



NEED ASSESSMENT FOR CAPACITY BUILDING OF RURAL WOMEN IN PRACTICING POST HARVEST ACTIVITIES OF POTATO

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ABSTRACT

The key focus of this study was to determine the extent of need for capacity building of rural women in practicing post-harvest activities of potato. Besides the main focus, the extent of involvement in post-harvest activities of women was identified and relationships of the selected characteristics of the women were also explored with their extent of need for capacity building. The study was conducted with the women (total 76 from 380 household) of two villages of Dinajpur sadarupazila under Dinajpur district. A pre-tested interview schedule was used to collect data from the respondents during February to March 2015. Pearson's Product Moment Correlation Coefficient (r) was computed to explore the relationship of the characteristics of the respondents with their extent of need for capacity building. The highest portion of the respondents (63.2 percent) had medium extent of need while 23.7 percent of them had high and the rest 13.2 percent of them had low extent need for capacity building in post-harvest activities of potato. The women had the highest extent of need for the respondent was physical facilities (78.07 percent) and the lowest extent (30.61 percent) of need for decision making ability. Among the characteristics of the respondents education, dependency ratio in the family, farm size and decision making capacity in the family showed positive significant relationship with their extent of need for capacity building of rural women in practicing post-harvest activities of potato. All of the women had medium involvement in post-harvest activities of potato. Adequate training facilities should increase for rural women according to their needs for increasing their knowledge and skill in practicing post-harvest activities of potato.

Key words: Capacity building, need assessment, post harvest activities, potato

INTRODUCTION

Bangladesh is the most densely populated and one of the low middle income countries of the world. About 71.90 percent of her population is living in rural area accounting about 107 million people which includes women as well as men (World Bank 2012). About three-fourths of the total population lives in rural areas, virtually all of them make their living exclusively or substantially from agriculture. Agriculture is one of the largest sectors of the economy in Bangladesh. The contribution of agriculture to gross domestic product (GDP) in the economy of Bangladesh is 16.33 percent (MoF 2014). Agriculture employs about 47% of the people (with about 60% of the farming population classified as landless) (World Bank, 2013). As men, women also play a pivotal role in agriculture and in rural development.

In Bangladesh the male-female ratio is 104:100 (BBS 2012). Although women are the fifty percent of total population, due to gender based discrimination and socially constructed sub-ordination; women have lower status in all over of the life. Development of

socio-economic condition of Bangladesh fully depends upon the development of the villages and women in rural Bangladesh are largely unrecognized contributors to agricultural and economic productivity. The roles that women play in agriculture vary from region to region and country to country. Moreover, 60 to 80 percent of total agriculture operations are performed by women (Nisha and Ravi 2010). Women play a significant role for food security and also in the process of production, handling & preparation of food; and also a multiple role throughout the sequence. They are said to be "feeding the world" and on a global scale, women produce more than half of all the food that is grown. In Asia, they provide from 50 to 90% of the labour for rice cultivation (Prakash 2003). Women in Bangladesh also grow most of the family's fruits and vegetables and also process and preserve the fruit and vegetable produce from their home gardens and from the forests. Moreover, women are almost universally responsible for preparing food for their households and thus for the nutritional well-being of household members. Women in rural areas generally bear primary responsibility for the nutrition of their

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children, from gestation through weaning and throughout the critical period of growth.

Thus, the role of women in homestead and family life needs to be assessed for future research oriented development activities of the nation. Socio-economic, political and cultural development is not possible without the improvement of women status. Empowerment of women is such a process which controlling women rights, challenges gender disparity in parental and social institutions. Under this circumstance it is necessary to assess the need for capacity building of women. Keeping in view of the above circumstances, the present study was undertaken the following objectives: i) To assess the need for capacity building of women in practicing post-harvest activities of potato, ii) To assess the extent of involvement of rural women in post harvest activities of potato and iii) To explore the relationships of some selected characteristics of the rural women with their need for capacity building in practicing post-harvest activities of potato.

MATERIALS AND METHODS

There are 13 upazilas in Dinajpur district. The research work was carried out at Ulipur and Mahmudpur villages under Auliapur union of Dinajpur District which were selected purposively. In these areas of Dinajpur district potato grown hugely and women were engaged in post-harvest activities (PHAs). An updated list of households of the selected villages was prepared with the help of assessment list of union parishad. The list comprised a total of 380 households in the study area. Considering the limited scope, resource and time, among them only 76 women (20 percent) were selected by simple random sampling for final data collection. Data were collected during 20 March to 20April, 2015 by the researcher herself.

Need assessment for capacity building of rural women in practicing post-harvest activities of potato was the dependent variable of the study. To measure the extent of need for capacity building of women, five dimensions of capacity building were included. These were: a) need for financial ability (capital, credit, labor purchase and processing equipment purchase), b) need for decision making ability (harvesting, grading, packaging, storing, selling), c) need for access to support services (preservation facilities or cold storage, marketing facilities, credit facilities, transport, advisers), d) need for management skill (operational ability, financial management, market facility exploitation, preservation of seeds, processing of potato), and e) need for physical facilities (processing materials/equipment, processing ground, transports/vehicles, sales centers). Scores were assigned as 0, 1, 2 and 3 for ‘no’, ‘low’, ‘medium’ and ‘high’ respectively. The scores of all items of each dimension were added to obtain the total score

of a particular dimension. Finally, scores of all the five dimensions formed the total score of the extent of need for capacity building of a woman. Then total score was converted to percentage using following formula:

$$NICB = \frac{N_a}{N_p} \times 100$$

Where, *NICB* = Need Index for Capacity Building, N_a = Actual need and N_p = Possible need

Thus, total score of a subject for this variable could range from 0 to 100, where ‘0’ indicated ‘no need’ and ‘100’ indicated ‘highest need’ of women for capacity building.

To measure the extent of involvement in post-harvest activities, three dimensions of involvement namely (i) frequency of performance, (ii) part of work done, and (iii) control over decision (Hasan 2006) were used.

The first dimension included involvement, the second ensured action, and the last dimension covered the psychological aspect of involvement. Each of the dimensions was quantified separately with four-point rating scale against ten post-harvest activities of potato.

Frequency of performance, the first dimension of involvement was defined as the regularity of performing certain post-harvest activities. Scores were assigned to the column of frequency of performance for respondent on the basis of responses furnished by subjects in the following way:

Frequency of performance	Score
Not at all	0
Rarely	1
Sometimes	2
Regularly/frequently	3

The second dimension of involvement, part of work done, was defined as how much amount of work done by a respondent regarding the selected post-harvest activities. The scores were made in the following way:

Part of work done	Score
Not at all	0
Less than half of the requirement	1
More than half of the requirement	2
Completely done	3

The third dimension, control over decision, was measured on the basis of decision taken by the respondent in a family. Scores were made in the following way:

Control over decision	Score
Absolutely no decision by self	0
Shared decision, mainly by others	1
Shared decision, mainly by self	2
Full decision by self	3

Involvement Index (II) has been used to determine the extent of involvement. It was defined as the ratio of 'actual involvement' to 'possible involvement' in any issue expressed as percentage.

The Involvement Index was mathematically expressed as follows:

$$II = \frac{1}{3} \times \left(\frac{f_a}{f_p} + \frac{w_a}{w_p} + \frac{d_a}{d_p} \right) \times 100$$

Where,

- II = Involvement Index
- f_a = Actual frequency of performance
- f_p = Possible frequency of performance
- w_a = Actual part of work done
- w_p = Possible part of work done
- d_a = Actual control over decision
- d_p = Possible control over decision

In the present study, extent of involvement in post-harvest activities by rural women has been computed according to the formula of Involvement Index (II). In this way, II could vary from 0 to 100 percent. Zero indicating no involvement and 100 indicated full involvement in post-harvest activities by rural women.

A structured interview schedule was prepared to collect necessary and relevant information in accordance with the objectives of the study. Possible measures were taken to collect reliable and valid data. Data for this study were collected by the researcher herself. The soft-ware SPSS was used to analyze the data. Pearson's product moment correlation co-efficient was used to examine the relationships of independent variables of the respondents with their dependent variables. Therefore, for statistical treatment a null hypothesis was formulated as 'There is no relationship between the selected characteristics of the women and their need for capacity building in practicing post-harvest activities'.

RESULTS AND DISCUSSION

Need for Capacity Building of Rural Women

The main focus of the present research work was the 'need assessment for capacity building of rural women'. 'Need for capacity building' of the rural women in practicing post-harvest activities of potato was defined as the extent to which they had the need for financial, support services, physical and managerial as well as the ability to make decision about utilizing the post-harvest activities of potato.

To measure the extent of need for capacity building of women five dimensions of capacity building were selected. The overall need for capacity building of the rural women was also measured. The findings have been presented in the following subsections.

Dimension-wise need for capacity building of women in practicing PHAs

Five dimensions of capacity strengthening were selected to assess the extent of need for capacity strengthening of women in conducting post-harvest activities of potato. The computed NICB values of all the dimensions have been shown in Table 1.

Data presented in the Table 1 indicate that most of the women felt in medium need category for all of the dimensions of capacity building. The highest 65.8 percent of the respondent for financial ability, 56.6 percent of the respondent for decision making and physical facilities, 53.9 percent for access to support services and 57.9 percent for management skill of the respondents was in medium need for these dimensions. Some of the respondents in average 23.42 percent had low need for all of the dimensions of capacity building respectively. It is due to inadequate knowledge, social and religious barrier, male dominancy and insufficient facilities in training and practicing post-harvest activities of potato in the study area. It seems that none of the dimensions existed in satisfactory level. Thus, the need for capacity building was felt medium. Table 1 also showed that the highest extent of need for the respondent was physical facilities (78.07 percent) and the lowest extent of need is for decision making ability (30.61 percent).

Data presented in the Table 2 show that in case of need for financial ability, capital scored highest and grading was highest in case of need for decision making ability. In case of need for access to support services, credit facilities scoring highest and in case of need for management skill market facilities exploitation scored highest and finally processing materials/equipment scored highest in case of physical facilities.

Overall need for capacity building

The extent of need for capacity building of women was assessed in terms of Need Index for Capacity Building (NICB). The NICB values could range from 0 to 100 and the observed NICB values ranged from 50.72 -75.36 with an average of 62.01 and standard deviation of 6.16. Based on their NICB values the respondents were classified into three categories as shown in Table 3.

The data showed that most of the respondents (63.2 percent) had medium extent of need while the rest 23.7 percent of them had high and 13.2 percent of them had low extent need for capacity building in post-harvest activities of potato.

Table 1. Dimension-wise need for capacity building of women in practicing PHAs

Dimensions	Range	Respondents (76)			Mean	SD
		Categories	No	%		
Need for financial ability	Observed (50.00-91.67) Possible (0-100)	Low ≤ 61	13	17.1	70.94	9.57
		Medium (62-81)	50	65.8		
		High > 81	13	17.1		
Need for decision making	Observed (0.00-53.33) Possible (0-100)	Low ≤ 19	21	27.6	30.61	11.48
		Medium (20-42)	43	56.6		
		High > 42	12	15.8		
Need for access to support service	Observed (53.33-86.67) Possible (0-100)	Low ≤ 61	17	22.4	69.56	8.87
		Medium (62-78)	41	53.9		
		High > 78	18	23.7		
Need for management skill	Observed (46.67-93.33) Possible (0-100)	Low ≤ 54	19	25.0	65.88	11.42
		Medium (54-77)	44	57.9		
		High > 77	13	17.1		
Need for physical facilities	Observed (41.67-100.00) Possible (0-100)	Low ≤ 67	19	25.0	78.07	11.45
		Medium (68-90)	43	56.6		
		High > 90	14	18.4		

Table 2. Ranking of total score of the extent of need for items of capacity building

Sl. No.	Items	Score	Rank
1.	Financial ability		
	Capital	213	1
	Credit	164	2
	Labor purchase	133	4
2.	Processing equipment purchase	137	3
	Decision making ability		
	Harvesting	26	4
	Grading	124	1
	Packaging	108	2
	Storing	69	3
	Selling	22	5
3.	Access to support services		
	Preservation facilities or cold storage	96	5
	Marketing facilities	199	2
	Credit facilities	207	1
	Transport	148	3
4.	Advisors	143	4
	Management skill		
	Operational abilities	134	4
	Financial management	193	2
	Market facilities exploitation	219	1
	Preservation of seeds	125	3
5.	Processing of potato	80	5
	Physical facilities		
	Processing materials/equipment	221	1
	Processing ground	172	3
	Transport/ vehicle	122	4
Sales center	197	2	

Table 3. Overall need for capacity building of women in practicing PHAs

Range	Categories	Respondents (76)		Mean	SD
		Number	Percent		
Observed (50.72-75.36) Possible (0-100)	Low ≤55	10	13.2	62.01	6.16
	Medium (56-68)	48	63.2		
	High >68	18	23.7		

Table 4. Distribution of the respondents according to their involvement in post-harvest activities

Range	Categories	Respondents (76)		Mean	SD
		Number	Percent		
Observed (19.89-76.67) Possible (0-100)	Low ≤43	11	14.5	53.70	11.16
	Medium (44-65)	52	68.4		
	High >65	13	17.1		

Table 5. Ranking of involvement of rural women in different PHAs

Post-harvest activities	Frequency of performance	Part of work done	Control over decision	Total score	Rank order
Transport from field to house	199	192	89	480	3 rd
Grading and sorting	225	221	151	597	1 st
Cooling	168	148	107	423	6 th
Drying	184	170	110	464	4 th
Packaging	218	200	125	543	2 nd
Transport to the market	62	55	39	156	9 th
Storage as table potato	194	166	70	430	5 th
Storage as seed	65	53	53	171	8 th
Curing	50	44	39	133	10 th
Processing	53	48	175	276	7 th

Table 6. Relationship between the dependent and independent variables

Independent Variables	Dependent Variable	'r' value with 74df
Age		-0.099
Education		0.310**
Dependency ratio of the family		0.229*
Farm size	Need Assessment for Capacity Building of Rural Women in Practicing Post-harvest Activities of Potato	0.263*
Annual family income		-0.043
Organizational participation		-0.197
Decision making capacity in the family		0.235*
Training exposure		0.066
Credit received		-0.022
Ability to cope with uncertainty		0.035

** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level

The findings clearly indicate that most of the respondents had medium need for capacity building in practicing post-harvest activities of potato. It was observed in the study area during data collection that women were moderately involved in post-harvest activities of potato. It was also observed that there was a little scope of post-harvest facilities of potato but those was not in reachable for the rural women. But they kept desire to increase their family income through participating in income generating activities like

post-harvest activities. Thus, the respondents logically felt medium need for their capacity building in practicing post-harvest activities of potato.

Involvement of Rural Women in Post-harvest Activities of Potato: Involvement score of the respondents in different post-harvest activities ranged from 19.89 to 76.67 with a mean of 53.70 and standard deviation of 11.16. On the basis of

involvement, the respondents were divided into three categories.

Data show in Table 4 indicates that the highest (68.4 percent) portion of the women had medium involvement while 14.5 percent of them had low and 17.1 percent had high involvement in post-harvest activities. The findings indicated that all of the women had medium involvement in post-harvest activities of potato. It may be due to the physical and social barrier and inadequate facilities, women had not been fully involving themselves in all the post-harvest activities of potato. This is why the involvement of rural women in post-harvest activities of potato was low to high.

It was found in the study area that more or less in every family had been involved themselves in post-harvest activities of potato. Most of the respondents were involved in post-harvest activities like grading and sorting, packaging, transport from field to house, drying etc. In order to investigate the involvement of rural women in various post-harvest activities of potato, three categories such as frequency of performance, part of work done and control over decision are categorized (Table 5).

Table 5 showed that the highest involvement of rural women had 'grading and sorting' then 'packaging' and the lowest was in 'curing' of potato. It is very much rational that their involvement is highest in case of 'grading and sorting' due to less laborious and it is also done at home than other works like, 'transport to market', 'storage as seed', 'curing' etc. This is also because potato mostly sold from their field.

Relationships between the Selected Characteristics of the Rural Women and their Extent of Need for Capacity Building: Pearson's Product Moment Coefficient of Correlation (r) was computed in order to explore the relationships between the selected characteristics of the women and their extent of need for capacity building in practicing post-harvest activities of potato. The coefficient of correlation (r) was used to test the null hypothesis regarding the relationship between two concerned variables.

The computed correlation coefficient (r) among the ten (10) selected characteristics of women, four namely education, dependency ratio of the family, farm size and decision making capacity in the family showed significant and positive relationships with their need assessment for capacity building in post-harvest activities. Age, annual family income, organizational participation, training exposure, credit received and ability to cope with uncertainty had no significant relationship with need assessment for capacity building of rural women in practicing post-harvest activities of Potato.

CONCLUSIONS

Findings of the study and the logical interpretations of their meanings in the light of other relevant facts prompted the researcher to draw the following conclusions:

- ❖ Most of the respondents (63.2 percent) had medium extent of need for capacity building. Thus, there is tremendous scope to improve the capacity of the rural women through providing adequate facilities of post-harvest activities of potato.
- ❖ The findings indicate that most of the respondent (68.4 percent) had medium involvement in post-harvest activities of potato. So, there is great scope to involve more women in post-harvest activities to improve their socio-economic condition.
- ❖ Decision making capacity in the family had positively significant relationship with their need for capacity building in post-harvest activities of potato. So, the women having more capacity to make decision in the family felt more need for capacity building.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations could be made:

- ❖ Post-harvest activities of potato could be made available and accessible form by supplying sufficient post-harvest equipment, balanced provision of credit and need-based training regarding post-harvest activities of potato for the rural women to improve their capacity.
- ❖ Proper motivational programs might be provided by the DAE and concerned NGOs for involving more women in practicing post-harvest activities of potato.
- ❖ Women having small farm size, no organizational participation and no credit received should be the major target population for providing post-harvest activities of potato. Because, they felt the need for building their capacity in post-harvest activities and can develop them by themselves.
- ❖ Credit facilities, marketing facilities should be improved and sales centers, and processing centers should be established in the rural areas through government and private initiatives.

- ❖ Need based training programs and training facilities should be developed and implemented extensively for increasing their knowledge, management skill and operational ability in practicing post-harvest activities of potato.

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