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Livelihood Status of Women in Haor Area of Bangladesh

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Abstract

The main focus of this study was to find out the existing livelihood status of women in a haor area, to ascertain the selected characteristics of the respondents; and to explore the relationship of selected characteristics of the haor women with their livelihood status. The study was conducted in Bishwamvorpur upazila under Sunamganj district of Bangladesh. The data was collected from the women of Fatepur and Polash union under Bishamvarpur upazila of Sunamganj district. Three villages under Fatehpur union and one village under Palash union were randomly selected. All women of these villages were the population of the study. Data were collected using structured questionnaire from August 2017 to December 2017 through face to face contact with 200 sampled respondents who are selected following using simple random sampling method. Result showed that highest proportion (84 percent) of the respondents had medium human capital while (11 percent) having low capital and only a negligible proportion (5 percent) having high human capital. On the other hand, (62.5 percent) of the respondents had low physical capital while (37.5 percent) having medium capital. In case of financial capital, the highest proportion (77.5 percent) of the respondents had low capital while (22.5 percent) having medium capital. The results also indicate that highest proportion (81.5 percent) of the respondents had medium social capital while (18.5 percent) having low social capital. Besides, the highest proportion (90.5 percent) of the respondents had low natural capital while only (9.5 percent) having medium capital. Almost three-fourths (74.5) of the respondents had medium livelihood status while one-fourth (25.5) having low status. This means haor women had low to medium livelihood status. None of the haor women was found having higher livelihood status. The overall livelihood status score of the respondents ranged from 19 to 43 against the possible range of 0 to 75 with a mean value of 28.65 and standard deviation 4.53. The findings revealed that due to development efforts undertaken by GO and NGOs, at least significant level of improvement has been occurred regarding livelihood status of the haor women. On the other hand, household farm size, house hold annual income, media exposure, training experience, and livelihood aspiration had significant positive relationships with the livelihood status of haor women in the haor area of Bangladesh.

Key words: *Livelihood, haor, women.*

Introduction

In Bangladesh, haors are mainly found in greater Sylhet and greater Mymensingh regions, with 783,939 hectares of arable land and about 5 million residents. There are about 373 haors in the districts of Sunamganj, Habiganj, Netrokona, Kishoreganj, Sylhet, Moulavibazaar and Barhmanbaria covering an area of 859,000 ha or 43% of the total haor area of Bangladesh (CEGIS, 2012; Kazal *et al.*, 2018). In the haor region, the cropped land becomes completely inundated for 6–7 months in a year and strong wave action add the vulnerability of the haor residents as it can potentially wash away the land and poses a major threat to many villages in the haor. Boro rice is mainly cultivated in the dry winter season and in the wet season the

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area becomes a floodplain suitable for fisheries only. Therefore, high seasonality of the haor-based economy forces its residents to remain out of work for an extended time (roughly 6–7 months in a year) and as a result they suffer from serious level of food and livelihood insecurity. (HILIP, 2011; Kashem *et al.*, 2013; Kazal *et al.*, 2010; and Kazal *et al.*, 2018). Production of solo crop throughout the year, seasonal unemployment, low agricultural production and incomes, contribute to seasonal hunger that characterizes the lives of the people. The high seasonality of the *'haor'*-based economy forces local people to remain out of work for a considerable period and as a result, they suffer from food insecurity. (Kazal *et al.*, 2010). Overall, the *Haor* region remains a part of Bangladesh where natural shocks, seasonal food insecurity and patterns of socio-economic and political exploitation create conditions of extreme and widespread vulnerability for a significant proportion of the population for long periods of the year (CARE, 2015 – 2020).

In 2017, the population of Bangladesh is estimated 162.7 million, among them women are 81.3 million, and men are 81.4 million. Therefore, women can play vital role to develop Bangladesh. Women have less participation than men for both the personal level within the household and at the societal level (Akhter and Islam, 2018). Women living in the haors are particularly disadvantaged and vulnerable. In particular, they face higher rates of malnutrition and maternal mortality than in other parts of Bangladesh, but have more limited mobility, engagement in economic activities and participation in groups and networks. Women and girls also have limited access to basic services of healthcare and education due to the difficulties of transport during the flood season (BHWDB, 2012). There is no systematic research on the situation of livelihood status of women in a haor area. Keeping the above in view, the investigators undertook this study with following objectives (i) to find out the existing livelihood status of haor women; (ii) to ascertain the selected characteristics of the respondents; and (iii) to explore the relationship between the livelihood status of haor women with their selected characteristics.

Methodology

Locations, population and sample of the study: The study was conducted purposively in Bishamvarpur upazila of Sunamganj district. Two unions of Bishamvarpur upazila were randomly selected out of 5 unions the data was conducted at four villages namely Bahadurpur, Bishwamvarpur Notunhati, Dhorerpar and Raipur of Fatepur and Polash union under Bishamvarpur upazila of Sunamganj district. Among the eleven upazilas of Sunamganj district, Bishamvarpur was selected purposively for this study. Because this area is a unique haor of the district and the people are more disadvantaged in terms of living standards. The selected villages are situated in haor area which is naturally low land. Every year flood occurs in the study areas and causes human sufferings and damages crops, livestock, fisheries and other resources. People have been living in the haor for generation after generation struggling with the natural calamity. The haor is a potential area for addressing food security though increasing production of crop cultivation,

rearing of ducks and other livestock and open water fisheries thereby improving livelihood quality of the people. People have been living in the haor for generation after generation struggling with the natural calamity. All women of these villages were the population of the study. A total of 10 percent women of the population was randomly selected as sample by using simple random sampling method. Thus, the total sample size stood at 200. Table 1 shows the population and sample size of different villages included in the study.

Table 1 Distribution of population and sample of the respondents of the study area

Study area (Union)	Village	Population (women)	Sample size	Reserve list
	Bahadurpur	355	35	5
Fatehpur	Bishwamvarpur Notunhati	460	46	5
	Dhorerpar	570	57	5
Palash	Raipur	620	62	5
Total		2005	200	20

Besides, a reserve list of 20 haor women was prepared. Haor women of the reserve list were used only when a respondent included in the original list was not available during collection of data. Data were collected through a pre-tested interview schedule.

Variables and their measurement: Livelihood status of the haor women was the focus issue of the study, while their selected socio-economic characteristics were the selected characteristics.

Measurement of livelihood status of haor women: Examination of livelihoods status of women in a haor area is main objectives of the study. Both measured livelihood status of haor women in this study independently (capital wise) and combinedly computing a livelihood status score by considering five capitals (DFID, 2000) of her livelihoods: human, physical, financial, social and natural capital. Each of the capitals was measured against five statements. A 4- point rating scale was used to measure human capital of an individual respondent. Appropriate weights were assigned to each of the responses, such as 3 for high, 2 for medium 1 for low. By adding all the weights of each of the responses, the human capital sub-score of a respondent was calculated. Five items of human capital were used in measuring the said sub-score. The human capital sub-score of a respondent could range from 0-15, where 0 indicating no human capital while 15 indicates high capital sub-score of a respondent. Haor women were classified into three categories according to their human capital sub-score. These are low human capital (0-5), medium human capital (6-10) and high human capital (11-15). Therefore, similar procedure was followed in computing physical capital sub-score, financial capital sub-score, social capital sub-score, and natural capital sub-score of haor women of the study area. Thus, the physical capital sub-score, financial capital sub- score, social capital sub-score, and natural capital sub- score of an individual could range from 0-15, 0-15, 0-15 and 0-15 where zero indicating no capital and 15 indicates high capital score of a respondent.

The overall livelihood status score of haor women was calculated by adding all the weights of sub-score of 5 capitals of the responses of the respondents. Total twenty-five items of overall capitals were used in measuring the said capital score.

Measurement of the selected characteristics of the haor women were: age, level of education, household size, household farm size, family annual income, and ownership of personal asset, extension media exposure, training exposure, household food availability, and participation in household decision -making, self-esteem, and livelihood aspiration. Standard procedures have been followed to measure the selected characteristics.

Instrument for Data Collection: Structured and different semi-structured interview schedules were prepared to attain the objectives of the study. A structured interview schedule was prepared containing open and closed questions. The open questions allowed for the respondents to give answers using their own language and categories (Casley and Kumar, 1998). Data was gathered by the researcher personally.

Data collection, processing and analysis: Data were collected through a pre-tested interview schedule. In addition, focus group discussion, observation was also employed to obtain necessary information. During data collection, necessary cooperation was obtained from field staff of different GOs and NGOs and local leaders. Books, journals, reports and internet documents were used as secondary sources of data supporting or supplementing the empirical findings of the study

Analysis of Data: Data collected for this study from the respondents were compiled, tabulated, coded and analyzed in accordance with the objectives of the study. Descriptive statistical measures such as number, percentage distribution, range, mean, standard deviation and coefficient of variation were used in describing the selected variables. A statistical test like correlation was used in this study. Each statistical technique was used under specific conditions and depends on the measurement scale of different variables. For exploring relationship between any two variables Pearson's product moment coefficient of correlation (r) was used.

Findings and Discussion

Livelihood status of haor women: The livelihood status of haor women in terms of five capitals of asset pentagon of livelihoods was investigated. These were human, physical, financial, social and natural capital. Distribution of the haor women according to different capital sub-scores of livelihoods has been shown in Table 2 and discussed below.

Livelihood status regarding human capital: The human capital represents the abilities, knowledge, work skills, good health nutrition etc. that combined and facilitates people to engage with different practice and different livelihood strategies to obtain their own objectives for their livelihoods. Human capital sub-score of the haor women ranged from 4 to 12 against the possible range of 0 to 15 with the average value being 7.38 and standard deviation 1.76.

Table 2 Distribution of haor women according to their different livelihood capital sub-scores

Characteristics (Measuring units)	Range		Respondents (N=200)			Mean	SD
	Possible	Observed	Categories	Number	Percent		
Human capital (score)	0-15	4-12	Low (up to 5)	22	11	7.38	1.76
			Medium (6-10)	168	84		
			High (11-15)	10	5		
Physical capital (score)	0-15	2-10	Low (up to – 5)	125	62.5	4.95	1.91
			Medium (6-10)	75	37.5		
			High (11-15)	0	0		
Financial capital (score)	0-15	1-8	Low (up to – 5)	155	77.5	4.51	1.31
			Medium (6-10)	45	22.5		
			High (11-15)	0	0		
Social capital (score)	0-15	6-13	Low (up to – 5)	37	18.5	9.08	1.50
			Medium (6-10)	163	81.5		
			High (11-15)	0	0		
Natural capital (score)	0-15	1-8	Low (up to – 5)	181	90.5	2.74	1.74
			Medium (6-10)	19	9.5		
			High (11-15)	0	0		

The information presented in Table 2 indicates that the highest proportion (84 percent) of the respondents had medium human capital while (11 percent) of the respondents having low capital and only a negligible proportion (5 percent) having high human capital.

It can be worthwhile to mention here that Haque (2010) and Islam (2005) found the similar findings in their respective studies. The findings indicate that majority of women had low to medium capital meaning majority of the respondents suffers in adequate human resources which might hamper farming and household activities.

Livelihood status regarding physical capital: Physical capital refers to the basic infrastructure like transport, shelter, communication etc. and the production equipment, which enable people to peruse their livelihoods. Physical capital score of the haor women ranged from 2 to 10 against the possible range of 0 to 15 with an average of 4.95 and standard deviation 1.91. The information presented in Table 2 indicates that the highest proportion (62.5 percent) of the respondents had low physical capital while (37.5 percent) of the respondents having medium capital and none of them were found high physical capital. This means all the women had low to medium physical capital meaning the women are facing shortage of physical resources and would hamper household and farming activities.

It can be worthwhile to mention here that Haque (2010) found that the highest proportion (75.42 percent) of the participants had medium status of livelihood regarding physical capital followed by 13.74 and 7.92 percent of them having high and low livelihood status, respectively. This means women of the study area possessed low to medium physical capital.

Livelihood status regarding financial capital: It refers to the financial resources, which populations employ to achieve their objectives regarding livelihoods. Financial capital score of the haor women ranged from 1to 8 against the possible range of 0 to 15 with an average 4.51 and standard deviation 1.31.

The information presented in Table 2 indicates that the highest proportion (77.5 percent) of the respondents had low financial capital while (22.5 percent) of the respondents having medium capital. None of the haor women was found with high financial capital. The finding indicates that the women are facing acute shortage of financial capital which means the women may suffer financial constrains in running their household and farming activities.

It can be worthwhile to mention here that Haque (2010) found the highest proportion (52.92 percent) of the respondents had medium status of livelihood improvement regarding financial capital followed by 29.58 and 12.50 percent of them having low and high livelihood status, respectively. Financial capital, which means they may have financial hardship.

Livelihood status regarding social capital: Social capital refers to the social resources, which populations rely on when seeking their objectives relating to livelihoods (in the present study this refers specifically to local social capital, this being networks, associations, local authorities, local officials and broader population receiving program assistance. The social capital sub-score of the haor women ranged from 6 to 13 against the possible range of 0 to 15 with an average 9.08, standard deviation 1.50.

The information presented in Table 2 indicates that the highest proportion (81.5 percent) of the respondents had medium social capital while (18.5percent) of the respondents having low social capital. None of them was found with high social capital.

The findings indicate that like other capitals the haor women suffers shortage of social capital meaning their social network is inadequate which might hamper socialization process in the haor social system.

It can be worthwhile to mention here that Haque (2010) found the highest proportion (57.50 percent) of the participants had medium status of livelihood improvement regarding social capital followed by 22.50 and 14.16 percent of them having low and high livelihood status, respectively.

Livelihood status regarding natural capital: The natural capital refers to the stocks of naturally occurring resources (soil, water, air, genetic resources, etc.) which can be used as inputs to create additional benefits, such as food chains, protection against soil or coastal erosion, and other natural resources, which can support livelihoods. Natural capital sub-score of the haor women ranged from 1to 8 against the possible range of 0 to 15 with an average 2.74, standard deviation 1.74.

The information presented in Table 1 indicates that the highest proportion (90.5 percent) of the respondents had low natural capital while only (9.5 percent) of the respondents having medium capital. None of the haor women was found having high natural capital. Like other capitals, the respondents suffer insufficient natural capital which might hamper the possession of natural resource base of haor women. It can be worthwhile to mention here that Haque (2010) found similar findings in his study.

Overall livelihood status: The overall livelihood status score of the respondents ranged from 19 to 43 against the possible range of 0 to 75 with a mean value of 28.65 and standard deviation 4.53. On the basis of overall livelihood status score the haor women were classified into three categories according to their overall capital score. These are low status (up to-25), medium status (26-50) and high status (51-75) and presented in Table 2.

Table 3 Distribution of the respondents according to their overall livelihood status score

Categories	Respondents		Mean	SD
	Number	Percent		
Low livelihood status (up to-25)	51	25.5	28.65	4.53
Medium livelihood status (26-50)	149	74.5		
High livelihood status (51-75)	0	0		
Total	200	100		

The information presented in Table 3 indicates that almost three-fourths (74.5) of the respondents had medium livelihood status and one-fourth (25.5) of the respondents having low status. This means haor women had low to medium livelihood status. None of the haor women was found having higher livelihood status. This indicates due to development efforts undertaken by GO and NGOs at least significant improvement occurred regarding livelihood status among the haor women.

Selected characteristics of the haor women: The purpose of this section is to describe the selected characteristics of the respondent of haor women. The characteristics of haor women have been described in 12 sub-sections, each subs-section dealing with one of the characteristics. For describing the characteristics of haor women, they were classified into suitable categories according to each of the characteristics. Category, number, percentage, mean, and standard deviation have been used to describe the characteristics. The characteristics profile is presented in Table 3.

Data contained in the Table 4 indicates that majority (96.5 percent) of the respondents were young to middle aged. In our social condition, young and middle-aged women are more sincere to perform their household and farm activities and they try to do something to increase their income level.

Majority (59.5percent) of the haor women having primary education, near about one-fourth (23.5) percent of the haor women were illiterate compared to 13.5 percent could sign only and small proportion (3.5 percent) of the respondents had secondary level of education. This indicates a heavy drop out at secondary level of education. Early marriage, geographical situation, there is a smaller number of educational institutes and because of socioeconomic condition; the haor women are less interested to continue their education. Majority (90 percent) of the households in the study area were of small to medium size categories.

The data in Table 4 indicates that Majority (53 percent) of the haor women had small family farm while (23.3 percent) of them were landless and (21 percent) of them having marginal family farm. Only a few (2.5 percent) of them was medium family farm. There had no large farmers in the study area.

The findings of the study indicate that all (100 percent) of the respondents of the study area belonged to low to medium income categories. There had no high-income family in the study area.

Table 4 Characteristics profile of the respondents (n = 200)

Selected Characteristics (Measuring units)	Range		Respondents (n=200)			Mean	SD
	Possible	Observed	Categories	Number	Percent		
Age (year)	Unknown	18-55	Young aged (up to 35)	149	74.5	31.58	9.28
			Middle aged (36-51)	44	22.0		
			Old aged (51 years and above)	7	3.5		
Level of education (actual level)	Unknown	0-10	Illiterate (0)	47	23.5	2.02	2.19
			Can sign only (0.5)	27	13.5		
			Primary (1-5)	119	59.5		
			Secondary (6-10)	7	3.5		
Household size (no. of members)	Unknown	1-14	Small family (up to 4)	51	25.5	5.77	2.13
			Medium family (5-6)	85	64.5		
			Large family (7 and above)	64	10		
Household farm size (hectare)	Unknown	.002-1.32	Landless (<0.02 ha)	47	23.5	0.271	255
			Marginal (0.02-0.20 ha)	42	21		
			Small farm family (.201-1.0 ha)	106	53		
			Medium farm family (1.01-3 ha)	05	2.5		
Family annual income ('000' taka)	Unknown	35-182	Low income (up to 150)	197	98.5	92.29	20.09
			Medium income (151—250)	3	1.5		
Ownership of personal asset ('000' taka)	Unknown	0-40	Low (up to13)	184	92	4.00	5.27
			Medium (14-26)	16	8		
			High (27 and above)	0	0		
Extension media exposure (scores)	0-30	2-10	Low (up to 10)	28	14	5.31	1.50
			Medium (11-20)	172	86		
			High (21 and above)	0	0		
Training exposure (days)	0-30	Unknown	No training (0)	170	85	0.80	3.07
			Short duration (1 to 5)	22	11		
			Medium duration (6-15)	7	3.5		
			Long duration (16 and above)	1	0.5		
Household food availability (score)	0-36	12-24	Availability of insufficient food (up to 12)	112	56	14.78	3.90
			Availability of moderately sufficient food (13- 24)	88	44		
			Availability of sufficient food (25 and above)	0	0		
Participation in household decision-making (score)	0-36	8-21	Low (up to 12)	129	64.5	14.35	3.24
			Medium (13-24)	71	35.5		
			High (25 and above)	0	0		
Self-esteem (score)	0-30	13-22	Low (up to 10)	69	34.5	11.58	2.05
			Medium (11-20)	131	65.5		
			High (21 and above)	0	0		
Livelihood aspiration (score)	0-32	9-28	Low (up to 10)	32	16	19.70	3.51
			Medium (11-20)	153	76		
			High (21-32)	15	8		

SD = Standard Deviation

Data presented in Table 4 indicates that majority (92 percent) of the respondents had low ownership of assets while 8 percent of the respondents having medium ownership of assets and none of the haor women were found having higher ownership of asset.

Majority (86 percent) of the haor women having medium media contact compared to 14 percent having low extension contact and nobody had high media contact with various extension information sources.

Majority (85 per cent) of the respondents had no training exposure followed by 11 percent having short duration training exposure. Only 3.5 percent and 0.5 percent had medium and long duration training exposure, respectively.

Majority (56 percent) of the haor women had insufficient availability of food compared to (44 percent) having moderately sufficient food availability and none of the respondents have found sufficient food availability.

Data expressed in Table 4 indicates majority (64.5 percent) of the haor women were under medium role in decision-making category and the rest (35.5 percent) of the respondents fell into role in low decision-making category and none of them were found to perform high role in decision-making. Therefore, it can be said that women in the study area perform low to medium extent of household decision-making.

The majority (65.5 percent) of the haor women had a medium level of self-esteem. Among rest of the respondents, 34.5 percent had low level of confidence and none of the respondents had found high level of self-esteem.

Data furnished in Table 4 indicates that slightly above three-fourths (76 percent) of the haor women had medium livelihood aspiration followed by16 percent had low level of aspiration and 8.0 percent had high level of livelihood aspiration. Majority of the respondents had low to medium livelihood aspiration because; they live in remote rural area, with low education, having low income and limited contact with diverse people.

Relationships between selected characteristics of the respondents and their livelihood status: The summery of the results as correlation co-efficients for the relationships between the selected characteristics of the respondent haor women and their livelihood status is shown in Table 5. Pearson's Product Moment Correlation Co- efficient (r) has been computed. Five percent (0.05) level of probability has been used as the basis for rejection of the null hypothesis. The null hypothesis was "there is no relationship between the selected characteristics and livelihood status of haor women.

The findings revealed that age, education, household size, ownership of asset, household food availability, role in household decision making, self- esteem of haor women had no significant relationships with their livelihood status. Hence the researcher accepts the null hypotheses concerning these variables. Household farm size (0.325**), household annual income (0.254**), training experience (0.272**), extension media exposure (0.151*), and livelihood aspiration (0.208**) were found to have positively significant relationships with their existing livelihood status of haor women. Thus, the null hypotheses concerning these variables were rejected.

Table 5 Co-efficient of correlation between the selected characteristics of the haor women and their livelihood status

Focus issue	Selected characteristics	Computed value of 'r '	Tabulated value of 'r'	
			0.05	0.01
Livelihood status of women	Age	0.023NS	0.866	0.1264
	Education	0.0601NS		
	Household size	0.045NS		
	Household farm size	0.325**		
	Household annual income	0.254**		
	Ownership of asset	0.135NS		
	Extension media exposure	0.151*		
	Training experience	0.272**		
	Household food availability	0.005NS		
	Role in household decision – making	0.043NS		
	Self –esteem	0.093NS		
	Livelihood aspiration	0.208**		

* Significant at 5% level with df 198
** Significant at 1% level with df 198;
NS = Non significant

Conclusions

On the basis of the findings and their logical interpretations in the light of relevant facts, the conclusion might draw:

Majority of the respondents suffers inadequate human resources and possessed low to medium physical facilities in maintaining their livelihoods. The women of haor area are facing acute shortage of financial capital which means the women may suffer financial constrains in running their household and farming activities. Like other capitals the haor women suffers shortage of social capital meaning their social network is inadequate which might hamper socialization process in the haor social system. The respondent suffers from possession of insufficient natural capital, which might hamper the possession of natural resource base of haor women. Overall livelihood status of the haor women of the study area had low to medium. None of the haor women was found having high livelihood status. Thus, it is concluded that livelihood status needs to be improved with special attention of various extension service providers, government and other organization should initiate some programs to improve and proper use of existing natural, financial, physical and human capital. This will give impetus and foster development process and as well as enhance the overall livelihood status.

In order to improve overall livelihood status of women of haor area also careful considerations could be made regarding household farm size, household annual income, training experience, extension media exposure, and livelihood aspiration because the livelihood status of haor women was significantly increased with the increase these factors.

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