

**ARTISAN FISHERS' PERCEPTIONS OF, AND ADAPTATION TO,
CLIMATE CHANGE IN THE SOUTHEAST COAST OF BANGLADESH**

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ABSTRACT

Climate change has been identified as one of the most defining challenges of the twenty first century to the wellbeing of humans and ecology systems. The new Climate Change Vulnerability Index, released by the Global risks advisory firm Maplecroft ranked Bangladesh as one of the most vulnerable countries in the world at ‘extreme risk’ of climate change (Maplecroft, 2014). Coastal Bangladesh is a potential hotspot in the world threatened by extreme floods, cyclones, rising sea levels and high temperatures (World Bank, 2013). Traditional small-scale marine fishing communities living in the coastal areas are at the forefront of disaster threats and are frequent victims of deadly events. Planned adaptation strategies are necessary in light of increased disasters and the limited adaptation capacity of the artisanal fishing communities.

This research focuses on the contextual determinants and dimensions of artisanal marine fishing community perceptions of, and adaptation to, climate change and recommends policies for adaptation. Seven fishing villages (jeleparas) in Chittagong and Chakaria were selected for this study. These fishing villages are located in the high-risk zones to disasters, notably floods, cyclones and storm surges (GOB, 2010). A mixed method research approach was used here to investigate key dimensions and determinants of community perceptions of climate change and adaptation. Some of the key aspects of this research are climate change, environmental disasters, community culture and customs, local institutions and politics, socio-economy, and the demography of the traditional marine fishing communities in Bangladesh. This study documents how world views, disaster experiences, institutional factors, culture and customs play a central role in community risk perceptions and adaptation responses.

This study found that awareness of climate change impacts is high among the small-scale fishing community in Bangladesh, in which nine in ten respondents were worried but not panicked about climate change. Respondents had clear perceptions about changes in rainfall, seasonal patterns and increased temperatures. Fishers reported that rough waves and stronger winds have become a common phenomenon at sea and risks to fishers have increased significantly. However, the majority of respondents perceived that climate change is a natural process and some claimed that it was an *Act of God*. Tradition, faith, values, observations and disaster experiences are powerful indicators of fishers’ understanding of climate change and environment change in the future. Results showed that there are clear differences in scientific and community conceptions of climate change. Respondents also believed that adaptation to climate change was possible

through proper planning and support, while they perceived that individual, community and government actions are necessary to minimise impacts related to climate change. Infrastructure development, financial support for the community, specially from the government, better construction of boats, improved housing, and the inclusion of community representatives in the local disaster management committee, were all ranked as some of the adaptation policy preferences for the community. The design and implementation of appropriate climate change adaptation policies are seen to be necessary to help the fishing community adapt gradually to the changing environment.

DECLARATION

This work does not contain any material that has been accepted for the award of any other degree or diploma in any university or tertiary institution by Zaheed Hasan. Furthermore, to my best knowledge and belief, this work contains no material previously published or written by another person, except where due reference has been made in the text. After the copy of my thesis is deposited in the university library, I give consent for the material to be made available for loan and photocopying, subject to provisions of the Copyright Act 1968. Unless permission has been granted by the university to restrict access for a period, my consent is given for a digital version of my thesis to be made available on the web, via the University's digital research repository, the library catalogue, the Australian Digital Thesis Program (ADTP) and web search engine.

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ABBREVIATIONS

ADB	Asian Development Bank
BBS	Bangladesh Bureau of Statistics
BCCSAP	Bangladesh Climate Change Strategy and Action Plans
BDT	Bangladesh Taka (AUD 1 = 57 BDT: 2015 rate)
BWDB	Bangladesh Water Development Board
CC	Climate Change
DMB	Disaster Management Bureau
DoE	Department of Environment
DoF	Department of Fisheries
GoB	Government of Bangladesh
IPCC	Intergovernmental Panel on Climate Change
MoEF	Ministry of Environment and Forests
NAPA	National Adaptation Programme of Action
NGOs	Non-governmental Organizations
SLR	Sea Level Rise
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank