

climate study series - 2



**Men, Women and the Environment Gender Issues in
Climate Change**

Naved Ahmed Chowdhury

**Unnayan Onneshan
House 40/A, Road 10/A,
Dhanomondi, Dhaka,
Bangladesh
www.unnayan.org**

CLIMATE STUDY SERIES NO 2

1. Introduction

From the Bay of Bengal in the south Bangladesh extends upwards to the north and merges into the foothills of the Himalayas. Being the largest delta in the world, Bangladesh is criss-crossed by numerous rivers, their tributaries and distributaries and therefore dependent on and effected by yearly cycle of floods and natural disasters. The country is predominantly flat with almost half of the country has an elevation of less than 10 meters above the sea level.¹

The physical characteristics of the land, geographic location, the multiplicity of rivers and the monsoon climate make Bangladesh highly vulnerable to natural disasters, such as floods and cyclones and act as significant constraints in achieving sustainable socio-economic development of the country.² Bangladesh faces, therefore, serious challenges in the face of impact stemming from present disasters and future climate change.

Current forecasting secretaries indicate that Bangladesh has the potential to lose 15-17% of its land mass from rising ocean levels and salt water intrusions in the coming decades and will be subjected to increased incidences of severe storm events, flooding and/or drought attributable to much of its territory.³ Climate Change is also expected to disrupt farming systems and jeopardize the local infrastructure. With a population density greater than anywhere else in the world (804/sq.km) with over 50% (65 million people) of the population classified as poor,⁴ and the majority of its populating dependent on agricultural and natural resources for their livelihoods Bangladesh faces a formidable task reducing its vulnerability to climate change.⁵

Many studies have been undertaken to assess the vulnerability and climate change aspects and how this impacts the present and future sustainable development aspects

¹ UN.,2000, *The Common Country Assessment – Bangladesh*, Dhaka :UNDP.p.3.

² Unnayan Shammanay., 2001. *People's Report on Bangladesh Environment 2001*.

³ Intergovernmental Panel on Climate Change .,2001, IPCC Third Assessment Report: Climate Change 2001. Downloaded from www.ipcc.ch

⁴ 36% of all Bangladeshis are extreme poor. For a good overview of the overall development trend of Bangladesh see DFID – Department for International Development, 2002, *Country Strategy Review 1998-2002, Bangladesh*. DFID Bangladesh. Also see GOB. 2002. "Bangladesh: A National Strategy for Economic Growth, Poverty Reduction and Social Development," draft Dhaka: Economic Relations Division, Ministry of Finance.

⁵ Q.K Ahmad, Asit Biswas, et al. 2001. *Ganges- Brahmaputra- Meghna Region: A Framework for Sustainable Development*. Dhaka: The University Press Limited.p 5.

CLIMATE STUDY SERIES NO 2

of Bangladesh. By and large these studies agree that global climatic change will have the following impact on Bangladesh's development potential ⁶

- An increase in rainfall during the monsoon season, resulting in increased levels of flooding and increased soil erosion
- A decrease in rainfall during the winter season resulting in more salinity into topsoil and increased need of irrigation
- An increased in the frequency and intensity of extreme weather events (flooding, storms and drought)
- A rise in sea level, resulting in increased water logging and salinity

2. Disasters, Livelihoods and Gender

'Gender relations are the socially determined relations that differentiate male and female situations. People are born biologically female or male, but have to acquire a gender identity. Gender relations refer to the gender dimension of the social relations structuring the lives of individual men and women, such as the gender division of labour and the gender division of access to and control over resources.'⁷

It is critical to understand the gender dimension in the development-disaster process in order to address root causes. Gender patterns, thus, shape development patterns and social vulnerability to natural disasters, and are influenced in turn by both.⁸

When women and men confront routine or catastrophic disasters, their responses tend to mirror their status, role and position in society. Most studies, for example, show that responsibilities follow traditional gender lines, with women's work carrying over from traditional tasks in the home and household, and men taking leadership positions.⁹ Gender inequalities with respect to enjoyment of human rights, political and economic status, land ownership, housing conditions, exposure to violence, education and health,

⁶ World Bank, 2000. *Bangladesh: Climate Change and Sustainable Development*. Dhaka: World Bank Office. Also see P Gayen, 1998, *Bangladesh Environment: Facing the 21st Century*. Society for Environmental Development, Dhaka.

⁷ Elson, D. 1995. *Male Bias in the Development Process*. Manchester: Manchester University Press.UK.

⁸ Ben Crow and Farhana Sultana., 'Gender, Class, and Access to Water: Three Cases in a Poor and Crowded Delta'.in *Society and Natural Resources*, 15:709±724, 2002.

⁹ Nasreen Khundker, ' Gender Issues in Export based Industrialization in Bangladesh". Paper prepared for CPD-UNRISD Workshop, Dhaka, 27-28 October 1995 in *The Global Conveyor Belt in Wicherich* (2000), pp. 24-25.

CLIMATE STUDY SERIES

NO 2

in particular reproductive and sexual health, make women more vulnerable before, during and after disasters.¹⁰

Initially, attempts to link gender and climate change may seem rather far-fetched. Publications on the linkages between gender and climate change have been few. Climate change has largely been conceived as a scientific process. The human aspect remains largely unanalyzed. In the fifteen years that the climate debate has been going on, gender issues have seldom been on the agenda.¹¹ While most research cover issues like, frameworks for decision making, cost-benefit analysis, uncertainties, Scenarios, ecological dimension and sink; gender and other social aspects are largely ignored.¹²

The dearth of research on how gender relations affect risk accumulation processes is accompanied by the fact that the existing literature on gender and disasters focuses almost exclusively on impact and response. The few existing case studies which clearly demonstrate and provide evidence of the important role that gender plays in the configuration of risk have not been systematically compiled and analyzed from a comparative perspective.¹³

Although many non governmental organizations in Bangladesh now have Gender policies which explains how gender need to be addressed into programme implementation their practical usability has been quite limited.¹⁴

Gender Dimension of Disaster Risk Management : Some Examples¹⁵

¹⁰ Sally Baden and Cathy Green, Anne Marie Goetz and Meghna Guhathakurta. 1994. *Background report on Gender issues in Bangladesh*. Report prepared for the British High Commission, Dhaka . Downloaded from http://www.ids.ac.uk/bridge/Reports/re26c.pdf_pp 101-102.

¹¹ Fatma Denton and Jyoti Parikh. Gender – A forgotten element. *Tiempo_ Global Warming and the Third World*. Issue 47, march 2003. Downloaded from <http://www.cru.uea.ac.uk/tiempo/floor0/recent/issue47/t47a6.htm>. There was only one event at COP-8 where gender issues were discussed.

¹² R. Pachauri, T. Taniguchi, K. Tanaka. Ed. (2000). *IPCC Intergovernmental Panel on Climate Change, Third Assessment Report Supporting Material Guidance papers on the Cross Cutting Issues*. UNEP and WMO.

¹³ *Engendering the Climate Debate: Vulnerability, Adaptation, Mitigation and Financial Mechanisms*,. Proceeding of At the Eighth Conference of the Parties (COP-8). United Nations Development Programme. New Delhi, October 2002.

¹⁴ CARE Bangladesh. *Gender Policy 2002*. RDRS., *Gender Policy 2002*.

¹⁵ Adapted and Condensed from the proceedings of the *Expert Group Meeting on Environmental Management and the Mitigation of Natural Disasters: A Gender Perspective* organized by United Nations Division for the Advancement of Women (DAW) Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), Ankara, Turkey, 6 – 9 November 2001.

CLIMATE STUDY SERIES NO 2

- In Turkey, the Foundation for the Support of Women's Work (FSWW) is fulfilling an enabling and facilitating role, to provide women with the support, skills, training, information and contacts needed to rebuild.
- In Armenia, disaster risk education is promoted in schools and through the mass media by a women's development group.
- In Nepal, the Participatory Disaster Management Programme women are active in greater numbers than men and thus women's participation in risk reduction has increased.

4. Shrimp Framing in South western Bangladesh

Although all of Bangladesh is at risk of climate change, it is the Coastal belt of the country which will be hit specially hard. The southwest part of Bangladesh includes Gopalganj, Narail, Jessore, Satkhira, Khulna and Bagerhat districts with an area of approximately 17,260 sq km which is around 30% of the total land mass of the country and the total population is around 13 million.¹⁶

The advent of shrimp farming in this area in the 1980s was arguably in response to international economic changes as market liberalization and expanded global trade. The availability of brackish water¹⁷ in this area, also, created new circumstance suitable for shrimp farming. Over the last few years, as a result, the export of shrimp has grown into 500 million dollar export industry with around 100 thousand poor households of southwestern Bangladesh depending on it for their livelihoods.¹⁸

However, the apparent commercial success of the activity has been accompanied by a series of major negative impacts on environment: clearance of large portion of mangrove, salt-water intrusion in ground water and agricultural fields and contamination of the potable water supplies and soil degradation, making them unfertile for rice production.¹⁹ While the sea levels have not yet risen significantly as result of global

¹⁶ Government Of Bangladesh., 2003. *Bangladesh – A National Strategy for Economic Growth, Poverty Reduction and Social Development*. Ministry of Finance, Government of Bangladesh, Dhaka.

¹⁷ Brackish water has a lower salt content than seawater and higher salt content than freshwater.

¹⁸ CARE Bangladesh. *Reducing Vulnerability to Climate Change, Project Implementation Plan*. July 2002. p. 4. Shrimp exports contributed around 8-10% of total export earnings of Bangladesh in recent years. Shrimp, mainly *Penaeus monodon*, or Black tiger shrimp is exported.

¹⁹ Gujja, B., and Finger-Stich, A., 1996, What price prawn? Shrimp Aquaculture's Impact in Asia. *Environment* 38(7): 12-15. Be, T. T., Dung, L. C., and Brennan, D., 1999, Environmental costs of Shrimp

CLIMATE STUDY SERIES NO 2

warning, the south west part of Bangladesh is already showing symptom from rising sea levels. These include water logging and saline intrusion. The farming systems is also being severely disrupted since instead of two crops a year, only one crop can be produced at present.

In addition to these environmental degradations, shrimp farming activities have also severe social impacts. In the mangrove areas (Sundarbans), the deforestation has had very negative effects on the local people who were using the common property mangrove resources as a major element of their livelihood. In the agricultural areas, when salt-contaminated land no longer supports agriculture, smallholders have no option but to sell their land to local elite, thus becoming landless. In both situations the expansion of shrimp farming is therefore irremediably followed by a sequence of social disintegration: breakdown of traditional livelihood support systems leading to the marginalisation of the rural poor, increase of landlessness and poverty, and transfer of land and wealth to local and national élites.²⁰

5. Objective of the paper

This paper will primarily explore the gender aspect of climate change from the vulnerability context of south-western Bangladesh where the socio economic processes that shape livelihood strategies can be seen through the history of large scale shrimp farming in the area. In this paper we begin to sketch some questions which arise from a concern to understand the tripartite interaction of gender, livelihood and Climate Change in the broader context of social change.

This paper therefore raises two questions with the potential to extend the literature on gender and Climate Change:

- i. How will the boundaries between the economic and domestic spheres influence the future impact of Climate Change on the livelihood of poor people of Southwestern Bangladesh?
- ii. How can the analysis of climate Change and gender relations be extended beyond a focus on development projects to look more widely at social change?

6. Gender, Shrimp farming and Climate Change

culture in the rice-growing regions of the Mekong Delta. *Aquaculture Economics and Management* 3(1): 31-42.

²⁰ *Policy Research for Sustainable Shrimp Farming in Asia: A comparative analysis of Bangladesh, India, Thailand, and Vietnam with particular reference to Institutional and socio-economic Aspects.* Center for Economics and management of Aquatic resources, University of Portsmouth. Research Undertaken for European Commission. Downloaded from http://www.port.ac.uk/departments/economics/cemare/project_poressfa.htm.

CLIMATE STUDY SERIES NO 2

85% of the women in the South-western Bangladesh are engaged in shrimp fry collection from rivers as it does not interfere with their day-to-day household work, and helps supplement the household income. Women are also actively engaged in various kinds of work in shrimp farms, i.e. dyke construction and maintenance, liming, harvesting and other farm-related activities. Women also work in the depots/factories and in places where the trading takes place playing an important role in fish grading and packaging.²¹

Considerable tracts of land, in the South-western Bangladesh have been turned into saline ponds where shrimp are cultured. In many areas, land is forcibly taken by richer farmers from poorer people for shrimp farms, and often these shrimp farm owner are from outside the area. The rural poor, mainly women, then become laborers who collect wild shrimp larvae (or fry) from coastal rivers and marshes.²² However, gendered impacts of the rise of sea level on shrimp farming will be very serious. As salinity increase in the river, fewer fry will be available in the open water bodies. The increasing salinization will decrease the productivity of the land, pushing communities but more so women, because of either limited work opportunity and restricted mobility, further into poverty.

Consequently, women's livelihood are being put in risk in the various ways, 1) women are displaced from their productive role, 2) over dependence on cash crop and loss of traditional safety nets, 3) lack of the national and community support during the transition phase. Consequently all this is exacerbating the marginalisation of women. Moreover as women are involved in the shrimp fry catching in the nearby rivers they are also contributing towards reducing the future stock of shrimp. With the loss of subsidiary work (as no agricultural work takes place in the area) and increase of female headed households (as more and more men migrate outside the area looking for employment) it has put women with extra burden of taking care of the children alone. This will be further worsened with climate change and increased salinity of the land.²³

²¹ A.B. Shelly and M. D' Costa. 2002. *Women in Aquaculture: Initiatives of Caritas Fisheries Program*, Caritas Bangladesh. Downloaded from http://www.worldfishcenter.org/Pubs/Wif/wifglobal/wifg_asia_caritas.pdf. pp 1-3. It must however be recognized that services of women are in great demand because of the fact that they are paid much less than men for the same type of work.

²² Datta, Anjan., 1995, *Who benefits and at what cost? Expanded shrimp culture in Bangladesh*. Paper presented at the Rural Development Studies Seminar, Institute of Social Studies. The Hague. December, 1995. In the southwest of Bangladesh, the Sunderban Mangrove Forest, the largest tract of mangroves in the world, is being threatened by the expansion of shrimp farming.

²³ Lectures Notes from Globalization and agriculture: The case of Shrimp Industry of Bangladesh. Dr. Meghna Guhathakurtha. UNU-ICD Course.28 May 2003. A large community of people., men and women have already been identified by several agencies who over the past years who have moved from reasonably stable livelihoods to food insecurity.

CLIMATE STUDY SERIES NO 2

Shrimp ponds, which require saline water, are made by constructing canals which bring sea water to existing or newly dug ponds. Land previously used for rice cultivation and ponds used for washing and bathing are taken over by shrimp farming. Salinity of groundwater will also increase by these changes.

Women will have to walk further to collect drinking water when both ground and surface waters are made saline by shrimp ponds. Use of tube wells in coastal areas is not very common in Bangladesh, since the groundwater is salty. Many people use pond water or rainwater in the monsoon season. But in the dry season, it is difficult for women to procure potable water.²⁴ It is envisaged that this will further worsen as the sea water pushes inland with rising sea level.

Agriculture is shrinking in the coastal areas, reducing the diverse and varied tasks that women were engaged in before (e.g. weeding, harvesting, rice husking, etc.). They now spend most of the day in rivers and creeks to collect shrimp fry. Homestead production, both kitchen gardens and domestic livestock, is, therefore, reduced as a result of the increased salinity of domestic water. Gathering of various livelihood resources from mangrove forests is also reduced as the area of shrimp cultivation expands.

Loss of mangrove areas and other public lands and water bodies as common pool resources appear to have had a greater impact on women in than men coastal areas. A decline in nutritional diversity is suspected as consumption of fish, poultry, fruits and vegetable decline from falling survival rates of different species of plants and animals due to increased salinity in the area and conversion of large tracts of lands for shrimp ponds. Such realities adversely impact women's health, nutrition, workload and livelihood strategies.²⁵ The gendered dimension of the impact of climate change can be observed in the future as the land becomes increasingly saline, the productivity of the land decreases, future food insecurity becomes a possibility and women with less access to resources become generally more vulnerable.

7. Conclusion

Despite its high potential for economic development, shrimp aquaculture in Bangladesh seems to have had the opposite effect to the one desired, and the ecological impacts and social disruptions that it has induced have certainly partially outweighed the incremental economic gains. Both in political and academic communities, it is

²⁴ Khatoon, K., 1995. *Impact of Shrimp Cultivation: Pattern of Changes in the lives of people in Paikgachha and Shyamnagar*. Research Monograph. Ain-O-Shalish Kendra, Dhaka, Bangladesh.

²⁵ Datta, A., 1995. *Ibid.* p. 6

recognized that shrimp culture as it has been conceived in the 90's in Asia has not been consistent with the concept of sustainable development.²⁶

The experience of shrimp farming and its relations with the livelihood of women in southeastern Bangladesh clearly illustrates that poverty, food insecurity and environmental degradation are critical development problems that have a disproportionate negative impact on rural women, due to their inferior socioeconomic, legal and political status. The vulnerability of these poor women is only going to increase if proper and systematic interventions to mitigate Climate Change is not undertaken.

We see here that, even though the shrimp industry in Bangladesh is bringing in precious foreign exchange for the country, the unsustainable way of shrimp cultivation is putting the long term environmental sustainability of the area in danger. Women are the largest losers in this equation where the economic benefit is accruing to the large producers while the poor, both men and women end up with their lands which have lost its fertility because of salinization so that nothing other than shrimp can be cultivated in the future.

Sustainable development requires urgent correction of economic policies, and harmonizing environmental protection and development as well as adaptation strategies as areas where shrimp cultivation is now taking place goes down under sea water in the coming decades. Alternative source of income need to be looked into from now on.

Adaptation to climate change or, indeed, climate variability, is dependent on issues such as wealth, technological power and access to information, all of which are major problem areas for women. Resilience or vulnerability to climate change will be largely dependent on the adaptive capacity of the different stakeholders as well as their social and environmental context. Consequently, vulnerable groups such as poor women and men will be faced with problems such as food insecurity, loss of livelihood and hardship due to environmental degradation, all of which leads to a whole host of potentially devastating economic and social consequences.

Neither effective management of natural resources, nor effective policies to reduce risks or respond to natural disasters and climate change are possible if programming is not grounded in an understanding of how specific gender relations impact on, or affect, women and men.

8. Recommendation

This paper throws light on inadequacy of the awareness of the inefficiencies and inadequacies of existing approaches and intervention methods in responding to emergency situations like Climate Change from a gender perspective. It therefore

²⁶ S. A., Vosti and T Reardon., 1997, *Sustainability, Growth, and Poverty Alleviation. A policy and Agro-ecological Perspective*. IFPRI, John Hopkins University Press, Washington.

CLIMATE STUDY SERIES NO 2

suggests that non governmental, international and regional organizations should assist governments in developing gender-sensitive strategies to address Climate Change by:

- Making sound environmental management, risk management and gender equality an integral part of sustainable development
- Creating and implementing, with the involvement of community groups and women's groups, comprehensive rural and urban development strategies, that will include gender sensitive adaptation for Climate Change
- Encouraging institutions to use formal guidelines to promote gender-sensitive environmental policies and programmers and apply gender mainstreaming tools where they exist.
- Making local residents full and equal partners in the development of safer communities and incorporate indigenous knowledge, skills and capacities, particularly of poor women into environmental management and Climate Change adaptation
- Collaborating in the creation of networks that promote community access to gender-sensitive information and communication technologies supporting information exchange on environmental management and Climate Change

Climate Change initiatives offer clear opportunities to transform gender relations which limit the ability of both women and men to anticipate, survive, cope with, and recover from the effects of disasters. It is within this broad context that the need for a holistic and gender-sensitive approach to sustainable development and Climate Change adaptation and the implications of this framework need to be addressed.

Naved Ahmed Chowdhury is a researcher on climate change who can be reached at naved77bd@yahoo.com

Climate Study Series is a regular publication from Environment Unit of Unnayan Onneshan