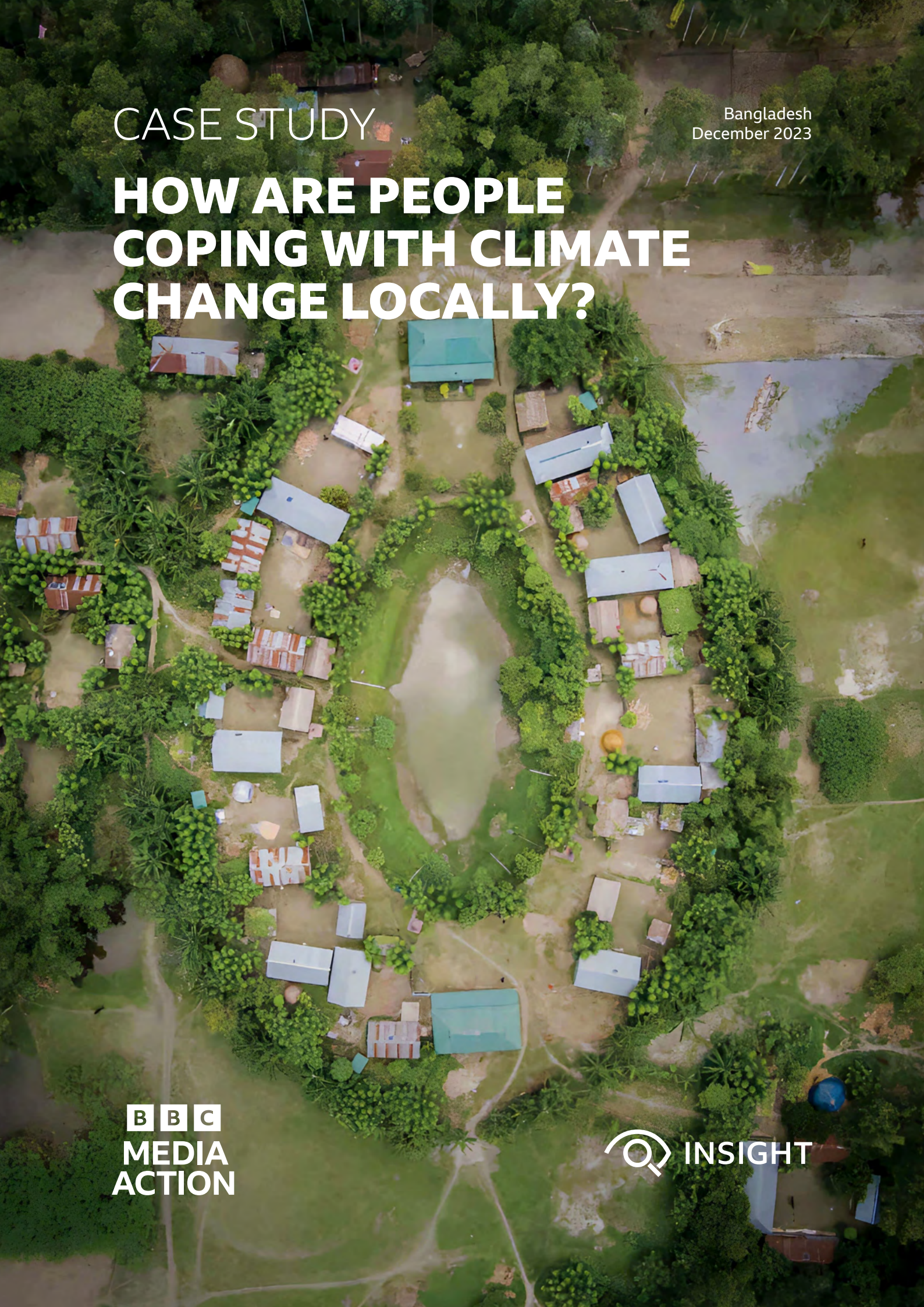

CASE STUDY

Bangladesh
December 2023

HOW ARE PEOPLE COPING WITH CLIMATE CHANGE LOCALLY?

BBC MEDIA ACTION

INSIGHT

This research has been carried out by the Research and Learning Team, BBC Media Action, Bangladesh under the project “Stories of Change - Climate adaptation with media and youth Bangladesh” with support from the Global Center on Adaptation (GCA) and UK International Development.

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Ashif Ahmmed Himel/Unsplash

We are worried about our children and grandchildren. It is our responsibility to take care of them. We cannot breathe and eat properly in this changing climate. How will they survive?

– Farmer, age 45, Bhola

Introduction

The poorest people feel the greatest impact of climate change and often find it most difficult to cope. For more than a decade, BBC Media Action has been listening to them, to inform our research and our programming. Our research insights help reduce climate risk and build resilience by equipping people with practical information and platforms for discussion that support decision-making within households and communities.

In 2012, through our project Climate Asia, we carried out more than 33,500 interviews across seven countries: Bangladesh, China, India, Indonesia, Nepal, Pakistan, and Vietnam. From 2013 to 2017, BBC Media Action Bangladesh produced the reality TV programme ***"Amrai Pari"*** (Together we can do it) and a public service announcement campaign, designed to inspire people to take action by showing communities adopting simple and affordable techniques to help cope with sudden shocks, such as cyclones, and adapt to long-term challenges, such as drought and changing rainfall patterns.

This briefing summarises follow-on research conducted in 2023 by BBC Media Action* to understand how communities are adapting to climate-related problems and the benefits, barriers, and drivers of these adaptations. The study focused on locally-led adaptation (LLA) techniques.

What research did we do?

BBC Media Action researchers conducted six community discussions using participatory techniques such as seasonal mapping, six in-depth interviews with government staff and non-governmental organisations (NGOs), and two interviews with climate experts in two study areas: rural and urban areas of Patuakhali and Bhola in the south and Gaibandha in the north. According to the climate vulnerability index, these districts are the most vulnerable in Bangladesh.

* The full study is available from BBC Media Action Bangladesh

How do people perceive climate change and how does it affect them?

They said instead of six seasons there are now only three: summer, winter, and monsoon, with increasingly unpredictable weather patterns. They felt that summer now comes early with high temperatures and lasts for a long time; monsoons arrive early or late, often with unexpectedly heavy rains or little rains; and extreme events or natural disasters, such as floods and cyclones, have become more frequent.

People identified a number of causes of climate change, some of which were misinformation: They correctly identified causes including deforestation and emissions from brick making, which uses coal-fired furnaces, but also cited rumours including mobile tower radiation, and the sudden opening of dams on the border. In urban areas, people mentioned population growth; while in rural areas, some said: "Only God knows the reasons."

People said weather changes are adversely affecting their ability to earn a livelihood, their health, and the overall infrastructure: Across ages, genders, and occupations, from all study locations, people said climate change significantly affected their livelihoods. A key concern is the unpredictability of the weather, particularly rainfall. For generations, farmers have predicted rainfall using a seasonal production calendar. However, the traditional calendar is no longer effective. Farmers struggle to plan crop planting because of unpredictable rains. People also mentioned infrastructural impact. In the south, strong winds often strike at night, damaging their homes, livestock shelters and shops. People from the north said their homes are affected by river erosion and extreme weather events.

Unpredictable rainfall is affecting the ability to grow crops: People talked about how irregular rainfall reduces groundwater levels, making crop cultivation more difficult. Sometimes sudden and strong rainfall destroys their yields. In the north there has been a decrease in rainfall and an increase in temperature, leading to significant losses and damage to crops. In the south, saline flood waters threaten crops, and people face difficulties growing vegetables at home due to salty soil. River erosion is also causing the loss of valuable agricultural land in this region. Here, people felt that extreme heat, and saline soil and water, make it difficult to graze and feed livestock.

Extreme weather events, such as storms, affect fish stock and infrastructure: Fishers said freshwater fish are not as prevalent as they used to be. They identified sudden storm surges and an increase in salinity intrusion as the reasons for this. Fishers from the south also blamed pollution caused by coal-fired power stations.

Changes in weather disproportionately affect women and girls: especially in remote areas. In coastal areas in the south, women talked about how rising water salinity makes household chores such as cooking, cleaning, and collecting water, more difficult. They found it a lot more difficult to grow vegetables in their courtyards, a source of income for families. Women in the north gave the example of bamboo fish containers, a product they used to make and sell, which are no longer in demand since fish in ponds and rivers are disappearing. When families lose their livelihood and income sources, people also mentioned that child marriage increases.

People said their health is affected: The negative impacts of climate change on health were frequently mentioned, especially heat-related illness. People from Gaibandha said increased incidences of heat stroke, heat rash, and respiratory diseases such as asthma, influenza, and pneumonia is due to climate change. In both rural and urban areas, day labourers said they are unable to work for long hours due to the intense heat. For example, a rickshaw puller mentioned he must slow down, take more breaks to cool down and sometimes is unable to work. People in the south from Patuakhali and Bhola said the increase in saline water has led to diseases such as diarrhoea and dysentery.

How are people adapting to the changing climate?

People are taking action to sustain their livelihoods and adapt to the changing weather: people use their traditional knowledge to adapt. They also learn coping skills from different initiatives run by government and non-government organisations (NGOs).

Table 1: Adaptation strategies taken by the community related to livelihood

	Traditional adaptations	External adaptations
Gaibandha, Patuakhali and Bhola	› Storing rainwater › Container gardening-use sacks and tubes › Reducing working hours › Changing occupation › Pond farming fish › Change in cattle food › Alternative livelihoods	› Early maturing crop varieties: hybrid seeds › Draught and salt tolerant seeds › Crop diversification › Seeds preservation techniques › Heat and salinity-tolerant livestock breeding
Gaibandha	› Polythene to protect seedbeds damaged by hailstorms	› Floating bed for vegetables › Farming draught resilient fish species
Patuakhali and Bhola	› Raised soil for planting › Change in fishing time › Change in fishing location › Using different fishing nets › Changes in grazing time	› Aquaculture ponds with tall dikes for vegetable production › Placement of urea briquetted › Farming shrimp in sandbank islands and coastal areas

In the areas visited people are switching their jobs or engaging in multiple forms of income generating. For example, farmers and fishers are diversifying their income and taking other jobs to supplement their traditional occupations. The decrease in agricultural production and income also leads to migration. People mentioned that they have moved from remote places to big cities such as Barishal or Dhaka to look for new livelihoods, leaving their families behind. Observations in each location showed that people living in urban areas use air conditioners and fans to adapt to the extreme heat. Those who can't afford this wear cotton clothes and drape wet towels around their necks or heads. They also use sandbags and make bamboo walkways during water-logging and flooding.

People seek medical care when suffering from heat related illness: People said they take medicine for heat-related illnesses, drink water and change their working hours to prevent getting heat stroke. Women living on chars (sand-based islands) from Gaibandha face specific challenges. The heat extremes mean they are prone to skin diseases and rashes, especially when using salty water to keep clean during menstruation.

People are taking longer-term steps to protect their lives and property: People from Patuakhali and Bhola have elevated their houses using bricks, stones, and mud. Some build a rack beneath the roof inside their homes to protect their household materials from tides and surge water. In addition, most homes have temple-shaped roofs in this region. There's more than one roof and less space on the upper floor. People keep their valuable things here and take shelter during cyclones. They also mentioned government initiatives before and during cyclones and floods, such as early warning systems to inform them about upcoming floods, and shelters *(mujib kellas*)* for use during cyclones and floods.

Women are acting to cope with unpredictable weather: They collect and store water, ensuring safe drinking water sources. They use containers and coverings to protect vegetables from saline water. They have changed their cooking time to when it is less hot and increased their break times.

Table 2: Adaptation strategies taken by the community to cope with changes in weather

	Traditional adaptations	External adaptations
Gaibandha, Patuakhali and Bhola	› Using bamboo barriers to prevent river erosion › Making rafts from plastic containers or banana plants › Wrapping food in plastic bags and burying it › Wrapping documents in plastic bags and binding these to one's body	› Early warning systems › Cyclone shelters (*mujib kella*)
Gaibandha	› Elevating homes on plinths › Elevating livestock shelters on plinths	
Patuakhali and Bhola	› Building ceiling racks to protect documents › Using temple-shaped roof structures › Planting around the home	

* Multi-purpose cyclone centres

What factors are motivating people to adapt?

Financial issues are the main driving force for adaptation to climate change: People are adopting different strategies to ensure they have a sustainable income. They are interested in loans, ownership of land and information related to livelihoods. Providing a better life for their children through financial security is a major motivation.

What challenges do communities face adapting to changes in weather?

Finance and innovation

Lack of sufficient resources: Adaptation often requires investment: to purchase seeds and fertiliser or to build infrastructure. Start-up capital is needed to change to livelihoods. Most people rely on loans or microcredit for this, but not all have access to credit.

Unpredictable weather hinders experimentation: The unpredictability of weather and the increased number of extreme events are risk factors when trying something new, along with the learning curve which is part of adaptation. For example, farmers expressed dissatisfaction with hybrid seeds (which are more weather resistant). They said that if they preserve seeds from plants grown from hybrid seeds,using their traditional methods, subsequent yields go down.

Information

Undocumented traditional adaptations: Effective traditional knowledge and techniques, including those that have worked in coping with climate change, are not well documented and there are no initiatives to do so by government, NGOs or the community.

Limited access to reliable sources of information: Participants said they frequently seek advice from their neighbours, NGOs, agricultural professionals, and local businesses. However, sometimes the advice is not practical, especially when it results in lower crop yields. Agricultural professionals blame this on extreme heat, often without having made field trips or looked in-depth at the causes of low yields.

Lack of understanding of market systems: Local farmers are unable to accurately compare market prices, making it difficult to sell at the right price and resulting in some sales being made at a loss.

Lack of reliable local media reporting: This has been a source of concern for the community. People have expressed their dissatisfaction with the overall lack of reliable information regarding serious weather events and their effects, and expressed doubts regarding the early warning system (signal).

Skills to carry out adaptation strategies: Most external adaptations are based on technology. People from remote areas said that although adaptation strategies are in place, they do not always know how to effectively carry them out. Many farmers living in remote areas did not have access to training.

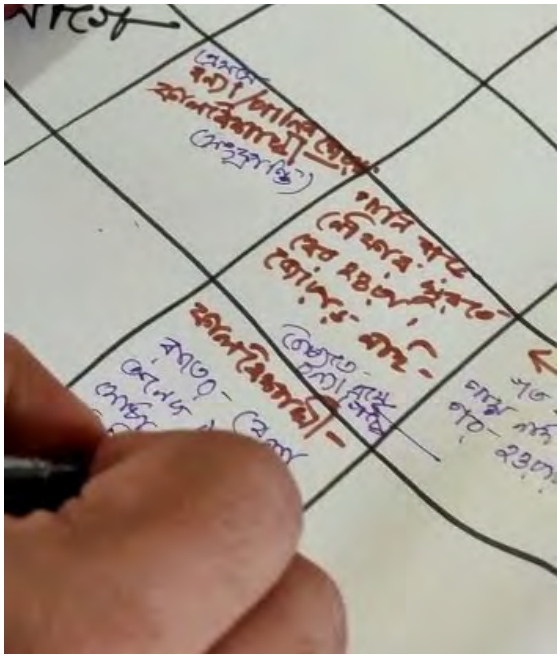
Social

Lack of acceptance from others: Urban dwellers are often reluctant to act on climate change, as they fear their peers will not be supportive and involved.

Lack of community bonding: The uncertain situation and its negative impact on livelihoods have affected community bonding. For example, if farmers have to visit the local upazila office to complain, or if they have to repair switchgates or request changes to seeds and fertilisers, they often find limited support from the community. Few to no one will respond, because people feel that this problem won't be solved. In addition, people are often reluctant to share their experiences and knowledge of adaptation practices for fear that sharing with others will reduce their ability to generate more money.

Institutional support

Lack of support from institutions: People said local government and NGOs were not doing enough to support them. They said local governments demonstrate a lack of comprehension when it comes to the use of funds allocated to climate-related initiatives. These funds are typically allocated to the construction of infrastructure, such as towers and roads, rather than to strengthen community capacity to respond to climate change. People reported that the agricultural officer only comes to the field occasionally and is not available in person most of the time. People said they prefer to get solutions in person rather than over the phone. In this void, farmers are getting agricultural information from representatives of commercial agricultural companies.



> *"One of the farmers in our village had a bumper yield in sunflower cultivation. When we asked him for advice on how to achieve the same, he refused to share information about the seeds and fertiliser he used. He suggested talking to the agriculture officer. His reasoning was that if everyone in the village starts cultivating sunflowers, it would reduce his income. When I approached others to join me in discussing this with the agricultural officer, they were unwilling and fearing they would not find a solution."*
>
> – Farmer, Age 37, Patuakhali

> *"Our agriculture officer field does not visit the field regularly. We contacted him over the phone. Sometimes we get network, sometimes not. And most of the time, the solution he provides does not help us."*
>
> – Farmer, age 48, Bhola

What is locally-led adaptation (LLA)?

The term locally-led adaptation (LLA) was first proposed during the United Nations Climate Action Summit in 2019.

When local communities, community-based organisations, small businesses, community members, citizen groups, local governments, and local private sector entities at the lowest administrative level are consulted and included as decision-makers in the climate adaptation interventions that affect them, it is LLA. Local communities decide what to implement, how to implement, and by whom it will be implemented. LLA is different from consultative, participatory, and community-based approaches to adaptation, as it is defined by local actors having agency over adaptation rather than simply participating in processes around adaptation.

Over time, the focus of the Bangladesh Government and national NGOs on national climate change adaptation policies has gradually shifted from 'community engagement' to 'enhancing community resilience and promoting local leadership'.

The Global Center on Adaptation's (GCA) Global Hub on LLA, is in the South Asia Regional Office in Dhaka.

What examples are there of locally-led adaptation?

This research sought to identify adaptations which are fully led and owned by local people. Researchers observed some local organisations' interventions, such as plinth housing, floating bathrooms, seed preservation techniques, and rearing drought and salt-tolerant livestock as potential examples of LLA. However, researchers observed that some adaptation strategies initiated by NGOs do not engender LLA. Barriers include community tension, the lack of documentation of indigenous and traditional adaptations, and the lack of knowledge and skills about sustainable strategies. Local governments are not always aware of the availability of funding and/or how to best use it, often prioritising infrastructure over building human capacity.

Following are some gaps in implementing LLA in practice which were observed.

- NGO participants have **a lack of comprehensive understanding of the LLA concept** i.e., that LLA should be owned and led by the community, and often confuse it with a community-based approach. Mostly techniques are owned and led by the NGOs and community people implement under their direction. Those at the community level who, for instance, switch to growing different crops, struggle to maximise the adaptation because of a **lack of knowledge about market linkages, including pricing strategy, who to sell to, etc**.

> *"We are growing sunflowers because it is heat resistant and a low-investment crop. We know that oil can be produced from the flower. But we do not know the process of making oil or where to sell the products."*
>
> – Male, age 35, Bhola

- The adaptations being offered are mostly **technical and expensive**, making replication difficult.

- Researchers observed that people at the community level have a **lack of information about changing adaptation strategies**. Despite interventions from government, NGOs and the media, people do not feel informed enough to respond to changes and adaptation strategies. Educated and wealthier people appear to be more informed about how to respond to change. As a result, decisions about what to do, how to do it and who will do it are made from the top-down.

- Inclusive participation of women, youth, children, disabled and displaced people, indigenous peoples and marginalised ethnic groups is necessary. However, **NGOs rarely include vulnerable people from remote areas** such as women and people with disabilities. Those in remote areas perceive NGOs as prioritising wealthy people who have land and money to invest. This perception is creating a trust deficit among community members and NGOs. NGOs said it only makes sense to work with people who have the capacity to utilise the resources they are offering.

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