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UNDERSTANDING LIVELIHOOD RESILIENCE IN BANGLADESH

The multifaceted influences of
environmental shocks and
climate change impacts on people's lives

RESEARCH CONTEXT

Bangladesh is a country with a wide variety of environmental stressors. The fact that people are struggling with different stressors in different regions also makes their needs and responses very diverse. There are clear differences between the northern, central and southern study sites. For example, in the northern study sites people are facing drought and shifting rainy seasons, while in the southern and central study sites people are dealing with stressors such as riverbank erosion and floods.

In the southern and central study sites people described struggling more with the environmental stressors than in the northern study sites and they found themselves and their livelihoods failing to cope with the stress. In the northern study sites, people felt that they were in a better position to deal with the stressors. Modifications and changes to their livelihood sources were often in response to financial opportunities rather than survival, irrespective of the environmental stressors in the area.

VILLAGE	DISTRICT	DIVISION	MAIN ENVIRONMENTAL STRESSORS
1. Dalbanga South	Barguna	Barisal	Cyclones, riverbank erosion, floods
2. Mazer Char	Pirozpur	Barisal	Cyclones, riverbank erosion, saline intrusion
3. Gabtola	Bagherhat	Khulna	Cyclones, riverbank erosion
4. Singpur	Kishoreganj	Dhaka	Riverbank erosion, land loss, floods
5. Babupur	Naogaon	Rajshahi	Drought, dry spells, shifting rainy seasons
6. Jamalpur	Naogaon	Rajshahi	Drought, dry spells, shifting rainy seasons
7. Bhola Slum	Dhaka	Dhaka	Flooding, standing water, public health

Study sites

Three of the study sites (Dalbanga South, Mazer Char and Gabtola) are located in the southern coastal delta, and are mainly dealing with riverbank erosion, cyclones and floods. Two study sites (Babupur and Jamalpur) are located in the north-western side of the country, where lack of rain, dry spells and drought are common events. The final two (Singpur and Bhola Slum), are located in central Bangladesh. The Singpur village is struggling with riverbank erosion, land loss and floods, while Bhola Slum is an urban unofficial settlement located in the capital of Dhaka. This study site was added to investigate what happens to people after they move from rural to urban areas due to environmental stress. The slum is named after Bhola Island as most slum dwellers migrated from here as a result of the devastating 1970 cyclone and due to the continuous riverbank erosion.



RESEARCH RESULTS

1. People's adaptive strategies can increase their vulnerability in other ways

Our study found that the way people responded to the environmental stress in the study sites sometimes ended up making them more vulnerable to other climatic and non-climatic threats, such as dangerous and unhealthy living or working conditions. A total of 28 Livelihood History interviews were conducted to better understand people's decision-making process while dealing with environmental risks.

The findings showed that the three core adaptive strategies people tended to turn to, (1) agricultural adaptation, (2) diversifying livelihood sources, and (3) migration, sometimes ended up being unsuccessful. As floods, cyclones, riverbank erosion, and droughts tend to damage agricultural land and crops, people generally responded by either

modifying their agricultural practices, switching to alternative livelihoods, or by trying to migrate away from the stressors. The respondents in Bhola Slum, in Dhaka, however, responded that migration led to them being more vulnerable to urban threats, such as dangerous working environments.

The people interviewed in Bhola Slum migrated there to escape the impacts of the riverbank erosion and cyclones back on Bhola Island, but once arrived in Dhaka they found themselves having to engage in dangerous construction work or living under unhealthy conditions to be able to survive.

My husband cannot work properly as he had an accident. While cutting mud on a hill he was struck by a sudden landslide. There was a pipe inside the hill and it broke, creating a landslide, and he fell down in a hole and was buried. The other workers removed the mud and managed to save him. They took my husband to the hospital. Now when trying to work he faces many problems. He has pain coming from two sides of his belly and sometimes when he coughs, blood comes out of his mouth (Ayeb-Karlsson et al. 2016: Quote 28).

To learn more, see: Ayeb-Karlsson, Sonja, Van der Geest, Kees, Ahmed, Istiak, Huq, Saleemul, and Warner, Koko (2016). A people-centred perspective on climate change, environmental stress, and livelihood resilience in Bangladesh. *Sustainability Science* 11(4): 1-16.

<https://link.springer.com/article/10.1007/s11625-016-0379-z>

2. If climate policy is to protect those who do not manage to escape environmental risks, we must first textually examine the concept of Trapped Populations

First mooted in 2011, the concept of Trapped Populations generally referred to people who had a desire to move but found themselves unable to escape environmental high risk areas. In this respect, the concept's focus on immobility helped to broaden the study of human responses to environmental change. While a seemingly straightforward concept, the underlying discourses around the reasons for being 'trapped', and the language describing the concept have profound influences on the way in which policy and practice approach the needs of populations that are at risk from environmental stresses and shocks. The potential effects on vulnerable populations of using a language that describe them as 'trapped' cannot not be neglected.

To investigate the values surrounding the concept, a critical discourse analysis was carried out on the academic literature referring to 'trapped' within environmental migration studies to understand why the concept appeared when it did, how it has been shaped to date and if there is a risk that the concept could be misused.

The power effects of language are of particular importance within policy. Proactive forms of climate action and policy recommendations must therefore require extreme caution to ensure that they preserve the

autonomy of affected people. In situations where immobility is involuntary, assisted migration may be welcomed; however, where immobility is voluntary it will represent an imposition into people's lives and their choices to stay in seemingly risky locations. Climate policy recommending relocation or resettlement must incorporate the incredibly complex and sensitive nature of the process and acknowledge the power that may underlie its use. The power contained within language should therefore not be overlooked, and especially not in relation to describing someone as 'trapped'. Labelling a person as 'trapped' has a similar potential as labelling someone as 'sick' – such a label may reduce or remove an individual's agency and independence in determining their own destiny.

For the complete textual analysis, see: Ayeb-Karlsson, Sonja, Smith, Christopher D. and Kniveton, Dominic (2018). A discursive review of the textual use of 'trapped' in environmental migration studies: The conceptual birth and troubled teenage years of Trapped Population. *Ambio* 47(5): 557-573.

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3. People who manage to migrate away from environmental threats in rural areas may instead end up mentally trapped by socio-psychological constraints in urban settlements

Since the Trapped Populations concept was introduced by the Foresight report in 2011, various migration scholars have aimed to expand the concept. However, the general definition still refers to people 'trapped' in environmentally high-risk rural areas due to economic constraints. To widen the understanding of the concept, Q-methodology and a Foucauldian inspired discourse analysis were used to elaborate around the emotional and psychological aspects of immobility in an urban unofficial settlement in Dhaka, Bangladesh.

The study revealed crucial insights in how socio-psychological constraints may influence people's (im)mobility decision-making process, while most other studies referring to 'trapped' examine rural places, and emphasise the economic factors of immobility. This urban population managed to migrate from a rural area where they were dealing with riverbank erosion and cyclones to an urban slum in Bangladesh. However, many of the people identified themselves as 'trapped' after arriving in the urban settlement. This notion was explained by them as feeling unable to move back home, and unable to move to a better part of Dhaka. Rather than depending mainly on economic explanations of being 'trapped', people focused on a combination of processes, which included gender and psychosocial factors to provide an explanation of immobility in Bhola Slum.

Gender roles, health, and emotional place-attachment played crucial roles in how people defined themselves as 'trapped' and unable to escape the slum. The findings also showed how power and knowledge may affect their (im)mobility, and how socio-psychological constraints are factors in people's decision-making. These constraints ended up paralysing some people, trapping them mentally as well as geographically.

Life on Bhola Island is more peaceful. I think that is better. I have been in Dhaka for more than 10 years now but I do not like it here. Dhaka is not my place. I want to go back. I want to live in my village. For me that life is better. The village environment is way better than here. In the village you do not realize when six months have passed, but here it is difficult to pass each day (KES BSM20 2016).

Ayeb-Karlsson, Sonja (2018). Trapped in the prison of their minds: Understanding the notion of 'trapped' populations through an urban settlement in Bangladesh [Chapter 5]. In *When the disaster strikes: Immobility Decision-Making in the context of Environmental Shocks and Climate Change Impacts*. Doctoral thesis (DPhil). Brighton: University of Sussex and IDS. <http://sro.sussex.ac.uk/80447/1/Ayeb-Karlsson%2C%20Sonja.pdf>



4. Gender-roles are important factors to better understand disaster immobility and climatic vulnerability

Another study aimed at expanding the concept of Trapped Populations investigated in which ways gender influences people's immobility during cyclone strikes in Bangladesh. The study investigated whether gender roles and gender relations can help to explain why some people, and especially women, fail to evacuate to the cyclone shelters when a cyclone strikes. The discourse analysis carried out on a mixed-method dataset, conducted through Q-methodology, survey questionnaires and storytelling sessions, showed that gender roles do play an important role in people's evacuation decisions.

The social roles allow as well as constrain people's mobility when the disaster strikes. The findings showed that the identified discourses within which people socialise ended up 'trapping' people differently. What is accepted social behaviour, or an accepted social space for a man, was not 'acceptable' for a woman. The discourse groups interactively described what it meant to be 'trapped', as well as how women in particular were emotionally or mentally constrained in their decisions to move or

evacuate to the shelter(s). In other words, when the disaster strikes, not all have the same ability to escape.

Nevertheless, women here wear sarees most of the time. The sarees are usually 10-12 feet long, so they cannot swim wearing this long piece of cloth. Men, on the other hand, might be wearing simple piece of clothes like a lungi. They can pull their lungi up if needed and therefore swim or stay in the water longer, they can even take shelter in the trees (KEI MCM30 2016).

It is not right [for unmarried women to go to the shelter] because it could create problems. /.../ I do not like women going to the shelter. It just does not feel right. Wherever they go, things happen (LHI GBM38 2016).

Ayeb-Karlsson, Sonja (2018). *When the disaster strikes: A gender-analysis of Trapped Populations and non-evacuation behaviour during*

cyclones in Bangladesh [Chapter 6]. In *When the disaster strikes: Immobility Decision-Making in the context of Environmental Shocks and Climate Change Impacts*. Doctoral thesis (DPhil). Brighton: University of Sussex and IDS. <http://sro.sussex.ac.uk/80447/1/Ayeb-Karlsson%2C%20Sonja.pdf>

5. There is an urgent need to deepen the understanding of social and cultural limits to disaster preparedness

Even though much work has gone into the technical and economic grounds for disaster preparedness less effort has been directed at understanding the social and cultural challenges and opportunities to reduce disaster risk. In line with the climate action carried out through the project, research was also focused on local insights into the social and cultural contexts of disaster preparedness. In many cases, an early warning system is in place to warn people of environmental shocks, but the system sometimes fails due to social or cultural limits.

The knowledge-sharing platform of the Resilience Academy revealed that research investigations all over the world had come to similar conclusions. Although there were geographical and disaster typological differences in the locations and situations, the considerations that limited the system efficacy were fairly similar.

6. The health impacts of climate change and environmental shocks are still poorly known

The mental aspect of people's immobility in relation to how people struggled to deal with environmental shocks and climate change impacts in the urban and coastal study sites were portrayed as crucial issues in need of urgent solutions. People also emphasized how illness, physical as well as psychological, was strongly linked to the loss of livelihood security. In Bholra Slum, people sometimes fell ill due to the dangerous living or working environments which pushed them deeper into poverty, while the lack of clean water in the northern and drought-affected study sites ended up spreading water borne diseases that otherwise could have been avoided. In the coastal study sites, people spoke of 'internal damages and aches' that could not be eased with pain killers, or how children kept burying their toys after having witnessed how people buried the bodies of their neighbours who died in the cyclone strikes. More research investigating the mental after-effects of disasters, such as people dealing with PTSD and depression, is required in the future.

Until now, the research insights coming out of this project have been channelled into the Lancet Countdown, a collaborative global research initiative tracking progress on health and climate change while providing an independent assessment of the health effects of climate change, the implementation of the Paris Agreement, and the health implications of these actions. The collaboration follows on from the work of the 2015 Lancet Commission on Health and Climate Change, which concluded that anthropogenic climate change threatens to undermine the past 50 years of gains in public health. The Lancet Countdown is a collaboration between 24 academic institutions and intergovernmental organisations based in every continent, with representation from a wide range of disciplines.

After Sidr I have become anxious. I cannot seem to relax. Especially during days like this /.../. I feel the breeze coming in from the sea and it forces me to remember. I cannot stand that breeze anymore. /.../ I had a wife, two sons and two daughters. They were my family. All died in the Sidr, all except me. My current wife

Ayeb-Karlsson, Sonja, Van der Geest, Kees, Khanom, Tanzinia, Ahmed, Istaikh, Huq, Saleemul, Alam Shafiqul, Sarder, and Warner, Koko (2018). *Climate change, environmental stress, gender and livelihood resilience: Findings from Bangladesh*. In Huq, Saleemul et al. (eds) *Confronting Climate Change in Bangladesh*. New York: Springer. Forthcoming.

No one can save us but Allah. The NGOs cannot do anything. If Allah does not want you to survive, all your efforts will be in vain and you will die. We must follow Allah. /.../ During a cyclone, it is Allah's wish that will determine if my house is protected. It is first when my house collapses that I will come out (Interview 2014.05.19).

Ayeb-Karlsson, Sonja, Kniveton, Dominic, Cannon, Terry, Van der Geest, Kees, Ahmed, Istaikh, Derrington, Erin M., Florano, Ebinezer and Opiyo Opondo, Denis (2018). *I will not go. I cannot go: Cultural and social limits to disaster preparedness in Asia, Africa and Oceania*. Disasters. Forthcoming.

also had a husband, a son and a daughter. They also died in the Sidr. /.../ I am the only one who survived out of my family. I survived but my head and my mental state did not. I am not stable. If a person in a household faces such a tremendous loss, he gets frustrated. All my four children and my wife died, I am the only person alive. How could I possibly be mentally stable? I have fallen apart (LHI GBM38 2014).

During the cyclone some people got injured internally, in such an important organ that he or she may face complication afterwards. They may approach doctors for treatment in secret but some losses cannot be healed by doctors. /.../ People face mental problems because of these traumas. Family problems arise as a result, and they grow larger by each day. When we talk about floods, it is the economy that receives most importance. /.../ The only doctors that came to see us [after the cyclone] were medical specialists. They were not able to give either mental or psychological support to the victims here (KEI GBM60 2016).

To read more on this topic, see: Watts, Nick, Adger, Neil W., Ayeb-Karlsson, Sonja, et al. ..., Costello, Anthony (2017). *The Lancet countdown: tracking progress on health and climate change*. *The Lancet* 389(10074): 1151-1164. [http://dx.doi.org/10.1016/S0140-6736\(16\)32124-9](http://dx.doi.org/10.1016/S0140-6736(16)32124-9)

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VOICES FROM THE PEOPLE

When the riverbank erosion started we lost happiness in life. When I was a child we used to eat rice from our own fields. After the riverbank erosion we never got to eat rice from our fields again. /.../ There used to be three roads, three villages and three wells by the riverside but they all went under water, into the river. The food scarcity came with the riverbank erosion.

Bhokul, 59-year-old woman living in Dalbanga South



We were doing quite well until Sidr /.../ with 19 cows producing milk that I could sell for 50 taka/litre, and combining it with selling the fish that I managed to catch each day. I was pretty well off financially. /.../ Then it was that day that changed my life, the day when 10 out of 19 of my cows died, the day I lost my wife.

Nurmia, 78-year-old man living in Mazer Char



I think I am more vulnerable because my house is located next to the embankment. If I could manage to get some money, I would try to find a safe place. I would go there and buy some land. /.../ I would work so hard to pay back that money - every single cent of it. I just want to put my family in safety, in a place where I do not have to worry about them dying in a cyclone strike.



Kabir, 46-year-old man living in Gabtola

I went there because we did not have any money left in our family to survive. So I was almost forced to go and work for a living. /.../ In this village, if you as a woman work outside the house you end up losing your honour. /.../ After watching us some people said: 'The women out there are working! What do they know about work?' We see and hear those people, but we cannot afford to fear their words. We work to survive.

Sahia, 30-year-old woman living in Singpur



I have a pond here. It is a very old pond and I have no idea when it was made or who dug it.

The landless people living around the pond use it. However, powerful men in the village claim it is theirs. There is a police case running in the local court. Together with the landless people, we are defending our rights in court. Seven years ago, people came here and started planting trees next to my house. I told them that this is governmental land and that we are living here. The chairman has given it to us. /.../ I told him there is a case running in court. If you win you get the land, I said but for now I will not allow you to plant trees on my land. You can plant your trees elsewhere. /.../ They did not listen and kept planting trees. After a while I went over and pulled away his hand. He stood up and hit me with the front side of his spade. I tried to protect myself, but the spade cut into my hand. The spade hit my face, here, next to my eye.

Muzaffar, 55-year-old man living in Babupur





Sometimes I sell my pond water and sometimes I only rent the pump. I do not sell my pond water when I need it myself. The hourly rent for my water pump is 120 taka and the total price for pond water and water pump rental is 400 taka/h.

Bhala Debi, 65-year-old woman living in Jamalpur

We lived so much better. We would grow rice and lived in a large house surrounded by trees. We were a happy family with plenty of crops and land but then all went into the river. I am from Bhola Island. That is where I come from. /.../ Home is Bhola. If someone asks me where my house is located, I say Dhaka. I then say that it is located here at the slope of Pallabi, but if someone asks me about my home I say I am from Bhola.

Belkis, 39-year-old woman living in Bhola Slum



To hear more from Bhokul, Nurmia, Kabir, Sahia, Muzaffar, Bhala Debi and Belkis, watch their Gibika photo films on the UNU-EHS YouTube channel <http://bit.ly/2MPGbrL>

Gibika publication list

Ayeb-Karlsson, Sonja (2018). When the disaster strikes: A gender-analysis of Trapped Populations and non-evacuation behaviour during cyclones in Bangladesh [Chapter 6]. In *When the disaster strikes: Immobility Decision-Making in the context of Environmental Shocks and Climate Change Impacts*. Doctoral thesis (DPhil). Brighton: University of Sussex and IDS.

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Gibika photo film series link

<http://bit.ly/2MPGbrL>

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