

# **Impact of Climate Change on Food Security in Bangladesh: Gender and Disaster Perspectives**

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# Background

The paper aims:

- To show the inter relationship of climate change, disaster, food security and gender in Bangladesh
- To assess the experiences and gender specific contributions of women during disaster situations
- To analyse existing state interventions to address issues related to climate change and gender during a disaster

# Climate Change and disaster

- Disasters are frequent phenomenon in Bangladesh which pose multiple threats to her people
- It range from devastating floods to cyclone, tornado, storm/ tidal surge, river bank erosion, drought, earthquake, salinity expansion, arsenic contamination in ground water, '*monga*' (a famine like phenomenon cause severe food insecurity) and many more

# Disasters in Bangladesh



Floods



Cyclone, tornado and tidal surge



Drought



River bank erosion



Water logging



Salinity



# Major disasters in Bangladesh

## Hazards

- ◆ Flood
- ◆ Cyclone
- ◆ Tidal/storm surge
- ◆ River bank erosion
- ◆ Earthquake
- ◆ Drought
- ◆ Salinity intrusion
- ◆ Arsenic contamination
- ◆ Infrastructure collapse
- ◆ Fire
- ◆ Tsunami
- ◆ 'Monga'

## Recent major disasters

Year	Disaster	Deaths
1970	Cyclone	300,000
1988	Flood	2373
1988	Cyclone	5704
1989	Drought	800
1991	Cyclone	138,868
1996	Tornado	545
1997	Cyclone	550
1998	Flood	1050
2004	Flood	747
2007	Flood	1071
2007	Cyclone	3406

# Causes of Disasters in Bangladesh

- Geographical and topographical features
- Confluence of the major rivers
- High monsoon rainfall within and outside Bangladesh
- Low mean sea level
- Rise of sea level
- Siltation of rivers
- Flood control measures
- Deforestation
- Global warming/Climate change
- Earthquakes in the Himalayan and Andaman Islands
- Use of chemical fertilizers
- Excessive withdrawal of ground water
- Shrimp cultivation
- Unplanned urbanization and industrialization

# Geographical setting and Disasters



- Bangladesh is a low lying delta with very gentle slopes
- It is located at the lowest end of the Ganges-Brahmaputra-Meghna Basin
- An enormous discharge of water heavily laden with sediment
- The shallow Northern Bay of Bengal which funnels over the coastal area of Bangladesh

# Climate Change and disaster....

- Disasters may cause by geographical/topographical or ecological features but these are shaped by human activities
- While Bangladesh is facing several kinds of disasters, in future the country is likely to be affected by the biggest ever global disaster, i.e. climate change
- Estimated increase in temperature would be 1.3 deg.c by the year 2030
- National total rainfall is likely to be increased by 295. 94mm in 2050

# Climate Change, disaster, food security

- Climate change contributes to increase frequency and severity of disasters with adverse impacts on humans, natural ecosystem and quality of human survival
- Due to a disaster poor people suffer from malnutrition as they fail to procure food (crop loss/damage, high price of essentials...)
- Deforestation, Over fishing, Over grazing, Salt built up, Water borne diseases from irrigation, Endangered wild life from loss of habitat, Loss of genetic diversity, Water pollution, Air pollution, Climate change are related to each other and having impacts on food production

# Food security during disaster

- Relief become concomitant to disaster/ demands for relief have begun to sound like a broken record
- The “expectation of international aid can delay the government’s own spending on disaster mitigation”
- Because relief aid is a common phenomena in the country, it delay reforms that seek to address the underlying issues of food security

# Food security during disaster...

- The availability of food aid means that the government does not need to stake its political future on solving the food insecurity problem
- Certainly, it needs to expend some resources to improve the situation, on alleviating the structural causes of hunger
- “one of the oldest arguments against aid” is “that it acts as a subsidy for inept central planners”
- The same might well be said for government in the face of disasters

# Research Methodology

- Locations: Two of the most flood affected districts have been selected: Faridpur (southern part) and Gaibandha (northern part) for rural areas (after 2007 flood) a slum of Dhaka city has been selected for urban areas
- Participants: a) Women, b) Adolescent girls and c) Women in disadvantageous position (socially excluded, disable, women headed, elderly women), women and men in the local govt., elderly and NGO representatives. No. of Participants 612.

# Gender and disaster

- Disasters affect both women and men but the burden of coping with disaster falls heavily on women's shoulders in Bangladesh
- Women suffer more than men from poverty, hunger, malnutrition, economic crises, environmental degradation, health related problems, insecurity and become victim of violence and political crises

# Gender and disaster.....

- The gendered division of labour becomes critical as gender roles are often re-enforced and even intensified – due to the additional work and changes in environment brought on by a disaster
- Violation of women's rights becomes more prominent during disaster
- Relief do not reach to those people who mostly need it
- Women's own initiatives become crucial for their family survival

# Gender and household food security

- Draw upon own store (dry food such as *chira* (flatten rice), *muri* (puffed rice), and biscuit)
- Procure food and process
- Draw upon own assets
- Adjust consumption pattern
- Draw upon aquatic food
- Draw upon social network
- Draw upon common resources
- Involve in IGA
- Consume less
- Procure and manage drinking water

**Millennium Declaration of September 2000 identified, among others, the following key objectives**

## **Protecting the vulnerable**

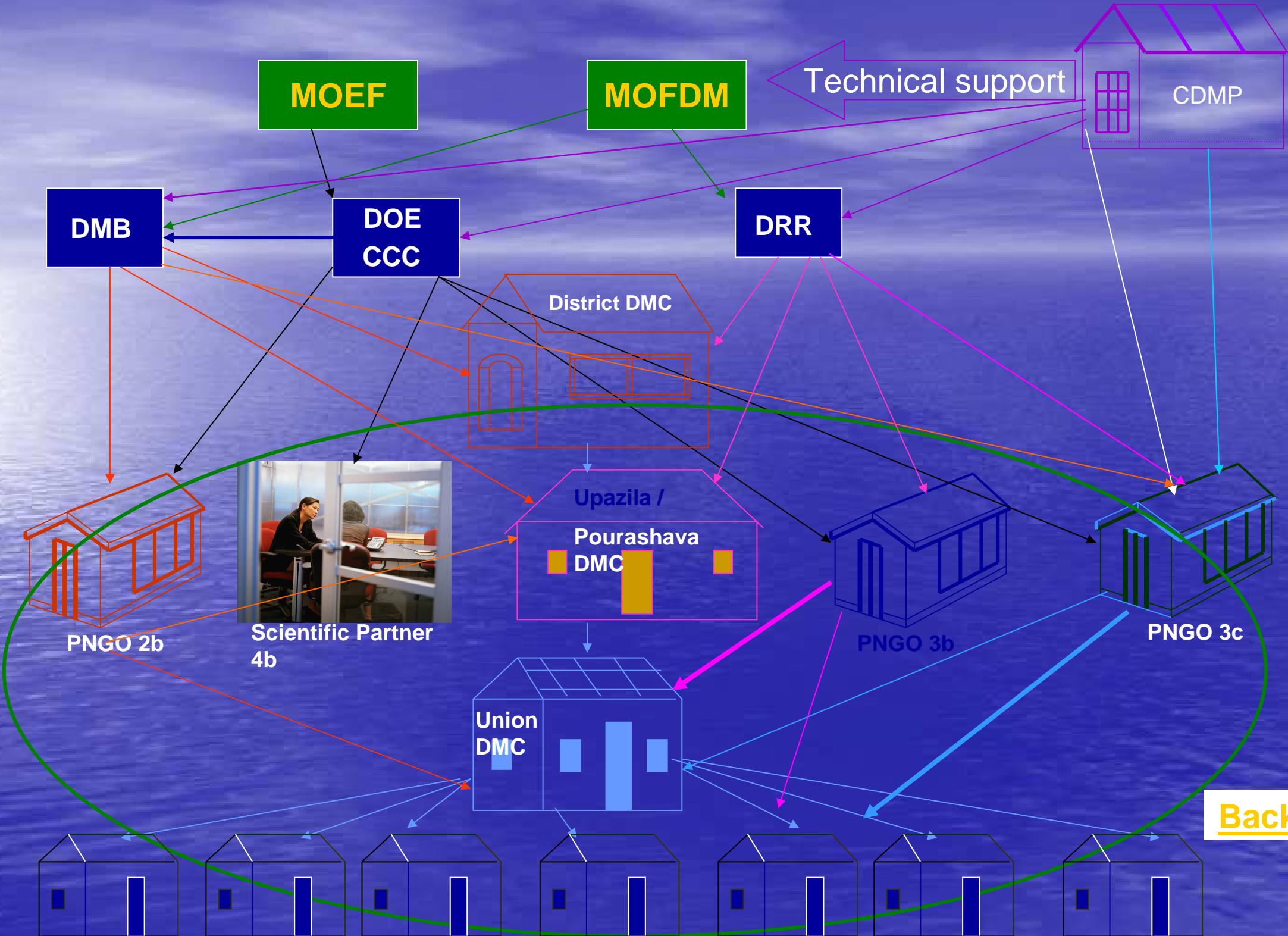
- “We will spare no effort to ensure that children and all civilian populations that suffer disproportionately the consequences of natural disasters...are given assistance and protection so that they can resume normal life as soon as possible.”
- Protecting our common environment, which resolve to “intensify cooperation to reduce the number and effects of natural and man-made disasters”

# Disaster management

- Bangladesh Disaster Management Model
- Disaster management regulative framework
- Disaster Management Planning Framework
- Disaster Management Institutional Mechanism
- Mainstreaming Strategy
- Community Risk Assessment Process
- Climate risk management framework
- GO/INGO/NGO collaboration

# Disaster management.....

- Hyogo Framework for Action (HFA) 2005-2015 and SAARC Framework for Action (SFA) 2006-2015)
- Draft National Plan for Disaster Management (2007-2015) (Priority 4: **Improved Adaptive Capacity to Climate Change for Sustainable Livelihoods in the Agricultural Sector of Bangladesh**)
- The NPDM designed to focus on relevant regional and sectoral plans addressing key issues like risk reduction, capacity building, **climate change adaptation**, livelihood security, gender mainstreaming, community empowerment and response and recovery management



# Challenges

- Overcoming bias towards relief and response
- Mainstreaming disaster risk reduction across sectors
- Limited resources (OECD and WB suggested for 40% allocation of overseas dev. Assistance to DM)
- Sustainable capacity development
- Alternative livelihood for the poor
- Sustained political commitment

# Strategies to ensure food security during disaster

- Reforms are needed to focus on output and neglected issues of storage, distribution, and insurance
- People's own initiatives to be strengthened
- South Asian regional cooperation for reducing incidence and severity of disasters
- National Frameworks linked to global and regional priorities associated with the climate change, food security in MDGs, HFA and PRSP

## Strategies to ensure food security during disaster.....

- Institutional Framework for co-basin countries to resolve river-related issues contributing to climate change
- SAARC Contributory Fund to meet disaster emergencies
- Massive task of rehabilitation during/post-disaster situation is needed, which is more complicated and difficult
- Policy should be formulated based on gender, socio-economic specific responses

# People are initiating their own strategy to adopt to waterlogging through alternative agriculture



Preparing a floating garden with water hyacinth

Vegetables growing on a floating garden



Harvesting ladies finger (*Abelmoschus esculentus*) from the floating garden



Cage Aquaculture

Duck rearing



# People have Increased income through alternative livelihoods resistant to different hazards



**Crab Fattening (Salinity, Waterlogging and Climate Change)**



**Mele (reed) cultivation (Salinity and Flood)**



**Goat rearing and Cow rearing as an strategy to reduce vulnerability to food and income during climate change induced disasters**

**Thank you for kind attention!**

**Questions?**