

Climate Change Impact on the Poor People of the Sundarbans Community in Bangladesh



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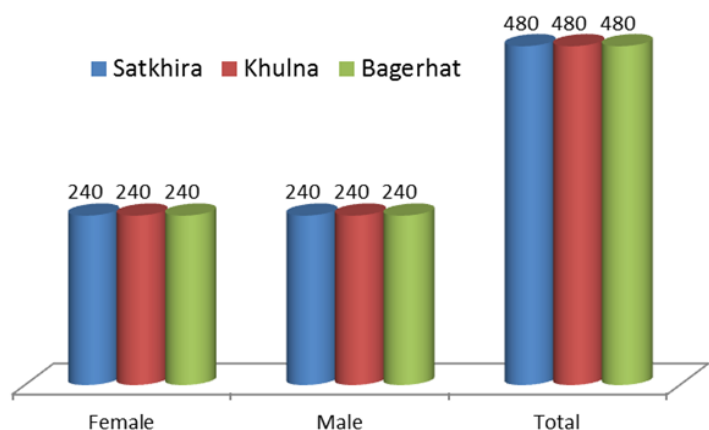
Introduction

Bangladesh with an area of 147,570 sq km is bordered by India to the northeast and west, Myanmar to the southeast, and the Bay of Bengal to the south. Bangladesh is one of the most densely populated countries in the world and its population is still growing by over 2 million people per year.

The Sundarbans mangrove forest has a history of scientific management since 1879. The Sundarbans are the world's largest halophytic mangrove forests and one of the most biologically productive of all natural ecosystems. The forest is an essential buffer for inland areas against the ravages of frequent cyclones from the Bay of Bengal. For outstanding natural value, the World Heritage committee of UNESCO inscribed the Sundarban of Bangladesh in the 798th World Heritage list in 1997 and accordingly the Government of the People's Republic of Bangladesh declared the Sundarban as World Heritage Site in 1999. The Sundarbans is the largest remaining habitat in the world for the Royal-Bengal Tiger. According to Ramsar convention, the wetland of Sundarban area is very complex and it is recognized as one of the most organic productive area in the world. The livelihood survival of the Sundarban community is linked with the forest resources of the Sundarbans, aquatic resources of the saline and fresh water wetlands.

The study covered major portion of the Sundarbans Bangladesh part, which encompasses 6 Upzillas of Bagerhat, Khulna and Satkhira Districts. 1440 Sundarban-dependent & poverty stricken household heads who are involved with CDP activities took part in this study and 50% of them were women. The respondents of the study are termed as "Poor People's of the Sundarbans Community".

Person with disabilities	Female		Male		Total	
	N	%	N	%	N	%
	12	1.7	8	1.1	20	1.4



Profile of the poverty stricken household heads within the Sundarbans Community

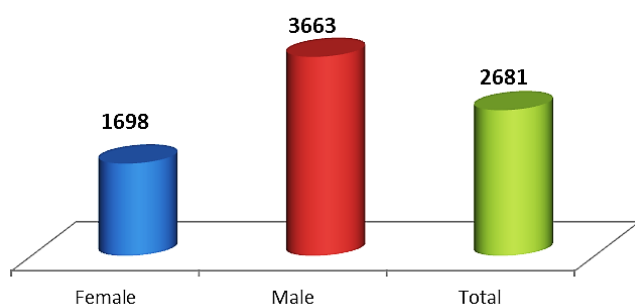
The average age of the poverty stricken household heads is 48 years. The average age the male household heads (51 years) is higher than female household heads (46 years). Among the household heads, 1.4% is person with disabilities. Majority of them are Bengali (99.2%) and married (91.3%).

More than two-fifth (45.9%) household heads are functionally illiterate. More than half (53.2%) of the women household heads are functionally illiterate, whereas 41.7% of the men are found as such.

Majority (80.1%) of the poor household heads of the Sundarban community are farmer (34.4%), day laborer (21.6%), housewife (14.0%), and small business (10.1%). A notable portion (6.3%) of the household heads is not doing anything.

Main occupation of the household heads						
	Female		Male		Total	
	N	%	N	%	N	%
Farmer	138	19.2	357	49.6	495	34.4
Day Laborer	199	27.6	112	15.6	311	21.6
Housewife	201	27.9			201	14.0
Small business	57	7.9	88	12.2	145	10.1
Do nothing	72	10.0	19	2.6	91	6.3
Fish farming			74	10.3	74	5.1
Service	10	1.4	26	3.6	36	2.5
Rickshaw/Van Driver			16	2.2	16	1.1
Domestic Worker	14	1.9			14	1.0
Domestic animal rearing (Duck, Hen, Goat)	19	2.6	2	.3	21	1.5
Others (Barber, Tailor, Key maker, Carpenter)	4	.6	23	3.2	27	1.9
Beggar	6	.8	3	.4	9	.6
Total	720	100.0	720	100.0	1440	100.0

Average monthly income (taka)



The average monthly income of the household heads is Taka 2681 (US\$33). The average monthly income of the men (Taka 3663) is 2.2 times higher than the average monthly income of the women (Taka 1698).

Climate Change Impact on the Health of the poor households

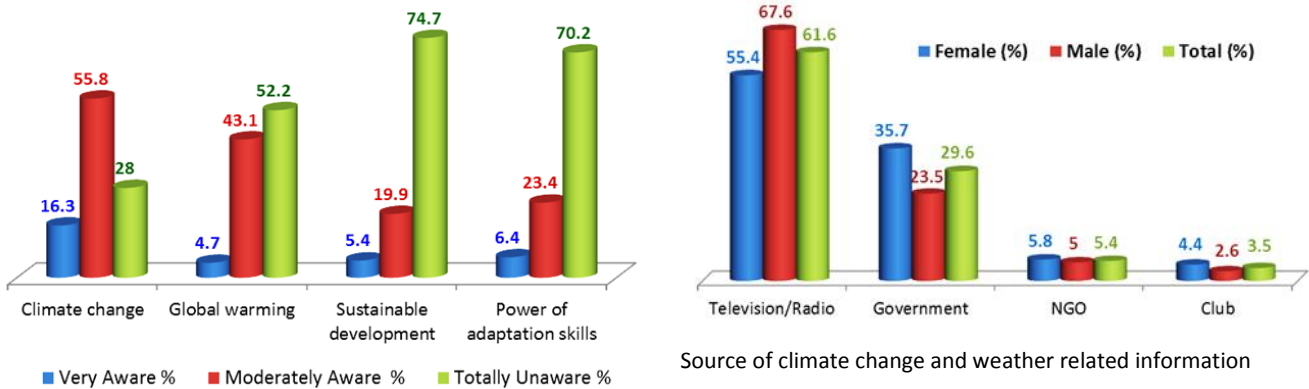
More than one-tenth (12.4%) household heads have suffered from illness due to flood, cyclone, tornado or any other natural disaster. More than one-fourth (28.5%) household heads have fallen into accident due to flood, cyclone, tornado or any other natural disaster. Nearly one-fourth (23.3%) respondents have experienced negative impact on health due to changing climate. More than one-third (37.5%) household heads reported that illness of the main bread earner (household head) has a severe negative impact on the household income.

Have negative impact on household income due to illness of the respondent	Female		Male		Total	
	N	%	N	%	N	%
	201	27.9	339	47.1	540	37.5

Awareness of the poor households about Climate Change induced Risks and Impacts

More than half (56.3%) of the poor within the Sundarbans Community perceived that climate is changing very rapidly than ever before. More than two-third (68.9%) of the poor household heads consider climate change is a threat them. Nearly two-third of the household heads opined that climate change would affect their family (64.7%) as well as their children and future generations (63.5%). Among the poor household heads of the Sundarbans Community, more than one-fourth

(28.0%) are very unaware about climate change and more than half (52.2%) are totally unaware about global warming.

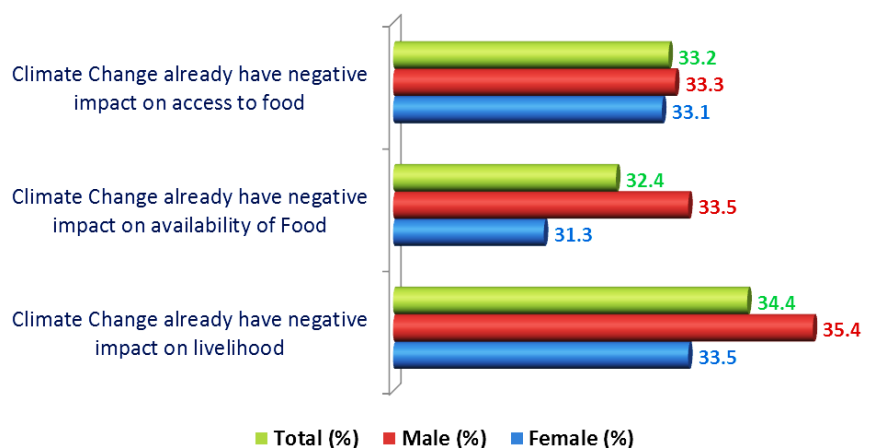


Television/Radio is the most common source of climate change and weather related information among the poor sections of the Sundarbans Community. More than half (61.6%) of the poor households receive information from Television/Radio and more than one-fourth (29.6%) receives from Government sources.

Climate Change Impact on Food & Livelihood Security of the poor households

The unscheduled occurrences of natural calamities (Cyclones, Tornadoes, Tidal bores), water scarcity & salinity, River erosion are identified as the main causes of livelihood insecurity and food insecurity. According to the One-third of the poor households, climate changes already have negative impact on access to food (33.2%), availability of food (32.4%) and livelihood (34.4%).

People respond to any environmental changes in many ways, though their responses often primarily reflected in changes in food related behavior & consumption and health status. Flood, cyclone, tornado or any other natural disaster forces the poor households to change their



food habit. Nearly four-fifth (79.0%) of the community reported to rely on dry food during disaster period. One-tenth (9.6%) of the poor households depend on whatever is available to survive. Besides, more than half (53.5%) the poor households are unable to preserve/store any surplus food for the disaster period due to lack of option for storage or preservation of food in their household.

Poor households Experiences on Climate Change and Natural Disaster

More than four-fifth (83.9%) of the poor households of the Sundarbans community reported that rainfall has reduced significantly due to climate change. More than two-fifth (43.1%) poor households have experienced inundation of their household due to flood and more than half (56.0%) reported about flood at the surroundings of their household. More than one-fourth (27.0%) experienced the increasing trend of temperature or feeling hotter than before. It has to be

mentioned that more than one-third (36.5%) of the Sundarbans community is unable to link their experiences with climate change. Sundarbans community has observed flood/water related changes, Soil erosion, cyclone damage and Crop/Homestead which are linked with climate change. One-third (33.7%) of the Sundarbans community reported that their Crop/Homestead is currently at risky situation. Nearly two-third (61.6%) of the Sundarbans community has experienced Crop/Homestead damage few times in a year. According to the one-third (34.1%) poor households, soil erosion is currently at risky situation (19.4%) and an ongoing challenge (14.7%) to them.

Major Stakeholders for addressing climate change impact

The Sundarbans Community has identified NGO/NGO Samity, Local Government Officials/GO, Locally Elected Representatives (Union Parishad Chairman & members), Religious personality, Local youth community, Political personality, Civil society, Social / Cultural club and Local bazaar Samity as the key stakeholders for addressing climate change impact.

Ranking of the most Important Stakeholders for addressing climate change impact	climate change Awareness	climate change Adaptation
NGO/NGO Samity	3	1
Local Government Officials/Government	1	2
Locally Elected Representatives (Union Parishad)	2	3
Religious personality	5	4
Local youth community	4	5
Political personality	8	6
Civil society	6	7
Social / Cultural club	7	8
Local bazaar Samity	9	9

According to the Sundarbans Community,

- ✓ NGO/NGO Samity (57.8%) is the top-most & Local Government Officials/Government (51.6%) is the second most Important Stakeholder for climate change adaptation
- ✓ Local Government Officials/Government (74.9%) is the top-most and NGO/NGO Samity (39.4%) is the third-most important Stakeholder for climate awareness whereas
- ✓ Nearly half of the Sundarbans community considers Locally Elected Representatives (Union Parishad) as one of the most important stakeholders for both climate change awareness (48.2%) and climate change adaptation (49.6%).
- ✓ Local youth community (36.4%) and civil society (23.7%) as important stakeholders for climate change awareness
- ✓ Nearly one-fourth of the Sundarbans community considers Religious personality as one of the most important stakeholders for both climate change awareness (24.5%) and climate change adaptation (23.9%).

Ways to Reduce Climate Change Vulnerabilities

To reduce climate change vulnerabilities, more than four-fifth (82.0%) of the Sundarbans Community is willing to take responsibility and more than two-third (67.8%) is willing to take part in any activities. The notable (44.3%) participation of the Sundarbans community in any local meetings on climate change envisages their willingness. Less than one-third (29.2%) of the Sundarbans Community received training on reducing climate change vulnerabilities.

Less than two-fifth (37.7%) of the Sundarbans Community has observed GO/NGO climate change related awareness activities in their locality. Nevertheless, more than four-fifth (82.8%) of the Sundarbans Community reported that there are no GO/NGO initiatives for climate change adaptation in their locality.

Nearly four-fifth (78.3%) of the Sundarbans Community reported that any kind of organizational intervention/support is needed for them to reduce climate change vulnerabilities.

Needs of the community to address the negative impact of climate change	Female		Male		Total	
	N	%	N	%	N	%
Rigorous Awareness	588	81.7	578	80.3	1166	81.0
Financial Ability	408	56.7	400	55.6	808	56.1
Strong Social Linkage/personal network	318	44.2	319	44.3	637	44.2
Personal initiative	118	16.4	117	16.3	235	16.3
Government support	122	16.9	146	20.3	268	18.6
Local initiative	14	1.9	11	1.5	25	1.7
NGO program	82	11.4	96	13.3	178	12.4
Don't know	6	.8	9	1.3	15	1.0
Total	720	100	720	100	1440	100

It is quite interesting that majority of the Sundaqbans community put highest emphasis on Rigorous Awareness (81.0%) as a need to address the negative impact of climate change. Besides that, Financial Ability (56.1%) and Strong Social Linkage (44.2%) are the two major needs to address the negative impact of climate change. More than one-tenth of the Sundaqbans community needs Government support (18.6%) and NGO program (12.4%) to address the negative impact of climate change.

Conclusion

Some of the warning signs of the adverse effects of climate change such as sea level rise, water logging, poor drainage, siltation and seawater intrusion are already visible in the Sundarban region. The multifaceted climate risks is beyond the capacity of single poor but if they act together the possibility of survival against climate vulnerability will increase in many folds than any individual intervention. Any future interventions for the poor households in the Sundarban region must support and enhance community resilience of a number of key development sectors (food production and food security, water resources management, coastal zone, renewable energy etc.). One of the key adaptation measures must focused on achieving food self-sufficiency for the poor households. It is essential to have climate adaptation planning in such a way that conserves and sustains the ecosystems and support the poor and ensures food for the growing population. For climate sensitive regions, the policy should take into account the unique natural characteristics of the region.

Coastal Development Partnership (CDP) is a not-for-profit, public interest serving progressive development & environmental activist organization, working in Bangladesh. On January 01, 1997, CDP was instituted as a coordinating secretariat for a network of NGOs trying to relieve the sufferings of the people of the waterlogged areas in the southwest coastal region of Bangladesh. Begun as an information exchange and meeting place for advocacy NGOs, gradually CDP become part of the broader environmental movement. CDP has achieved expertise to assist both national & international development process on Climate Change, Food Sovereignty, Sustainable Agriculture, Responsible Aquaculture, Pro-poor Environmental Governance, Biodiversity & Nature Conservation, Women Rights & monitoring International Financial Institutions (ADB, World Bank) and UN negotiations.



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