



## Assessing need for capacity building of rural women in achieving household food security: A study after COVID-19 pandemic from riverine area of Bangladesh

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### ABSTRACT

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Bangladesh has achieved self-sufficiency in food availability. However, a considerable number of population still remain in extreme poverty and are unable to afford a basic food consumption basket. After the COVID-19 pandemic, the situation has worsened resulting millions of people had fallen under poverty line. Apart from the prevailing deficit in total calorie intake, the normal diet of Bangladeshi people is seriously imbalanced, with more than 60 percent of calories derived from cereals. This dietary imbalance reflects insufficient domestic production of non-cereal foods (pulses, oilseeds, meat, milk and eggs), low incomes, food preferences and lack of nutrition education. The rural communities of *char* area refacing multiple livelihood challenges. Food security condition of the *char*'s people is vulnerable. Women can play vital role in achieving food security at household level. This study focuses on the capacity building of *char* women. The main objectives of the study were to determine the extent of need for capacity building of *char* women in achieving household food security and to explore the relationship of the eleven selected characteristics of the *char* women with their extent of need for capacity building. A total of 90 women from two villages of *Shaympur* union of *Melandah* upazila (sub-district) under *Jamalpur* district were selected as sample of the study. Data were collected by using a structured interview schedule during 15 February to 15 March 2023. Need for capacity building of women was the dependent variable and the eleven selected characteristics of the respondents constituted the independent variables. To measure the extent of need for capacity building of *char* women, total 21 aspects under four dimensions of capacity building were included namely i) need for decision making ability, ii) need for access to support services, iii) need for management skill, and iv) need for physical facilities. The dimensions were measured on a four-point rating scale with the responses like 'no', 'low', 'medium', and 'high' along with corresponding scores of 0, 1, 2, and 3, respectively. The highest proportion (66.7%) of the respondents had medium need while the rest (33.3%) of them had highest need for capacity building and none of them had low extent of need for capacity building. Among the characteristics of the respondents, extension media contact, decision making ability and knowledge on food utilization showed significant negative relationship with their extent of need for capacity building. Therefore, the policy makers, concerned government and non-government organizations should closely examine the multifaceted role of women in achieving household food security.

## Introduction

Eradicating hunger is one of the most prior agenda of the government of Bangladesh as it is one of the most important goals of Sustainable Development Goals (SDGs). The SDGs' aim to end all forms of hunger and malnutrition by 2030 (Sharif, 2020). The COVID-19 affects the health and well-being of the whole global population and poses a great threat to global food security and nutrition (UN, 2020). In Bangladesh, the COVID-19 pandemic has an impact on the total food consumption status of the entire country, affecting all segments of the population. Despite significant achievements in food grain production since independence in 1971, food security at national and household level remains a matter of major concern of the

Government of Bangladesh. Reutlinger (1987) defined food security as access by all people at all times to enough food needed for an active and healthy life. It is essential elements are the availability of food and the ability to acquire it. Based on the World Food Summit of FAO (1996), the definition focuses on three distinct but interrelated elements. All three of which are essential to achieve food security i.e., food availability: having sufficient quantities of food from household production, other domestic output, commercial imports or food assistance, food access: having adequate resource to obtain appropriate foods for a nutritious diet. Overall it depends on available income, distribution of income in the household and food prices, food utilization: proper biological use of food, requiring

a diet with sufficient energy and essential nutrients, portable water and adequate sanitation, as well as knowledge of food storage, processing, basic nutrition and child care and illness management. Among these a good number of the activities are mostly dependent upon women and they act as a gatekeeper of household food utilization (Senay et al., 2012).

Food utilization means that the food that is available to a family is turned into nutritional food that can be eaten by the members. It emphasizes the appropriate use of food based on knowledge of basic nutrition and care, as well as adequate water and sanitation (WHO, 2011). Food utilization is dependent on the quality of the food, its preparation and storage method, nutritional knowledge, and the health status of the individual consuming the food (IFPRI, 2008). Women are typically responsible for food preparation and thus are crucial to serve varied and well-balanced meals for their households (FAO, 2013). They are the principal guarantors of nutrition, food safety and quality at household and community levels. They are the ones who often produce, purchase, handle, prepare and serve food to families and community institutions. Therefore, different rights, responsibilities and decision-making abilities of women need to be understood to improve food utilization and nutrition (Senay, 2012).

COVID-19 is an extremely contagious disease, spreading rapidly through human to human contact (Wu et al., 2020). On January, 2020, World Health Organization (WHO) declared COVID-19 a global public health emergency of international concern (WHO, 2020). Worldwide, the governments have imposed varying levels of movement restrictions to control the outbreak of the virus. Though the pandemic has come to an end but WHO warned that this type of restrictions may be imposed again in future as several strains of corona virus were identified in recent days (WHO, 2023). The COVID-19 pandemic has worsened the situation and millions of people had fallen under poverty line. The purchasing capacity of poor people has reduced and affected household food security. The normal diet of Bangladeshi people is seriously imbalanced, with inadequate consumption of fat, oil and protein, and with more than 80 percent of calories derived from cereals (Siddique, 2017). This dietary imbalance reflects insufficient domestic production of non-cereal foods (pulses, oilseeds, meat, milk and eggs), low incomes, food preferences and lack of nutrition

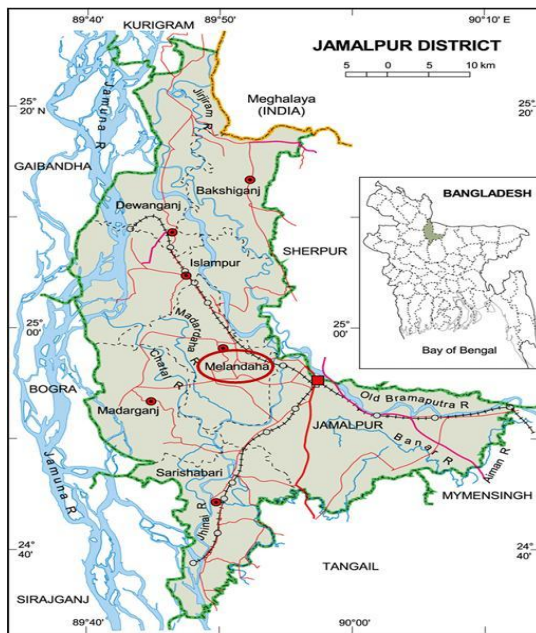
education. Considering these, suggestions are made to strengthen and expand social safety net programs in developing countries. According to Bridge (2014), women literally 'feed the world'. Despite their limited access to either local or global markets, they constitute majority of food producers in the world and usually manage their families' nutritional needs. Thus, the capacity building of women in achieving household food security should be assessed as they play the key role in this aspect.

Capacity building of the women in achieving household food security is the extent to which they have the access to financial, physical, managerial support services as well as ability to make decision. Women are the pioneer of household food utilization. Therefore, their capacity of utilizing household food and ensuring food security to the family members needs to be improved. The inhabitants of *char* are one of the most vulnerable groups in terms of food security. About 5% of total population in Bangladesh as well as 6.5 million people live in the *char* areas (Rahman and Roy, 2018). The *char* economy is highly dependent on agriculture. Their hardship knows no bounds if the agricultural productivity is hampered by adverse climatic condition. Both government and non-government organizations are working to address the basic necessities of *char* dwellers through different livelihood improvement programmes. The extent of need of women for their capacity building towards household food security is necessary to explore before launching improvement programs on capacity building and preparing the vulnerable groups to cope with food related uncertainties due to adverse climatic condition and the outbreak of any epidemic or pandemic. So, the present study was conducted to identify the extent of need for capacity building of women in achieving household food security. This study focuses on the *char* women as these households are supposed to more vulnerable. The specific objectives of the study were: to determine the need for capacity building of *char* women for household food security; to explore the relationships between the extent of need for capacity building of *char* women for household food security and their socio-economic characteristics.

## Materials and Methods

The study was conducted in two purposively selected villages namely *Purba Shaympur* and

Poshchim Shaympur of Shaympur union under Melandah upazila (sub-district) of Jamalpur district. The reason for selecting the site was that the area is char land. The total number of households was 897 and among them 90 households were selected as sample of the study. The sampling technique was simple random. Data were collected by using a structured interview schedule during 15 February to 15 March 2023.



**Figure 1:** Map of Bangladesh showing the study location

To measure the extent of need for capacity building of char women, four dimensions of capacity building were included namely, i) need for food related decision making ability (selection of food items, preparation of food, processing of food, buying food for future consumption, distribution and preservation of food), ii) need for access to support services (credit facilities, awareness programme on food, information about nutritious food, advice from health workers), iii) need for management skill (knowledge on food safety, execution of food preparation based on that knowledge, time allocation for food preparation, maintaining proper hygiene, and iv) need for physical facilities (preservation facilities, processing equipment, uninterrupted supply of electricity, storage facilities, water and sanitation facilities). The dimensions were measured on a four-point rating scale with the responses like ‘no’, ‘low’, ‘medium’, ‘high’ along with corresponding scores of 0, 1, 2, and 3, respectively. There were total 21 aspects under four dimensions. Thus, total

score of a subject for this variable could range from 0-63.

Descriptive statistics and Pearson Product Moment Coefficient of Correlation test were computed to fulfill the objectives of the study. The analysis of data was performed by using SPSS version 21.

## Results and Discussion

### Characteristics of the respondents

Results in Table 1 revealed that among the respondents, 53.3% were young, 46.7% were middle aged and none of them was old. In terms of literacy level, 20% of the respondents were illiterate, 30% had primary education, 43.3% had secondary education and 6.7% had passed higher secondary level. Small and medium size family comprises 40% and 36.7%, respectively in the study area (Table 1). Households comprising of small farm size were dominating and it was 73.3%. Again, most of the respondents (70%) had low and medium annual family income. A vast majority of the respondents (70%) had no training exposure and 100% had low level of participation in different organizations. But majority (70%) of the respondents had moderate ability to cope with uncertainty. They had medium level of extension media contact (71.2%). In case of decision making ability, half of the respondents (52.2%) had weak level of decision making ability. Again, majority of the respondents (80%) had fair knowledge on utilization of food.

### Need for capacity building of char women

The extent of need for capacity building of char women on household food security was measured in terms of need score. The observed need score ranged from 29 to 49 against the possible score range from 0 to 63. The mean was 40.10 and the standard deviation was 6.276. Based on their need score, the respondents were classified into three categories as shown in Table 2. The highest proportion (66.7%) of the respondents had medium extent of need while rest 33.3% of them had high and none of them had low extent of need for capacity building of women. Ahmed *et al.* (2009) and Rahman (2009) found similar findings in their respective studies. In the study area, the char women were in disadvantageous situation in terms of decision making and managerial skill. Thus, the respondents felt high need for capacity building for household food security. Asian Development Bank

(2013) conducted a study on gender equality and food security: women’s empowerment as a tool against hunger. It revealed that women’s empowerment is not only a priority goal in itself but an intrinsic human right which recognizes

instrumental value of gender equality and conditions for the society as factors leading to increase contribution of women to food security and adequate nutrition.

**Table 1:** Salient features of the respondents with categorization

Characteristics	Scoring system	Range Possible (Observed)	Respondent (n=90)		Mean	SD*	
			Categories	No			%
Age	Years	Unknown (22-50)	Young (18-35)	48	53.3	35.07	8.239
			Middle aged (36-55)	42	46.7		
			Old (>55)	0	0		
Education	Year of schooling	Unknown (0-12)	Illiterate (0)	18	20	6.00	3.825
			Primary (1-5)	27	30		
			Secondary (6-10)	39	43.3		
			Above Secondary (>10)	6	6.7		
Household size	Number of Members	Unknown (3-8)	Small (up to 4)	36	40	5.30	1.472
			Medium (5-6)	33	36.7		
			Large (>6)	21	23.3		
Farm size	Hectares	Unknown (0.12-0.94)	Landless (up to 0.02)	0	0	0.380	0.202
			Marginal (0.021-0.2)	24	26.7		
			Small (0.21-1.0)	66	73.3		
Annual family income	‘000’ TK	Unknown (63-325)	Low (< 75)	24	26.7	143.67	75.288
			Medium (75-150)	39	43.3		
			High (>150)	27	30		
Training Exposure	Number of Days	Unknown (0-7)	No Training (0)	63	70	0.93	1.798
			Short duration (1- 7)	27	30		
			Medium duration (8-15)	0	0		
			Long duration (>15)	0	0		
Ability to cope with uncertainty	Score	0-24 (6-12)	Weak (up to 8)	27	30	9.13	1.616
			Moderate (9-16)	63	70		
			Strong (> 16)	0	0		
Organizational participation	Score	Unknown (0-2)	Low (up to 2)	90	100	1.17	0.738
			Medium (3-4)	0	0		
			High (more than 4)	0	0		
Extension media contact	Score	0-45 (14-25)	Low (up to 15)	26	28.8	19.57	2.166
			Medium (16-30)	64	71.2		
			High (>30)	0	3.3		
Decision making ability	Score	0-40 (8-37)	Weak (up to 13)	47	52.2	16.70	1.927
			Moderate (14-26)	39	43.3		
			Strong (>26)	4	4.5		
Knowledge on food utilization	Score	0-60 (17-36)	Shallow (Up to 20)	18	20	25.70	4.941
			Fair (21-40)	72	80		
			Good (>40)	0	0		

Moreover, having similar socio-economic background, the women included in the sampling expressed similar opinion for their need for capacity development. Hence, they all fell under same category of need for their development. Ahmed et al. (2009) and Rahman and Begum (2009) conducted studies on capacity building of women in post harvest activities of vegetables and observed similar outcomes.

**Dimension-wise need for capacity building of char women**

Four dimensions of capacity building were selected to assess the extent of need for capacity building of char women for achieving household food security. The categorization of the respondents based on all the dimensions have been shown in Table 3.

**Table 2:** Need for capacity building of *char* women on household food security

Categories	Possible range	Observed range	Respondents (n=90)		Mean	Standard deviation
			Number	Percent		
Low (up to 21)			0	0		
Medium (22-42)	0-63	29-49	60	66.7	40.10	6.276
High (>42)			30	33.3		

**Table 3:** Dimension-wise need for capacity building of *char* women

Dimensions	Score range		Respondents			Mean	Std. Dev.
	Possible range	Observed range	Categories	No.	%		
Food management decision	0-18	12-17	Low (up to 6)	0	0	14.30	1.472
			Medium (7-12)	12	13.3		
			High (>12)	78	86.7		
Access to support services	0-15	2-11	Low (up to 5)	45	50	6.67	3.087
			Medium (6-10)	42	46.7		
			High (>10)	3	3.3		
Management skill	0-15	3-11	Low (up to 5)	9	10	8.97	2.372
			Medium (6-10)	36	40		
			High (>10)	45	50		
Physical facilities	0-15	8-12	Low (up to 5)	0	0	10.17	0.824
			Medium (6-10)	78	86.7		
			High (>10)	12	13.3		

**Table 4:** Relationship between dependent and independent variables

Dependent variable	Independent variables	Coefficient of correlation (r) with 88 df
Need for capacity building of <i>char</i> women	Age	0.026
	Education	-0.165
	Household size	0.182
	Farm size	0.007
	Annual family income	-0.176
	Training exposure	-0.186
	Ability to cope with uncertainty	0.049
	Organizational participation	0.229
	Extension media contact	-0.274**
	Decision making ability	-0.361**
	Knowledge on food utilization	-0.617**

\*\* Significant at 0.01 level of probability

Table 3 revealed that almost all of the respondents felt high need for capacity building in two dimensions. The highest proportion (86.7%) of the respondents was in high need for food management decision making ability followed by management skill (50%). Sharmin *et al.* (2009) conducted a study on need of rural women in practicing post-harvest activities and found that 90% of the respondents were in high need for decision making ability. On the other hand, medium level of need

for capacity building was felt by the respondents in two dimensions namely need for physical facilities (86.7%) and need for access to support services (46.7%).

It was observed in the study area that like other rural areas of Bangladesh, men had access to local markets for selling and purchasing food items. So, women have to prepare food that were purchased by her household heads. Thus, women logically

felt high need for their capacity building for food management decision making in selection of food items, preparation of food, processing of food, buying food for future consumption, distribution and preservation of food.

### **Relationship between the selected characteristics of *char* women and their extent of need for capacity building**

The relationship between the need for capacity building of *char* women (dependent variable) and selected characteristics (independent variables) has been presented in Table 4.

Among the eleven characteristics of the respondents, three characteristics namely extension media contact, decision making ability and knowledge on food utilization had negatively significant relationships with their extent of need for capacity building for achieving household food security. The rest of the characteristics did not show any significant relationship with their extent of need for capacity building. Individual's knowledge on any aspect make that person aware of it and ensure better understanding on its utilization. Thus, the women having fair knowledge on food utilization felt less need for capacity building for household food security. There exists significant relationship between decision making ability and extent of need for capacity building which followed a negative trend. Thus, it could be said that decision making ability played significant role on women's extent of capacity building. Similar trend was showed by extension media contact. It was assumed that respondents who had high contact with extension media were efficient in collecting useful information on food safety and food utilization.

### **Conclusion**

It is observed that food prices increased significantly in epidemics or pandemics affected countries which had severe impacts on food security, especially for vulnerable populations including women, children, and marginal people. Increased food prices can disproportionately affect vulnerable groups specially marginal households and women. The present study revealed that almost two third of the respondents had medium extent of need and one third of the respondents had high extent of need for capacity building for achieving household food security. Among the four dimensions the highest proportion (86.7%) of the

respondents was in high need for decision making ability followed by management skill (50%). Women having good knowledge on food utilization, strong decision making ability and high extension media contact felt less need for capacity building. The policy makers, concerned government and non-government organizations should closely examine the multifaceted role of women in achieving household food security. In formulating any action plan for the women regarding such activities, extension media contact, knowledge on food utilization and decision making ability in the family might be considered on priority basis.

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