

# SUNDARI

Protecting the Biodiversity of the Sundarbans  
by Reducing Human Pressure



Sundarbans Development and Alternative Resources Integration (SUNDARI) is a project focused on community resilience to contribute to improve Sundarbans' biodiversity. The project is supported by the European Union and implemented by Concern Worldwide, Bangladesh with field partnership of Jagrata Jubo Shangha (JJS) and Shushilan.

This book captures the experiences of the SUNDARI project initiatives as documented by the end line analysis. The success stories and achievements conveyed in the chapters reflect the lessons emerged from the project interventions to establish a community based conservation model.

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# SUNDARI

## Sundarbans Development and Alternative Resources Integration



Challenges of  
the Sundarbans



Improved Food  
Security



Ensuring Community Preparedness  
to Disaster and Climate Change



Co-management and Biodiversity  
Conservation of the Sundarbans



Lessons Learnt and  
Linkage Development

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# Challenges of the Sundarbans

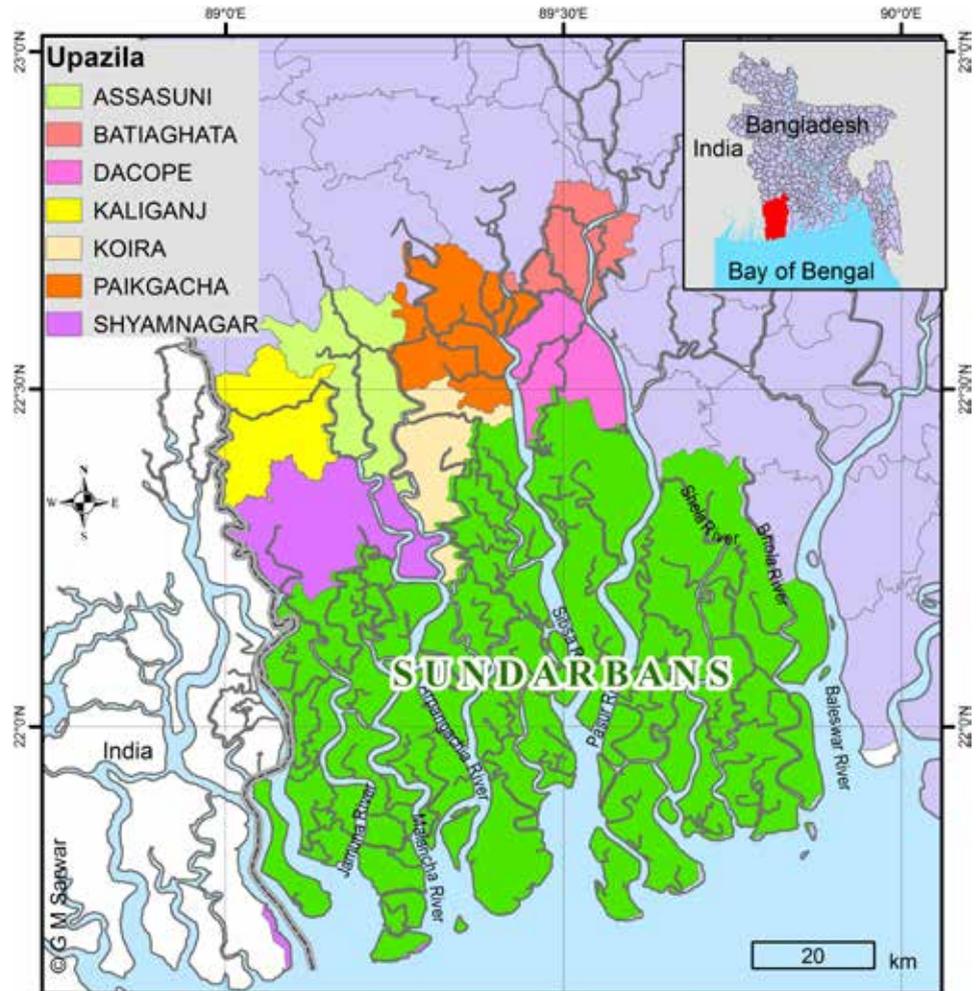


## SUNDARI BACKGROUND

Sundarbans is the largest mangrove forest in the world, which is facing the risk of climate change impacts. The southwest coastal zone of Bangladesh is particularly vulnerable because of its low-lying elevation, and higher population density in the Sundarbans Impact Zone (SIZ).

About 3.5 million people are forest-dependent in coastal Bangladesh, with approximately 1.4 million people living in the 7 SIZ Upazilas. People depend on Sundarbans Reserve Forest (SRF) resources to maintain their lives and livelihoods, which often result in the exploitation of the natural resources. Population pressure is a significant cause for the degradation of the mangrove forest; for instance, the prawn post-larvae exploitation in the Sundarbans' coast. The fisheries resources of the Sundarbans are overexploited, while honey collection and logging are also major income sources. The indiscriminate collection of SRF resources threaten the biodiversity of the forest.

About 3.5 million people are forest-dependent in coastal Bangladesh, with approximately **1.4 million** people living in the selected **7 SIZ Upazilas**. People depend on SRF resources to maintain their lives and livelihoods, often resulting in exploitation of the natural resources.



SUNDARI Project coverage areas in Sundarbans Impact Zone (SIZ)

**The Sundarbans Development and Alternative Resources Integration (SUNDARI)** project is being implemented by Concern Worldwide, Bangladesh in the south-western coastal districts of Satkhira and Khulna since January 2012. The project is funded by the European Union through its SEALS program framework, and interventions are implemented under the auspices of the Forest Department (FD) of Bangladesh. Jagrata Juba Shangha (JJS) and Shushilan are Concern's local partners for this project.

The primary aim of the SUNDARI project is to improve the biodiversity of the Sundarbans through reducing human pressure on SRF resources. The specific objectives of the project are to (i) improve food security and reduce forest dependency of 25,000 SRF resource harvesters through enhancing SRF product value chains and alternative livelihoods, (ii) increase disaster resilience among 1,277 SIZ communities dependent on SRF resources, and (iii) protect the biodiversity of SRF resources by strengthening grass-roots institutions and improving co-management practices.

The primary aim of the SUNDARI project is to **improve the biodiversity** of the Sundarbans through **reducing human pressure** on SRF resources.



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# Improved Food Security





Alternative Income Generation



Community Resilience with Self Help Approach



Improved Access to Social Safety Net Programme (SSNP)



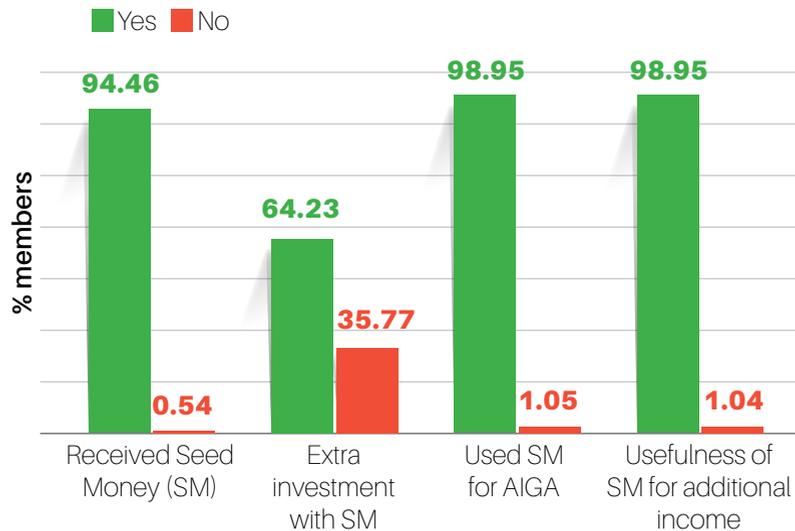
Special Care for Tiger Widows



Improved Market Access

# ALTERNATIVE INCOME GENERATION FOR CONSERVATION OF SUNDARBANS

The SUNDARI project had supported 1500 Sundarbans Dependant Extreme Poor Households (SDEPHs) with seed money to use their training and other skills to adopt Alternative Income Generating Activities (AIGAs). Most participants received seed money as financial support. About two-thirds of them invested additional money to run an AIGA. Using the seed money and own investments, almost all (99%) of the recipients informed that the seed money had helped them to start their business and create an additional source of income, which then became their main source of earnings.





I got poultry training and seed money from the SUNDARI project, and started rearing chicken as an AIGA. Despite a few obstacles, this business has been profitable, and I have reinvested my profits to buy cattle to increase my livestock assets.

- Maksuda Khatun, Natun Bazar, North Bedkashi, Koyra, Khulna



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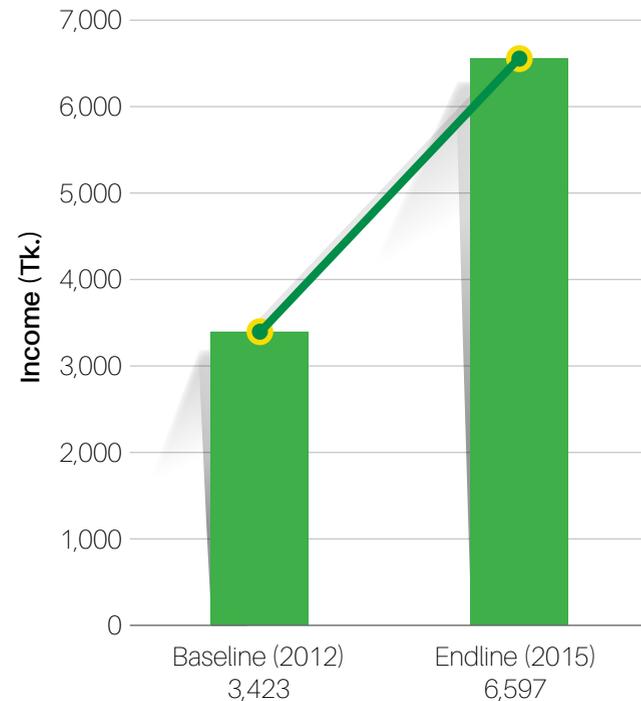


We grow rice (*bhaath*) and fish (*maach*) in the same land. We consume all the rice we grow. We also eat the fish from our own pond, while the surplus is sold in the market. We can buy other necessary supplies with the money earned from selling fish. **Nowadays, we never pass a day hungry.**

-Nodia Mondol, Jhiliakatha, Koyra Upazila, Khulna

# COMMUNITY RESILIENCE WITH SELF HELP APPROACH

The extreme poor people often believe that they cannot afford to have savings after living from hand to mouth; however, the SUNDARI project has taught them how to save money even with little income. As the project initiated, a group of Sundarban Dependent Extreme Poor Households (SDEPHs) formed a Self-Help Group (SHG) with around 15 members, and opened a bank account to keep aside a certain amount of money each month as savings. A Chairperson, Secretary and Treasurer maintain this joint account on behalf of the SHG. Each member has an individual 'Passbook' to keep an account of the total savings. Savings vary from person to person, and also from group to group. This savings habit has strengthened the financial capacity of the project participants and helped them to build their resilience capacity to ensure sustainability. Monthly average income was BDT 3,423 during the baseline survey in 2012, which had increased by about 93% to BDT 6,597 in 2015 as a result of SUNDARI project initiatives.



# Promoting Climate Adaptive Livelihoods



**Nupur Boiragi** is a mother of two children. Her husband used to collect fry and other SRF resources for a living. However, her husband's income was not sufficient to maintain a family of four. A hardworking woman, Nupur had wanted to support her family with some additional income for a long time, but she did not have any such opportunity until she joined the SUNDARI project. Soon after she became a project participant, she became the Cashier for the Padma Self Help Group. She received seed money and poultry training, using which she got a good return by rearing and selling poultry. Inspired by her success with poultry, she then started rearing pigeons which also turned into a successful business. Nupur earned about BDT75,000 in one year. Additionally, she has pigeons worth BDT17,000 in her farm. She is very happy with her success, and participates actively in various community activities in her locality.



I earned about  
Tk.75,000 in one  
year. Additionally, I  
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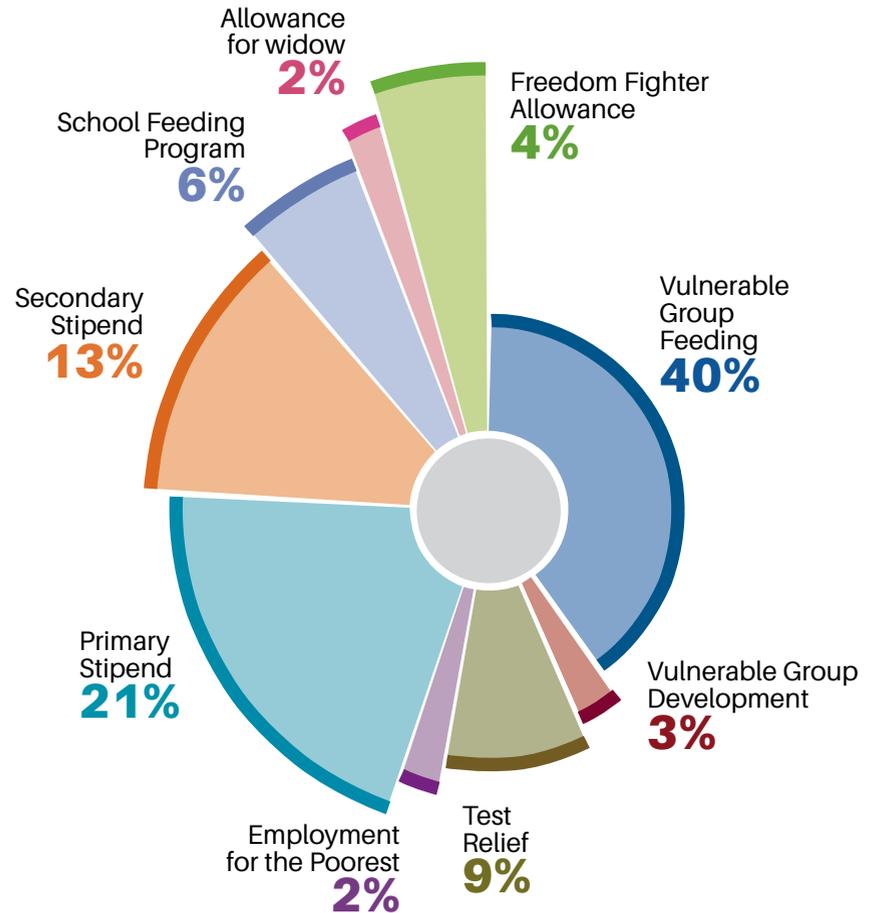
-Nupur Boiragi, Village-Pathorighata,  
Batiaghata upazila, Khulna.



# IMPROVED ACCESS TO SOCIAL SAFETY NET PROGRAMME

Access to the government's Social Safety Net Programme (SSNP) helps communities to have better livelihood options. As awareness-building activities motivated communities to avail SSNP benefits, about three quarters of the participants were able to receive this facility.

Among the SSNP recipients, about 40% could establish their access to Vulnerable Group Feeding (VGF) programme. Women's access to SSNP was 54% in 2013 (MTR), which had increased by 11% in 2015 - indicating that women had become more empowered which enabled them to access the Government's SSNP.



Women's Access to SSNP (%)





## SPECIAL CARE FOR TIGER WIDOWS

People dependent on SRF resources are forced to put their lives in danger as they often have to fight wild animals when foraging in the forest to earn their livelihoods. Many men have been killed by tigers, crocodiles and other ferocious animals. When a man is killed by a tiger, his wife is then known as a 'Tiger Widow', who not only has to support herself and her family on her own, but also has to bear the brunt of the social stigma attached to the title 'Tiger Widows' locally. The local people have a superstition that the wife of a man killed by a tiger brings bad luck, which often leads to the silent exclusion of such widows from social activities. This is why the SUNDARI project has included all Tiger Widows in the project area as its participants, so as to support them through SHGs, savings, skills training and DRR activities and help them to create a better life for themselves.



Our husbands were killed by tigers - and all of a sudden, we became helpless, and our lives became harder. But the SUNDARI project has helped us with training and cash supports to earn our own livelihood options.

-Sharbanu (Tiger Widow), Chairman,  
Tagar Mahila Dal (SHG)

# Care for Tiger Widow



**Andari Bala**, from the Kalinagar village in Munshiganj Union of Shyamnagar Upazilla, is a Tiger Widow. In the winter of 1989, her husband, Griendra Mandal had went fishing into the creeks of the Sundarbans. One day, he was attacked and killed by a tiger, and Andari was left with the sole responsibility of raising their children, 3 year old son, Ranajit Mandal, and 7 month old daughter, Fuljhuri Bala. In order to earn a living, she started collecting fish fry from a nearby river and work as a day-labourer at a money-lender's house. However, her income was insufficient to maintain a family of three.

Upon joining the SUNDARI project in mid-2012, she became a SHG member of Kalinagar Jamuna Mahila Dal, and got cash support of BDT 6,606 from the project. In addition to this seed money, Andari received training for crab-fattening from the project as well. Soon after, she invested the seed money to start a Crab Fattening Point (CFP) as an AIGA. She worked on the CFP with her son, Ranajit, for 5 days a week, and collected fish fry for the other 2 days.

Now, Andari is happy to run her own crab fattening business as she can save about BDT 2,000 of her profit per month, and also enjoys her freedom to go for fry collection when she wants.



We are now recognized in the society. People now invite us in marriage ceremony and in other social events.

-Andari Bala, Munshiganj, Shyamnagar, Satkhira.



## IMPROVED MARKET ACCESS: VALUE CHAIN FOR SRF PRODUCTS

Group members have been mobilised to form Producers and Collector Groups (PCGs), which is a relatively new concept among the coastal community. The key objective of forming PCG is to promote collective production, purchase and sales as they do not get the due price of their products since the lion's share of profits generated from Sundarban- sourced products are bagged by middlemen. Keeping these middlemen off the marketing system is another objective of PCG formation. PCG has helped to establish a market value chain, including small business management, products quality improvement, market scaling up, and access to banking and other financial mechanisms. Eventually, it will enable communities to get a higher price for their products.



We used to sell our products very cheaply. After forming PCG, we sell it collectively and get better prices. To get a formal structure, we have formed a committee of 17 members, and also have our own office. We have established a crab value chain mechanism. We hope to get better price for honey too.

-Chitra Ranjan Das, Chairman, PCG Group, Sheikh Sarder Para, Uttar Bedkashi, Koyra, Khulna



# Small Business for Change



**Maksuda Khatun** (38) is the chairperson of Jui Mohila Samity, a SHG. She received training on poultry rearing after she became a participant of the SUNDARI project. Upon the successful completion of her training, she received seed money worth BDT 6,804. She started her poultry business with only 50 chicken. Now, she has 120 chicken despite the loss of one whole batch of chicken in September 2014. In addition to poultry, she owns 4 cows, 2 goats and 4 ducks. She also has a small homestead garden to support her family's consumption needs of vegetables. Maksuda has three children - a daughter and two sons. Her daughter, Ayesha Akter, is a student of class 6, while her eldest son is studying Political science at University of Chittagong. Her second son had studied upto class 7, and now helps his father in fishing activities. Today, Maksuda is happy with her business, and dreams of becoming a big merchant. She also wants to help her fellow villagers cope with the scarcity of fresh water and wants to set up a deep tube-well to ensure drinking water for everyone.



I started business with Seed Money of Tk.6,804. Now, I have 120 chicken, 4 ducks, 2 goats and 4 cows - all worth Tk.50,000

Ms. Maksuda Khatun, Natun Bazar, North Bedkashi, Koyra, Khulna



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# Ensuring Community Preparedness to Disaster and Climate Change





Assessing Vulnerability  
and Risks



Improved Disaster Preparedness



Household Level Disaster  
Management Plan



Engaging with Local Government and  
Disaster Management Committee



Community Protection through  
Cash for Conservation



Community Conservation-  
Ecosystem Model

# ASSESSING VULNERABILITY AND RISK

Community Risk and Vulnerability Assessments (CRVA) were conducted by SDEPH members. To complete a CRVA, the geographical location of a village is mapped and the risks and vulnerabilities identified for the whole community, which is then followed by the identification of risks especially for Sundarbans-dependent families. Lastly, a risk and vulnerability map is also produced for the entire village.

Mock drills are practiced in villages, educational institutes and in other densely populated areas so that participants and observers can have an understanding of response mechanisms during the event of a disaster. Mock drills enable communities to minimize losses from catastrophes.



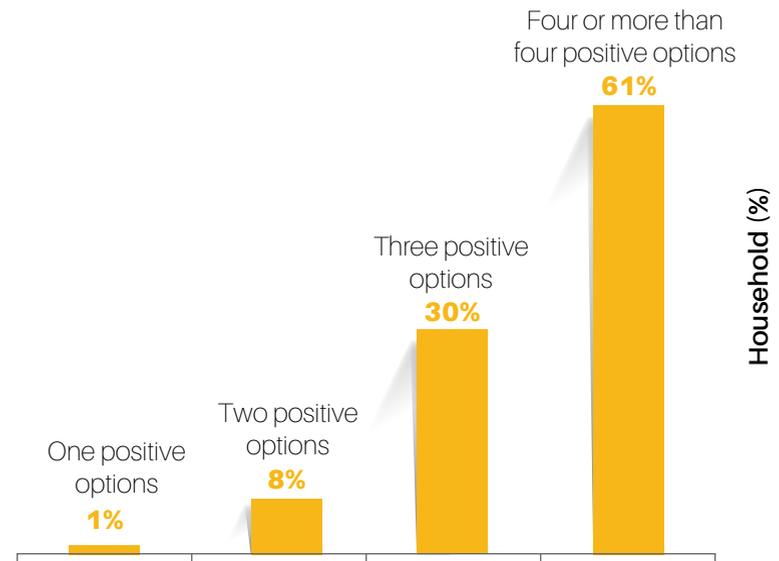
# IMPROVED DISASTER PREPAREDNESS

About 61% people in the study area practiced four or more DRR options as part of their disaster preparedness activities. About one-third of the respondents practice three DRR options, including contingency planning, community preparedness and early warning. DRR strategies have the potential to save lives and livelihoods of people living in disaster-prone areas.



We have planned our duties during disasters. We know who will collect and store dry food and drinking water, and take care of elderly people. We know where to take shelter during extreme conditions.

- Farida Parvin, Protapnagar, Assasuni, Satkhira.



# HOUSEHOLD LEVEL DISASTER MANAGEMENT PLAN

Preparedness is a core element of community resilience to natural disasters and climate change. Community members received training to reduce disaster risks at both the village and household levels. Individual households have their own disaster management plans with designated individual duty. Checklist of resources, defined roles of each member of the household, disaster warnings and evacuation plans are included in all household disaster preparedness plans, along with specific roles before, during and after disasters. A total of 701 SDEPHs have prepared household level disaster preparedness plans till date, and the number is increasing each day.



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# ENGAGING WITH LOCAL GOVERNMENT AND DISASTER MANAGEMENT COMMITTEE

Community capacity has improved in terms of disaster management. Before SUNDARI project interventions, the Union Disaster Management Committee (UDMC) was not very active. However, the UDMC conducts regular monthly meetings at the moment, and have their resource inventory and local level disaster management plan. Community members are also taking part in DRR activities by the Union Parishad.



Many organizations worked in our areas but only SUNDARI project provided continuous supports to UDMC that helped in regularizing our monthly meetings.

-Md. Shafiqul Islam, UP member, No. 1 Koyra union, Koyra, Khulna

# COMMUNITY PROTECTION THROUGH CASH FOR CONSERVATION

Embankment construction was a major DRR component. About 500 workers, mostly women were engaged to build a closure under 'Cash for Conservation' programme that saved about 5,000 people from being flooded during rainy season. It also became a key road communication of the area. The road connected two parts of the village and facilitated convenient communication. About 100 vehicles cross the closure every day, saving time and energy spent for transportation of local people. Additionally, it was able to hold rainwater that supported agriculture of about 120-160 acres of land. Aman paddy cultivation was highly benefitted from this stored water.



About 500 workers, mostly women worked under '**Cash for Conservation**' programme to build a closure that saved **about 5,000 people** from being flooded.



# COMMUNITY CONSERVATION- ECOSYSTEM MODEL

An innovative model was developed with the lessons adopted from the M. S. Swaminathan Research Foundation (MSSRF) Model ponds - an integrated social forestry cum fish pond. The SUNDARI project has provided the support as part of cash for conservation initiatives and technical assistance for structural designs. The project has successfully instituted 7 model ponds to promote a bio-shield with mangrove plantation on the embankments in social forestry areas. These ponds would provide the opportunity to create a mini-Sundarbans for the target communities. This pond can maintain the water level suitable for mangrove plants, brackish water shrimp and crab, through the control mechanism of water inlet—outlet gate connected to adjacent rivers. This model pond is a new concept in these areas but local communities and the Sundarbans resources dependent families have been showing great interest in it. It is expected that this model would provide economic as well as ecological benefit, and gradually the model pond cultivation will expand in coastal communities.





**MSSRF model pond** can maintain the **water level suitable for mangrove plants, brackish water shrimp and crab**, through the control mechanism of water inlet—outlet gate connected to adjacent rivers.

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# Co-management and Biodiversity Conservation of the Sundarbans





Community for Co-management



Reduced Resource Collection from the  
Sundarbans



Sundarbans Forest Area Protected



Sundarbans Oil Spill Cleanup

# COMMUNITY FOR CO-MANAGEMENT

Community Based Organizations (CBO) can help in organized approaches of natural resource management and biodiversity conservation as the apex body. About 99.5% of surveyed respondents agreed about the existence and benefit of having a CBO, while 74.3% directly participate in CBOs in their community. SHG members of SUNDARI project participate in forest management through Village Conservation Forum (VCF), Peoples Forum (PF) or Co-Management Committee (CMC). About 56% of the respondents are involved with Village Conservation Forum (VCF). A total of 6 SHG members are in Peoples Forum. SUNDARI provides extensive supports to grassroots of the co-management chain. Monthly meeting of the VCF is facilitated by SUNDARI. By supporting grassroots of community forest management system, SUNDARI plays a strong role in forest management and biodiversity protection.





We take part in monthly meetings at Burigoalini Forest Office and express our views and concerns which are conveyed to higher tier of forest management.

-Hafizur Rahman, Secretary, Peoples Forum, Burigoalini Range and member CMC

# REDUCED RESOURCE COLLECTION FROM THE SUNDARBANS

The pressure on the Sundarbans was reduced due to fewer visits by SDEPHs for resource collection over time. Among respondents, 14% stopped resource collection in 2014 who used to make regular resource-harvest trips before 2012. Alternative livelihood activities enabled communities to increase their earnings, leading to the discontinuation of resource collection from the SRF. On top of that, the duration of monthly stays in the Sundarbans by the resource harvesters had reduced significantly as well. Prior to 2012, a total of 147 people used to stay in the SRF for more than 15 days in a month. However, only 7 people collected resources for more than 15 days per month in 2014. Longer stay (> 15days/month) in the Sundarbans was reduced by 95% in 3 years time. Current SRF resource-dependent people stay in the Sundarbans for short duration of time, for instance around 5 days in a month.

Longer Stay in the Sundarbans was **reduced by 95%** in 3 years time



**A list of 50 people was handed over to FD informing that they stopped harvesting resources from the Sundarbans. FD checked the list by visiting the listed people and found the claim authentic.**

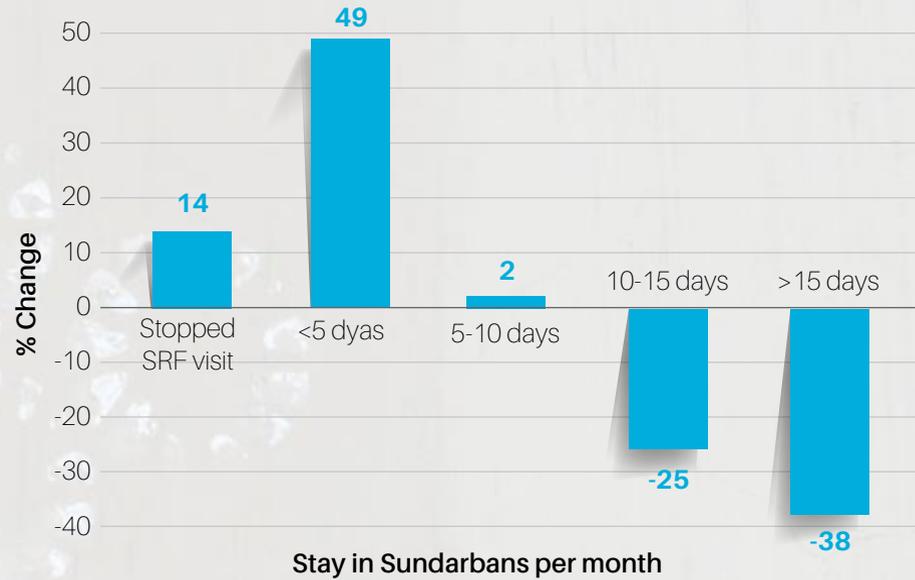
-Mr. Md. Keramat Ali,  
ACF, Forest Department

**14%** people  
**stopped**  
**resource**  
**collection**  
from the Sundarbans



Many people, including Ayub Ali of Uttar Bedkashi of Koyra stopped visiting Sundarbans because of motivation and alternative incoming avenue showed by the SUNDARI project.

-Md. Shamim Hasan, Upazila Nirbahi Officer (UNO), Koyra, Khulna



# SUNDARBANS WILDLIFE PROTECTED

About 14 acres of SRF land was encroached by land grabbers, who developed shrimp field (*Gher*) by deforesting the Sundarbans. The Forest Department had planned to regain this land by digging a canal surrounding it. The SUNDARI project helped with the digging of this canal which is locally known as *Golakhali Khal*. The encroached land was regained because of the canal, which also protects the community from tiger attacks in the locality. This step of forest territory recovery from land grabbers is a signal to other people who are eyeing the SRF resources in different parts of the Sundarbans.



**The canal (*khal*) has protected us from tiger (*bagh*) attacks. Now, we feel more safe because of the canal. There is clear demarcation between the Sundarbans and the village.**

-Kartik Chandra Gayen, Golakhali, Shyamnagar



# SUNDARBANS OIL SPILL CLEANUP

Taking care of the Sundarbans mangrove forest is the key objective of the SUNDARI project. On 9 December 2014, a small oil carrier was hit by another vessel causing spillage of about 357 thousand litres of oil in the Shela Rivers of the Sundarbans. The SUNDARI team, along with local communities, responded to the emergency and engaged themselves in cleanup activities to save the mangrove forest.

The SUNDARI team, along with local communities, **responded to oil pollution emergency** and engaged themselves in cleanup activities to save the mangrove forest.



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সুন্দরবনকে ভালবাসুন

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**Lessons Learnt and  
Linkage Development**



Sundarbans Day Celebration for Awareness



Promoting Natural Resource Management



Regional Workshop for Dissemination



Lessons learned and way forward

# SUNDARBANS DAY CELEBRATION FOR AWARENESS

February 14 has been marked as the annual Sundarbans day to encourage organisations and individuals to show their love for the Sundarbans. It has been instituted in 2001 and celebrated by Sundarbans Academy since the last 15 years jointly with different organizations and civil society groups in the region. The core objective was to create awareness, and influence relevant entities to protect the Sundarbans. This effort has been broad based with the participation of many organizations to celebrate the day each year, and Concern has been supporting the joint initiative of Sundarbans Academy, Forest Department, District Administration, Press Club and Rupantar. Besides, both the partners of SUNDARI project - JJS and Shushilan, also commemorate the Sundarbans Day in their respective working areas through unique activities. The presence of H.E. Mr Pierre Mayaudon, Ambassador and Head of EU Delegation in the last Sundarban Day celebration as the Chief Guest had made it more meaningful with the success of the SEALS project.



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# PROMOTING NATURAL RESOURCE MANAGEMENT

SUNDARI Project was visited by high officials from government and other stakeholders. Mr. Narayan Chandra Chanda, Honourable State Minister for the Ministry of Fisheries and Livestock, Government of the People's Republic of Bangladesh visited the SUNDARI project areas on November 6-7, 2014. Partners also facilitated the visit of Golakhali canal excavation work at Golakhali in the Sundarbans. Mr. Chanda had also attended a meeting with SHGs and CBOs to see the Income Generation Activities (IGAs). He appreciated SUNDARI initiatives and expressed interests for its replication.



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# REGIONAL WORKSHOP FOR DISSEMINATION

To disseminate study findings and facilitate shared learning, Concern had organised a series of regional Workshops on Community Resilience to Climate Change in the Bay of Bengal region. This initiative brought most of the development agencies in the region in a single knowledge-sharing symposium with participation from researchers, academics, development practitioners from local, national, regional and inter contexts, community based organizations, policy makers, UN organizations and civil society organizations. The first workshop was held in Odisha in July 2012, and the second workshop was in Dhaka in October 2013. The workshop concluded its third annual row in Kolkata in March 2015 taking forward the issues on Community Based Adaptation for building resilience.







## LESSONS LEARNED AND WAY FORWARD

1. Collective mobilisation of Self Help Groups and Community Based Organisations have effectively mobilised the women leaders to engage in conservation efforts of Sundarbans.
2. Increased income and savings through the Alternative Climate Adaptive Livelihood practices have effectively reduced the dependency on SRF resources through sustainable harvesting practicesMayaudon
3. Improved livelihood of community with relevant value chain and market linkages through the mobilisation of Producers and Collectors Groups.
4. Better value for SRF products.
5. Women headed households and Tiger Widows empowered with increased access to Social Safety Net Programmes.
6. Effective mobilisation of community based adaptation and disaster mitigation initiatives under the Cash for Conservation initiatives.
7. A functioning Union Disaster Management Committees (UDMCs) and trained Cyclone Preparedness Volunteers have been effective for better planning for disaster risk reduction.
8. Community (including women) participation in forest Co-management processes has also created the opportunities to practice new eco-system models to promote social forestry as a culture.
9. Positive impression of Forest Department on reducing human pressure on the Sundarbans and for the protection of forest land through effective coordination among key stakeholders.

# ABOUT CONCERN WORLDWIDE

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.



**Working with the world's poorest people to transform their lives**

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