



**VULNERABILITIES AND CAPABILITIES OF RURAL WOMEN DURING FLOOD:
A SOCIOLOGICAL STUDY**

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Abstract: Natural disasters are the most frequent phenomena in Bangladesh. More or less every year, the people of Bangladesh face various kinds of disaster such as flood, draught, and cyclone. Considering the existing social structure of Bangladesh women are the most vulnerable to natural disasters and bear the challenges of the pre, post and during disaster survival. However, despite various difficulties they play the most crucial role to maintain their families during natural disaster. The present study intends to focus on the vulnerabilities and the capabilities of the rural women during the flood of 1998. For women and children the flood of 1998 caused tremendous sufferings due to their socio-economic conditions in the society. It was noticeable that although women were more vulnerable to disasters they did play the most crucial role for coping with disasters. Women faced severe problems to protect their families during flood. Among those the poor people suffer from lack of food, clothing and shelter. During flood the ultimate responsibility goes to women to protect their houses, children and other members of their families, livestock and other belongings.

In the flood refugees women faced many problems such as looting, shortage of fuel, insecurity, problem of *parda* maintenance, insufficient toilet facilities, fear of snakes, frogs, mosquitoes and other insects, transport problems, problems of water collection and many others. Despite various problems faced by women they have played important roles during different phases of flood. The present study was an attempt to find out the situation of this brave, silent and deprived section of the society whose contributions in rebuilding the post-flood economy and rehabilitation remains unnoticed. The chemistry of their struggle and their strategy, if understood, will help in designing future plans of post flood rehabilitation schemes.

Key words: Vulnerabilities, capabilities, rural women, disaster

Introduction

Bangladesh is a country of natural disasters. More or less every year Bangladesh becomes victim of ravaging tornadoes, devastating floods, catastrophic cyclones, droughts and high-rise tidal surge. The people of Bangladesh have to survive fighting with these natural disasters. Among these natural disasters flood is the most common and recurrent phenomenon in Bangladesh. Severe floods occurred in Bangladesh in 1910, 1938, 1954, 1971, 1974, 1981, 1987, 1988 and in 1998.

The floods of 1980 and 1984 also covered an area of more than 30%, making the number of such floods to be six since 1974 (i.e. one in every four years). In addition, the total area covered by major floods has been steadily increasing since 1974, with an exception of 1984 floods. The land area affected by major floods has increased from 35% in 1974 to 68% in 1998. However, all sources of data show a general trend of increased flooding propensity. (Khalequzzaman, 1998)

The flood of 1998 was more devastating due to its extent of coverage two-third of the country. The multidimensional affects of flood of 1998 are disastrous in general and for economy in particular. It was difficult for the poor to strive, survive and resume their livelihood having been lodged in the deluge for almost three months without necessary facilities for their daily livelihood. 'Floodwaters engulfed the northern and central parts of Bangladesh and this flood not only destroyed the infrastructure very severely but also delayed the transplanting season for the longest Crop *Aman*. During the flood 1998, 1423320 acre of crops

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were damaged, 16212 kilometer roads were affected, 9,80,571 houses were damaged, and 3,32,21,975 people were affected' (Karmaker, 1998)

During floods women's gender-assigned tasks, especially procuring food and cooking, providing drinking water, storing fuel and child care are such that they have to bear more of a physical burden of coping with floods than men do. In rural areas men's normal activities, such as agricultural or most of the non-agricultural work outside home remain ceased during floods (Nasreen, 1998). Among those affected by floods and related problems, women and children are usually the most helpless and disadvantaged. There is an unwritten convention in our society that some types of jobs are fixed for the male and some for the female. The traditional roles in the customary division of labour become much more difficult for women to perform under flood conditions, e.g. cooking, cleaning, fetching drinking water from a long distance and undertaking other household chores. During flood, people confront with acute shortages of portable water and edible food stuff. And women mainly face all of these problems. During flood, almost whole of the affected area turns into "under-served and unsaved" area. Lack of drinking water facilities, firewood and other kinds of fuel makes women's life measurable. Since there is no scope of cultivation, a farmer can spend his time by sleeping or wondering around to look for job but his wife has to cook food, as always, whatever the position of water, fuel, hearth etc. is (Rajat:1998). Traditionally, rural women have always been involved in agricultural activities within the homestead. These activities which include homestead horticulture, livestock rearing, goat rearing, poultry and bird keeping have been a regular but rather invisible source of family income supplementation (Safilias *et al.*, 1989).

Government and many other bodies dealing with flood control mainly communicate with wealthier, influential landowners who do not represent or serve the interest of the poor or of women. Nor does it seem to have occurred to policy makers that women might be involved in different activities from men or experience floods differently from men. Researchers (Latif, 1989; Custers, 1993) have pointed out that any step to control floods should emphasize both the structural (i.e. building of embankments) and non-structural (i.e. people's initiatives) approach. They have discussed the problems and the negative consequences of floods and flood control projects for the environment, fisheries, and many other aspects of life (Adnan; 1990; Boyce, 1990; Pearce, 1991; Custers, 1993). However, they have ignored the problems of women. There has been almost no discussion of the differential impacts of floods upon gender and women in different socio-economic categories. The ultimate objectives of this study were to describe various problems faced by rural women during flood and to explore the coping strategies of rural women with flood.

Materials and Methods

The study was conducted through comprehensive structured interview by means of well-reformed questionnaire at *Amarkhana* village under the district of *Panchagarh* during July to September, 2000. One hundred and seventy 170 respondents were selected following purposive sampling procedure. The data were collected from both primary and secondary sources to strengthen the rationality of the study and for better and comprehensive analysis. Proportional percentage and cumulative frequency in terms of specific category were followed to give the research a proper logical quantitative ground.

Results

Types of assets of the respondents (pre, during and post flood): Table 1 shows that majority of the respondents' households own hen (97.1%), goat (91.1%), Locker (87.1%), cow (79.4%), duck (65.9%), jewellery (55.9%) and trees (50%). During flood, the assets were damaged to a large extent. As a result, after flood, many households did not possess those assets and the percentages reduced as follows: hen (60.0%), goat (55.9%), locker (52.4%), cow (48.2%), duck (22.4%), jewelry (36.5%) and trees (17.11%). Among other assets, which showed significant reduction after flood, were buffalos, bed, bicycle, radio, television and shallow machine.

Assets of the respondents' households: The present socio-economic condition of women in rural households is that majority of them live below the poverty line. So they do not possess enough assets but these assets are destroyed by flood in every year. Table 2 shows that majority of the respondents' households (41.8%) owned assets of above Tk. 18,000. The second dominant category 9001-12000 was comprised of 14.7% of the respondents' households. During flood the percentage reduced to 38.2 and 12.4, respectively. However after flood only 31.8% of the respondents' households owned assets of above Tk. 31.8%. Only 12.4% of the

respondent's households owned below Tk. 3,000 before flood but after flood, the same amount was owned by 21.8%. This is because of reduction of assets due to flood.

Table 1. Types of assets of the respondents' households.

Assets	Before flood		During flood		After flood	
	No.	%	No.	%	No.	%
Cow	135	79.4	105	61.8	82	48.2
Buffalos	12	7.1	10	5.9	7	4.1
Goat	150	91.1	127	74.7	95	55.9
Hen	165	97.1	124	72.9	102	60.0
Duck	112	65.9	67	39.4	38	22.4
Trees	85	50	48	28.2	29	17.1
Bed	168	93.3	137	80.6	125	73.5
Locker	148	87.1	103	60.6	89	52.4
Bicycle	67	39.4	67	39.4	67	39.4
Radio	77	45.3	68	40.0	57	35.5
Television	13	7.6	13	7.6	13	7.6
Ornaments	95	55.9	76	44.7	62	36.5
Shallow machine	11	6.5	11	6.5	11	6.5

Table 2. Assets of the respondents' households.

Assets (TK)	Before flood	During flood	After flood
Below 3000	21 (12.4%)	25 (14.7%)	37 (21.8%)
3001-6000	22 (12.9%)	21 (12.4%)	22 (12.9%)
6001-9000	10 (5.9%)	18 (10.6%)	20 (11.8%)
9001-12000	25 (14.7%)	21 (12.4%)	14 (8.2%)
12001-15000	10 (5.9%)	7 (4.1%)	12 (7.1%)
15001-18000	11 (6.5%)	13 (7.6%)	11 (6.5%)
18001+	71 (41.8%)	65 (38.2%)	54 (31.8%)
Total	170 (100.0%)	170 (100.0%)	170 (100.0%)

Problems in regular occupation during flood: Women faced several problems in their regular occupation during flood. These problems included lack of utensils (41.3%) and fuel (35.9%), transport (21.7%), lack of works (14.1%), change of residence (10.9%), and illness (3.3%). Among the problems faced by men were inundation (71.9%), lack of works (42.8%), transport problem (37.5%) and lack of capital (35.9%). Since respondents' households main occupation was agriculture, majority of them faced the problem of crop inundation for which their agricultural production reduced drastically (Table 3).

Table 3. Problem faced by women during flood in their regular occupation.

Problems	Female	Male
Inundation	9 (15.2%)	46 (71.9%)
Illness	3 (3.3%)	9 (14.1%)
Lack of works	13 (14.1%)	27 (42.8%)
Change of residence	10 (10.9%)	12 (18.8%)
Lack of capital	9 (9.8%)	23 (35.9%)
Transport problem	20 (21.7%)	24 (37.5%)
Fuel problem	33 (35.9%)	0 (0.0%)
Lack of raw materials/tools	38 (41.3%)	0 (0.0%)
Increase of price of commodities	4 (4.3)	4 (4.3%)
Lack of buyers	0 (0.0%)	16 (25.0%)
Total	106 (100.0%)	64 (100.0%)

Sample size: Male- 64, Female: 106. Note:

Frequency does not add up to 100% because this is a multiple response table.

Income reduction during flood: Potential for income generation during flood had been shattered in many ways. There were many problems of carrying out regular profession such inundation by water, problem of attending at the work place and communication problem act as main obstacles to carry out the regular occupation. As a result, almost all the male members of the respondents' families became unemployed, which ultimately lead to the considerable income reduction and financial constraints during flood. For example, 47.6% of the respondents' household income before flood was below Tk. 1,500 and 18.9% of the respondents' household income was above Tk. 3,000 per month. However, during flood a vast majority (75.9%) of the respondents' household income was reduced drastically below Tk. 1,500. Only 9.4% of them earned above Tk. 3,000 per month during flood (Table 4). It is evident from table 4 that pre flood income is higher than the income during flood. As a result in many cases, respondents hailed to keep pace their expenditure with their income during flood which again intensified their sufferings.

Table 4. Income and expenditure before flood and during flood.

Amount (TK)	Before flood		During flood	
	Income	Expenditure	Income	Expenditure
Below 1500	81 (47.6%)	88 (51.8%)	129 (75.9%)	130 (76.5%)
1501-3000	57 (33.5%)	54 (31.8%)	26 (15.3%)	24 (14.1%)
3001-4500	10 (5.9%)	12 (7.1%)	2 (1.2%)	6 (3.5%)
4501-6000	5 (2.9%)	3 (1.8%)	5 (2.9%)	5 (2.9%)
6001-7500	2 (1.2%)	1 (0.6%)	0 (0.0%)	0 (0.0%)
7501-9000	4 (2.4%)	3 (1.8%)	4 (2.4%)	1 (0.6%)
9001+	11 (6.5)	9 (5.3%)	4 (2.4%)	4 (2.4%)
Total	170 (100%)	170 (100%)	170 (100%)	170 (100%)

Food problem during flood: A vast majority of the respondents faced food problem during flood. It was revealed that half of the respondents (50.0%) have faced food problem since their earning members became unemployed during flood. Among other food problems mentioned by the respondents were higher price of food (49.2%), lack of supply of food (17.9%), lack of savings and lower quality of food. Therefore food problem has added another dimension to women’s vulnerability during flood.

Initiatives taken by the respondents to solve food problem during flood: Various initiatives were taken by the respondents to solve food problem during flood. Majority (78.2%) of the respondents took loan from neighbour and other sources to solve food problem during flood. Among other initiatives taken by the respondents included standing for relief for hours (37.6%), worked in others house (37.1%), sold domestic animals (17.1%), drew upon savings (15.3%), and begged (4.2%). It is noticeable that almost all the respondents took some sort of initiatives to cope with the adverse situation. Finally, after flood, when the normal situation came for their agricultural and other production all of the respondents did engage their every effort to increase their food production. So at least, this was the way through which they tried to solve the problems of shortage of food and higher prices of food.

Drinking water problem during flood: The highest percentage (44.6%) of the respondents mentioned the problem of lack of pure drinking water during flood. Second highest (30.6%) of the respondents faced problems of carrying drinking water. Among other problems regarding drinking water faced by the respondents during flood were problem of storing pure drinking water (15.7%), inundation of tube wells (15.7%) and problems of purifying drinking water (9.9%). However, 9.1% of the respondents mentioned that they didn't have tube wells of their own.

Security problems at flood shelters: Majority of the respondents (40.4%) identified the security problem, as they didn't have any separate place to live with privacy in the flood shelter. So forth they were in a continuous fear of snakes (38.6%), mugging (26.6%) and stealing (22.8%). About 20% of the respondents identified the problem of security as *mastans* disturbed both them and their daughters. Besides these, other problems mentioned by the respondents were absence of adult men (15.8%), space constraints (10.5%), physical harassment (5.3%) and others (14.0%).

Problems of maintaining Parda: Among the respondents who shifted to the flood shelter faced several problems of maintaining parda. Majority of them (81.0%) faced problem of lack of proper clothing. The second largest category (65.5%) faced problem as no separate room was available for women. Besides these, other problems mentioned by the respondents were presence of unruly boys (13.8%) and presence of male strangers (22.7%).

Problems regarding toilet facilities: Toileting or discharging fecal garbage was also another problem during flood for people, in general and for rural women, in particular. It was revealed from the study that the rural women had to face various problems regarding toilet during flood such as lack of permanent toilet (35.0%), inundation of toilet by flood water (31.4%), problem of excretion in open space (21.0%), lack of sufficient toilet (11.9%) and no separate toilet for females (7.7%).

Problems of menstrual and pregnancy: Majority of the respondents had to face various problems regarding menstrual and pregnancy during flood such as problem of privacy maintenance (58.34%), lack of medical care (22.1%), and lack of necessary facilities (19.8%).

Sickness during flood: Rural women have under gone through various problems due to illness during flood such as lack of money to buy medicine (40.7%), lack of availability of medicine (29.7%), lack of doctors (13.2%), and income reduction due to sickness (10.9%) during flood.

Relief disbursement: During 1998 flood, relief materials such as rice, wheat, dry food (*Chira, muri*, biscuits etc.) and *khichuri* were distributed among the flood stricken poor people. But the respondents have mentioned many irregularities in relief distribution, such as preference were given to distributors' relatives (27.8%), a little amount was given according to their need (17.6%), male imposed force (16.7%), relief goods were not distributed systematically (14.8%), needy people didn't get relief (13.9%), women were given less (11.1%) and lower quality of relief goods (3.7%).

Social problems: It was revealed from the study that the rural women had to face various social problems during flood such as victim of theft (65.9%), mugging (31.2%), snakes and mosquito problems (11.8%), mastans activities (10%), village leader's activities (5.88%) and physical harassment by male strangers (4.1%). However, rural women have shown their courage and resilience to protect themselves from these social problems through taking various preventive initiatives such as forming groups to prevent misdeeds (44.1%), separate arrangement for males and females (20.0%), sharing same room by two or more families (11.2%), and creating social awareness (9.4%).

Major domestic responsibilities performed by household members: Table 5 shows that no male member participated in cooking and feeding children. Female members did both of the household activities during flood. However, 14.7% of the respondents and 7.6% of the other female members took care of domestic animals during flood.

Table 5. Major domestic responsibilities performed by household members of the respondent (N =170).

Responsibilities	Respondent	Other female members	Male members	Row sum
Cooking	166 (97.6%)	4 (2.4%)	-	170 (100.0)
Feeding children	150 (97.4%)	4 (2.6%)	-	154 (100.0)
Taking care of domestic animals	25 (14.7%)	13 (7.6%)	132 (77.6%)	170 (100.0)
Others	40 (23.5%)	12 (7.1%)	118 (69.4%)	170 (100.0)

Preparatory measures taken by respondents and other household members: Women took several flood preparatory measures. Storing fuel was the most common preparation for flood and 81.4% of them mainly performed this activity. They collected cow-dung, tree leaves, twigs and branches to dry and store. Poor women reported that they made cow-dung sticks by plastering lumps of cow-dung on to jute-sticks to use as fuel during flood. The second most common pre-flood activity by the women (59.3%) was storing food. Women stored these food in large vessels made of clay or dry date palm leaves or '*hogla*' (a kind of fiber). However, only a few portions of destitute and landless women were able to store food before flood as because they did not have the necessary surplus resources of food as rich or middle farmer households had. About 46% women said that they made moveable stoves before flood (Table 6). During the monsoon it was common to all to store moveable stoves. Since this was a gender assigned task, no men did the same sort of work.

Table 6. Preparatory measures taken during flood by sex of the household members.

Initiatives	Female	Male
Storing fuel	48 (81.4%)	-
Storing food	35 (59.3%)	-
Made stoves	27 (45.8%)	-
Making House floor Higher	23 (38.9%)	17 (35.4%)
Raising Bed	23 (38.9%)	7 (14.6%)
Stored household items	20 (33.9%)	3 (6.3%)
Selling assets subjected to damage by flood	18 (30.5%)	5 (10.4%)
House repairing	-	36 (75.0%)

Women from 33.9% households reported that they bought and stored essential items such as cooking pots, tin to make stoves, matches, grain, medicine, dried turmeric, *macha* (platform materials) and other items that varied according to the household categories. Besides these, respondents' women took pre- flood activities such as making house floor higher (39.9%), raising bed (38.9%), and selling assets subjected to damage by flood (30.5%).

Initiatives taken by the respondents to cope with flood: Many women participated in men's work and together they tried to protect their households by building *macha*, rafts and repairing homesteads and mounds. They raised bed using brick (60.0%), prevented water entrance by using sand bags and bricks (56.5%), made platform (47.1%), made temporary resident by setting bamboo pillar (31.8%), took shelter at the roof (9.4%) and others (2.4%).

Besides these, women made arrangements to protect their belongings and made floods barriers around their courtyards. Women stored fuel, made poultry cages and kept goats and poultry in house ceilings. Women helped men to build platforms and toilets.

Activities done by household members to restart normal life after flood: Women cleaned yards and plastered floors to restart normal life after flood. It is noticeable that no man participated in cleaning yards and plastering floors. This is because those were considered as women's gender assigned tasks. However, 20.6% of the respondents and 5.3% of their daughter participated in repairing home after flood to restart normal life (Table 7).

Table 7. Activities done by household members to restart normal life (N = 170).

Activities	Self	Husband	Son	Daughter	Total
Cleaning courtyard	169 (99.4%)	-	-	1 (0.6%)	170 (100.0)
Plastering floor	163 (95.9%)	-	-	7 (4.1%)	170 (100.0)
Repairing home	35 (20.6%)	103 (60.6%)	23 (13.5%)	9 (5.3%)	170 (100.0)

Discussion

In Bangladesh rural women generally do not own valuable assets. Their personal assets usually consist of jewellery, clothing and often cash money. Besides these, especially in rural area, they own cows, goat, hen, duck, trees etc. They save money without the notice of others. Sometimes, this saving works as their bank of own. However, this saving can be seen as a silent and invisible coping mechanism to face emergency. In times of any sort of emergency and contingency situation, first of all, women come forward with their savings and assets to overcome the jeopardy.

The devastating flood of 1998 destroyed houses and other infrastructures. So it becomes difficult to restart normal life after flood. Women usually played the major role in restarting normal life after flood.

Some assets, such as jewellery, livestock and other household items, are more likely to be sold during a food crisis. This is very significant because these are assets, which usually belong to women, and they are often their only assets. However, these assets are often considered less valuable or non-productive. It is evident that women's nonproductive assets become more productive when they are disposed off during floods. Women's assets were used to meet the immediate needs of the households during floods when men's assets were kept for the future' (Nasreen, 1998).

The study reveals that rural women played the pivotal role for collection of food along with fuel management, cooking and serving food to their family members. Some times, rural poor women had to depend on their social networks or on resources from the village common land to support their family members.

Availability of safe drinking water was an acute problem faced by rural women during flood. Traditionally, responsibility of drinking water collection and other household chores are done by women in rural Bangladesh. In many cases, rural women had to travel long distance to collect pure drinking water.

The flood 1998 unleashed social problems such as looting, assault, rape and other forms of violence. The vulnerable are once again victims. Young girls in shelters are in constant danger of rape or sexual assault. With a breakdown of all norms of privacy, young women are easy prey for criminals who are always seeking a chance to oppress and victimize. Those who shifted to the flood shelter majority of them mentioned that they were not secured in flood shelters. These social problems increased women's sufferings during flood. However, in many cases, they tried to overcome adverse situations. In some shelters, women formed groups to protect themselves. Sometimes they decided to sleep at night in one room while men in another. These initiatives taken by women during adverse situations reflect the resilience and spirit of our women.

Most of the respondents who had shifted to the flood shelters found it really difficult to maintain proper *parda*. In the flood shelter gathering of people in a small place created the core problem for women's privacy. It threatens their *parda* custom at a great extent. The emergency forced them to compromise with *parda*.

Various kinds of diseases occur frequently during flood such as diarrhoea, dysentery, fever etc. The severity of problems for rural women is again intensified by the sickness of their family members during flood for which women have to bear extra burden. Women are reported to be more concerned about the illness of their

children, husbands and any other family members during flood. It was revealed from the study that the rural women left no effort undone to cure their beloved family members from sickness during flood.

There are some gender assigned tasks for women in our society. They perform all these activities both in normal situation and in adverse situation. Therefore, it is obvious that women play the most important role in household activities. For example, women do all these cooking, feeding children and taking care of domestic animals.

Conclusion and Recommendation

Among various natural disasters, flood is the most frequent and most devastating in the context of Bangladesh. The study revealed that the flood of 1998 had caused huge damage of assets owned by rural households. Along with this damage of assets, both men and women have faced severe problems to carry out their regular occupations which ultimately had led to the remarkable reduction of their income level. Due to the drastic reduction of their income rural women had to face severe food crisis during flood. In many cases, they have failed to fulfill their basic needs. However, the sufferings of the rural women were again intensified by lack of supply of drinking water, insecurity, *parda* maintenance, lack of toilet facilities, and sickness. But to overcome those problems rural women did not get enough support and services from any formal and informal organizations except inadequate relief goods. Despite these problems, rural women have showed their courage and resilience to overcome those problems or in many cases to cope with any adverse situation with their indigenous knowledge. For example, collection of pure drinking water, taking care of sick members of their families, and taking preventive measures against social problems. However, rural women also took various preparatory measures before flood such as storing fuel, preserving food, making stoves, and repairing houses. Last, but not least, major activities to restart normal life after flood were done by rural women such as cleaning courtyard, plastering floors, and repairing home.

There are some important points that should be noted with special care in terms of gender and their interaction with natural calamity including flood. These results in differential effects of disasters for men and women are producing specific gender related problems for women in disaster. Though women always play an important and creative role in the survival process before, during and after a calamity they are one of the most discriminated against and are forced to carry the burdens of disaster. The relief operation lacked managerial effectiveness overall and it lacked special focus or dimension to cater to special needs of women affected by the flood. Women and the related social problems are least concerned in the disaster management planning both in government and non-government planning.

Key issues to be considered are-(i) Initiate a process of discussion, dialogue, consciousness raising among men and women separately and together, raising critical questions about conventional gender roles/trait stereotypes and initiate a process that builds up mutually in relations that helps them cope with disaster in a more permanent basis. (ii) Identify female-headed households and recognize the special needs of these prior to disaster, during and after a disaster, encourage the community to be responsive to such households (e.g. at stage of relief and rehabilitation). (iii) Initiate measures like joint access to land/ house ownership in phase of rebuilding. (iv) Special medical care and nutritious food supply for flood affected pregnant and lactating mothers, babies and under five children.

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