

Transforming livelihoods through climate adaptation in Bangladesh



How farmers and workers are adapting to floods, cyclones, and rising salinity

Bangladesh's economic growth is increasingly vulnerable to climate risks. Floods, cyclones, rising sea levels, and salinity threaten agricultural production and the livelihoods of households that depend on farming. Understanding how people adapt to climate change is essential to protecting incomes and sustaining economic development.



2%

of GDP

estimated annual cost of climate change impacts in Bangladesh



29.2%

greater welfare losses if people were unable to adapt when flood and cyclone risks increase



In Bangladesh, farmers are changing the crops they grow to be more resilient to floods; coastal farmers are converting rice fields into saltwater ponds for shrimp cultivation; and some workers are moving away from climate-exposed agricultural employment. IGC-supported research has been investigating the economic value of these responses, the barriers to climate adaptation, and the policies needed to support livelihoods without shifting costs onto workers.

1. The insights

A cluster of IGC research has found that:

- Crop switching is an important form of agricultural adaptation - increases in flooding and cyclone exposure during a crop's growing season reduce the share of land allocated to that crop
- Increasing cyclone risk shifts workers out of agriculture and into other sectors - but different climate disasters can lead to different livelihood responses.
- The benefits of adaptation are not evenly distributed - agricultural adaptation requires significant financial and practical investment, and very few households report having sufficient savings.
- Connection to international markets can help households manage local economic shocks

Together, these findings show that adaptation cannot be limited to a single decision or technology. The effectiveness of each response also depends on household resources, local labour markets, and access to finance.

2. What changed?

The IGC's work in the region has helped shift the climate discussion in Bangladesh beyond measuring exposure to risk into providing evidence on how people respond to climate change. The research has contributed to:

- more realistic understanding of the economic costs of climate change than projections that assume households continue to produce the same crops and work in the same sectors
- Better understanding of the trade-offs created by adaptation - for instance, shrimp cultivation can increase salinity on neighbouring agricultural land, and farmers remaining in rice cultivation may bear part of the cost of another household's adaptation.
- A synthesis paper bringing together insights from IGC's work in the country that frames climate resilience as part of Bangladesh's wider growth strategy.
- A two-day conference convening researchers and policymakers to discuss evidence and policy recommendations on Bangladesh's economic transformation, sustainable growth, and climate vulnerability.

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Adaptation opens up a role for policymakers to influence the economic costs of future climate risk.”

Razi Iqbal, University of Michigan

3. The impact

739

households

surveyed in coastal southwestern Bangladesh to understand climate awareness

47%

reduction in the negative economic effects of climate risk when adaptation is taken into account

> 100

participants

attended IGC's 2023 conference on sustaining Bangladesh's economic growth in a changing climate

By providing evidence that adaptation can substantially reduce economic losses, but that households' ability to adapt is shaped by financial constraints, IGC-supported research is helping build a more complete understanding of climate adaptation in Bangladesh.