### PARIBARTAN

Helping communities cope with climate change in the Bay of Bengal













(RCDC).

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### Paribartan

Facing the challenge page 2

Building CCA & DRR capacity page 6

Creating community-led plans page 12

Piloting projects **page 22**Sharing lessons **page 40** 



### Facing the challenge

New challenges are becoming all too true for communities in the Bay of Bengal region the constant question is 'what can we do' as they grapple with the impacts of climate change

# "During Aila, we had nothing. We were left with nothing. Our people are very vulnerable. If another big storm comes, we will lose everything again. We have no security."

- Polo Dasi, Shyamnagar, Bangladesh

Communities across the Bay of Bengal region are increasingly facing the impacts of climate change which have brought devastating changes to water, agriculture, energy and biodiversity. Communities' long-standing livelihoods are being threatened by the unusual weather patterns. Unseasonal rainfall and temperatures are posing new challenges of pests and crop varieties for farmers. In other areas, sea water inundation and high salinity have stopped anything from growing. Their natural resources are fast diminishing.

Aside from their livelihoods, the very existence of these communities is under theat. For with every new disaster, people grow more vulnerable.



#### So what can be done?



Paribartan intervention areas and project participants

'Paribartan', meaning transformation in Bangla and Odia, is the local name of a five-year project (2011-2016) titled 'Increasing Resilience and Reducing Risk of Coastal Communities to Climate Change and Natural Hazards in the Bay of Bengal'. Funded by the European Union, the Paribartan project is helping communities cope with climate change.

It is implemented by Concern Worldwide in partnership with Jagrata Juba Shangha (JJS) and Shushilan in Bangladesh; and Regional Centre for Development Cooperation (RCDC) in Odisha, India.

Paribartan covers 204 communities across six districts in the two countries; 120 from Khulna, Satkhira, Barguna, and Patuakhali coastal districts in Bangladesh and 84 from Kendrapara and Jagatsinghpur districts in India.

Paribartan works with communities to create plans; to improve 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 themselves for maximum impact.

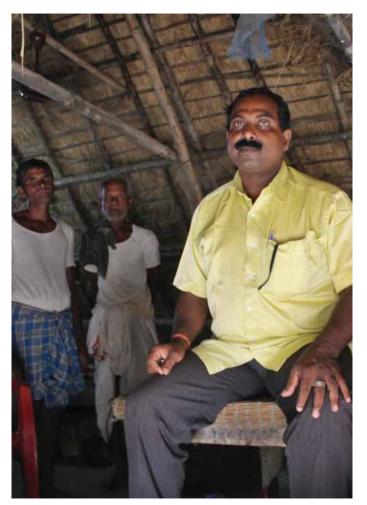
On an overarching note, the project aims to contribute to poverty alleviation amongst poor communities in these areas through reducing their risks to natural hazards and climate change impacts.



### Building CCA & DRR capacity

The efforts of newly formed local committees
has helped voice the community vulnerabilities and need
with their enhanced CCA and DRR understanding
state actors are moulding development plans with community requirements in

the lead



#### Achievement 1:

Increased capacity of state and non-state actors leading to the integration of appropriate CCA and DRR activities into relevant multi-sectoral development plans

# "The 'Paribartan' project through the GPC and PPC has brought me closer to the people. The gram sabhas have become more active and I am able to understand, relate and address their needs."

- Prashant Kumar Hati, Sarpanch, Jagatsinghpur, Odisha, India

### Influencing state actors



Building the capacity of state actors has brought about fundamental changes in their approach to interacting with communities. New awareness of climate change and disaster preparedness through community learning and mass media campaigns has resulted in heightened sensitisation.

The newly formed Sahi Paribartan Committees (SPC), Gram Paribartan Committees (GPC) and Panchayat Paribartan Committees (PPC) have become important platforms for discussion and deliberation.

In fact, for Prashant Hati, it has helped to work towards more participatory development. The detailed mapping exercises are helping to identify vulnerability and needs at the community level. The development plans have also helped the Panchayat to seek schemes and programmes for their particular community.

### Taking on a leadership role through committees



Having access to and knowledge of viable mitigation and adaptation measures have direct implications on a community's capacity to deal with the adverse impacts of climate change and extreme events.

Groups and task forces formed at the community, village and panchayat levels are helping build the capacity of common citizens.

Sahi Paribartan Committees, Gram Paribartan Committes, Panchayat Paribartan Committees and different task forces have taken on a leadership role. The committees meet monthly with the objective to strenghthen community resilience so as to address the impacts of community change.

Apart from these, GPT/GPC members have been trained on saline tolerant vegetables and rice cultivation technologies; saline tolerant fish cultivation in rice fields based on geographical suitability; and the changing climatic situation.

The Gram Paribartan Committees (or teams) now also act as facilitators to disseminate information on climate change adaptation and disaster risk reduction (CCA and DRR) at the community level.

Rebecca Sultana, for example, is a GPT member in Koyra Upazila in Bangladesh. A widow, Rebecca has emerged as a local champion and has worked on various critical themes on her own initiative.

These have included dissemination of early warning information to the community, demonstration on cultivation of saline tolerant crops and transfer of model approaches along with relevant learning to the neighbours. She is now a voice of the project and influences local groups with her conviction.

The impact is already visible. Some community plans have been shared and approved at the local governance level and may see an integration into the official annual plans by next year. To date, twelve UDMCs in Bangladesh and eight Panchayat plans in India have been validated with integrated CCA and DRR action plans that incorporate the project recommendations.

For example, Gazipur union of Koyra upazila in Bangladesh has developed a community action plan with the participation of the community, teachers, team members and officials. Roles, time periods and actions were identified for each stakeholder.



"Since this is a large issue, they have broken it down into smaller levels. This has really helped take the issues down to the ground. Gram committees, Sahi committees, all of these finally liase with the Sarpanch."

- Khageshwar Lenka. Sarpanch, Gupti, Odisha, India



### Creating community-led plans

With fluid strokes they help map their village and learn new skills to counter the dangers these are more than just task forces and groups; it's a new social dawn

as men are also joined by women and

teenagers



#### Achievement 2:

Increased capacity of target communities to withstand, respond to and recover from the impact of hazards through a number of preparedness measures



### Understanding my village



In communities across Odisha and Bangladesh, the Community Risk and Vulnerability Analysis (CRVA) process has had a significant impact. It has been invaluable not only in mapping the risks, resources and vulnerabilities, but in bringing the community together.

Women and teenagers who were never a part of the process have joined the men at these meetings. Sisters from Hariharpur, Kendrapada, Odisha, commented: "At first people were sceptical when we joined. But later, they were very happy that we did. They now feel initiatives like this have to be taken. More than that, we feel proud when the younger girls come and sit with us. We are already inspiring the next generation."

In some villages, the process has included five different types of maps.

The hazard and vulnerability map shows the different hazards that the village faces; as well as maps those households with elderly members, people with disabilities or others who require extra help in evacuation.

The social and resource map shows the resources both in terms of human skills (swimming, first aid etc.) as well as physical resources such as bikes, cars or mobiles.

# "For the first time we clearly see what risks we face and what resources we have in our village. If you have the knowledge, then you can act on it!"

-Shantilata, Kendrapada, Odisha, India

The seasonal map shows the relation of seasons with three core problem areas: disasters, livelihoods and health.

The networking map shows the relationship of the village with government, public and private resources such as police stations, government offices or hospitals. These are classified as 'good', 'medium' or 'no relationship' to follow-up or cultivate networks in the appropriate manner.

Finally, the road map shows the best possible and alternate routes to safe shelter during an emergency.

The maps are updated on a regular basis to reflect the changes in the village. The CRVA process has also helped the community identify their main priorities and determine the best innovations to pilot in their area.





## Trying out early warning kits and task forces

Workshops conducted for task forces at village levels not only facilitated training, but also handed out training material in appropriate local languages. These included five sections on search and rescue, first aid, shelter management, water and sanitation and early warning.

Each task force has five separate units. These have specific responsibilities ranging from spreading the word about the approaching calamity; to rescue of vulnerable individuals (pregnant, aged, children, injured); or providing immediate first aid or clean food, shelter and water at the cyclone shelters. There is a task force in each of the operational villages.

This has enriched the understanding of local communities on ways to withstand, respond to and recover from the impacts of hazards and climate change.

The knowledge about preparedness during calamities has also been improved and young girls and boys have been trained in community rescue operations.

Under the project, early warning kits have been disseminated to most of the project villages. The contents are based on local context and differ from one village to another. In one village, a young man proudly showcases the three coloured flags. "These are for early warning," Satyanaran Singh explains.

In Bangladesh, before Aila, people had very limited means of communication. Only radio was available for getting any information. Not many people in the village had radios and some of the distant hamlets were almost cut off in terms of delivery of early warning.

Dipankar Mondal and Parbati in Madia village, Satkhira, Bangladesh, are two members of the GPT now responsible for collection and dissemination of warnings. The members have divided their area of work in the village and together they disseminate messages to all the households. Taking lessons from this project, the people have decided on a separate warning for earthquakes- the blowing of the conch shell.

The establishment of task forces in each village also provides a structure that aligns with national planning for CCA and DRR in both countries.

"The green flag is put up 48 hours in advance to get people's attention. The yellow flag is put up 12 hours in advance to encourage people to prepare for an emergency. The red flag is put up when people need to evacuate immediately to higher ground."

-Satyanaran Singh, Kendrapada, Odisha, India

# Early warnings save lives during Cyclone Mahasen in Bangladesh...

Dipankar Mandal and his wife Parvati support a family of six. In May, 2013, Cyclone Mahasen struck Bangladesh, scraping past their area and making landfall further east. Their village team got the first information about the approaching cyclone through radio. Not many people in the village have radios and some of the distant hamlets are almost cut off in terms of delivery of news. Besides, there had been so many false warnings since Cyclone Aila that people were not taking warnings seriously. During Mahasen, however, the team mobilised its members and organised a campaign to promote evacuation. The megaphone and training provided under the project came in handy and people actually evacuated. Though there was loss of property, no lives were lost. The cyclone itself wasn't huge, but the warning dissemination process and the fact that people came together was very positive.

### "When us girls went door-to-door to warn people, they couldn't refuse. They evacuated in time."

-Preetihata, Kendrapada, Odisha, India

### And Cyclone Phailin in Odisha

During the Super Cyclone of 1999, the maximum number of deaths occurred in the Jagatsinghpur area. This time, during Cyclone Phailin, however, there were no casualties from the project areas in Jagatsinghpur and Kendrapada. The task forces and active communities took the lead and worked along with the government to ensure that people reached safe shelter.





### **Piloting projects**

diversified livelihood

with composite agriculture and organic

homestead gardens

Increasing food security through a

rainwater harvesting, safer homes and stoves that save fuel wood

while helping the land survive through mangrove plantations



### Achievement 3:

Pilot projects implemented demonstrate practical ways for climate change adaptation

"The switch to organic fertilisers and pesticides has helped us save money and increase our yield. We now earn almost double. With the extra money, we are sending our children to school. We have even opened bank accounts in our name!"

-Mamta Pal and Gita Sahu, Jagatsinghpur, Odisha, India



# Going organic in their homestead gardens

Natural fertiliser and pesticides made from various leaves, manure and cow urine found in their villages have increased the yield and helped families save money. The homestead gardens, for those with small plots of land, help the families grow enough to feed their families and even to sell a little extra. They overflow with eggplants, lady fingers, chillies, guava and more. The concept is helping promote food and nutrition security.

### "Less effort. More yield!"

-Bhanu Senapati, Jagatsinghpur, Odisha, India

### Reducing the 'drudgery' of women

The women-focused initiatives include the drudgery reduction toolkit that has substantially helped to ease their burden. "We don't have to depend on men anymore," community members comment. "Now, we can do all the kitchen garden activities ourselves."

Customised for women, these toolkits are lighter than the usual ones. The kit includes all the standard kitchen garden equipment including a spade, a hoe, a wedge, cutters and a watering can.

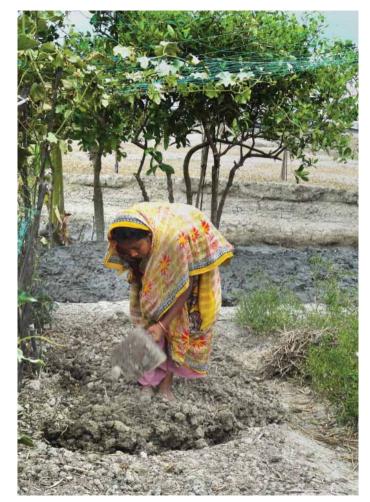


### Cultivating in saline soils

Awareness on how to cultivate crops in saline soils has transformed the lives of many families in the region. The 'poly-bed' technique works by placing a polythene layer two feet into the soil. This helps retain soil moisture and restrict leaching. It also restricts the upward movement of salinity to keep the soil pure.

"After cyclone Aila, we couldn't grow any vegetables. No rice, just nothing. We all suffered a lot. Now, we have learnt to counter high salinity and our vegetables have started growing."

- Khadija Begum, Satkhira, Bangladesh





### Integrating rice-fish culture

Livelihood and food security is a major concern for families across this belt. Most were dependant on one type of income. Composite agriculture practices (rice/fish-mele grass-vegetables) are helping to transform this.

Composite farming works by diversifying sources of income. Canals are dug on all four sides of the land. Paddy is grown in the middle. Fish, duck and poultry are cultivated for extra income. Cultivated vegetables on the dykes make the most use of space and resources and adds to the total yield. Even if one element fails, the others make up for it.

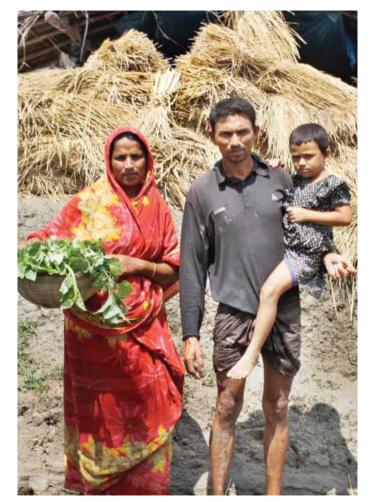
Hotspot villages were selected considering their proximity to rivers and their high risk due to river bank erosion and frequent inundation by tidal saline water. This has helped increase the income of many poor vulnerable farmers. It has not only upgraded their food and livelihood security, but also helped meet the nutritional demand of the families

One of the most successful examples is Md. Ayub Sheikh of Koyra, Bangladesh. He used to depend on the Sundarbans for his livelihood; collecting fuel wood, honey and fish. Post-Aila, all his belongings were washed away and he couldn't support his family. The salinity of the soil and water has also increased, making culivation very difficult. His debt kept rising and migration seemed to be the only option left.

As the only earning member of his family of seven, Ayub started the pilot on leased land. Through the support, he modified his farm dyke to be wider and higher than the inundation level and excavated a fish harbour. He received training on soil salinity management, selection and cultivation of salt tolerant vegetable, rice varieties and suitable rice- fish integration techniques.

Things have now turned around for him. In one season, he managed to earn BDT. 47200.00 through the sale of surplus rice, vegetable, grass and fish. He had also stocked rice for his family's yearly consumption. After paying off the lease instalment, he is already trying to buy a piece of land.

He continues to disseminate the technologies among his communities. "The people in my village and the neighbouring villagers have started replicating this idea in their land," Ayub comments. "It would be a good adaptive option not only for the people of Koyra but also the entire coastal area."



"Now, I am very happy to earn my livelihood here and I do not have to go to Sundarbans anymore. With the help of this project, I was able to purchase my own land and get my daughter married. I have taken more land on lease and will work harder to earn more."

- Md. Ayub Sheikh, Gazipur, Koyra, Bangladesh



### Making housing ecosystems safer

Small CCA and DRR investments in the houses have shown rapid returns. Mud houses and low plinths are common in this disaster-prone region. As part of the pilots, plinths have been raised and protected. Houses have been strengthened with Reinforced Cement Concrete (RCC) columns and a tied frame.

Drinking water is a scarcity in many of these villages. Women spend hours each day walking on uneven temporary roads to fetch water; falling prey to many other hazards. The rainwater harvesting pilots have helped women store water and have also advocated with the government for wider replication of the Rain Water Harvesting System (RWHS) units. The simple rooftop water harvesting structure and storage tank built with ferro-cement is helping to fulfill the water needs of pilot families for much of the year.

"Around 15 years ago, there used to be fresh water ponds in the village. These have now disappeared or have become saline. I was walking around 5 kilometres each day to fetch water. Now the rainwater tank meets my family's needs for most of the year."

-Khadija Begum, Sathkira, Bangladesh





"The smoke is less dense. Also, since it is mobile, I can take it with me to a dry place during the rainy season."

-Bharati Bharal, Hariharpur, Kendrapada, Odisha, India

### Cooking without the smoke

Mobile energy-efficient stove, Odisha

For Bharati Bharal, the new mobile energy-efficient stove does not just mean less fuel consumption, but greater comfort as well. The traditional mud 'chulas' (stoves) have flames that emerge from all directions. Recently, 21 houses around her neighbourhood caught fire. The new stove has less dense smoke and a single flame.

Its mobility means that families can cook anywhere, anytime. For some women this has meant that they can make tea as they tend to their fields without having to walk all the way home. For others, it proved its worth during Cyclone Phailin, when they were able to cook for themselves while sitting in the cyclone shelter!

"With the fuel efficient stove, I am able to save fuel and it is very easy for me to work in a smokeless environment. Composite farming and homestead plantation has eased my burden of fuel collection and now I can manage fuel wood from my farm for the whole year."

-Rafeeza Begum, Khoyra, Bangladesh

#### Energy-efficient stove, Bangladesh

Earlier, cooking on traditional stoves was done using cow dung, rice husk, small twigs and tree leaves. However, over time, there has been a gradual elimination of agriculture and loss of grazing land, vegetation coverage and trees. The fuel wood crisis was prominent in this region!

The energy-efficient stove piloted in Bangladesh helps counter this. Rafeeza Begum, for instance, is able to complete her cooking in half the time in a relatively smokeless kitchen. There is a marked improvement in her work environment which brings a sense of pride, dignity and confidence in her. Rafeeza has also started fuel wood plantation. She has planted sesbania and ipil-ipil along the homestead boundary which ensures fencing and protection from wind and after that it can be used as fuel wood. This multi-benefit practice has proved useful with all the pilot families.



#### The hundred household initiative

The hundred household initiative has been taken up by members of the Gram Paribartan Team in Bangladesh. Piloted in 30 villages in the Bangladesh project area, it is working to advocate details of the composite and organic gardening methods to those who have taken seeds, but are not following all the practices. This includes the poly-layer technique and fertilising processes. The concept of one family teaching another shows early promise of replication and scaling.



### "Mangroves sustain us and it is because of the mangroves that our land survives."

-Community members across the Bay of Bengal

# Protecting the land through mangrove plantations...



Through discussions and the CRV analysis, mangrove plantation was identified as an adaptation model. The trees which have been planted are all locally available species. They have the capacity to curtail soil and bank erosion, flush out saline water intrusions, provide a green belt for sustenance (fuel wood and fruit) and also save lives during an emergency. For the stories are legendary about those who clung to mangroves during the super cyclone and were saved because of the deep roots of the plants.

Exposure visits have enhanced understanding and instilled confidence. Committees are now working regularly to ensure mangroves are planted and maintained.

The story of one community in Prahalajpur, Odisha is particularly inspiring. They have protected over 150 acres of mangroves since 1997. "We have a tradition here," Rabindra Behra, Gram Paribartan and Community Forest President comments. "Whenever a girl from our village gets married, the groom's family contributes money to our fund. We use this to plant more mangroves. It's a sign that our girls never really leave our village."

"Aila took everything away from us. But God has given us the will and power to restore ourselves. Plantation helps us in many ways. Plantation helps in environment and community restoration and this nursery is the starting point of it. It has increased our awareness and we are now prepared for any kind of disaster."

-Indrojit Mondal, Shyamnagar, Satkhira, Bangladesh



# And disseminating saplings with mangrove nurseries

Mangrove nurseries are being set up in pockets across the region to facilitate availability of suitable saplings of mangrove and saline tolerant trees species. The community level nurseries encourage embankment, char plantation and social forestry as adaptation options for climate change impacts.

Indrojit Mondal, from Arpangasia village in Satkhira, Bangladesh, has set up a nursery where he raises saplings for embankment and protective plantation initiatives in the area. He raises both mangrove species and mainland salt tolerant plants. He gets the seeds from the Forest Department; and advisories and some help from their staff under a link established by Sushilan.

Besides providing saplings for plantation initiatives linked to the project, he also aims to sell them in the local market to establish a sustainable market linkage.

The Paribartan project had provided him support worth BDT. 16,000. He hopes to make a long-term living out

of it, besides remaining a resource support for local resilience and capacity building.

On hearing about the initiative taken up by Indrojit, Narayan Chandra Mondal from a nearby village decided to plant trees in his backyard. His house was not protected from the wind that comes from the saline shrimp farms, but now the tree plantations will help keep him safe.





#### **Paribartan Student Forums**

Paribartan Student Forums (PSF) are taking on the task of educating their neighbourhoods about CCA and DRR. The pilot is being done in one school across each of the three project upzilas in Bangladesh. The forum is made up of 25 students; five each from grades six to ten. They engage in a range of activities with the help of a nodal teacher and Paribartan project teams.

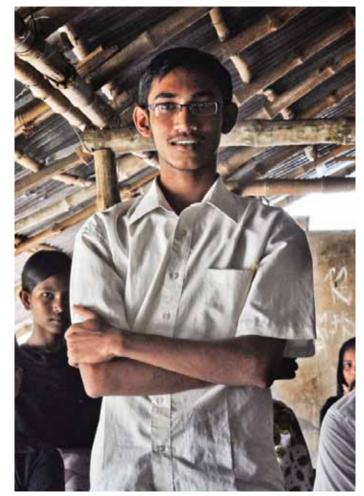
Specially prepared modules are used to orient the students; first through theory and then practice with field activities. The children have been to see the composite agriculture pilots. They've done school hazard mapping and preparedness planning and conducted mock drills. They've organised debates on

"I intend to make community leaders aware of the preparedness activities which have been taught to us. This will help them to take decisions and take care of the community in case of any disaster."

–Minarul, Kalbari Nekjania High School, Shyamnagar, Bangladesh

CCA and DRR, and disseminated the knowledge on the subject through street dramas, rallies and competitions. These have mainly emphasised climate change impacts and the need for early warning systems and local preparedness.

Students are now aware of climate risks; an essential step towards carrying the knowledge forward. They have actually turned into resource persons for the community which will have a multiplying effect on the activities. PSF has instilled a sense of responsibility and the students now intend to help increase their communities' resilience.





## Sharing lessons

replication,
the lessons expand beyond the project

been done

boundarya testament to the future and what has

Through workshops, upscaling and

as project elements integrate with policy



### Achievement 4:

Lessons learnt are promoted and shared amongst practitioners and policymakers at state, national, regional and international levels "The difference you see is that this is a community-led project. You don't tell them what to do. That is why I feel it will sustain. Now the horticultural department, the forest department, all the departments are involved. The organisation is speaking with the Panchayat and all the departments to find ways to link with different schemes for their initiatives."

-Khageshwar Lenka, Sarpanch, Gupti, Odisha, India

## Speaking out, speaking wide, speaking to policy-makers



The breadth of network coverage involves people from local to international level.

Sharing between partners has been a starting point of the learning and dissemination process. As this grew, even external groups such as the Inter Agency Group of Humanitarian Organisations from West Bengal, India, visited Bangladesh for cross learning. Another international organisation working in coastal regions has incorporated Paribartan project's pilot options (composite farming) in their action plan.

Sub-regional Workshops on Community Resilience to Climate Change in the Bay of Bengal were held in India in July 2012 and in Bangladesh in October 2013. These brought together a wide range of stakeholders and featured project participants talking about their experiences. These common voices of the coastal communities were captured through a collective charter.

"This particular project 'Paribartan' not only influences the state alone. It has also gone beyond India and Bangladesh where South-Asian countries and some of the South-East Asian countries have also shown interest to be part of the process because the climate variability that is happening around the Bay of Bengal is going to impact all the bordering countries."

-Ambika Prasad, State Project Officer, UNDP

The representatives also participated in the COP process of UNFCCC, with the release of the Baseline and Charter.

Institutional linkages with government agencies facilitate technical support. In fact, ways are now being found to link with existing government schemes. In Odisha, for example, people have applied for the 'my village, my pond' scheme under the National Rural Employment Guarantee Scheme to link with composite agriculture.

Finally, the adaptation initiatives and issues are also making their way into policy. The issue of small and marginal farmers features in the Odisha Agricultural Policy 2013. In Bangladesh, the programme has also successfully linked the process to the Action Research for Community Adaptation in Bangladesh (ARCAB). Engagement with climate parliament has created an opportunity to work with the parliament members of both contries.











## Committed to a world without poverty

### **About Us**

Concern Worldwide is an international humanitarian organisation dedicated to tackling poverty and suffering in the world's poorest countries.

Our vision is to work towards a world where no-one lives in poverty, fear or oppression; where all have access to a decent standard of living and the opportunities and choices essential to a long, healthy and creative life; a world where everyone is treated with dignity and respect.

Our mission is to help people living in extreme poverty achieve major improvements in their lives which last and spread without on-going support from Concern Worldwide. To achieve this mission, we engage in long term development work, respond to emergency situations, and seek to address the root causes of poverty through education and advocacy.

We work with the world's poorest people to transform their lives.

To know more about our work, please visit www.concern.net



Scan to watch this clip on Paribartan project













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