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Migrating to Tackle Climate Variability and Change? Insights from Coastal Fishing Communities of Bangladesh

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COMMONWEALTH SCHOLARSHIPS

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Introduction

- Climate change has been estimated to displace millions of people in the coming decades and to affect their livelihoods
- On-going debate on whether **migration** can lead to positive or negative outcomes
- Little empirical evidence to support either argument

Objective

- How climate-induced migration has impacted on the livelihoods, vulnerability and adaptation of a coastal fishing community in Bangladesh by comparing outcomes in a resettled community and a residual of the original community

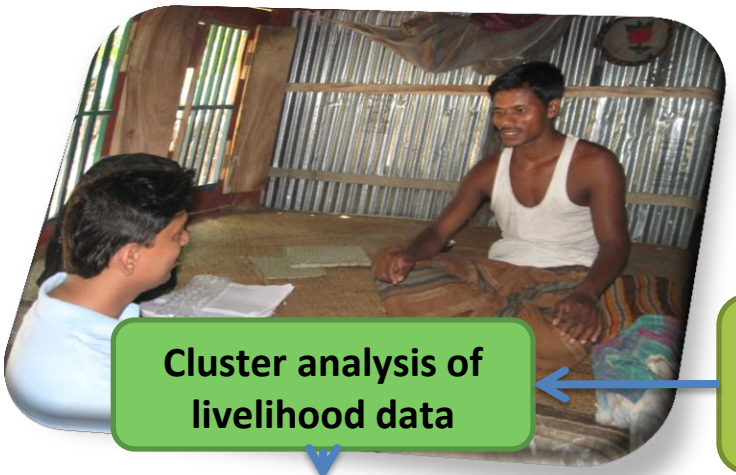
Study Sites in Bangladesh

Between 1986 to 1997 people migrated from the south-western part of this island to other parts of the mainland to escape land erosion, floods, cyclone and sea level rise.

A significant number of household migrated to Kutubdia Para – as a community migration

Both before and after migration, fisheries related activities were the main livelihood income source

Data Collection and Analysis



Literature review and Scoping study

Selection of fishing communities

Household questionnaires (100 for migrants, 50 for non-migrants)

Cluster analysis of livelihood data

Household groups of a fishing community

Oral history interviews, key informant interviews and focus group discussions

Coding

Secondary data

Descriptive statistics and Z-test

Outcomes of migration

Results and Discussion

Outcomes of migration (since start of migration to present):

- Exposure to climatic shocks and stresses
- Livelihood portfolios (mainly adaptive capacity)

Exposure

Climatic shocks and stresses	**Migrants** Mean	**Non-migrants** Mean	Source of data
Number of flood events	2	4	FGDs
Number of cyclone events	4	4	FGDs
Land erosion (metre/year)	0.67	96.67	FGDs
Sea level rise (mm/year)	1.4	2.1	BWDB, CEGIS (2006)
Variation in maximum temperature (°C)	1.61	1.52	BMD (2011)
Variation in minimum temperature (°C)	1.44	1.48	BMD (2011)
Variation in rainfall (mm)	16.4	14.93	BMD (2011)

Livelihood portfolios of *migrants* since migration to recent past

- Soon after migration the migrants consumed less food
- Managed to find daily labour jobs in the nearby town
- Caught fish from the near shore using small nets
- Musclemen from the nearby town tortured them physically, robbed them of their money, interrupted their selling of fish and prevented them from carrying out their livelihood activities
- Within one year, when the number of migrant households had increased, they protested and got rid of most of these problems
- Government, donor agencies and NGOs built some infrastructure improving access to market, education and other social services
- Households started their main livelihood activities: commercial fishing in the sea and fish drying business on the nearby sand bar
- *For the migrants' livelihoods improved year after year*

Livelihood portfolios of *non-migrants* since recent past

- Livelihood remained unchanged or worse

- No effective land erosion prevention measures were undertaken

- Difficulty in continuing their livelihood activities

Current livelihood portfolios (mean)/adaptive capacity

Livelihood portfolios	Migrants	Non-migrants
Household size	6.36	6.30
Highest education (years of schooling)	6.84	6.66
Number of adult workforce	3.57	3.36
*Physical fitness of household head to conduct livelihood activities (days/year)	342	324
*Quality of house	2.04	1.41
Number of fishing or fish drying materials	0.31	0.22
Percentage of households use sanitary toilet	21	18
Percentage of households use phone	75	50
Percentage of households use radio or television	*22*	*34*
Percentage of households use solar or electricity for energy	55	14
Percentage of households use safe drinking water source	100	70
Percentage of households own transportation	12	2
Percentage of households possess land	*7*	*10*
Percentage of households possess tree	92	62

Migrants have better levels of and access to most of the livelihood assets
E.g., better education, health, house and other physical capital, income (more than double) etc.

However, potential challenge is the risk of further resettlement due to development pressures

Current livelihood portfolios (mean)/adaptive capacity

Livelihood portfolios	Migrants	Non-migrants
Percentage of households have livestock	70	70
Percentage of households have jewellery	93	62
Percentage of households have stored food	10	10
*Per capita income of households (Taka) (1 US$ = 76 Taka)	34,374	16,577
Social capital	9.38	9.08
*Number of income generating activities	*1.73*	*2.78*
*Time needed to reach the nearest cyclone shelter (minutes)	*39.10*	*18.54*
*Time needed to reach the nearest safe drinking water source (minutes)	4.91	15.34
*Time needed to reach the nearest market (minutes)	15.51	33.18
*Time needed to reach the nearest disaster office (minutes)	31.31	43.70
*Time needed to reach the nearest government office complex (minutes)	31.31	45.00
Time needed to reach the nearest hospital or clinic (minutes)	30.24	35.52
*Time needed to reach the nearest educational institution (minutes)	11.49	20.46

Few better conditions for the **non-migrants**:

- Use more radio or television

- Require less time to reach the nearest cyclone shelter

- Involved with more income generating livelihood activities

Conclusion and Recommendations

•Climate induced migration, if taken place as a community, can result in marked positive livelihood outcomes, reduced vulnerability and increased capacity to cope with and adapt to climate variability and change

•Migration can be a feasible strategy to cope with and adapt to climate change and does not necessarily lead to maladaptation as many conventional narratives suggest

Conclusion and Recommendations

•There is a need for very careful assessment of the destination of migration and the support required to assure communities are better off over both the short- and long-term

•Support is needed to ensure migration reduces climatic exposure, provides sufficient personal and land security, and opportunities for the creation of alternative livelihood activities that will facilitate adaptation and ensure sustainable livelihoods over the long term

•Especially, for the coastal fishing communities, reduced exposure to coastal land erosion, sea level rise and flooding should be ensured. To provide a sustainable non-climate sensitive livelihood, climate resilient strategies should be facilitated

THANK YOU

Questions/Comments

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