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Paribartan: Resilience in the Bay of Bengal

European Union

শুশীলন
Shushilan

JJS Jagrata Juba Shangha

This publication has been produced to show the impact of Concern Worldwide's multi-country initiative, "Increasing Resilience and Reducing Risk of Coastal Communities to Climate Change and Natural Hazards in the Bay of Bengal" - known as the Paribartan project, in the coastal regions of Bangladesh and India.

Funded by European Union and Concern Worldwide, the Paribartan project is being implemented by Shushilan and Jagrata Juba Shangha (JJS) in Bangladesh, and Regional Centre for Development Cooperation (RCDC) in India.

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About Concern Worldwide in Bangladesh

Concern Worldwide is a non-governmental, international, humanitarian organisation dedicated to the reduction of suffering and working towards the ultimate elimination of extreme poverty in the world's poorest countries. In Bangladesh, Concern Worldwide has been fighting extreme poverty since 1972. Over the last 43 years in the country, we have been working relentlessly to reduce extreme poverty by focusing on 3 dimensions - i) lack of and/or low return to assets, ii) inequalities, and iii) risks and vulnerabilities. Keeping these dimensions in mind, we aim to eliminate extreme poverty by addressing hunger, maternal and child health, primary education, inequality, and disaster risk reduction in Bangladesh.

About the Paribartan project

"Increasing Resilience and Reducing Risk of Coastal Communities to Climate Change and Natural Hazards in the Bay of Bengal" – known as Paribartan, is a multi-country project of Concern Worldwide. In Bangladesh, the Paribartan project is implemented in 12 Unions of Koyra, Shyamnagar, Borguna Sadar and Kalapara Upazilas in Khulna, Satkhira, Borgina and Patuakhali Districts respectively; while in India, it is facilitated through 8 Panchayats in Jagatsinghpur and Kendrapara districts of Odissa state in India.

The overall objective of the Paribartan project is to build resilience of coastal communities along the Bay of Bengal by increasing their ability, along with that of authorities and organizations, to prepare for and adapt to the impacts of hazards and climate change. More specifically, the Paribartan project aims to

- Increase capacity of target communities to withstand, respond to and recover from the impact of hazards and climate change.
- Pilot projects to demonstrate practical ways for climate change adaptation.
- Increase capacity of state and non-state actors leading to the integration of appropriate climate change adaptation and disaster risk reduction activities into relevant development plans.
- Promote and share lessons learnt amongst practitioners and policy makers at state, national, regional and international levels.

Targeting 86,149 participants directly and another 1,139,600 indirectly, the Paribartan project aims to improve the lives of 1,225,750 men, women and children living along the coasts of Bay of Bengal. The project works with these coastal communities to create risk and vulnerability assessment plans; to improve their coping ability; to pilot innovative practices; and to share lessons for advocacy and replication at different levels. All of this is anchored within the community for maximum impact.

Key Achievements

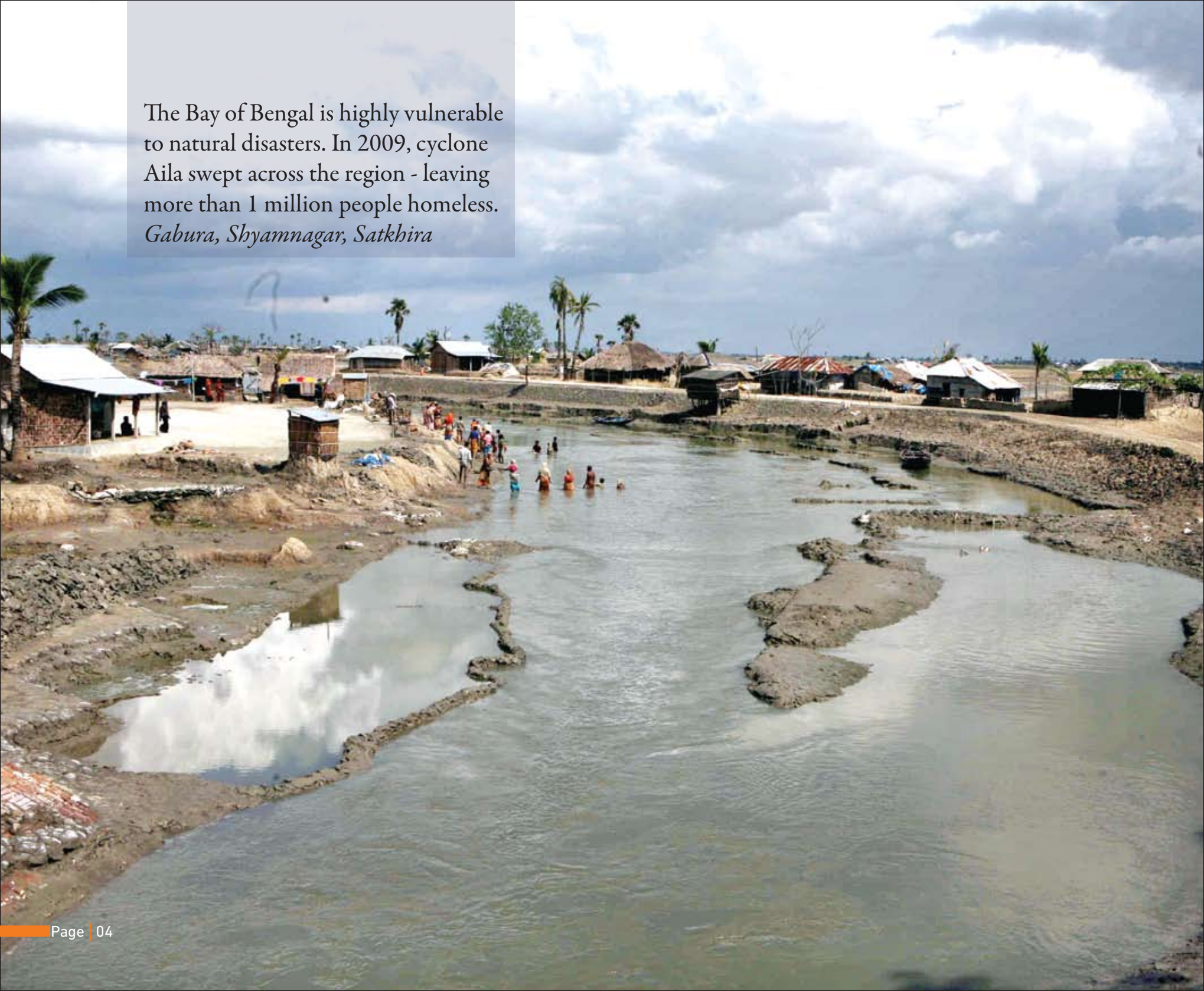
The Paribartan project has demonstrated 5 adaptation models – composite agriculture model, rain-water harvesting system, homestead gardening, poly-bed cultivation, and energy-efficient stoves to address climate challenges. Participants practicing the pilots gain both economic and social benefits, with their average income increasing by 50%. Furthermore, the Paribartan project has enabled communities to create their household level preparedness and adaptation plans, and introduced the 100 Household Initiatives and multi-layer vegetable gardening technique which have proved to be effective community capacity-building strategies.

Since the inception of the Paribartan project in 2011, understanding and capacity of state and non-state actors have significantly increased, and local authorities have been influenced to include community needs into local development planning processes. As a result, 75% of Union Disaster Management Committees have allocated separate funds for climate change adaptation work in their annual development budget. Household-level disaster risk reduction and climate change adaptation plans are a milestone of the project having been introduced to all target communities. 97% of participants now receive timely early warning messages for flooding and storm surges.

In addition, Concern's advocacy at the micro, meso and macro levels has influenced policy makers and practitioners to take further initiatives to scale up the interventions and incorporate community needs into their development planning.

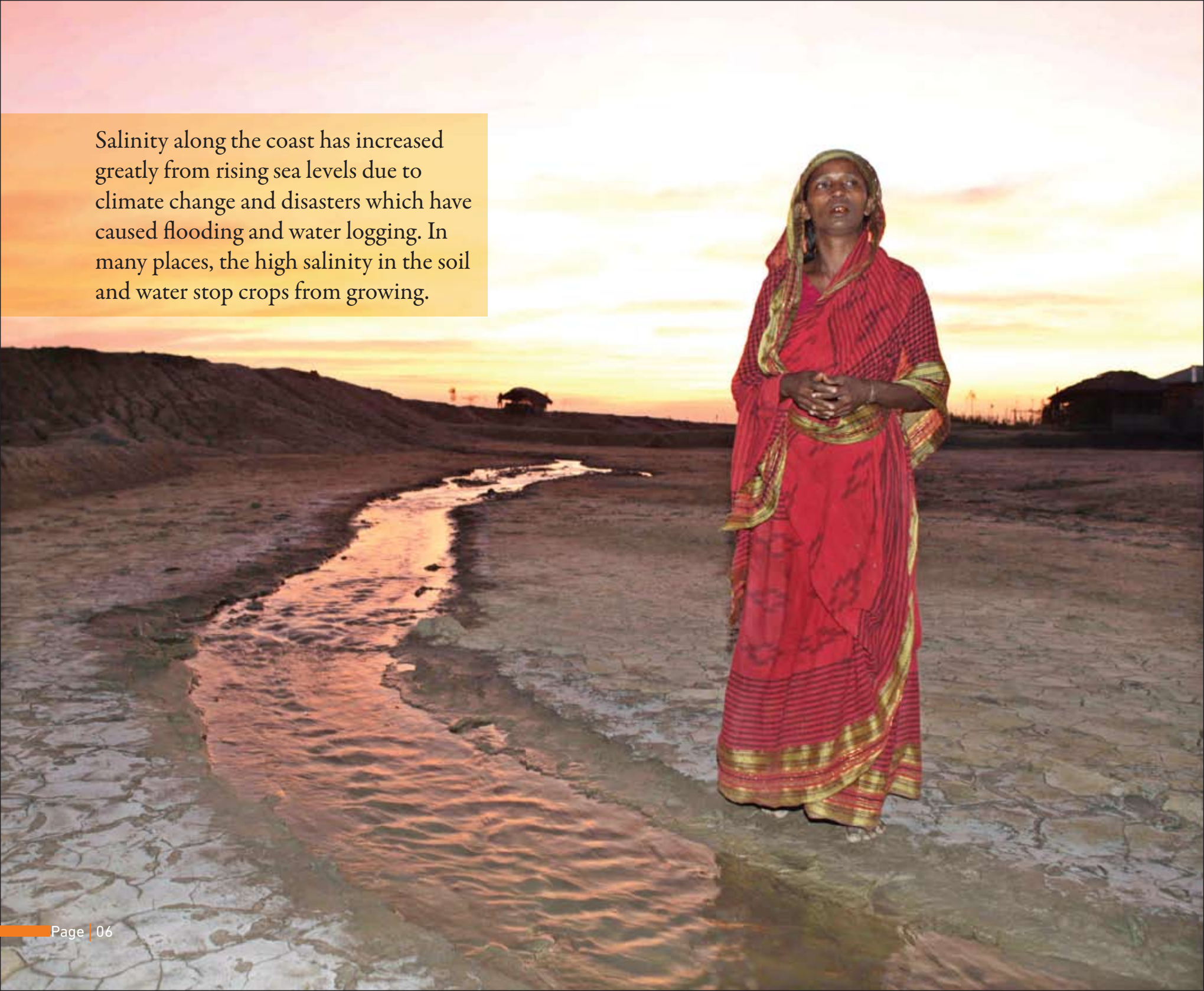
This photo-book **"Paribartan: Resilience in the Bay of Bengal"** features the stories of the people we have worked with, especially those who have enhanced their coping abilities to recover from the impacts of disasters and climate change, through the Paribartan project.

Paribartan: Resilience in the Bay of Bengal



The Bay of Bengal is highly vulnerable to natural disasters. In 2009, cyclone Aila swept across the region - leaving more than 1 million people homeless.
Gabura, Shyamnagar, Satkhira

Communities living close to the Sundarbans often collect forest resources to support themselves and their families. They are vulnerable to animal attacks, and as the forest is gradually degraded, their way of life becomes increasingly insecure.



Salinity along the coast has increased greatly from rising sea levels due to climate change and disasters which have caused flooding and water logging. In many places, the high salinity in the soil and water stop crops from growing.

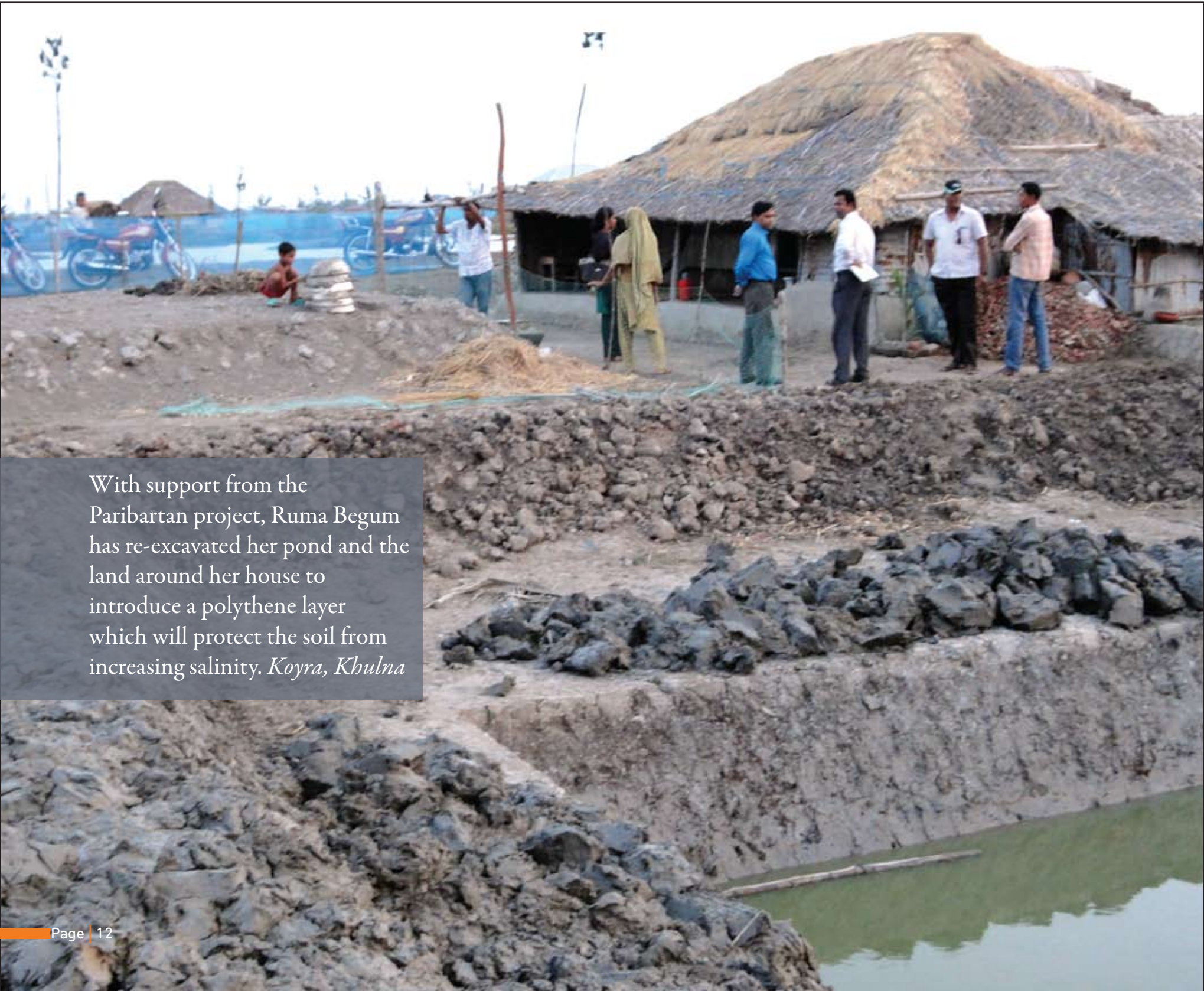
Salinity, caused by growing shrimp cultivation over the last three and a half decades, damaged the soil fertility of more than one million hectares of coastal arable land that could yield 2.5 million tonnes of rice, enough to meet the country's annual food deficit, according to the government's Soil Resources Development Institute.
Gabura, Shyamnagar, Satkhira (2011).

Drinking water has also become scarce as tube wells and ponds are tainted with saline water. Women spend hours each day walking on uneven, temporary roads to fetch water. *Koyra, Khulna*

Sheeren and her family have a thatched house on the embankment in Gabura union. Years ago, they lost their house when the embankment collapsed due to river erosion.
Gabura, Shyamnagar, Satkhira (2011).

Through the Paribartan project, we have been working with communities to map out the risks, resources and vulnerabilities through a process called Community Risk and Vulnerability Analysis.

Women and teenagers have been deliberately included to ensure that their perspectives and needs are reflected in the Community Risk and Vulnerability Analysis.



With support from the Paribartan project, Ruma Begum has re-excavated her pond and the land around her house to introduce a polythene layer which will protect the soil from increasing salinity. *Koyra, Khulna*

Using the poly-bed cultivation technique piloted by the Paribartan project, Ruma is now able to grow vegetables on this land and her house.

Ruma has planted fruit trees around her house to provide food and protect her house from strong winds

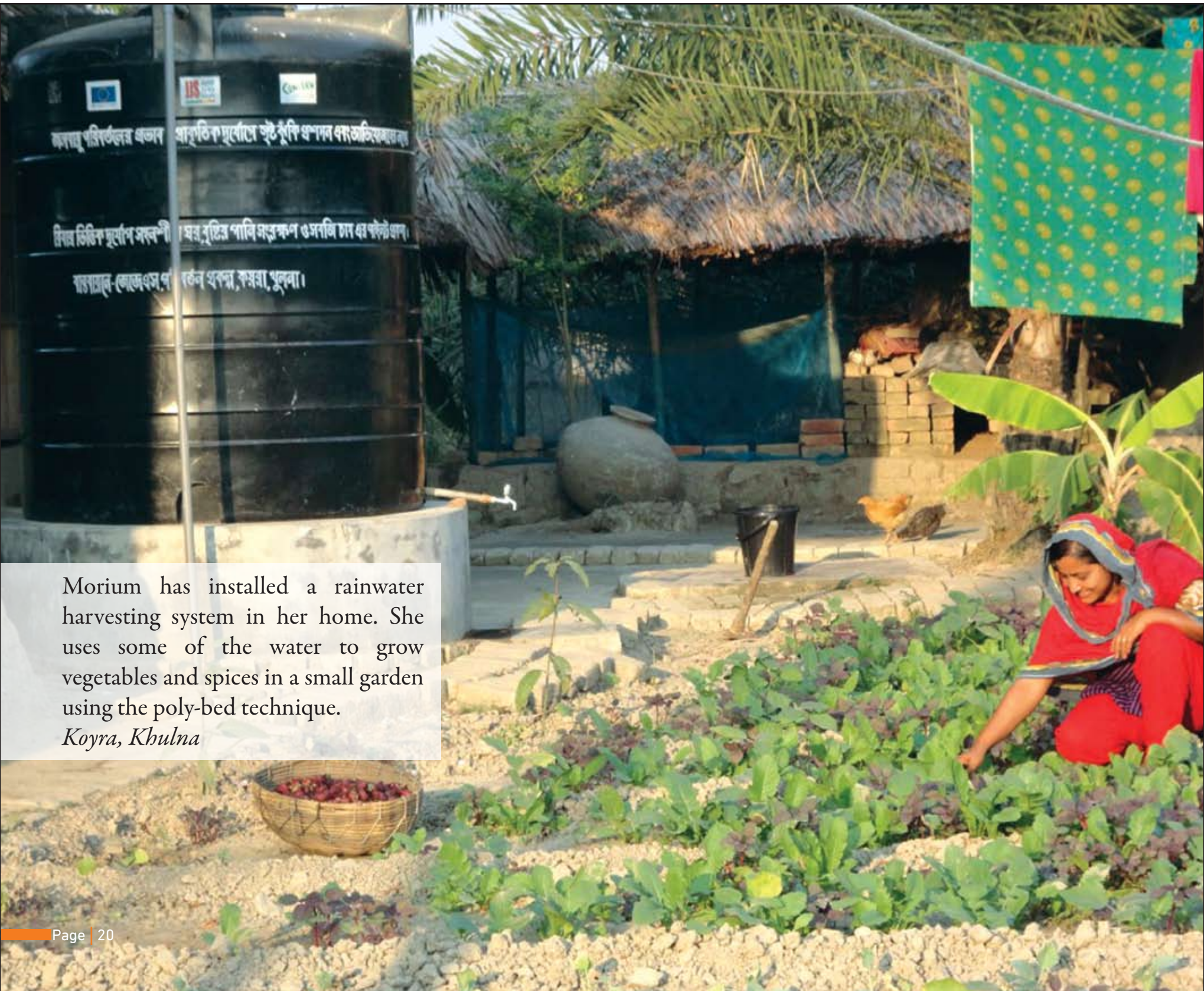
Ruma now has a household preparedness plan for frequent disasters like flooding and storm surges

When Abdullah became a participant of the Paribartan project in 2011, much of his land was barren with little or no vegetation, while the soil turned whitish in colour from the high salt content.

By 2015, the same piece of land has been transformed. Using compost fertilizer, Abdullah is now able to grow not only vegetables for his family's consumption, but also high quality seedlings for sale in the local market.

Scarcity of drinking water has meant that women often walk more than 3km to fetch water for their family.

Even after walking long distances, the water is often tainted with a low level of salinity. Over time, this will have negative effects on their health causing a range of problems like hypertension or skin diseases.



Morium has installed a rainwater harvesting system in her home. She uses some of the water to grow vegetables and spices in a small garden using the poly-bed technique.
Koyra, Khulna

The vegetables and spices Morium grows supplement her diet, improving the nutrition intake for her and her family.

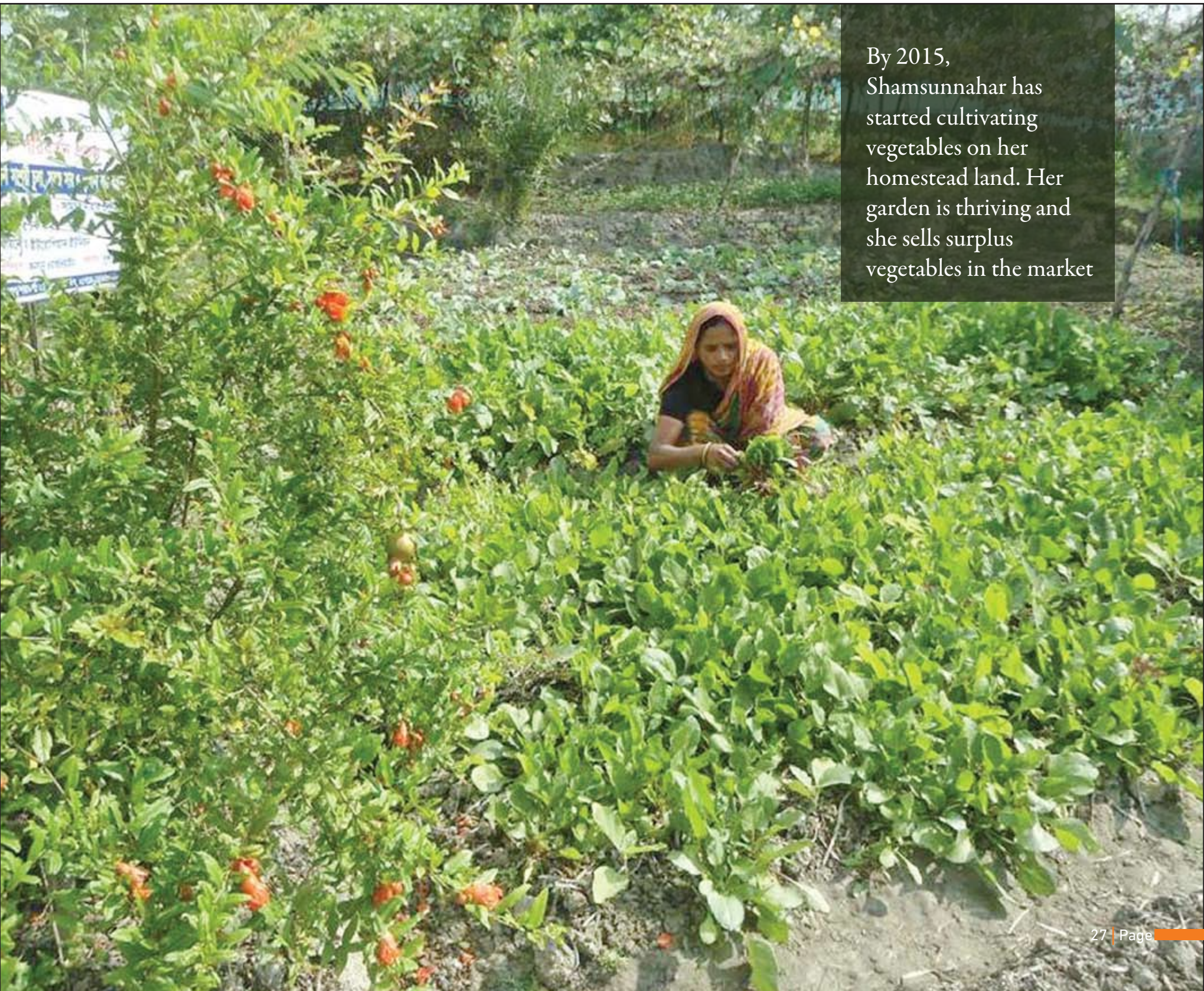
Khadija has opted to reconstruct her house, raising its plinth level and installing a stronger roof and pillars. This will help to protect her from storms and floods.
Gabura, Shyamnagar, Satkhira

Along with her disaster resilient house, Khadija has installed a rain water harvesting system. She now grows a surplus of vegetables which can be sold in the market, providing her an additional source of income.

Moyna joined the Paribartan project in 2011. Her husband was killed by a tiger while collecting resources from the Sundarbans. Left alone to survive, she was unable to grow anything on her land or find work as means of support .

With support from Paribartan, Moyna has planted fruit trees and vegetables, and is also rearing ducks. Besides, she has raised her household plinth to protect herself from flooding.

Shamsunnahar started cultivating vegetables on her land when she became a participant of the Paribartan project.



By 2015, Shamsunnahar has started cultivating vegetables on her homestead land. Her garden is thriving and she sells surplus vegetables in the market

Arshad Ali from Chakbara village in Gabura excavates a small canal for rain water storage during the monsoon to improve rice cultivation.

With the support of the Paribartan project, local communities were trained on alternative soil management practices and encouraged the adoption of salt tolerant varieties of rice. Now, many of the rice fields in the project area have been restored. Participants have built dikes around their rice fields to protect them from flooding.

Subhash and his wife, Sita, were unable to grow anything on their land since cyclone Aila in 2009. They wanted to keep cattle but could not grow fodder for the animals to eat.
Burigoalini, Shyamnagar, Satkhira

Now they can cultivate rice, vegetables and fish from the same piece of land following the composite farming model piloted by the Paribartan project.

Keeping enough agricultural produce for the family, Sita sells her surplus vegetable, rice and fish in the local market.

Today, Subhash and Sita have bought a cow and several goats to generate additional income for the family. Their daughters help with rearing the livestock as well.

Previously, Siddique and his wife could not grow anything on their land because of the high salt content. Their pond was contaminated with salt water too, so they could not cultivate fish either. Thus, they had to walk miles in search of unskilled manual jobs every day to support their family.

Gabura, Shyamnagar, Satkhira (2012)

As a Paribartan project participant, Siddique received training on the composite agriculture model and is now successfully cultivating salt-tolerant rice and brackish water fish as well as vegetables. He bought a cow and two goats from the surplus income and can now support his family well

Jharna has taken up composite agriculture and is able to grow salt-tolerant rice and cultivate brackish fish in her pond. She also grows vegetables on top of the dikes surrounding her pond.
Burigoalini, Shyamnagar, Satkhira

Jharna has increased the return from her land five folds, and is now able to support her family of six

Poor women in the coastal region have to rely on a meagre source of income, through activities such as collecting fish fry. The work is physically demanding and they are paid little for the fry they catch and sell at the market.

Anowara Begum is a participant of the Paribartan project. Using the rain water harvesting system piloted by the project, she has grown white gourd and other vegetables in her homestead garden. Selling these vegetables in the local market, Anowara is able to earn enough money to support her family on her own.

In Shyamnagar upazila, the land was heavily affected by saline water intrusion and flooding

Just four years later, the Paribartan project has supported communities to restore the same piece of land to grow crops again

Bayzid is one of many farmers who saw his crops fail repeatedly from salt water intrusion. *(2011)*

Kanailal has introduced the composite agriculture model to his land. Despite not being a direct beneficiary of the Paribartan project, he saw the positive impact this style of agriculture had on his neighbour and decided to replicate it.

Working to reduce the dependency on forest resources and fuel wood, the Paribartan project participants has introduced fuel-efficient cook stoves in many households. Project participants now raise fast-growing plant species around their house which are used as fuel wood later.

Using a fuel-efficient cook stove, Ruma Begum is cooking fish curry for her family. Reducing fuel use has meant a reduction in deforestation in the area.

Shahida, a Paribartan project participant, has planted a small garden to produce vegetables and spices in her homestead land.

Shahida also rears chickens as an alternative livelihood

A Paribartan project participant, Sabina now rears goats to diversify her livelihood. The goats are very hardy and will eat a wide range of plants, making them easy to care for.

Aklima has raised the plinth of her household and was given ducks to rear from the Paribartan project. When the area floods, her home is safe and the ducks survive easily

Tamim, a young man with a physical disability, has learnt about disaster preparedness for flooding and cyclones.

The Paribartan project supported Indrojit to start a mangrove nursery which could provide saplings to be planted on local embankments. Planting trees and plants on the embankments helps to prevent erosion and make them stronger. He is happy to distribute seedlings at low cost to villagers so as to increase tree coverage in coastal communities

After cyclone Aila, many embankments were washed away and vegetation was reduced. This left communities here even more vulnerable to storms as they had no natural protection from trees and plants

Working with the Forest Department, the Paribartan project began a mangrove plantation programme engaging its participants. Mangrove trees act as a living barrier or bio-shield against tidal and storm surges

Rehana's land was affected by salinity and the lack of vegetation left her vulnerable to strong winds and storms

Supported by the Paribartan project, Rehana chose to plant coconut, zuzube, sobeda and rain trees around her house. These protect her house and also provide her with fruit for her family's consumption.

Rebeka lost her husband eight years ago and struggles to make ends meet for her family of three

As a participant of the Paribartan project, Rebeka received received training on climate change adaptation and disaster risk reduction, and is now producing a variety of salt tolerant vegetables and fruits on her land

Feeling confident about what she has learned, Rebeka has emerged as a leader within her community. She works with her local community group to help them adapt to climate change and raises issues that come up with the local authorities.

Through the Paribartan project, the tribal Rakhain community were supported with the construction of an embankment and plantation to protect it. This embankment now shields them from flooding in the area and allows them to grow crops without salt water intrusion.

Community groups have been a very positive outcome of the project. Bringing together men and women of all ages, community sessions are held to identify vulnerabilities and go over disaster preparedness measures

With the Paribartan project's support, dramas and plays were conducted to spread the messages of disaster preparedness and risk reduction, helping communities to become more resilient

Gram Paribartan Teams work at the village level to develop action plans for local development and climate change adaptation

In schools, the project has created Paribartan Student Forums and trained the students on climate change adaptation and disaster risk reduction.

Members of the Paribartan Student Forums are determined to educate their neighbourhoods, and raise awareness of the importance of climate change impacts, early warning and local preparedness

The Paribartan project has set up task forces for early warning within coastal communities Before a disaster occurs, these early warning task forces are able to warn villages so they can implement their preparedness activities and, if necessary, evacuate to safety

The community groups, teams and task forces have been empowered to raise issues with their local Union Disaster Management Committees (UDMC). S.M. Shafiqul Islam is a UDMC Chairman in Koyra and has been very supportive of the the Paribartan project initiatives to develop local action plans around adapting to climate change. He has helped to allocate funding for different initiatives and further raise issues at higher levels of government.

S.M. Shafiqul Islam, Koyra UDMC Chairman, now spends time meeting with people in his community and hearing their concerns. This is one example of how the Paribartan project has enabled the community to connect with government officials so that they can raise their issues.

The Paribartan project aims to promote and share lessons learnt from the implementation of the project amongst practitioners and policy makers at the state, national, regional and international levels.

To know more
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visit www.concern.net

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