

Assistance to Enhance Knowledge and Income for Reducing Vulnerability of Women Due to Climate Change:

Are the interventions making a difference? -An Assessment

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Abstract

The paper explores the status of demographic characteristics including livelihood status of the participating women group members. The main objective of the study is to assess the impact of the interventions in raising knowledge and income towards reducing women's vulnerability due to climate change. Project activities majorly included training in skill development, psychosocial, and leadership development. After providing training, grants were provided for sustainable livelihood options. All of the participating 10,000 households were included for assessment. Data were collected through interview and observation using semi-structured questionnaire. The results show that most (>90%) of the participants were found with positive responses to the questions raised to them based on the training they received at least 6 months earlier indicating enhanced knowledge, their interest and commitment to positive change. Findings also show that income of the groups with livelihood options using grants was found increased compared to the groups' without grant and thus, it indicates a beneficial effect on household income due to using grant through women focused project which would contribute finally to reduce vulnerability.

Keywords: *Climate change; Bangladesh; Disaster; Women; Vulnerability; Training; Grants*

Introduction

Community people especially women in remote and rural areas in Bangladesh are more vulnerable to natural disaster (Mitchell 2008). Natural disaster takes place due to mostly wind storm and flood almost

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every year and increases vulnerability¹ (Dayton 2006). To reduce vulnerability needs to increase capacity (Davis 2004). Major determinants of adaptive capacity to climate change include human knowledge (Smith and Lenhart 1996) and economic resources (Burton *et al.* 1998; Kates 2000). With a view to increasing capacity and reducing women's vulnerability, a women-focused project was initiated in 2013 by BRAC- *an international development organization based in Bangladesh*. Project activities included formation of groups of vulnerable women, providing training especially related to psychosocial, leadership development, and sustainable alternative livelihood options to enhance required knowledge. Providing grant² to the vulnerable women group members for sustainable livelihood was one major effort of this project towards reducing women's vulnerabilities through raising income. As per plan, project in 1st phase covered cyclone prone areas in coastal belt including 10,000 vulnerable women from 20 upazilas of 5 districts in south and western part of Bangladesh. This is an assessment to know the effects of interventions in cyclone prone areas in Bangladesh.

Objective

- i. To know the household status focusing house, land, location, safe water, sanitation, income, and expenditure.
- ii. To know the state of knowledge based on training received.
- iii. To know the livelihood status focusing income generation using grants.

Methodology

Project activities were started with formation of groups with vulnerable women. Each group consisted of 25 vulnerable women. A total of 400 groups were established including 10,000 vulnerable women from 10,000 households. All of the 10,000 participating households from twenty upazilas³ (sub-districts) of five districts at coastal areas were included for assessment. Data were collected through household survey, interview, observation, and discussion using semi-structured questionnaire. Socio-demographic component, training to the participants, knowledge of the participants, grants and livelihood were focused in data collection. A total of 20 enumerators in 20 upazilas were involved in data collection. Supportive supervision was strictly maintained by a team of 4 regional

¹ Vulnerability is a condition or sets of conditions that reduces people's ability to prepare for, withstand or respond to a hazard.

² Grant: All of the selected vulnerable women group members received goods of Tk. 25000 each for sustainable livelihoods.

³ **Cox's bazaar:** Cox's bazar Sadar, Moheshkhali, Kutubdia, and Teknaf; **Patuakhali:** Kalapara, Galachipa, Dashmina, and Mirzagonj; **Khulna:** Dacope, Batiaghata, Paikgachha, and Koira; **Satkhira:** Shamnagar, Asasuni, Kolarua, and Tala; **Bagerhat:** Rampal, Sharankhula, Mongla, and Morolgonj

managers to ensure quality of data during data collection in April-June 2014. Data were composed and analyzed using SPSS software principally.

Findings

Household status: Some basics

This section depicts the state of some basics of the participating households. This includes age, household head, education, marital status, and family size. Findings show (Table 1) that majority (66.5%) of the women group members were found within the age of 18-40 years. Household head plays vital role in dealing with household activities especially related to income and expenditure. Household head among the women group members was found about 40.3%. Development is one major function of education (Aggarwal 1988). Education plays a vital role for development and prosperity of the country (Ali 1970). In study, most (61%) of the women group members were found with education of class i-iv. About 20.2% of the women members obtained primary education. However, few of (9.6%) the women members were found unable to put the signature.

In marital status, almost all of the women were found married. Of course, 23.1% of them were widowed and 6.3% divorced. In family size, most of the women members were found belonging to the households of 3-5 members. This is supported by national statistics⁴.

Table 1. Household status: Some basics

Subject		Status (%)	N (Valid frequency)
Age	11-17	.1	9996
	18-30	24.6	
	31-40	41.9	
	41-50	22.4	
	>50	11.1	
Household Head		40.3	9991
Education	Class i-iv	61.3	9966
	Class v	20.2	
	Class vi-x	8.4	
	SSC	.5	
	Unable to do signature	9.6	
Marital status	Married	70.1	9980
	Unmarried	.3	
	Divorced	6.3	
	Widowed	23.1	
Family size	1-2	16.8	9991
	3-5	69	
	6-8	13.5	
	9-10	.6	
	>10	.1	

Source: Field survey 2014

⁴ Bangladesh at a glance. Health Bulletin 2012

Household status: Developmental⁵

Ownership of the house is one major factor affecting the state of existence of the community people. Study found that about 96.7% of the women group members owned homestead. Roof of the house was made of thatch in most of the cases. Location of house to hazard-prone sites is one significant factor affecting vulnerability of the household (Patton 2000). About 93.8% of the households were found located at cyclone prone area. However, almost all of the houses were built on a raised platform.

Sound body majorly depends upon the condition of safe water for drinking (Daley 2004). Study found that water from arsenic free tubewell for drinking purpose was used by 66.9% of the participating households. Use of surface water (pond/river) was 32.2%. Those who were found using surface water, almost all of them (99.9%) used it after freeing bacteria. However, use of arsenic contaminated tubewell water for drinking was reported in few of the cases (.9%).

Sanitation is another important component in daily life. Majority (84%) of the participating households claimed that they had own latrine. But 55.5% of the households were found with safe defecation.

Primary education- a significant indicator of socio-economic status. Enrolment at primary school was found 93.6% and national statistics⁶ (DPE 2009) almost (90.8%) supports this figures. Income is one major socio-economic component. Monthly income on average of the participating households was analyzed. Majority (79.9%) of the households were found with average monthly income of >Tk. 1500-3500. Expenditure of the group of households with average monthly income of >Tk. 1500-2500 was examined and found the expenditure within the same range of income among 72% of the households of this group. About 18% of the households' expenditure were exceeded the income limit indicating either they had to borrow or they were supported to survive and run the family. Another study (Khan 2001) supports the findings. Table 2 shows in detail.

⁵ Developmental: Change in which what already exists is continually improved but no radical progress is achieved at. www.businessdictionary.com/definition/development-change.html.

⁶ Directorate of primary education 2008. Annual sector performance report 2009. Dhaka: Government of Bangladesh

Table 2. Household status: Developmental

Subject		Status (%)	N (Valid frequency)	
House position	Own homestead	96.7	9996	
	Location at cyclone prone area	93.8	9995	
	House on a raised platform	99.5	9996	
	Roof		9721	
	Tin	42		
	Thatched	58		
Latrine state	Own latrine	84	9994	
	Safe defecation at present	55.5	9782	
Water for drinking	Use arsenic free tubewell water	66.9	9940	
	Use surface water (Pond/river)	32.2		
	Use arsenic contaminated tubewell water	.9		
Use surface water after freeing bacteria		99.9	3202 (32.2)	
Enrolment at primary school		93.6	6911	
Income	No. of earners in HH	1	99.2	9947
		2	.7	
	Main source of income	Day labor	95.1	9765
		Agriculture	1.4	
		Fishing	3.5	
	Average income monthly	Tk. 500-1500	18.8	9999
		>1500-2500	48.7	
		>2500-3500	31.2	
		>3500-5000	1.0	
		>5000	.3	
Expenditure on last month of the group of households having income within Tk.>1500-2500	Tk. 500-1500	9.9	4866	
	>1500-2500	72		
	>2500-3500	17.9		
	>3500-5000	.1		

Source: Field survey 2014

Status of training received by the women group members

Reducing vulnerability of women is one major function of increasing capacity through training. About 92% of the women group members received training in some way (Table 3). Almost all of them received training in suitable alternative livelihoods. Training in alternative livelihood includes small business (22.5%), rice husking (32.1%), goat rearing (20.8%), tailoring (10.6%), poultry (6.9%), crab fattening (3.2%), and others (4%).

Table 3. Status of training received by the women group members

Subject		Status (%)	N (Valid frequency)	
Training	Training (any) received	91.9	9979	
	Training types	Psychosocial	4.2	9186
		Leadership	4.2	
		Alternative livelihoods	91.6	
	Alternative livelihoods	Small business	22.5	
		Rice husking	32.1	
		Poultry	6.9	
		Goat rearing	20.8	
		Crab fattening	3.2	
		Tailoring	10.6	
Others		4		

Source: Field survey 2014

Status of knowledge of the women group members based on training received

Women group members were provided training in psychosocial, leadership development, and alternative livelihoods. Participants' knowledge based on the training they received at least six month earlier, were assessed. Study found the positive response of more than 91% of the participants in reply to the questions raised to them (Table 4). Key points in questioning include sign & symptom and causes of mental illness, ways to minimize, quality of good leader, natural disaster, and measures.

Table 4. Status of knowledge of the women group members based on training received

Subject/question	Positive response state	N (Valid frequency)
What are the sign and symptoms of mental illness?	93.7	9973
What are the causes of mental suffering?	91.3	9969
How to minimize mental suffering?	93.3	9971
What are the qualities of good leader?	94.3	9972
What is natural disaster?	97.7	9969
What are the measures during, pre, and post disaster?	95	9971

Source: Field survey 2014

Status of livelihood using grants

Income generation through sustainable livelihood is one major objective of providing grants to the women group members. It is intended that it would contribute towards increasing the financial capacity and lead to reduce the vulnerability of women. As per plan, all of 20% of total women group members were provided grants. Grants were provided for different livelihood options. Those who got grants, 26.6% of them got for grocery shop and it was higher compared to other livelihood options (Table 6). Other livelihood options include goat rearing (22.1%), tailoring (21.4%), rice husking (19.9%), crab fattening (2.8%), poultry (1.7%), and others (5.6%). However, all of the grants were used in planned livelihood options.

Table 6. Status of livelihood using grants

Subject		Status (%)	N (Valid frequency)	
Grants	Received by the group members	20	10000 <i>As per plan, grants were distributed among 5(20%) group members in a group of 25.</i>	
	Grants provided for	Grocery shop	26.6	2000
		Rice husking	19.9	
		Poultry	1.7	
		Goat rearing	22.1	
		Crab fattening	2.8	
		Tailoring	21.4	
		Preparation of net for fishing	2.1	
		Business of dried fish	2.4	
	Handicrafts	1.1		
Use of grants in the business as planned	100			

Source: Field survey 2014

Women group members and livelihood status using grants

This segment deals with the status of the livelihoods using grants. Soundness of the livelihoods depends upon suitable location of the business, adequate working capital, regular involvement, customers' demand, income from the business, and satisfaction of the business owner. All of these factors affecting the soundness of the livelihoods were found positive mostly. Table 7 shows in detail.

Table 7. Women group members and livelihood status using grants

Subject	Status
Suitability of the locations of the business	Location of the business was found appropriate and visible in most of cases.
Running capital	Existing working capital of the livelihood options was found reasonable and encouraging in majority of the cases to run the business well.
Women's involvement with the business	Involvement of women group members with business was found regular and full-time in most of the cases.
Income from the business	Income with crab fattening was found higher in some cases but it was not regular. Regular income was clear with dealing in rice husking, grocery shop, and tailoring. Women with goat rearing were found encouraged as most of the goats gave birth to twin kids and they were survived well. Besides, women were able to spare time to other income generating activities including household works. However, income was found generated and raised over the times.
Satisfaction of the women group members being associated with BRAC	All most all of the women group members claimed that they knew about suitable and sustainable livelihood options. They were found contented and optimistic to the capacity to earn and live well.

Source: Field survey 2014

State of income using grant and without using grant: A comparative statement

- % of households having lower income was reduced with use of grant.
- Income of the households with livelihood using grants was found increased compared to the households without grant.

Income of the households using grant and households without using grants (as not provided) was analyzed. Findings (Table 8) show that percentage of

households having lower income <Tk. 500 was reduced (.3% to .1%) with use of grants in livelihoods. Income of the households with livelihood using grant was found increased compared to the households without grant in most cases. Based on this relation between use of grant and income, it may be an impression that there is a beneficial effect on household income due to using grant through women focused project (Figure 1).

Table 8. State of income using grant and without using grant: A comparative statement

Income range	Status (% of the households)	
	Without using grant	Using grant
<Tk. 500	.3	.1
500-1500	18.3	19.5
1501-2500	48.5	49.2
2501-3500	31.7	29.5
3501-5000	.9	1.2
5001-6500	.2	.3
6501-8000	.1	.1
>8000	.1	.1
N	8000	2000

Source: Field survey 2014

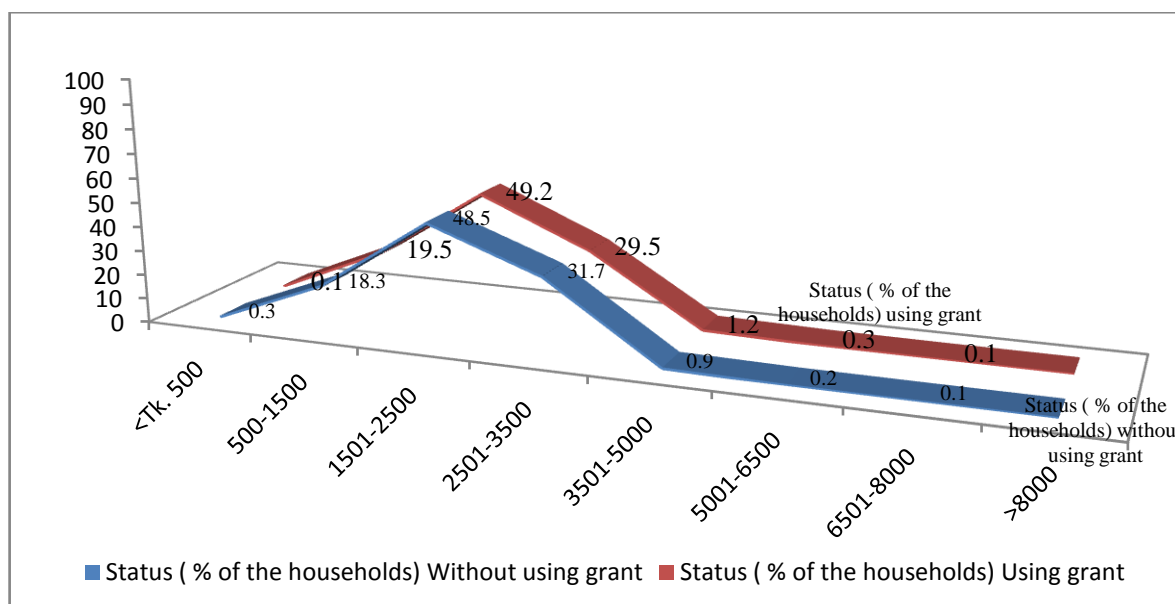


Figure 1. Income state using grant and without grant: A comparative assessment

Source: Field survey 2014

Impression: There is a trend of a beneficial effect on household income due to using grant through women focused project.

Conclusion

Both physical and mental strength of life is an important factor towards contribution to positive change. Strength of life differs from person to person and varies with changing age of life. Majority of the women group members were found within the ages of 18-40 years- a significant part of life with physical and mental strength.

Productivity of the common people of low socioeconomic status is largely affected by the state of literacy. More than 90% of the women group members were found having literacy (able to read and write as needed). House built on a raised platform is one positive condition to be protected from flood. Houses of the women group members were found built on raised platform almost in all of the cases. But location of the households was at risk due to cyclone prone area-a significant factor of increasing vulnerability.

Practice of using safe water for drinking and safe defecation is necessary for sound health. Households with safe defecation were found 55.5%. It was 66.9% in case of using arsenic free tubewell water for drinking. Use of surface water after freeing bacteria for drinking was found among 32.2% of the households. However, households (.9%) should be focused as they reported they used arsenic contaminated tubewell water for drinking.

Development of the community people depends upon education. Enrolment status of the children at primary school is a foremost indication of knowing the people's attitude to education especially in rural areas. Enrolment of the children of the participating households at primary school was reported 93.6%. Income is another socio-demographic component. Income through mainly selling manual labor was found common (95.1%). Income >Tk. 1500-2500 was found among 48.7% of the households and most of them (72%) met their expenditure with their existing limit of income.

As a part of capacity building, trainings in psychosocial, leadership development, and alternative livelihoods were provided to the women group members. In assessing the knowledge of the participants based on training, most (>90%) of the participants were found with positive responses to the questions raised to them indicating their interest and commitment to positive change.

After providing training, grants were distributed based on some considerations including the priority of needs, choices, and capacity. About 26.6% of the grants were provided for grocery shop and it was higher compared to other livelihood options due to possibly its easy and regular operation. Use of all (100%) of the grants provided to the clients (women group members) was ensured with planned livelihood options. However, income of the groups with livelihood options using grants was found increased compared to the groups' without grant indicating a beneficial effect on household income due to using grant through women focused project.

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