



Participation of rural women in activities related to homestead vegetable cultivation at Monirampur upazila under Jessore district

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Abstract

The main purposes of the study were to assess the extent of participation of rural women in homestead vegetable cultivation at Monirampur upazila under Jessore district and to explore the relationship between each of the selected characteristics of the rural women and their extent of participation in homestead vegetable cultivation. The study was limited within three selected villages namely, Nehalpur and Panchakori of Nehalpur union and Jhanpa of Jhanpa union. Data were collected from randomly selected 60 respondents during the period of 04 September to 17 October, 2016. Appropriate scales were used to measure the variables of the study. Correlation(s) test was used to ascertain the relationships between the concerned independent variables and dependent variable. About half (48.3 percent) of the rural women had low to medium participation in vegetable cultivation compared to 3.34 percent having high participation. Considering broadly selected 6-aspects of homestead vegetable cultivation, the rural women's participation was highest in seedbed preparation and raising of seedlings, while it was lowest in case of intercultural operation. In case of 26-issues, the most dominant area of rural women's participation was seed collection while it was least in case of training. Only age out of eleven selected characteristics had significant positive relationship with their participation in homestead vegetable cultivation. It might be concluded from the gist findings that, participation of women in homestead vegetable production is still not satisfactory and necessary steps concerning extension approach should be taken to increase the vegetable production by ensuring barrier free participation.

Introduction

Bangladesh is an agro-based over-populated country. About 70 percent of 10 million farm households have below one hectare of land (small farm) (Anonymous, 2011). Thus, homestead farming is the most significant system of production in rural Bangladesh. In Bangladesh, women hardly participate in agricultural activities outside their homes. About half (49 percent) of the population of Bangladesh is women among them 45.6 percent are associated with the farming activities (Agricultural Diary, 2012). Women's participation in rural development, more particularly in agricultural development in Bangladesh, is the most important strategy. Bangladeshi women play a significant role in agricultural production. Although rice is the dominant crop, vegetable occupy a very important place in rice-based cropping systems and play a distinct role in the crop sub-sector to provide nutritious food to the dwellers, generate income, employment and goods to trade. Vegetables are essential in diet, provide fiber, trace minerals, vitamins and proteins. Vegetables help to prevent various diseases resulting from malnutrition and unbalanced nutrition. Climate and soil of Bangladesh are very much suitable for growing vegetables round the year. Improved production technologies for field crops is not of value to them as they have neither enough land nor access to high cost inputs. But minimum level of vegetable intake is 200 g person⁻¹ day⁻¹ recommended

by Asian Vegetable Research and Development Center (AVRDC) (Weinberger and Genova, 2005). Many vegetables are grown in homestead. Homestead is the dwelling place and it is the centre where vegetables are cultivated. Homestead as defined by Abdullah (1986), is the land owned and occupied by the dwelling unit of the household and immediate area surrounding by the dwelling unit including courtyard, pond, road space around homestead, space used for cultivation of trees and vegetable and unutilized space. Cultivable land is a scarce resource in densely populated Bangladesh, which is mostly used for grain crop production. Many vegetables are grown in homestead such as cabbage, carrot, eggplant, cauliflower, tomato, radish, sweet gourd, wax gourd, bitter gourd, teasel gourd, pointed gourd, etc. Much care is not taken or necessary for growing these vegetable in Bangladesh (Weinberger and Genova, 2005). Little attention is given to cultivate these vegetables, though these are very important source of human nutrition. There is a great scope for increasing the production of vegetable throughout the year. Thus, homestead farming is the most significant system of production in rural Bangladesh. They make these contributions by participating in pre and post-harvest operations and in various activities under homestead agriculture. These are in addition to their traditional role of housekeeping and child rearing (Ali, 1995). Assessment of the role of women in household activities particularly in homestead vegetable production is

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therefore, important particularly for policy formulation and programs interventions for development of women. Approximately 45 percent of our rural people are landless and about 55 percent of the land owners are small farmer (Anonymous, 2011). Al-Mamun *et al.* (2010) argues that home gardening activities are centered on women and it can also increase the income of women, which may result in the better use of household resources and improved caring practices and empowerment. This empowerment of women also addresses a priority area of poverty alleviation and provides important socio-economic returns through lower health and welfare costs, lower fertility, and lower maternal and infant mortality rates. Thus, the simultaneous impact of home gardening programs in terms of giving women a voice and promoting their full participation in domestic life can make an important contribution to the overall development of communities as well as national income level.

Women from landless and marginally landless rural families cultivate different kinds of vegetables in their homestead. Undoubtedly, women can play a vital role if their full talent can be explored in homestead vegetable cultivation. If women can perform their roles in homestead vegetable cultivation properly and skillfully, they will be able to ensure food security and family nutrition, increase family income and contribute to the overall improvement of Bangladesh. So, when rural women's are involved and included with this development activities and are aware of their rights and claims, their participation in homestead vegetable cultivation will be increased to a great extent. However, on the basis of different aspects of vegetable cultivation rural women's activity based specific participation is merely determined. Considering this fact the researchers persuaded to conduct the present research.

In order to proper direction to the research the following specific objectives were formulated:

- 1) To determine and describe the selected characteristics of the rural women.
- 2) To determine the extent of participation of rural women in homestead vegetable cultivation.
- 3) To explore the relationship between each of the selected characteristics of the rural women and their extent of participation in homestead vegetable cultivation.

Methodology

The study was conducted at three selected villages of Nehalpur and Jhanpa union of Monirampur upazila under Jessore district. The selected villages were Nehalpur, Panchakori and Jhanpa. The rural women of the study area who were participating in homestead vegetable cultivation were treated as population of this study. A list of rural women participating in homestead vegetable cultivation was prepared with the help of Sub-Assistant Agriculture Officer(s) (SAAOs) of the concerned union. The total number of participating rural women of these three villages was 300. The researchers

selected 20 percent of the population as the sample of the selected three villages; and randomly selected 60 rural women taking 20 from each of the villages. Thus, the sample size stood 60.

Reviewing related studies, the researcher considered 11-characteristics of the rural women as independent variables. The selected characteristics were age, level of education, family size, farm size, annual family income, cosmopolitaness, extension contact, agricultural training, organizational participation, attitude towards homestead vegetable cultivation and knowledge about homestead vegetable cultivation. On the other hand, the participation of rural women in homestead vegetable cultivation was treated as dependent variable. In this study selected 11-characteristics were of personal (age, level of education and family size), economic (farm size and annual family income), social (cosmopolite ness, extension contact, agricultural training and organizational participation) and psychological (attitude towards and knowledge about homestead vegetable cultivation) types. Six important broad aspects (*seedbed preparation, land preparation, transplanting of seedling, intercultural operations, irrigation & water management, and harvesting & post harvest activities*) of homestead vegetable cultivation were included to measure participation of rural women. A number of 26 relevant issues were also included under the six broad aspects of homestead vegetable cultivation. A four-point rating scale viz. regularly, occasionally, rarely and not-at-all was employed against each of the 26 statements of relevant issues to determine the extent of participation of rural women. A score of 3, 2, 1 and 0 was assigned against the rating scale, respectively. Each of the respondents was asked to indicate her extent of participation by putting a tick mark in the appropriate position against each of the statement. Participation extent was determined by summing up all the scores obtained by the respondent against all the 26-issues. Thus, the participation extent score of individual respondent could range from 0 (=0×26) to 78 (=3×26). The categorization was done as follows: No participation (0), Low participation (1–26), Medium participation (27–52) and High participation (53–78). To compare the level of participation in six major aspects as well as 26 issues participation score (PS) and participation index (PI) for each of the six major aspects and 26 issues were calculated by using the following formula:

$$\text{Participation Score} = N_{re} \times 3 + N_{oc} \times 2 + N_{ra} \times 1 + N_{na} \times 0$$

Where,

N_{re} = No. of the respondent participated regularly

N_{oc} = No. of the respondent participated occasionally

N_{ra} = No. of the respondent participated rarely

N_{na} = No. of the respondent not at all participated

$$\text{Participation Index} = \frac{\text{Observed participation score}}{\text{Possible participation score}} \times 100$$

As there were 60 respondents, so participation score could range from 0 ($=0 \times 60$) to 180 ($=3 \times 60$), where 0 means no participation and 180 means regular participation.

Data were collected personally by the researchers through face to face interview. To familiarize with the study area and for getting local support, the researchers took help from the local leaders and the field staffs of upazila Agriculture Office. Statistical measures such as number, percentage, range, rank order, etc., mean and standard deviation (SD) were used in describing the independent and dependent variables of the study. Correlations analysis was used to determine the relationship between any two variables. Data were analyzed by using software named Statistical Package for Social Sciences (SPSS) and MS Excel.

Results and Discussion

Selected characteristics of the respondents

Majority (60 percent) of the respondents fall in the young aged category compared to middle aged (40 percent). None of the respondents belonged to old age category. Majority (53.3 percent) of the respondents belonged to the secondary education category compared to 26.7 percent and 8.3 percent having primary and higher secondary level of education, respectively. Rest 11.7 percent were illiterate. Majority (58.3 percent) of the respondents belonged to the small families consisting of 1 to 4 members compared to medium family (40 percent) and large family (1.7 percent). Majority (70 percent) of the respondents possessed small sized farm compared to 21.7 and 8.3 percent having marginal and medium sized farm, respectively. (Table 1)

Highest proportion of the respondents (45 percent) had medium income while 31.7 percent had low income and only 14 percent had high income. Majority of the respondents (73.3 percent) had medium cosmopolitanism compared to 16.7 percent had low cosmopolitanism and 10 percent had high cosmopolitanism. In fact the overwhelming majority (90 percent) of the respondents of the study area showed medium to low cosmopolite behavior. Most (95 percent) of the respondents had very low extension contact as compared to (5 percent) having low extension contact. Thus, it can be concluded that most of the rural women were either not getting help from the extension workers or they were not aware of the services provided by different extension agencies. Most (83.3 percent) of the respondents had no agricultural training. On the other hand, 13.3 percent of the respondents had low training compared to 3.3 percent having medium training. Majority (63.3 percent) of the respondents had no organizational participation. On the other hand, 15 percent of the respondents had low participation compared to 18.3 and 3.3 percent having medium and high participation in different organizations, respectively. Most (90 percent) of the respondents had highly favorable attitude towards homestead vegetable cultivation compared to 10 percent having moderate favorable attitude. (Table 1)

Majority (75 percent) of the respondents had medium knowledge regarding vegetable cultivation compared to 13.3 percent had high knowledge and 11.7 percent had low knowledge on vegetable cultivation. (Table 1)

Uddin (2008) found that 68.63 percent of rural women had medium participation in home gardening followed by 31.37 percent had low participation in Shariatpur district.

Khatun et al. (2014) found that participation of women considering different aspects in relation to vegetables cultivation, tilling by spade was ranked first. In case of the cultivation of fruit trees, the highest proportion (46.60 percent) of rural women had medium participation and irrigation after planting was in the first position. Agricultural knowledge, attitude and innovativeness had positive relationship with the cultivation of vegetables. On the other hand, education, family income, cosmopolitanism behavior and attitude had positive relationship with the cultivation of fruit trees.

Extent of participation by the respondent rural women in selected 6-aspects along with 26-issues under 6-aspects

The observed participation scores of the rural women in homestead vegetable cultivation ranged from 4 to 63 against possible range of 0 to 78, with a mean of 27.18 and standard deviation of 13.55. The distribution of rural women according to their extent of participation in homestead vegetable cultivation is shown in Table 2. Data presented in Table 2 show that about half (48.3 percent) of the rural women had low to medium participation in homestead vegetable cultivation.

To measure the extent of participation of the respondents in selected 6-aspects along with the 26 selected issues a participation score (PS) and participation index (PI) was calculated. Based on PS and PI, the relative position of the 6-aspects as well as the 26-issues was determined indicating rank order. (Table 3)

Computed participation score presented in Table 3 indicates that the respondents (rural women) participation was highest in seedbed preparation and raising of seedlings ($\bar{x}=94.5$) while it was least in intercultural operation ($\bar{x}=40.75$). The other dominant aspects of homestead vegetable cultivation as participated by the respondents were transplanting of seedling ($\bar{x}=88$) followed by land preparation ($\bar{x}=82.75$), and so on.

In case of 26-issues under 6-aspects of homestead vegetable cultivation, the highly dominant area of participation by the respondents were seed collection followed by application of mild irrigation after transplanting, application of cow dung and manure during land preparation and so on. The least dominant issue of participation was training. This finding indicates an alarming issue that the rural women have least scope for participation in training.

Table 1. Distribution of rural women according to selected characteristics of the respondents (N=60)

Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Range	Mean	SD
Age (Years)	Young aged	≤ 35	60	18–50	34.68	8.50
	Middle aged	36–50	40			
	Old aged	>50	0			
Level of Education (Years of schooling)	Illiterate	0	11.7	0–12	5.98	3.90
	Primary	1–5	26.7			
	Secondary	6–10	53.3			
	HSC	11–12	8.3			
	Above HSC	>12	0			
Family Size (Member)	Small	≤4	58.3	2–8	4.38	1.25
	Medium	5–7	40			
	Large	>7	1.7			
Farm Size (Hectare)	Landless	<0.02	0	0.05–1.65	0.437	0.325
	Marginal	0.02–0.20	21.7			
	Small	0.21–1.00	70			
	Medium	1.01–3.00	8.3			
	Large	>3.00	0			
Annual Family Income (Tk.)	Low income	≤75000	31.7	51800–443800	137172.50	83010.26
	Medium income	75001–150000	45			
	High income	>150000	23.3			
Cosmopolitaness (Score)	No	0	0	5–16	8.87	2.49
	Low	1–6	16.7			
	Medium	7–12	73.3			
	High	>12	10			

Table 1. Continued...

Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Range	Mean	SD
Extension Contact (Score)	Very low	1–14	95	2–19	7.52	3.816
	Low	15–28	5			
	Medium	29–42	0			
	High	>42	0			
Agricultural Training (Days)	No training	0	83.3	0–2	0.20	0.480
	Low training	1	13.3			
	Medium training	2	3.3			
	High training	≥3	0			
Organizational participation (Score)	No	0	63.3	0–3	0.62	0.904
	Low	1	15			
	Medium	2	18.3			
	High	≥3	3.3			
Attitude towards participation in homestead vegetable cultivation (Score)	Less favorable	≤ 15	0	27–39	33.42	2.87
	Moderate favorable	16–30	10			
	Highly favorable	>30	90			
Knowledge about homestead vegetables cultivation (Score)	Low knowledge	≤ 10	11.7	4–28	15.43	4.90
	Medium knowledge	11–20	75.0			
	High knowledge	21–30	13.3			

Table 2. Participation categorization of rural women based on participation score obtained by individual respondent

Categories	Scores	Respondents (N=60)		Mean	SD	Min.	Max.
		Number	Percentage				
No participation	0	0	0				
Low participation	1–26	29	48.3	27.18	13.55	4	63
Medium participation	27–52	29	48.3				
High participation	53–78	2	3.34				

Table 3. Relative position (Rank order) of the selected 6-aspects along with 26-issues of rural women in homestead vegetable cultivation based on participation score (PS) and participation index (PI) (N=60)

Statement	Nature of participator				PS	PI	Rank (26-issues)	Rank (6-aspects)
	Regularly (3)	Occasionally (2)	Rarely (1)	Not at all (0)				
A. Seedbed preparation and Raising of seedlings	01. Seed collection	15×(3)	31×2	11×(1)	3×(0)	118	65.56	1
	02. Seed bed preparation	6×(3)	18×(2)	24×(1)	12×(0)	78	43.33	12
	03. Seed sowing	4×(3)	23×(2)	27×(1)	6×(0)	85	47.22	10
	04. Seedlings raising	7×(3)	26×(2)	24×(1)	3×(0)	97	53.89	5
\bar{x} of A						94.5		1
B. Land preparation	05. Main land selection	1×(3)	13×(2)	25×(1)	21×(0)	54	30.00	17
	06. Tillage operation by spade	3×(3)	20×(2)	19×(1)	18×(0)	87	48.33	9
	07. Application of cow dung and manure during land preparation	12×(3)	22×(2)	20×(1)	6×(0)	100	55.56	3
	08. Preparation of fence and drainage system	6×(3)	21×(2)	30×(1)	3×(0)	90	50.00	8
\bar{x} of B						82.75		3
C. Transplanting of Seedling	09. Transplanting of seedlings	4×(3)	32×(2)	20×(1)	4×(0)	96	53.33	6
	10. Making pit	1×(3)	18×(2)	23×(1)	18×(0)	62	34.44	15
	11. Application of mild irrigation after transplanting	15×(3)	21×(2)	19×(1)	5×(0)	106	58.89	2
\bar{x} of C						88		2

Chowdhury *et al.* (2011) showed that 47 percent of women had high contribution in homestead vegetable production followed by 27 percent had medium contribution. Jahan (2014) found that 62.5 percent women had medium and 30 percent had low participation in winter vegetable production. On the other hand, 73.3 percent women had medium and 22.5 percent had low participation in summer vegetable production in Brahmanbaria district.

Hasan (2006) observed that the highest proportion (98 percent) of conventional rural women had medium involvement in homestead farming activities. On the other hand, cent percent of organic women farm workers had high involvement in homestead farming activities. Their participation was significantly higher than that of conventional rural women's farming activities.

Nahar (2008) in her study in a selected area of Gazipur district observed that the involvement of rural women in each of the homestead activities i.e., homestead vegetable cultivation, postharvest activities, poultry raising and goat rearing and the extent of participation is high in all cases which is highly encouraging. In fact, these kind of activities are mostly performed by the rural women in our country and have perfectly reflected in her study.

Ahmad *et al.* (2007) reported that the personal characteristics showed that majority of respondents were in age group of 20–40 years, 54 percent of the total respondents were educated, 73 percent of the respondents had barani type of land. Education and adoption of vegetable growing practices were positively correlated. The results further showed that 54 percent of

the respondents grew vegetable inside their houses, among which 47.5 percent grew vegetable for profit purpose and 47 percent of the female respondents grew vegetables themselves. Major constraints in vegetable production found in the study were lack of capital, credit availability and lack of marketing facilities.

Relationship between the selected characteristics of rural women and their participation in homestead vegetable cultivation

Correlation analysis indicated that one out of eleven selected characteristics of the rural women (only age) had significant relationship with their participation in homestead vegetable cultivation (Table 4). The other variables namely, level of education, family size, farm size, annual family income, cosmopolitaness, extension contact, agricultural training, organizational participation, attitude towards homestead vegetable cultivation and knowledge about homestead vegetable cultivation did not show any significant relationship with their participation in homestead vegetable cultivation. It was observed in Table 1 that the average age of the respondents was 34.68 years. The relationship found in Table 4 might be explained like this: as the females grow older get involved in family activities and own a self family, and to meet up the daily vegetable requirements perform homestead vegetable cultivation.

Chowdhury (2011) found that education, family size, annual income, training exposure, organizational participation, media (individual, group and mass) contact, decision making process and innovativeness had significant positive relationship with women's participation in homestead vegetable production.

Table 4. Relationship between the selected characteristics of rural women and their participation in homestead vegetable cultivation (N=60)

Characteristics (Independent variables)	Dependent variable	Correlation coefficient
1. Age	Participation of rural women in homestead vegetable cultivation	0.317*
2. Level of Education		-0.193 ^{NS}
3. Family Size		0.049 ^{NS}
4. Farm Size		-0.097 ^{NS}
5. Annual family income		-0.084 ^{NS}
6. Cosmopolitaness		-0.046 ^{NS}
7. Extension contact		0.135 ^{NS}
8. Agricultural training		0.138 ^{NS}
9. Organizational participation		0.112 ^{NS}
10. Attitude towards homestead vegetables production		0.164 ^{NS}
11. Knowledge about homestead vegetables production		0.110 ^{NS}

NS= Non-significant;

* Correlation is significant at the 0.05 level (2-tailed)

Conclusion

On the basis of the above findings it can be concluded that highest proportion of the rural women had low to medium participation in homestead vegetable cultivation. The respondents' participation was highest in seedbed preparation and raising of seedlings while it was least in intercultural operation. In case of 26-issues under 6- aspects of homestead vegetable cultivation, the high dominant area of participation by the respondents were seed collection. The least dominant area of participation was training. Only age showed a significant relationship with their participation in homestead vegetable cultivation. Thus, it might be concluded from the gist findings mentioned above that, participation of women in homestead vegetable production is still not satisfactory and necessary steps concerning extension approach should be taken to increase the vegetable production by ensuring barrier free participation of rural women in homestead vegetable cultivation.

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