

Vulnerability of coastal fishers to disaster in Bangladesh

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Background

- Bangladesh is one of the most disaster-prone countries
- About 80–90% of global losses and 53% of total cyclone-related deaths worldwide occurred in Bangladesh (GoB, 2008).
- Cyclone, tidal surges, floods, river erosion, excessive rainfall, salinity intrusion etc. are occurring more frequently (Rahman and Siddiquee, 2006).
- Recently lightning is declared as disaster event (42 killed in a single day)

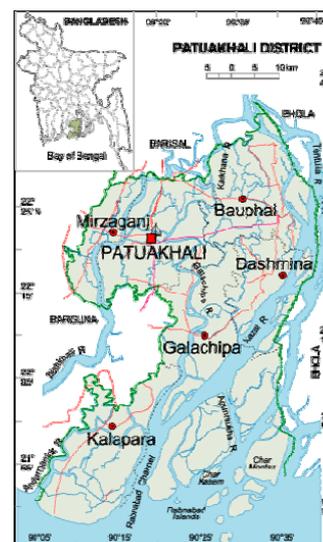
Why fishers are vulnerable to disasters?

- Small-scale fishers are among most vulnerable to disasters, because of
 - live close to coast
 - do fishing in waters
 - live in homes made from local materials unable to withstand the onslaught of hurricane-force winds and storm surge
 - limited socio-economic capitals

Fishers' vulnerability to disaster often don't get into consideration

Study objective and methods

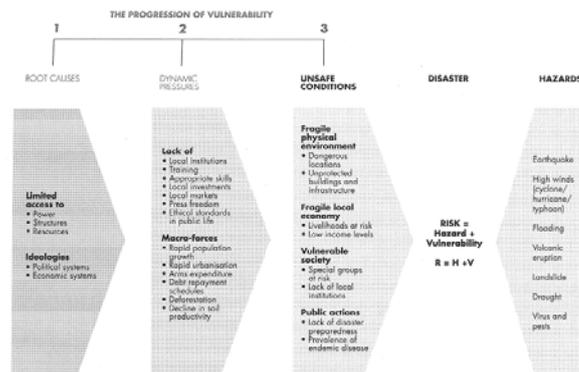
- To identify the mechanism of disaster vulnerability that impinges on coastal small-scale fishers in Patuakhali region, Bangladesh
- 70 Semi-structure interviews
- Pressure and Release (PAR) model as analytical framework



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PAR Model (Blaikie et al, 1994)

The PAR model divides vulnerability into three steps *root causes*, *dynamic pressures* and *unsafe conditions*. The PAR model identifies the *progression of vulnerability*, in which root causes are formed by a series of *dynamic pressures* and give rise to the *unsafe conditions*.



Hazards fishers face

- Cyclones
- Coastal storm surges and flood
- Riverbank erosion
- Saltwater intrusion

Cyclone

- Category 1 cyclone Aila slammed Bangladesh coast on 15th May, 2009, fishers were the worst victim.



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Coastal storm surges and flood



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Riverbank erosion



Progression of vulnerabilities

Limited access to power

Fishing is considered as “lower type” profession

Fishers for the most part, unorganized

Representation in local administration is poor

Muted political voice

Poorer fisher lobby the “socially supreme” for getting government support

Limited access to structure

The limited access of fishing communities to different institutional structures and decision making power

Limited access to resources

- Most of the surveyed households are landless, living on *khas*
- Poor infrastructure, remoteness, and poor transport facilities
- Inhibits fishers from easy and expedient access to the markets
- Dependency on single harvestable species hilsa with irritant income
- Immediate aftermath of any extreme events, cash economy became disrupted

Economic system

- Very limited access to formal credit system for buying productive assets
- Largely depends on informal credit *dadon*
- *Dadon* is flexible, provide protective security but economically unfavorable
- immediate aftermath of any extreme event, market became affected mostly depend on relief

Dynamic pressure

- Illiteracy is widespread (60%), school drop out is very common
- Earning income started at early age

I have to go with my father for fishing in river regularly, for this school is out of mine

- The less skilled and untrained fisher unable get access to power and structure and unable raise their voice towards abnormalities.

“Fishing is our main occupation; I got this from my forefather without further training. Most often we are deprived from our boat owner and after that tried to migrate alternative livelihood but cannot do this because I do not know anything other than fishing”

Macro-forces

- **Rapid population growth**

The average household sizes in the interviewed communities are 6.25 persons, which is higher than national average (4.6 persons)

- **Debt**

Informal credit *dadon* from middleman

The middleman sometimes becomes the *de facto* owner of fishers' productive assets and fish catches.

Restrict mobility to another profession

Decline in fisheries production

The statistics shows increased fisheries production, may be due increased fishing efforts with less individual catch .

The perceived causes of degradation

- Overfishing, due to big commercial trawlers, increased number of boats, use of more efficient/destructive gear (monofilament gillnet), undersize fishing etc.
- Changes in the natural environment (e.g. changes in natural environment, siltation).

Unsafe condition

Fishers are found
living in dangerous locations (**close to coast, river bank and embankment**)
being unable to afford safe buildings (**thatched house and earthen floor**)
engaged in dangerous occupation (**often defy warning for rough weather and continue fishing**)
or having minimal food entitlements



Livelihood at risk: destruction of standing crops, fisheries, and other household assets loss of boats and fishing equipment drastically reduced livelihood earnings



“We get daily wages for the work that we do. Hence, even during a cyclone, we do not want to miss going to the fishing. If we lose our wages, it's difficult for us to survive”

Response to disaster preparedness

- ‘Wait-and-see’ approach, observing whether the cyclone intensity is rising
- Resistance of a community to move into protective shelters during cyclones
- Continue fishing during rough weather as money lenders ask to do so
- Due to their strong attachment to their material culture such as home, land and environment

“I prefer to stay at home because I have a fear of burglary of my belongings.”

“Cyclone centre is too far, too crowded, local elites occupy much space “

Summary

Three main factors: root causes, dynamic pressures and unsafe conditions

Root causes: Limited access to power, structure and resources, less involvement in politics and poor economic system

Dynamic pressures: limited education, training and market facilities compounded by high population growth, low productivity of fisheries undermine adaptive capacity

dangerous location, unprotected areas, risky livelihoods, low income level, high debt bondage, insufficient disaster preparedness recognized as **unsafe conditions**- make them more susceptible to disaster.

Concluding remarks

- There is a need for enhanced economic opportunities and skill development programmes to enhance the capacity of fishers to respond to a changing climate
- Wider embankment coverage and the proper maintenance of existing embankments as well as afforestation efforts to conserve coastal mangroves.
- Early warning systems and communications need to be improved so that risks can be better understood – and responded to – by fishing communities.

Acknowledgements

