



Climate Change Vulnerability and Adaptation Requirements in the River Eroded areas of Bangladesh

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Brot
für die Welt



Center for Participatory
Research & Development
CPRD

People
Change
the World

Diakonia

Major Natural Hazards in Shariatpur

Floods

**River Bank
Erosion**

Drought

**Rainfall
pattern
Changed**

**Heavy
Rainfall**

**Salinity
Intrusion**



Erosion-Accretion the Padma River from 1973 to 2017

**Climatic
Factor:**
**CHANGES in
Rainfall**

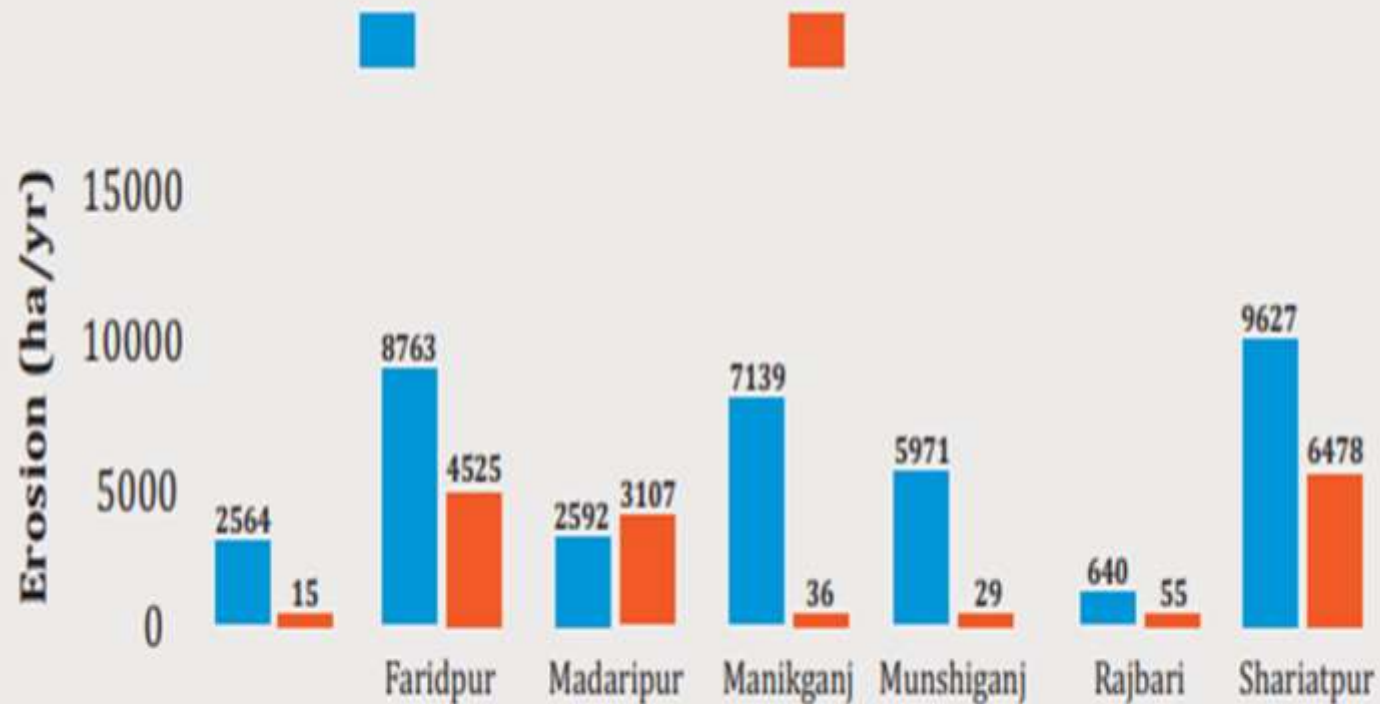
Non-Climatic:
**Upstream
River run-off**
**Blockage in
draining out**

Monsoon rainfall has increased at **2.65 mm/year**

Probability of all types of flood events (low, medium and high) has increased

Changes in the **rainfall** and **flooding** is linked to **climate change**.

On the other hand **huge volume of silts** along with **upstream water flow** caused raising of river bed and changes in river morphology. The situation decreased rate of discharge and increased erosion



Rivers are likely to erode about **28 square kilometres** of land this year, which is more than the land eroded last year, according to a research body of the water resources ministry.

Note: From 1973 through 2017, the Padma devoured **9627** ha land on an average annually only in Shariatpur District

Flood

- Many parts of Shariatpur get flooded during the monsoon when Padma carries substantial water from upstream.
- Flood often leave many people homeless and destitute after losing all standing crops.
- Flood in 2020 caused to submerge 200 Villages of 50 unions in 4 Upazila.
- About 300,000 people were effected during the flood of 2020.
- Flood affected people usually take shelter on high ground, flood shelter, dams and educational institutions.



Through a Regional Dialogue, Vulnerabilities and Adaptation requirements have been identified for the **FOUR** following sectors:

Water Resource &
Infrastructure

Agriculture

Public Health

Women & Children



Perceived vulnerability for **Water Resource and infrastructure**



- Flood
- River bank Erosion
- Water logging
- Unpredictable nature of rainfall
- Depletion of groundwater level
- Gradual aggression of Salinity in water
- Prevalence of Arsenic
- Water Pollution
- Waterborne diseases are on the rise
- Lack of Pure drinking water
- Drought and Heavy rainfall

Possible Adaptation Measures for Water Sector

- Construction of Embankment.
- Excavation to increase the water flow in rivers according to river morphological survey.
- Conserve rainwater in a natural way.
- Prevent surface water contamination
- Prevent throwing non-degradable products in water.
- Planned tree planting on river bank / canal and pond bank.
- Ecological balance should not be disrupted.
- Stop/Prevent the excessive withdrawal of ground water

Perceived vulnerability in **Agriculture** sector

- Disappearance of agricultural land
- Decreased crop production
- Farmers are becoming destitute due to riverbank erosion.
- Affected population lacks the capacity/lands to produce crops.
- Seedbed damage and seed storage deficits occur.
As a result, crop production problems occur in the following year.
- The crop is ruined, resulting in disruption of food production.

- Marginal farmers are financially disadvantaged
- Heavy rain
- Waterlogging causes damage to crops.
- Drought disrupts seasonal crop production/crop failure.
- Robi grain is wasted, production is low.
- Various diseases increase the infestation of pests and insects.
- Seed quality is lost.

Possible Adaptation Measures for Agriculture:

- Implementation of riverbank protection work.
- Excavation to increase the water flow in rivers and canals
- Inventing drought-tolerant varieties.
- Water Reservoir conservation.
- Invention of saline tolerant varieties.
- Insect control in integrated natural methods.
- Cultivation in the multi-level system.
- Preservation and distribution of improved agricultural seeds.
- Training farmers for efficient cultivation
- Increasing incentives in agriculture.
- Raise awareness on fallow land use.

Perceived Vulnerability in Public Health

- Different types of diseases are appearing due to change of weather
- Shortness of breath (children and oldest)
- Pneumonia (children)
- Dermatitis
- Diarrhea and cholera, dengue
- Mental Distress/Psychological problems (mostly among displaced people)
- Maternal health risk (Malnutrition, Reduce Reproduction Power)

Possible Adaptation Measures for Public Health

- Undertaking awareness raising activities.
- Conduct mobile hospital and health activities.
- Arrange necessary training for primary health care, SRHR etc. for the community people.
- The health department should be more active.
- Build powerful health service and infrastructures.
- Identify the climate change induced diseases and have to train the doctors and administrative people.
- Ensure the drinking of pure water and use of safe water.

Perceived Vulnerability for Women and Children

- Victims of sexual harassment and trafficking due to change of address.
- Increase child marriage due to the forced displacement to new areas.
- Increased salinity increases fertility and health risks.
- Drinking water collection crisis.
- Adolescent girls drop out from the school.
- Safe delivery risk.
- Seasonal, water and sewerage problems.
- Drinking excess saltwater increases the risk of miscarriage.
- Problems with cooking, eating.
- The risk of snake bites is high.
- Problems of teaching and taking lessons.

Possible Adaptation Measures for **Women and Children**

- Raising awareness at the grassroots level on the prevention of trafficking as well as the employment of women in their respective areas
- To prevent salinity increase in agricultural lands, a dam is necessary to build on the bank of the river.
- -Increase skill development training facilities for the girls & the woman .
- Storing rainwater for drinking purpose.
- Child marriage needs to be stopped to prevent adolescent girls dropout. (Keeping the educational activities active).
- Ensure the availability of Antivenin in all health complex to minimize the death from snake bite.

THANK YOU