The study was conducted in Satrashia village under Kumarghata union of Muktagachha upazila under Mymensingh district, Bangladesh. The extent of participation of rural women was considered through twelve selected items of fruit production and was measured by using a four point rating scale. On the other hand, ten selected characteristics of the rural women were described in the study. Data were collected by using a structured questionnaire from 65 household women during September to October, 2010. The study revealed that a little more than half (73.84 percent) of the respondents had low participation in different homestead fruit production activities compared to 26.16 percent having medium to high participation. The correlation coefficient between the concerned variables showed that education, area under cultivable land around homestead, extension media contact, time allocation for homestead fruit cultivation, training exposure and knowledge on fruit production had significant and positive relationships with the rural women's extent of participation in homestead fruit production activities. On the other hand, age showed a significantly negative relationship with rural women's participation. The remaining characteristics, namely family size, number of child, and time allocation for homestead fruit cultivation of the women did not show any relationship with their extent of participation in fruit production activities.

Keywords: Rural women, participation, fruit production, homestead gardening

Introduction

Women are the key operators of the homestead production activities. Women are involved with homestead agricultural production activities such as vegetables, fruits, timber, small animals (goats, sheep), and poultry birds to supply food and increase family income (Akhter, 1990). In a country like Bangladesh, more involvement of women in homestead fruit production is considered very important to combat overall food shortage, malnutrition and to develop the socioeconomic condition of the rural women. On the other hand, women are crucial in the translation of the products of a vibrant agriculture sector into food and nutritional security for their household. They are often the farmers who cultivate food crops and produce commercial

crops alongside the men in their households as a source of income. When women have an income, substantial evidence indicates that the income is more likely to be spent on food and children's need (World Bank, 2009). Rural women's involvement in various agricultural and household activities naturally influences the nutritional status of the children and other family members to lead an active healthy life. Halim (1991) showed that many women of poor families of Bangladesh engaged in income generation activities like cultivation of vegetables, fruits, raising poultry and rearing goats in homestead. Akhter (1990) also reported that women contributed mainly to income through household activities such as fruit and

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vegetables gardening, poultry rearing, goat rearing etc.

Rural women in Bangladesh can play an important role in increasing household level food security especially nutritional food security through significant level involvement in fruit production activities. It is assumed that through increasing homestead fruit production, household level earning can be increased and consequently it could contribute in saving foreign currency as incurred for importing huge amount of exogenous fruits every year. It seems that due to lack of knowledge and utilization of proper technology and management practices, rural women's potentials in homestead fruit production remains untapped. Therefore, it is a crucial need to overcome the gap between existing belief and performances of the rural women regarding homestead and commercial fruit production activities. If proper support is provided a great opportunity may be created for rural women to increase their participation in homestead fruit

production. Before undertaking major plans for increasing rural women's involvement in homestead agriculture, it is also important to know the actual field level situation in this respect. A true picture on rural women's nature and extent of involvement in fruit production activities would be of highly important for gender sensitizing agricultural extension services in Bangladesh. Considering these important issues, a study was undertaken to determine the extent of rural women's participation in homestead fruit production activities. The specific objectives of the study were (i) to determine the extent of rural women's participation in homestead fruit production; (ii) to explore the relationship between the selected characteristics of rural women and their extent of participation in homestead fruit production; and (iii) to determine the problem confrontation of rural women in homestead fruit production activities.

Methodology

Location, Population and Sample

Muktagachha upazila under Mymensingh district was purposively selected as the study area to conduct the research. The site selection was done considering the time and resources available to the researchers as well as acquaintance and access to the farming community and their culture. It was learned from the officials of the Department of Agricultural Extension (DAE) under the Ministry of Agriculture that many women of the upazila were involved in fruit production activities through participation in the Farmer Field School (FFS), a community based group extension approach followed by the DAE. Satrashia village under Kumargata union of the upazila was selected as the specific study location. The selection was made on the basis of suggestions made by the Upazila Agriculture Officer (UAO), and concerned Sub-Assistant Agriculture Officer (SAAO). These DAE officers reported that a good number of women in this village had a wider range involvement in agricultural activities and many women-related demonstrations were carried out in the selected village. An updated list of all the women of the

farm households (one woman from each farm household) of Satrashia village was prepared by the help of the concerned SAAO. In total, a total of 130 women were found and were considered as the population of the study. Fifty percent of the population (i.e. 65 rural women) was randomly selected as the sample of the study.

Variables and their Measurement

Rural women's participation in fruit production was the major focus of the study. Participation of a woman in twelve selected fruit production activities was measured by asking the extent of participation in a selected item. A four point rating scale was used for computing the participation score by asking a respondent to indicate her extent of participation in a selected item of fruit production. The weights were assigned as 0 for 'no participation', 1 for 'low participation', 2 for 'medium participation' and 3 for 'high participation'. Thus, participation score of a respondent in a particular practice could range from 0 to 3. The total participation score of a rural woman was obtained by summing her scores for all twelve fruit production activities.

Thus, the total participation score of the respondents could range from 0-36.

Eleven characteristics of the rural women were selected to explore relationship between their extent of participation in fruit production and the selected characteristics. The characteristics were age, education, family size, homestead size, number of children, extension media contact, family work load, time allocation for homestead fruit cultivation, training exposure, and knowledge on homestead fruit production. The characteristics were measured followed by standard procedures as indicated in Table 1. For some variables, scales were developed and the scales were validated through a pre-testing of the data collection tool.

Instrument for Data Collection

In order to collect relevant data for the study, a structured interview schedule was carefully prepared keeping the objectives of the study in mind. The questions and statements contained in the schedule were simple, direct and easily understandable by the respondents. The interview schedule contained both open and closed form of questions. Some scales were included in the schedule, wherever necessary. The draft interview schedule was pre-tested among ten women in the study area. The pre-test facilitated the researchers to identify faulty questions; and

necessary corrections and modifications were made on the basis of the pre-test experiences.

Data Collection: Data were collected from the 65 respondent rural women during the months of September and October, 2010. The first researcher, while collecting data through face-to-face interview, established appropriate rapport with the respondents and clearly explained the objectives of the study. As a result, the respondents furnished proper responses to the questions and statements without any hesitation. Excellent cooperation was received from the respondents and their family members and no major problem was encountered during data collection.

Data Processing and Analysis

At the end of data collection, the collected data were coded, compiled, tabulated and analyzed. The local units were converted into standard units. The qualitative data were transferred into quantitative data by appropriate coding technique. SPSS software was used for data management and analysis. Various descriptive statistical measures such as range, frequency, number, percentage, mean, standard deviation and rank order were used for categorization and describing the variables. Correlation coefficient (r) was used for testing the relationships between the concerned variables.

Results and Discussion

Characteristics Profile of the Rural Women

The salient features of the selected characteristics of the rural women under the study have been presented in the Table 1. Data presented in the table clearly show that majority of the women were young (53.2 per cent) and illiterate (41.5 per cent), and had medium sized family (60.0 per cent) – a reflection of reality of rural Bangladesh. While looking into the characteristics with the point of interest of extension education, it is easily identifiable that majority (56.9 per cent) of the women had very small household land (up to 0.02 ha), almost similar of them (55.4 per cent) had medium extension media exposure, more than half (53.8 per cent) had no experience of agricultural training, and yet with a bit surprise,

an overwhelming majority (78.3 per cent) had medium knowledge on homestead level fruit production activities). This may be explained through the reality that the womenfolk of rural Bangladesh are more or less used to take care of homestead agricultural activities.

Rural Women's Participation in Fruit Production Activities

In this study, the term 'participation in fruit production' referred to as taking part fully or partially in twelve homestead fruit production activities by the respondent rural women. Rural women's extent of participation in selected fruit production activities have been presented in Table 2.

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Table 1: Salient features of the selected characteristics of the respondent rural women

Characteristics and measuring unit/ system	Observed Range (possible)	Rural Women (N = 65)			Mean	Standard deviation
		Categories	Number	%		
Age (years)	25-60	Young (up to 35)	34	52.3	33.94	11.45
		Middle-aged (36-50)	29	44.6		
		Old (>50)	2	3.1		
Education (level of schooling)	0-12	Illiterate (0)	27	41.5	3.32	3.57
		Primary (1-5)	21	32.3		
		Secondary and above (>6)	17	26.2		
Family size (number)	4-13	Small (up to 4)	13	20.0	5.71	1.53
		Medium (5-6)	39	60.0		
		Large (>6)	13	20.0		
Number of children (number)	0-4	No child (0)	33	50.8	0.72	0.88
		Low (1-2)	31	47.7		
		Medium (>3)	1	1.5		
Homestead size (hectare)	0.01-0.05	Small (up to 0.02)	37	56.9	0.025	0.012
		Medium (0.021-0.04)	24	36.9		
		Large (>0.04)	4	6.2		
Extension media contact (scale score)	2-11 (0-18)	Very low (up to 3)	1	1.5	7.31	2.13
		Low (4-6)	28	43.1		
		Medium (7-12)	36	55.4		
Family work load (hours per day)	2-9 (0-24)	Low (up to 3)	1	1.5	6.35	1.51
		Medium (4-8)	63	96.92		
		High (>8)	1	1.5		
Time allocation for homestead fruit production (hours/week)	0.5-5 (0-24)	Low (up to 1)	11	16.92	2.46	1.15
		Medium (>1-4)	50	76.92		
		High (>4)	4	6.15		
Training exposure (days)	0-5	No training (0)	35	53.8	1.08	1.48
		Short (1-3)	24	36.92		
		Medium (≥ 4)	6	9.2		
Knowledge on fruit production (score)	7-16 (0-18)	Low (up to 6)	12	18.6	10.14	2.62
		Medium (7-12)	51	78.3		
		High (13-18)	2	3.1		

Data presented in Table 2 show that the rural women had highest participation in planting sapling around the homestead area and pit preparation. It was very much rational because women in rural Bangladesh are usually closely related to homestead area and they look after the small pieces of land near and around homestead while males are busy with their field crop production and other major income generating activities. Whenever a woman finds a good variety of fruit, she usually tries to collect its seeds or sapling from available sources and plants it in a suitable place in homestead. In doing so, the women have to prepare pit, plant the sapling and take care of its management in

terms of protection, irrigation and fertilization. As homestead fruit trees are usually managed by the women, it was also rational to find that it was the womenfolk who were mostly responsible for harvesting and post-harvest management activities. It was interesting to note that many women were found of conducting activities like training and pruning. On the other hand, perhaps mainly due to lack of practical knowledge, women's involvement in plant propagation techniques and pesticide application were found very low as indicated by the mean scores less than 0.50. In the study area, women were less involved in selling fruit in village market, mainly because of social norms and religious restrictions

Table 2: Rural women's extent of participation in different fruit production activities

Homestead fruit production activities	Extent of participation (N=65)				Mean Score*	Rank order
	High	Medium	Low	Not at all		
Planting sapling around homestead	9	31	25	0	1.75	1.5
Pit preparation	12	26	26	1	1.75	1.5
Fruit harvesting	8	31	25	1	1.71	3
Fencing and other types of protection of fruit trees	4	38	22	1	1.69	4
Selection and collection of profitable fruit varieties	11	25	26	3	1.68	5
Irrigation and water management	7	28	28	2	1.62	6
Post-harvest activities	6	28	29	2	1.59	7
Manure and fertilizer application	4	28	25	8	1.43	8
Training and pruning	1	30	27	7	1.38	9
Grafting and other method of propagation	0	2	23	40	0.42	10
Pesticide application	0	1	17	47	0.29	11
Selling fruits	0	1	16	48	0.28	12

*Mean scores were measured in a 0-3 scale.

Categorization of Rural Women based on Fruit Production Activities

The respondent rural women's total score for participation in all fruit production activities could range from 0 to 36. The observed participation score ranged from 10 to 26 with an average of 11.08 and standard deviation of 4.17. Based on their participation scores the respondents were classified into three categories as shown in Table 3.

Data presented in Table 3 show that the majority (73.84 per cent) of the respondents had low participation in fruit production activities compared to 20 per cent had medium participation. It was interesting to note that only few women (6.16 per cent) in the study area fell into the category of high participation which does not reflect a good picture from extension point of view in Bangladesh situation.

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Table 3: Categories of the respondent rural women according to their participation in homestead fruit production activities

Categories of women (scores)	No. of respondents	Percentage of respondents	Mean	Standard deviation
Low participation (up to 12 scores)	48	73.84	11.08	4.166
Medium participation (13-24 scores)	13	20.00		
High participation (above 24 scores)	4	6.16		

Even, in the other studies related to participation, it was always observed that majority of the rural women had medium level participation in those farming activities. For example, Hossain (2007) found that an overwhelming majority (71.25 per cent) of women had medium participation in homestead agricultural activities. Similarly, Nahar (2000), Islam (2003) Amin (2004) and Aziz (2004) found similar results in their respective studies. So the result of the present study is an indication that unlike other issues, rural women's participation in homestead fruit production activities is relatively low. Looking the issue from other point, it might be considered that there remains huge opportunity to increase rural women's involvement in low cost, low labour intensive high value fruit production programmes. It requires careful consideration of the concerned agencies who deal with rural women programme in agriculture. It is assumed that if proper extension programmes are undertaken, the rural women could make good contribution to fruit production activities and make significant effort towards attaining household level nutritional food security.

Relationship between the Selected Characteristics of Rural Women and their Participation in Homestead Fruit Production Activities

The relationships between the selected characteristics of the rural women and their extent of participation in fruit production activities were explored by conducting correlation test. Pearson's Product Moment Correlation Coefficient (r) was used to test the

concerned null hypothesis and the results have been presented in Table 4.

Data presented in Table 4 show that out of ten characteristics of rural women, seven were significantly related with their extent of participation in fruit cultivation activities. Of them, education, homestead size, extension media contact, time allocation for fruit production activities, training exposure and knowledge on fruit production activities were positively correlated with rural women's participation in fruit production activities. All these factors are more or less related increase rural women's involvement in different income generating activities as observed by other researchers (Akhter, 1990; Akanda, 1994; Nahar, 2000; Akter, 2003; Aziz, 2004; Hossain, 2007) in their respective studies. In particular, education makes one enable to understand production process clearly and creates urge to maximize financial benefits of the households from limited resources. It is assumed that education of the women, thus, had very strong relationship with participation in fruit production activities. This also influenced the rural women having knowledge on fruit production, having more extension contact and having higher training exposure. In the same way larger homestead area created more opportunity for rural women in increasing their involvement in fruit production activities. Needless to say, that a significant positive relationship between rural women's participation in homestead fruit production activities and their time allocation for that is plausible. The only variable, namely age of the women showed a significant negative relationship with their participation because of

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the fact that aged women had relatively low scope for such participation as they are more involved in household activities. On the other hand, no significant relationship was observed between rural women's participation in fruit

production activities and their family size (also observed by Islam, 2003; Aziz, 2004 and Amin, 2004), number of children and family work load. These observations need more verification especially the latter two.

Table 4: Relationship between the selected characteristics of the rural women and their participation in homestead fruit production activities

Selected characteristics of women	Correlation coefficient ('r') with 63 d.f.	Tabulated "r" value with 63 d.f.	
		0.05 level	0.01 level
Age	-.397**	.246	.319
Education	.688**		
Family size	.202		
Number of children	-.211		
Homestead size	.566**		
Extension media contact	.826**		
Family work load	-.145		
Time allocation for homestead fruit production	.259*		
Training exposure	.719**		
Knowledge on fruit production	.708**		

* Significant at the 0.05 level of probability

** Significant at the 0.01 level of probability

Conclusions

Findings of the present study and their logical interpretation and other relevant facts led to a number of conclusions. Firstly, as majority of the rural women (73.84 per cent) had low participation in homestead fruit production activities, it could be concluded that there remains a good opportunity to increase involvement of the women of the rural household in potentially more income generating fruit production programmes. Proper initiative is needed to undertake by the mainstream extension agencies and non-government organizations who are working in the fields of agriculture and gender issues. Such programmes will also

increase the nutritional food security of rural area as well as empowerment of the womenfolk. A critical look into the individual activities showed that women's participation remained low levels in the activities related to adoption of modern technologies such as pesticide and fertilizer application, grafting and other propagation techniques. It may be concluded that if the rural women in Bangladesh are properly trained and if their interest in modern techniques of homestead fruit production is increased through appropriate extension programme, the total homestead fruit production would be increased participation of rural women in modern fruit production

activities. Of the selected characteristics of rural women education, homestead size, time allocation, extension contact, training exposure, and knowledge on fruit production had significantly positive relationship with their extent of participation in homestead fruit production activities. It implies that, these personal and socio-economic characteristics of the rural women could have reflective link on their participation in homestead fruit production activities. All these characteristics are supportive to a great extent to motivate the women towards participation in homestead fruit production

activities. So these characteristics deserve special emphasis while working with rural women in promoting horticultural and high-value fruit production programmes. In particular, extension service should be strengthened particularly for rural women. Due to social system and religion, rural women are reluctant to come in contact with the male extension worker. So, employment of more women extension workers is necessary for effective and successful implementation of the gender sensitive homestead level agricultural activities.

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