

# Women Leading **Climate Resilience** in Coastal Bangladesh

### Women Leading Climate Resilience in Coastal Bangladesh.

Communities living in the South-West coast of Bangladesh are vulnerable to many climate-induced natural hazards like cyclones, erosion and flooding. Their vulnerability is further exacerbated due to increasing frequency and intensity of these hazards and other existing socio-economic conditions like poverty and inequality.

To understand some of these vulnerabilities and to increase resilience among communities, Concern Worldwide in Bangladesh and partners Jagrata Juba Shangha (JJS) and Shushilan (in the beginning) have been implementing the Enhancing Resilience of Coastal Communities (ERCC, 2021-2023) project. This project is funded by the Korean International Cooperation Agency (KOICA) and supported by Concern Worldwide Korea.

The project adopted an integrated approach to climate resilience building by supporting women members in these communities with more climate-adaptive agriculture and livestock livelihoods and required skill development. Increased income and new skills have been contributing to household level resilience in these vulnerable coastal communities.

This photobook titled: "Women Leading Climate Resilience in Coastal Bangladesh" captured the impact stories of some of the women leaders the project supported and who are at the forefront of climate resilience building.

I acknowledge and appreciate the efforts of the communities, Union Parishad, government line departments, Concern and JJS staff & Shushilan in bringing such a positive impact in the lives of communities living in climate vulnerable conditions to strengthen resilience.

Manish Kumar Agrawal Country Director Concern Worldwide, Bangladesh

### **Outline of the project**

The Southwest coastal region of Bangladesh is prone to various natural and climate-related hazards, putting its 14 million inhabitants at significant risk. In response to these challenges, building upon previous initiatives, Concern has taken the initiative to implement Enhancing Resilience of Coastal Communities (ERCC) project in Dacope and Koyra Upazila (sub-districts) of Khulna district, where extreme poverty rates are higher than the national average. The current project focuses on assisting 5,555 households in Dacope and Koyra Upazils of Khulna District.

The project aims to achieve two specific outcomes and corresponding outputs. The first outcome focuses on strengthening the climate resilience of the extreme poor through climate-smart agriculture, livestock, and fisheries capabilities, as well as providing technical and vocational education and training. The second outcome aims to enhance the climate change adaptation and preparedness capacity of the community and local government by strengthening water source management and disaster risk reduction efforts. Project provided support to 2,655 households on Climate Smart Agriculture (CSA), 278 households on technical & vocational training and rainwater harvesting system to 654 households and 8 institutions like schools and health centers. Through these outcomes, the project aims to address the underlying causes of extreme poverty and enhance the resilience of the communities in the region.

Nila Boiragi checks sponge gourd as morning light shines through the creepers and over the green paddy field in Tildanga, Dacope. She is growing a variety of early winter vegetables alongside the paddy field, maximizing the utilization of space by adopting composite agriculture practices.







# Journey of Shikha Ray; the woman who led her family toward a dignified living

Shikha Ray (40) has a family of four; with her son Dipto Ray (23), husband Shukumar Ray (47), and her mother-in-law, in Chordanga, Tildanga. She registered for the ERCC project in October of 2022 and got a 7000-taka grant and training on livestock and coastal aquaculture. With that money, she started fish farming in a roadside narrow lake adjacent to their house.

Meeting her family's needs, she started earning 300 to 500 Taka daily by selling the catches in the local street market. With those earnings, she took a lease of around 12 decimals pond at a rate of 10,000 Taka yearly, on the other side of the road. This time, she properly fenced it, and made trellis (*Macha*). over the water to cultivate vegetables on the dyke. She started growing eggplants, bottle gourds, bitter gourds, lady's fingers, snake gourds, tomatoes, and other seasonal and year-round vegetables, integrated with fish farming.

She keeps her daily produces to their roadside shop for selling to the customers. Besides running the stall, her husband helps her in fishing and harvesting vegetables. She also bought her son a battery-run passenger cart called Easy Bike that he drives and earns regularly.

Managing both household chores and farming, Shikha has pulled her family from extreme poverty and is now more resilient to climate change. They eat fresh vegetables from their garden, and fish from the pond and together, as a family, save a handsome amount at the end of the month. She plans to renovate her house, buy cows, and invest in scaling up her composite farm.



Shukumar Ray is harvesting snake gourd from the trellis over the pond. Alongside running his general store, he also cultivates vegetables with her wife.



Dipto Ray is about to begin the day's work, transporting passengers across the Chalna-Tildanga road, and contributing to his family's income.

Momota Ray is taking a basket full of compost from her compost pit in Tildanga, Dacope. Like others in her neighborhood, she deposits cow dung and household wastes at a specific pit for making compost out of it that she uses for her vegetable farming.









"We have a large family. We two elderly people in our family, mostly work in our backyard vegetable nursery. In between my household chores, I am helping my husband planting winter vegetables. This time around we are growing different types of winter vegetables"

Sobiron Bibi, Matiavanga, South Bedkashi, Koyra.



Sobiron Bibi is weeding while Shahjahan Ali Gazi watering the tender plants at their backyard vegetable garden in Matiavanga of South Bedkashi, Koyra.



Shabana Khatun is working in her vegetable garden in Sheikh Sardar para in North Bedkashi, Koyra. Her husband Jahangir Sheikh is helping her weeding the garden. This year they are going to harvest a variety of early winter vegetables.

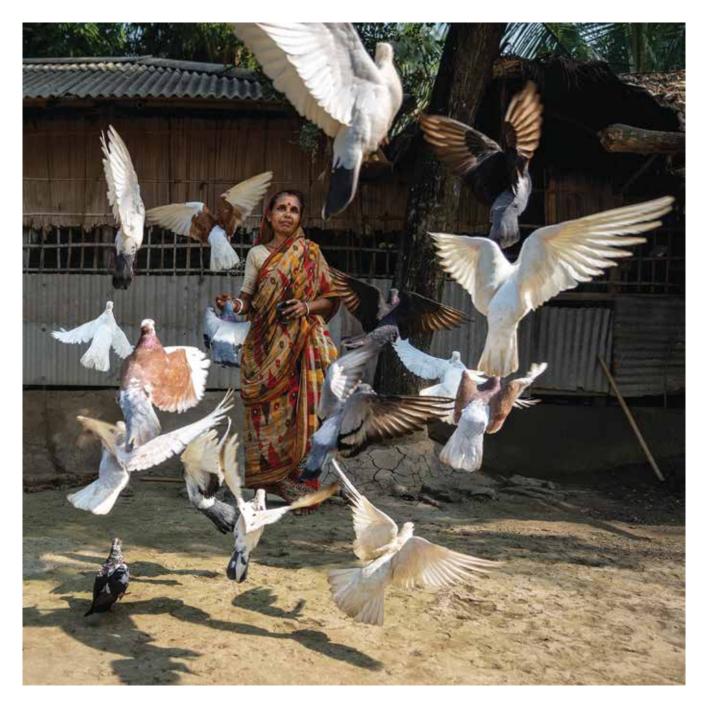


#### LEFT:

Ecstatic Shuchitra Ray from Tildanga, Dacope shows off her newly hatched ducklings. Starting rearing Muscovy ducks in the winter of 2022, her farm grew bigger enough to occupy most of her daytime caring for them.

### **RIGHT:**

Time to feast; the flock of pigeons are flying down on her yard from the tin shed roof as Monisha Boiragi calls them for feeding. She is one of many pigeon lovers in her neighborhood who took up rearing these birds in their houses in Chordanga, Tildanga, Dacope.



"I used to rear cows and chickens.
After receiving a grant, I started
rearing duck back in 2022 and
she was the one I started with.
Now I have 17 of them.", says
Arpita Biswas holding her favorite
swan on her lap, in Tildanga,
Dacope.

Arpita Biswas, Tildanga, Dacope





# **Bishokha's journey towards empowerment through poultry farming**

Bishokha started her journey with the ERCC project in January 2022, with a 7,000-taka grant. She bought 14 ducklings and 25 chickens with that money. In a couple of months, she started selling eggs, hens and cocks. By the end of 2022, she made a profit worth 1,28,000 taka.

She didn't stop there. It was just the beginning.

She bought more ducklings and chickens with the money and this time she made a profit of 80,000 taka in just two months by selling the eggs and cocks. With a profit of 1,20,000 taka by the month of June, she bought more ducklings, and this time, invested in and focused on duck rearing.

Some of them died of diseases. Now she has more than 250 ducklings and about 100 ducks including the male ones that she kept selling, keeping only 20 for breeding. She got training on how to diagnose and prevent diseases and make a proper chicken coop for her ducklings and ducks.

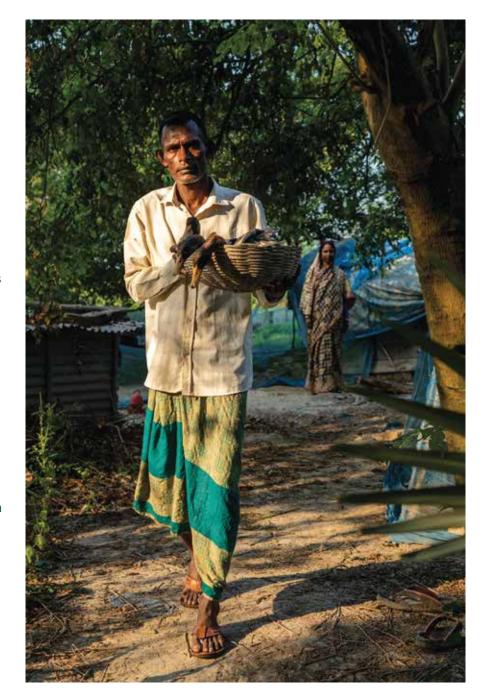
She lives with her husband, who is a farmer, and mother-in-law, while her only son is about to graduate next year. She bears all these expenses. She has plan to scale up her farming and build a concrete house for her family to keep them safe during any disaster.

She doesn't have to go to the market to sell her products. Neighbors come to her to buy eggs and ducks. NGOs like BRAC and others come to her to buy ducklings to run their livelihood projects.

She is one of the many front liners who fought the climate crisis by adopting poultry farming to survive, and then to thrive and inspire others to do so.







### LEFT:

Brojendranath Sardar, Bishokha's husband is taking three of the ducks to deliver to a neighbor's call. They get buying requests from across Botbunia, Tildanga, Dacope

### RIGHT:

Kobita Sardar and Pravati Sardar are collecting eggs that will hatch in her chicken farm. Keeping some for the family, they will sell the rest in the local market in Botbunia, Tildanga, Dacope.





### LEFT:

"I have always been rearing swans. I don't sell their eggs; I hatch them and sell the ducklings. I'll sell the first batch adult duck at a rate of 4000 taka a pair", shares Hosne Ara Begum as she carefully puts the eggs for hatching on her farm in Botbunia, Tildanga, Dacope.

#### **RIGHT:**

"I invested the 7,000-taka grant that I received in early 2022 in my poultry farm. Besides that I am keeping a variety of deshi chickens for years. Look how big he has gotten, weighing about three kilograms each", says Kobita Sardar from Botbunia, Dacope, holding one of the roosters from her farm.



"I was one of the first to receive a 15000 taka grant which I invested in watermelon cultivation. With the profit I renovated this chicken coop and bought more swans and ducks. My neighbors were inspired to see my farm expanding and they followed."

Ashalota Ray, Chordanga, Tildanga, Dacope





From farm to kitchen and local bazar; Probhati Sardar collects eggs from her chicken farm. Keeping a few for hatching and for her family, she sells the rest in the local bazar in Botbunia, Tildanga, Dacope.



Farm fresh straight from her milking cows. Shriti Ray gets enough milk to meet her family's needs and bears her children's education expenses by selling in the neighborhood in West Sreenagar, Kamarkhola, Dacope. She is expecting two more calves soon.

Ritu Ray feeds her cows in her cowshed in Chordanga, Tildanga, Dacope. One of the many sparks of cow farming is that she also makes dry sticks from cow dung to burn as fuels and sells them as well, contributing as green and cheap energy sources, especially for the remote localities.

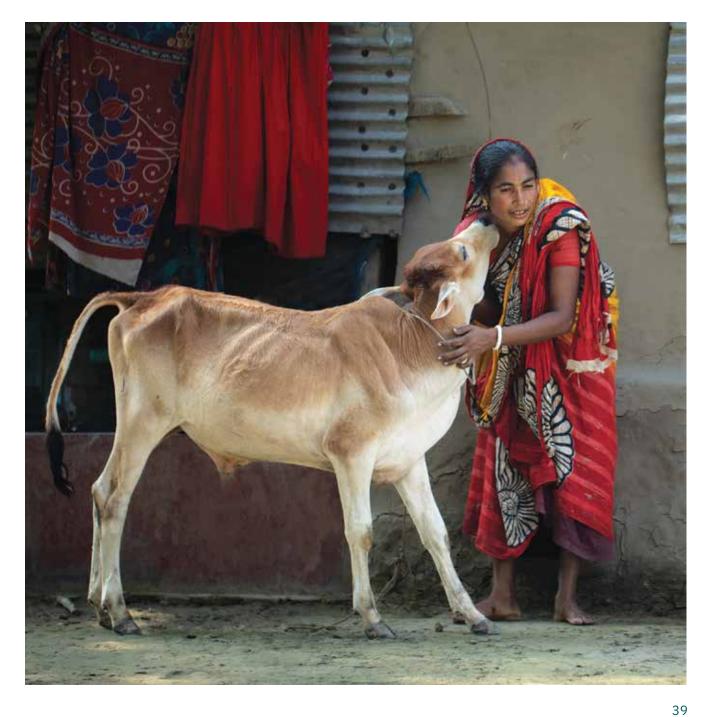




Rita Shill feeds her herd of sheep in Tildanga, Dacope. She has been rearing sheep for three years and she has seven of them now.

"I have been raising bullocks and four cows. This year they gave birth to four calves, I love them like my own children. I am very happy with my farm"

says Nila Ray (32) while her favorite calf she calls Rahul, smooching her in her yard in Chordanga, Tildanga, Dacope.









### Right:

"I have been rearing sheep for the last three years, now I have ten of them. This one was just born last week. She needs close caring", says Nargis Parvin as she takes her herd for grazing in Sheikh Sardar para, North Bedkashi, Koyra.

#### Left:

Day is done; Shikha Golder returns home with her herd of goats after grazing them in the nearby grass field in Tildanga, Dacope. She is also bringing some greens to feed them later.

"I have been rearing goats myself since I registered in the project.

Now my daughter-in-law helps me look after them. Now we have 13 goats including these newborns"

Lakshmi Rani Mondol was particularly happy after this pair was born since rearing livestock is tremendously challenging in areas like South Bedkashi, Koyra.





## The hardship of Sochi Ray and her relentless journey toward a better future

This is the story of an empowered woman, Sochi Ray (43), a tailor who lives with her husband. She registered for the ERCC project in the winter of 2022 when she got training and support for vegetable farming. She took a lease of 16.5 decimals land and started farming vegetables.

By the next three months, she managed to save 10,000 Taka from the profit she made by selling vegetables and watermelons. With that capital, she started fish farming in her yard and growing vegetables in sacks around the periphery of that pond. Selling the catches and harvests in the local market, she has been bearing all the household expenses and her son's tuition fees who is currently studying at Khulna University.

For the past five years, her husband has been physically disabled, unable to work and dependent on her. Alongside meeting her family needs by her own, she kept investing a portion of the profits in fish farming integrated with vegetable cultivation. Now, she intends to start a poultry farm with the savings from the past year and she feels confident since ERCC supports are there.

She continues her tailoring job as well.

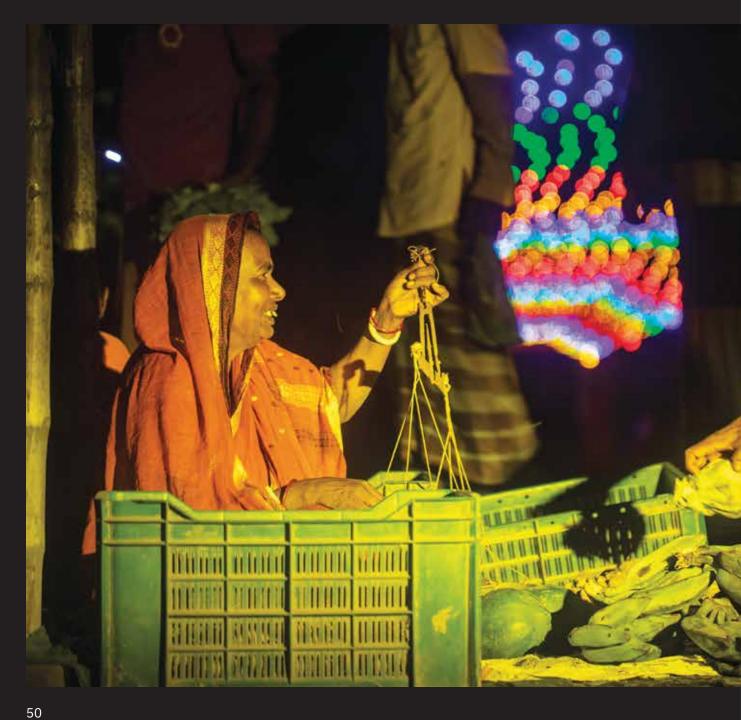


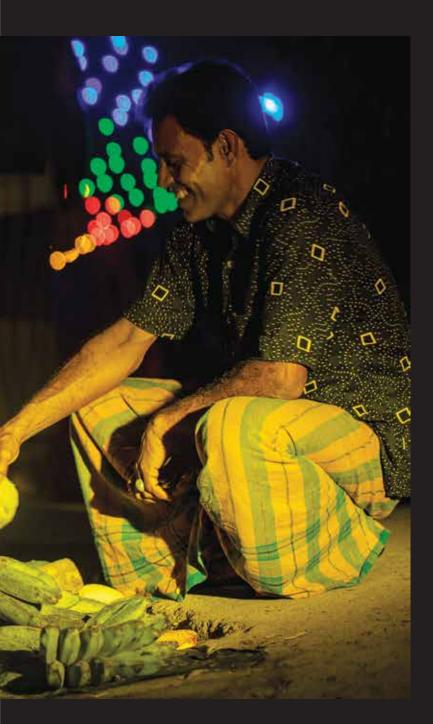






Sabina Akhter Rekha cultivates crabs in the pond in her front yard and her husband Minarul Islam helps her catch them and sell them in the local market in their village Golkhali in South Bedkashi, Koyra.

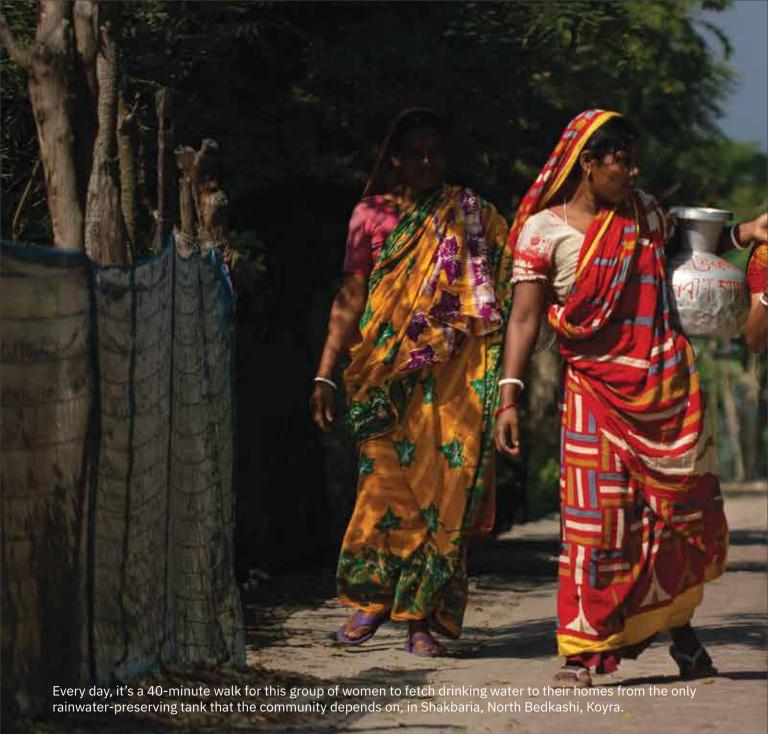




After managing the household chores throughout the daytime, Shefali Mondol sits in the street-based evening market with surplus harvest from her vegetable garden, Tildanga, Dacope. Usually, she sells about 300 taka worth of vegetables daily throughout the year making herself self-empowered apart from consuming fresh.

Children and adolescent girls ride bicycles to their schools in the morning. Their families have improved their socioeconomic status Through agriculture and livestock rearing affording education for their children. This is a reflection of that progress.







# Accessing safe drinking water: still a long way to go

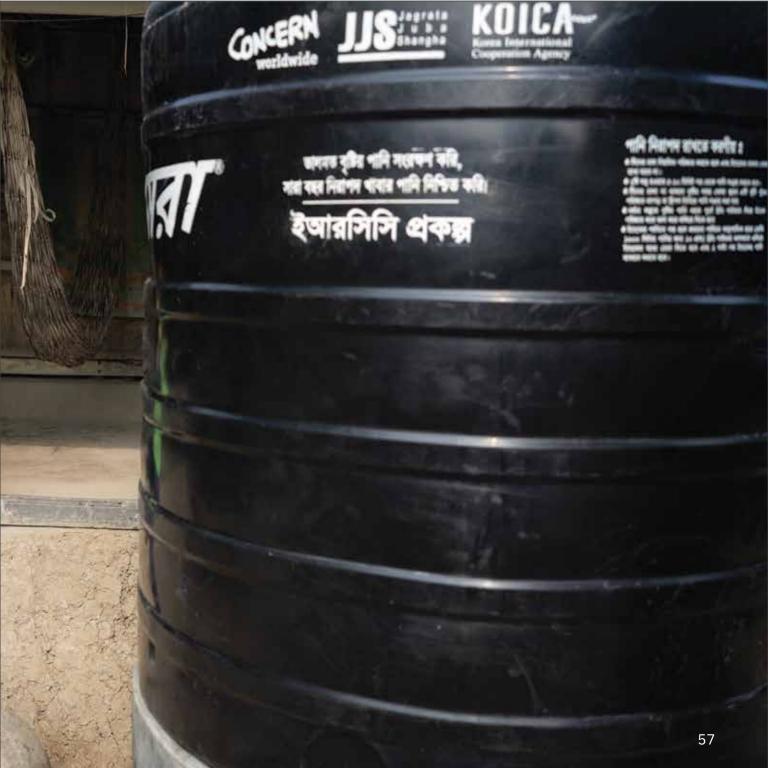
The major crisis facing the coastal communities is the unavailability of fresh drinking water. The situation worsens when salty seawater floods into the fresh water pond and making it impossible to drink water afterwards. Hence, one of the major focuses of the project has been strengthening the water source management capacity of local government institutions and securing safe water sources for the poorest.

Rainwater harvesting during the rainy season and preserving to use rest of the year is tremendously crucial. Keeping that in focus, Rainwater Harvesting System (RWHS) including bigger size polymer water tanks were provided at household across the project areas in Dacope and Koyra.

But the need for accessing these sources of preserved water is way higher. Often these water tanks fail to serve throughout the year due to their insufficient capacity and the large number of populations that depend on and share them. Often project participants like Pinky Ray from Tildanga, have to share her tank water with the neighbors.

The seven-month-old Tahsina Akter Mim is drinking safely on her father's lap since her mother received the water tank. Now her family in Sutarkhali, Dacope has access to safe drinking water throughout the year.





The water reservoir installed in Shakbaria Government Primary School in North Bedkashi, Koyra is shared by the entire neighborhood. One cannot get enough drinking water for the day and some have to walk miles to get the water for their families every single day. In villages like Kalabogi, Dacope which are flanked by the sea water channels, survive by buying fresh water on a daily basis, some treat the water with bleaching powder before using while others simply use the salty water for cooking and other household chores.

Another efficient approach to address the crisis proved to be the Pond Sand Filter (PSF) which purifies pond water from nearby sources that are not saline contaminated. However, the demand for PSF water is gradually declining due to the installation of advanced treatment plants by other organizations.

The WASH program proved to be a life-saving support, especially in the coastal communities. Access to safe drinking water has increased to 60% and there is still a long way to go.

A polymer water tank preserving harvested rainwater in the backyard of Morium Begum's house in Kalabogi, Sutarkhali, Dacope. Rainwater from her tin-shed roof is channeled to the tank through a down pipe where it is preserved for use throughout the year.











### Right:

Pinky Ray is pouring safe drinking water. Rainwater harvested throughout the last rainy season could serve her family for almost the rest of the year. But it doesn't because she shares the water with her neighbors in Chordanga, Tildanga, Dacope.

### Left:

A mother is serving her children harvested rainwater that she brought from the shared polymer tank in North Bedkashi, Koyra "This fills up during the rainy season. Since we are a large family, the reserved water can only serve us for the next 5-6 months. Then we have to buy drinking water every single day"

Halima says standing in front of the water tank set in her yard in Kalabogi, Sutarkhali, Dacope.



"I use the rainwater only for drinking and cooking purposes. With the seawater I bathe, wash my clothes, and do all the other chores. When the reserve is finished, we have to buy fresh water. It takes 50 paisa (0.5 Taka) to buy a liter"

struggling still smiling Shahanara Molla in her kitchen as she is cooking lunch in Kalabogi, Dacope.





A recently renovated Pond Sand Filter (PSF) run by solar power. It treats water from rain-fed ponds and is a popular option for potable water in arsenic and saline-prone coastal areas like this one in Golkhali village of South Bedkashi, Koyra.

Women waiting for their turn in front of the shared Rainwater Harvesting System in Shakbaria Government Primary School in North Bedkashi, koyra







Receiving hands-on training in handicraft making in 2022, Minara Akter got herself this sewing machine and started making shopping bags in North Bedkashi, Koyra. She takes orders for tailoring as well. Though the costs of the raw materials have increased by the year the market value of these bags did not change at all, making her profit margin thinner.



Naim Sheikh concentrates on his work at his service store in Noldanga Bazar, Dacope. After receiving three month long technical training in 2022, he set up his store.

Ramproshad Ghosh in action at his mechanical servicing workshop in North Bedkashi, Koyra. He can now earn for his family serving his community.



# Surviving in the harsh habitat: stories of women in Koyra

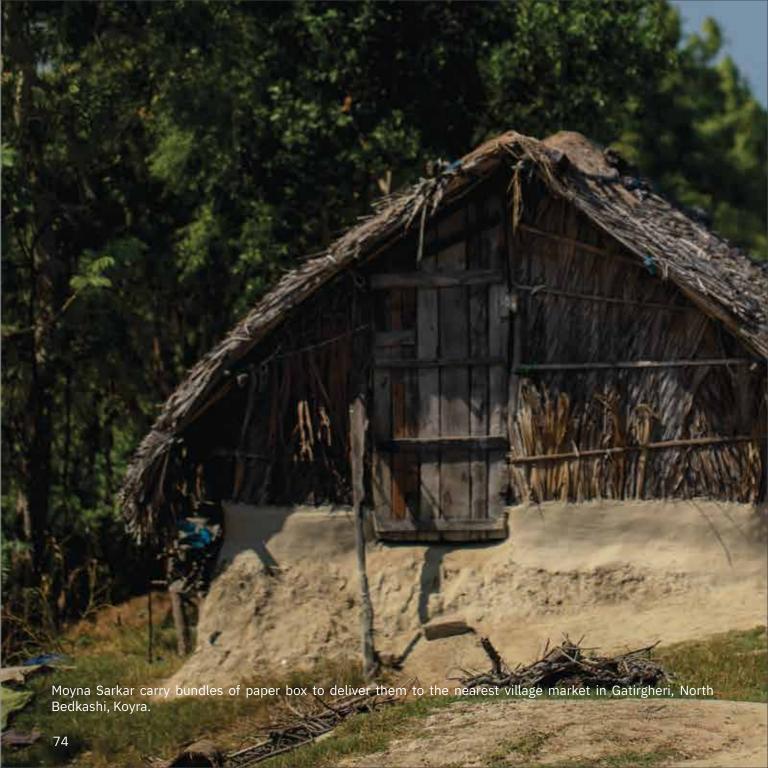
Vocational training among women to build their skills as craftswomen and artisans proved to be an instrument for empowering them through small business initiatives. Employment opportunities and scopes for engaging in income-generating activities are rare, especially in the remote coastal areas of Koyra. Unlike most areas across Dacope, agriculture, and livestock rearing are extremely difficult and limited in these saltwater-based geographic locations and the harsh and unfavorable climate conditions and disaster that is worsening every year. While most male counterparts of the households depend on fishing and catching crabs, women find it difficult to position themselves as earners for the family and are mostly limited to household chores, especially the ones belonging to the extremely poor category.

Moyna Sarkar, in Gatirgheri, North Bedkashi had no scope of working outside the home as she expressed, "I cannot work outside except the paddy harvesting period. What will I do with all the time at home? Sitting and gossiping around won't do me any good.........if I can earn by making anything at home, no matter how small the amount, I'd engage myself doing that fully." And she is doing that. In 2022, she got training in making handicrafts with recycled paper. For the last year, she has been making paper boxes, and packets and supplying them to wholesalers and shopkeepers. At the end of the month, she has a saving no matter how small the amount is and contributes to her family's struggle to survive. She is determined to continue that.

Many others have adopted the same practice across Koyra. In Hariharpur, Arpona Rani Biswas also took the training and though struggling to keep up with the competition from her neighbors, continues to make paper boxes to earn herself.

Hence, technical training among the women belonging to these extremely poor communities proved to be a step towards empowering them and gradually attaining gender equality.











# RIGHT:

Receiving hands-on training in handicraft making in 2022, Minara Akter got herself this sewing machine and makes shopping bags. She has become an earner for her family in North Bedkashi, Koyra.

# LEFT:

Arpona Rani Biswas took the training and though struggling to keep up with the competition from her neighbors, continues to make paper boxes to earn herself in Hariharpur, Koyra.



The change makers of Kalinagar, Kamarkhola, Dacope: A follow-up meeting with the local government representatives and the Project Participants where they discuss community needs, propose solutions and reflect on their collective contribution.





Since the making of this road following the risk reduction action plan, the communication length between the east and west parts of South Bedkashi in Koyra has been reduced by more than 4 Kilometers, Which helps them to access cyclone shelter easily.



The waiting is over, a cobbled road is in the making. This road will contribute to implementing the Risk Reduction Action Plan (RRAP) developed by Community Risk and Venerability Assessment (CRVA) across Kamarkhola in Dacope.



Sandbags are taken to protect an embankment along the river Rai as part of implementing the Risk Reduction Action Plan. There are still huge areas left unprotected from flooding across Hariharpur, North Bedkashi, Koyra.



A brick road constructed in the embankment of the river Rai in North Bedkashi, Koyra. Each year the road is damaged and slides thinner, flooding the cultivable land with salty sea water on the other side.

# **ROSBI:** Instrument for individual upliftment through collective contributions

Rotating Savings and Business Initiatives (ROSBI) has been one of the best practices introduced through the project and popularly adopted by groups of project participants across the project areas. In each of the target communities, the women project participants form their own ROSBI group with a president nominated within themselves.

At a scheduled date, in the presence of project staff, each group conducts a monthly yard meeting where a small amount of monthly subscription is collected from each of the members for generating capital within the group. Then a lottery is hosted and the amount is given as a grant to the winner. The next time the winner's name is excluded from the lottery so that everyone gets to be the winner of the grant.

This is how the savings within the group continue and grants are given to the project participants on a rotation basis. The practice is popular among the project participants. Most of them got the grant at least once percycle. In Chordanga, Ashalota Ray, who is currently the president of their local group, started livestock rearing with that grant, while Sochi Ray invested her fish farming integrated with vegetable. Likewise, Nazma Begum, in Kamarkhola, started duck rearing. Kobita Sardar, in Botbunia, started her chicken farm, and the story goes on.

ROSBI has been a key to individual initiatives towards upliftment from poverty through collective contribution. Investing this grant in climate-smart agriculture, livestock rearing and fisheries. Thise front liners of climate resilience have changed their lives and of their community to a great extent and they are on the track towards progress and dignified lives.







Bookkeeping on a ROSBI group meeting in Tildanga, Dacope: the initiative proved to be an impressive instrument to generate capital from within the groups



A lucky winner of the lottery this turn, receiving the money as a grant to invest in her agriculture

"I have been in the ROSBI group for about a year, I won one lottery and received 1250 Taka that I invested in poultry farming. I am waiting for the next round"

says Droupodi Biswas, in Chordanga, Tildanga, Dacope.



"I am a member of our ROSBI group in Chordanga. We meet here at Ashalota's yard. Today we collected fifty taka from everyone. We will give the amount to the lottery winner"

says Shriti Rani after finishing the yard meeting with others in the group, in Tildanga, Dacope.











At dawn, a fisherman starts fishing in his enclaved saltwater fishing area in North Bedkashi. Most of the residents in this area depends on this type of farming practice



Mery Chitra Mondol is drinking the seawater treated with bleaching powder. Many coastal households still depend on salty sea water for washing as well as drinking in Jhulanta para, Kalabogi, Sutarkhali, Dacope. The traditional small reservoirs have little capacity to serve themselves throughout the year.

Time to cook lunch for her family. Taslima Begum is taking water from the earthen water jar and her neighbor is waiting for her turn. With four of the neighboring households, she shares these two jars harvested rainwater for cooking purposes in Kalabogi, Sutarkhali, Dacope.





A local fisherman returned after the day's catch, mainly crab, following a narrow water channel along the mangrove forest in Sutarkhali, Dacope.



On a harsh midday, Rampada a fisherman from the Munda community is busy catching fish in the river Rai, in Katkata, North Bedkashi, Dacope. This indigenous community particularly depends on fishing from the river and the Sundarbans due to the lack of any other scopes of work.



Jamuna Mondol is taking her goats for grazing. Flanked by the rivers Rai and Kopotakkho, residents like her are increasingly adopting climate-resilient farming techniques in the area which is hard to raise cattle due to the negative impact of climate change.

The day starts with taking reserved rainwater to meet the day's household needs. Thanks to the ERCC project to provide Rainwater Harvesting System some of the project participants across Kalabogi, Dacope. Still, the need for drinking water is high and the capacity is not enough to serve the community throughout the year.





# LEFT:

A woman goes to the Sutarkhali River to fetch water for her household chores. Though they don't need to drink it they have to use it for other purposes. Needs to distribute more Rainwater Harvesting System across the areas in Kalabogi, Sutarkhali, Dacope.

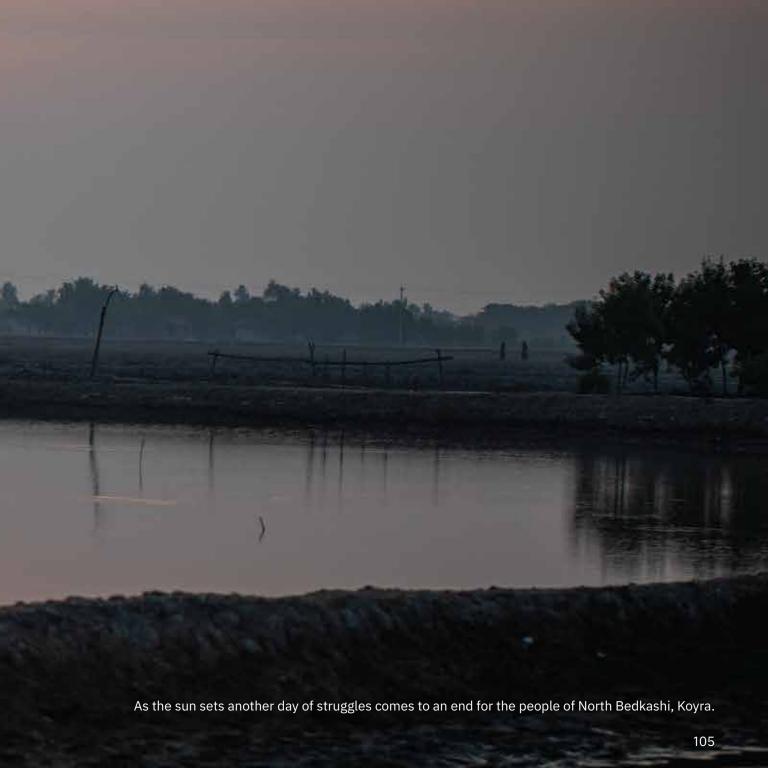
# RIGHT:

Saline and arsenic-free drinking water from a Pond Sand Filter (PSF) in North Bedkashi is being taken to another village called Gabura in the neighboring district. Meeting the need for fresh drinking water is extremely challenging throughout this part of the country.









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Published on December 2023 ©2023 Concern Worldwide Printed in Bangladesh

### **Published by**

Concern Worldwide, Bangladesh House 15 SW (D) Road 7, Gulshan-1 Dhaka 1212 www.concern.net

#### **Published Under**

Enhanching Resilience of Coastal Communities (ERCC) Project Implemented by: Jagrata Juba Sangha (JJS) and Shushilan Funded by: Korean International Cooperation Agency (KOICA) Supported by: Concern Worldwide. (Korea)

# **Photography & Book Design**

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#### **Production**

Into Positive www.intopositive.com

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## (Cover Photo)

It's harvesting time for Rekha Boiragi as she plucks fresh eggplants from her vegetable garden to feed her family and sell the surplus to the local market in Chordanga, Tildanga, Dacope.







