



IUCN  
The World Conservation Union



WWF for a living planet

**AGIRE** AGENZIA ITALIANA RISPOSTA EMERGENZE



# REPORT



Rehabilitation of SIDR affected Sundarban Stakeholders

**1. / OPERATIONAL FRAMEWORK**

**1.1 Exact location of the operation**

Shyamnagar Upazilla under Satkhira District of Bangladesh (Map attached)

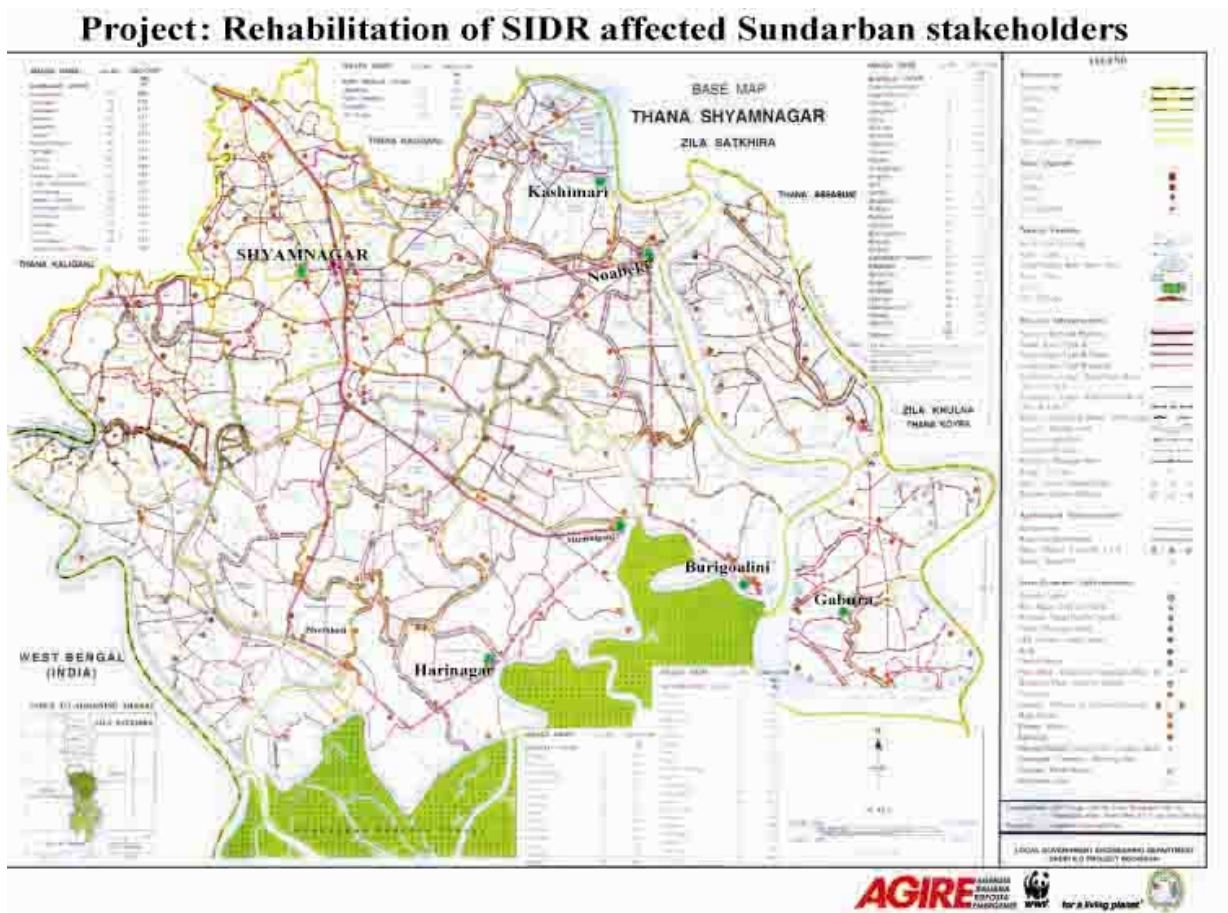
**VILLAGE (24):**

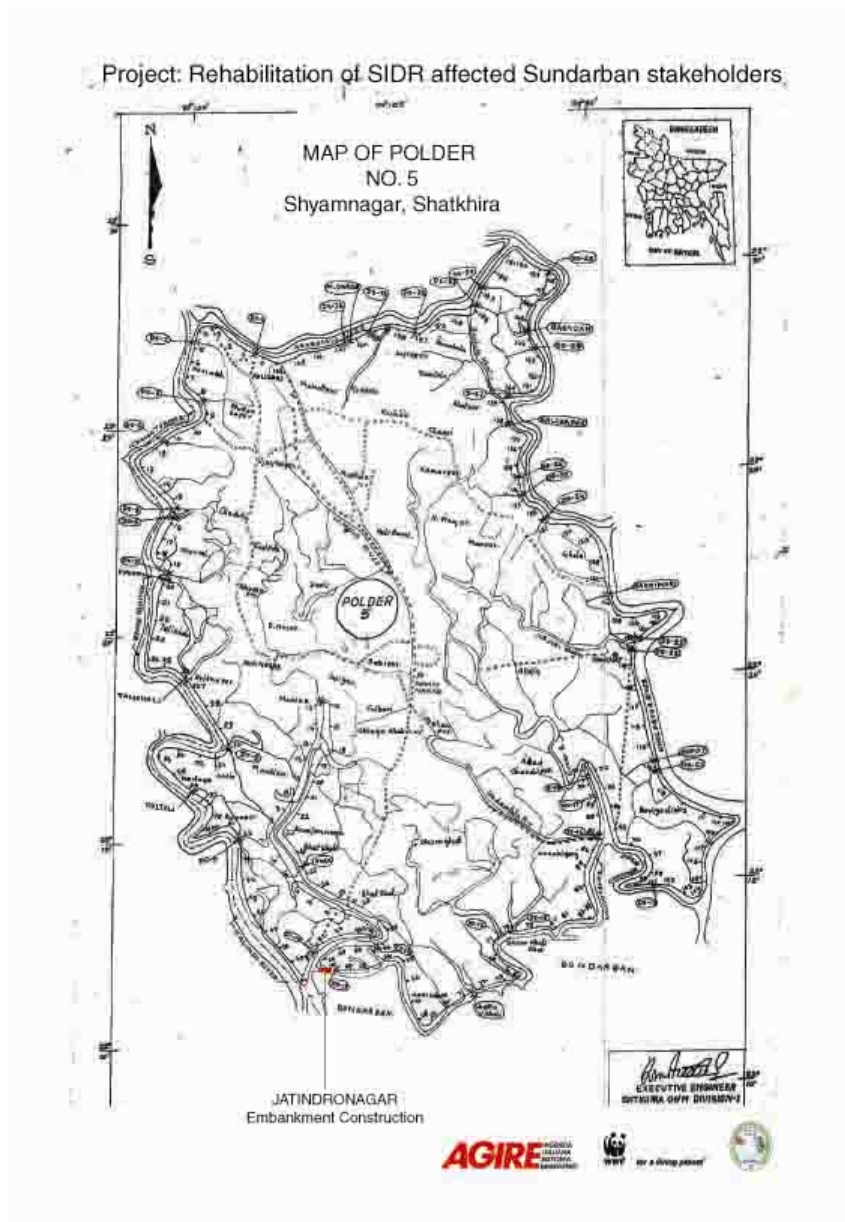
PurbaKashimari, Kashimari, Mominnagar, Durgabati, Atulia, Nowabeki, BoroKupot, ChotoKupot, Bhamia, Dumuria, 9No Shara, Burigoalini, Datinakhali, Kalbari, Munshiganj, Kalinagar, Kultali, Mathurapur, Harinagar, Shinghortali, Chunkuri, Mirgang, Jatintranagar, Chotobhetkhali.

**UNION (6):** Kashimari, Atulia, Burigoalini, Gabura, Munshiganj, Ramjannagar

**UPAZILLA (1):** Shyamnagar

**DIST (1) :** Satkhira





## 1.2 Beneficiaries

### a) Direct beneficiaries No : 183

All 150 Sundarban stakeholders were trained and divided in four groups, for different enterprise businesses as follows:

- i) Bouali (wood and thatch cutter) No. 25 in Bouali Enterprise
- ii) Mouali (honey extractor) No. 25 in Mouali Enterprise
- iii) Crab collectors/harvesters No. 65 in Jaley (crab) Enterprise
- iv) Fish harvester/fishermen No. 25 (A list of beneficiaries is attached in Annex-1)

Furthermore 25 women and 8 men were involved in Sundarban Handicrafts for souvenir making thus becoming direct beneficiaries (A list of beneficiaries is attached in Annex-2)

### b) Indirect beneficiaries No: 12253

i) 2500 NGO beneficiaries reached by networking and meetings. A list of NGO group members is enclosed in Annex-3)

ii) 20\*200 people (average) in each gathering = 4000 people participated to 20 Public campaign awareness by demonstrating Sundarban folk songs (POT) at Upazilla auditorium (World Env. Day, Mangrove Action Day and key community locations.

- iii) 3562 Students from school/college/university participated to trainings and circulate environmental education messages in the form of leaflets, posters, newsletters and Flipcharts, ee package (teachers manual, students booklet and poster). (A list is attached in Annex- 4)
- iv) 400 Participant to the Disaster Management Committee (DMC) coordination meetings (8).
- v) At least 500 Sundarban stakeholders participated to group discussion, Pot song, disseminating Bangladesh Wildlife (Preservation) (Amendment) Act, 1974, circulating various leaflets produced by the project at Burigoalini Range Office, Munshiganj Petrol Post, Kadamtala Station, Mirgangang Petrol Post while entering into the Sundarban Reserved Forest (SRF).
- vi) 500 Visitors (average) of Sunderban received various leaflets especially the “Sundarban Introductory” to the Sundaban. with Sundarban information, regulation and tourist’s behaviour while inside forest (*Bring back your memory without touching a leaf*) and recorded their comments in Register Book
- vii) 11 members of the executive committee and 101 member volunteers (young boys and girls) of Disaster Prevention Preparedness and Management Committee for the Sundarban Stakeholders (DPPMC-SS) Disaster Risk Reduction (DRR) messages to the members for being alert while warning signals from the Bangladesh Metrological Department and Disaster Management Bureau through Radio, Television, District/Upazilla administration
- viii) 600 (440 received trainings) Sundarban Mangrove Protection Society (SMPS) members potential beneficiaries, (as 45% shareholders) for getting benefits from the activity of mangroves plantation CCEC plans to renew the MOU between CCEC and BWDB for continuing one more cycle for another seven years of activities of nursery. So the plants are going to give fruits and twigs for fuel consumption. Women members especially the *Munda* (tribal) will be brought under training for handicraft and pickle making. List of SMPS beneficiaries in Annex 5)
- ix) 64 Children in 6 schools through Art competition (List is attached Annex-6)
- x) 15 *Munda* (tribal) communities and five educational institutes and religious centre were associated and tree seedlings were distributed on the eve of World Environment Day 2008 (5<sup>th</sup> June) as part of community –based tree plantation activity (ANNEX: 7)

### 1.3 Results and indicators

After selecting a list of Sidr affected 150 Sundarban Stakeholders -SS (Bouali-25, Mouali-25, crab collectors- 75 and fishermen- 25) we proceed with the formation of 11 groups. A questionnaire with 32 questions was developed and administered to 300 inhabitants of Shyamnagar Upazilla under Satkhira district. Need Assessment exercise and report emphasising five questions on Sidr damage out of 32 questions of the questionnaire was completed including 11 Focus Group Discussion (FGD) in line with indicators provided in the planning stage. Moreover, 33 stakeholders (women-25 and men-8) were involved as direct beneficiaries in Sundarban Hadicraft enterprise, an additional enterprise set out in cooperation with AGIRE.

List of 13 distribution items as relief items, list of resettlement items (net, boat, gear, BLC) was completed following the proposed planning but 52 shelters were constructed instead of the planned 50 . As per beneficiaries, request, one mosque and one temple were constructed in addition.

Establishment of Sundarban Cooperative Society named Sundarban Bouali Mouali Jalley Multiple Cooperative Society (SBMJMCS) involving 150 beneficiaries, open a bank account for each one of cooperative societies and continuing savings and share deposit in the bank account strengthens the cooperative system. Again under the umbrella of SBMJMCS, the Disaster Prevention Preparedness and Management Committee for the Sundarban Stakeholders (DPPMC-SS) was set up with the 101 member young volunteers (boys and girls) who are playing a vital role coping disaster vulnerabilities and donation of money from the enterprise profit to the DPPMC-SS committee, for example they raised money for SBMJMCS members victims of embankment erosion in Gabura. Once again listing of another 150 stakeholders involving 30 Bouali, 25 Mouali, 65 crab collectors and 30 fishermen) is an instance for capacity building and sustainability of the cooperative society.

Training programme on capacity building & sustainable harvesting for the stakeholder was carried out by inviting reputed resource persons from Khulna University, Cooperative Society, Bangladesh Small and Cottage Industries Corporation and Fisheries Research Institute (FRI). Interaction with the trainees using training modules encouraged them to share experiences and enhance their practical skills and eventually make 150 skilled BENEFICIARIES for enterprise business running and motivate them for sustainable harvesting of Sundarban resources. Similarly 600 (440

was trained and 160 new) Sundarban Mangrove Protection Society (SMPS) members are trained on nursery raising, seedlings plantation and mangrove regeneration through training in cooperation with Mangrove silviculture Division, Khulna.

As a result of the first evaluation mission, we agreed with WWF and AGIRE colleagues to set up and develop a Sundarban Handicraft enterprise, training 25 women of Sundarban Handicraft enterprise by employing a painter in effective and quality product making, income generation through seling handicraft and promotion of Sundarban culture for tourists.

As indicators of the above results, we will provide evidence for the existence of five enterprises such as Bouali Enterprise, Mouali Enterprise, Jalley-crab Enterprise integrating crab fattening, Jalley-fish Enterprise and Sundarban Handicraft Enterprise and shops and its operational mode, evidence of documents such as maintenance of a bank account for transactions of project funding, expenses and profit accounts through resolution, employment opportunity coming from the enterprises. Raising height of 200 meter risk embankment (*Ring Badh*) of Jatindranagar sluice under BWDB polder 5, was in the planning stage and implemented successfully as part of rehabilitation.

#### 1.4 Activities

Major Actions implemented in the program are as follows;

##### A. Stakeholder Identification:

Stakeholder identification process on the damage to Sundarban and to beneficiaries due to catastrophic cyclone Sidr included data collection, data entry, data compilation, group formation, Focus Group Discussion (FGD). Information was collected from various sources such as Government agencies (UNO Office), NGOs (Shusilan, Shetu, Progati, BARCIK), mosque and the Forest Department. A questionnaire with 32 questions about the extent of Sidr damage was administered to 300 Sundarban stakeholders from 24 villages of six Unions under Shyamnagar Upazilla of Satkhira district. Finally 150 stakeholders were identified based on criteria such as the extent of Sidr damages, shelter condition, socioeconomic status and geographical locations versus disaster vulnerability.

##### B. Emergency support:



**\*Food Aid:** Basic food and other emergency support items were provided such as rice, pulse, fried rice, molasses, hurricane lanton, polyethylene as boat roof, quilt including 13 items were distributed to 150 Sundarban stakeholder families, the target beneficiaries on the distribution ceremony, on 23<sup>rd</sup> April 2008 at the Shyamnagar Upazilla auditorium. The distribution ceremony was attended by Shyamnagar local administrators such as Commander, 7<sup>th</sup> Batalian, Bangladesh Rifles, Nildumur, Satkhira; Upazilla Nirbahi Officer (UNO), Shyamnagar, Assistant Conservator of Forests/Ranger, Satkhira Range, Sundarban West Forest Division and perist Luigi of Ishwaripur.

**\*Shelter:** Post emergency traditional shelters in the form of semi permanent shelters were constructed by using bamboo and tin roof top for 50 affected families, plus one mosque and one temple for a total of 52 shelters.

**\* Net, Boat, Gear / Resettlement items:** Fishing accessories such as net, boat, gear, rope, anchor were also for the most affected fishermen on the distribution ceremony.

**\* BLC (Boat License Certificate) / Resettlement item:** All 150 stakeholders were given cash money in order to procure BLC, pass- permit and begin professional activities immediately after cyclone Sidr.



### C. Sundarban Stakeholder Cooperative Society:

Sundarban stakeholder cooperative society Sundarban *Bouali Mouali Jalley* Multiple Cooperative Society (SBMJMCS) has been formed for enhancing and promote the sustainable economic growth of the stakeholder families at Kalbari market in Shyamnagar.

Showcase, chair, table, cot and other items were purchased for the society meeting and gathering purposes. All 150 stakeholder beneficiaries are the members of the society. Beneficiary members are saving money (Taka 10 per week) deposit share (Tk. 50/share) to their own bank account and passbooks for the members were printed. To date they have deposited approx Taka 42545 in their bank account and the money was used for enterprise business along with project funding. The idea to deposit money is to use the money with profit when the stakeholders face natural disasters such as cyclone, tidal surge and loose their net, boat, gear i.e. professional assets or shelters. A seven member executive committee is also formed for decision making.



Under the umbrella of SBJMCS, the Disaster Prevention Preparedness and Management Committee for the Sundarban Stakeholders (DPPMC-SS) have been established along with the 101 young volunteers who play a vital role and help disaster vulnerabilities in the project area. The SBJMCS has donated Tk.10000 (ten thousand) from the enterprise profit to the DPPMC-SS committee for the SBJMCS victims of embankment erosion of Gabura village. Four cell phones has been allocated for the leaders of the *Bouali, Mouali, Jalley* (fish harvester)) and *Jalley* (crab harvester) for communicating/receiving disaster warning signal messages.

The project has selected another 150 stakeholders including 30 Bouali, 25 Mouali, 65 crab collectors and 30 fishermen in order to increase the number of direct beneficiaries (150 to 300) and sustainability of the cooperative society.



### D. Training:

Training programme for Sundarban stakeholders and Mangrove Protection Society members were the key component of the project.

- a) 12 trainings were conducted for Sundarban stakeholders on i) *Capacity Building* and ii) *Sustainable Harvesting* by making them into six groups and two trainings for each group by inviting resource persons from Khulna University, Brackish Water Centre of Fisheries Research Institute (FRI), Bangladesh Small and Cottage Industries Corporation (BSCIC), and Upazilla Cooperative Society. Training modules for Bouali Enterprise, Mouali Enterprise, Jalley-crab Enterprise and Jalley-fish Enterprise were prepared and mutually implemented. Group work of the trainees and presentation made by the participants were the good feed back for sustainable harvesting planning.
- b) Two trainings were conducted for the Mangrove Protection Society members by inviting resources people from Mangrove Silviculture, local government representative (UP Chairman and UP Members) using leaflet and colourful Flipcharts.
- c) Training programme involving handicraft expert from Khulna was very effective for the Sundarban Handicraft women of Gopalpur village and useful for quality improvement of the souvenir products.

## E. Enterprise Development /Rehabilitation:

Five Small and Medium Enterprises (SMEs) have been created by involving key SBMJMCS stakeholders for long term livelihood security of the project beneficiaries and the sustainability of the project with substantial amount of project funding. The SMEs are;

- i) **Bouali (wood/thatch cutter) Enterprise:** *Bouali* enterprise is established at Noabeki bazar (market) for making benefit of the *Bouali* (25) group members. With this enterprise, *Bouali* group members are running business of fuel wood and bamboo because golpata (thatch materials) and goran (tree) harvesting/business is ban in 2008-09 FY, due to cyclone Sidr. A five member committee is formed for *Bouali* enterprise and maintaining a bank account for transactions of project funding, expenses and profit accounts through resolution. The enterprise is gradually generating its cash capital through business and is expecting to do well in the 2009-10 FY since Forest Department is planning to issue BLC for golpata (*Nypa fruticans*).
- ii) **Mouali (honey extractor) Enterprise:** *Mouali* enterprise is set with Burigoalini Visitor's centre close to Burigoalini Forest Range Office for making benefit of the *Mouali* group members. With this enterprise, *Mouali* group members are purchasing honey from group members at fair price and selling to the Sundarban tourists thus making benefits. CCEC honey personnel help processing of the purchased honey and create opportunities for marketing honey for good business. A five member committee is formed for *Mouali* enterprise and maintaining a bank account for transactions of project funding, expenses and profit accounts through resolution. In the following months we will explore the possibility to collaborate with Centro Orientamento Educativo (COE), an Italian NGO and DALIT, Bangladesh NGO to sell pure taste Sundarban honey thus strengthen capacity of the *Mouali* enterprise. April-May is the season for honey extraction from the Sundarban.
- iii) **Jalley (Crab) Enterprise:** *Jalley* (crab) enterprise is set with Sundarban stakeholder cooperative society office at Kalbari market by involving crab collectors. With this enterprise, crab business sectors are purchasing and selling crabs by making crab sub sectors, such as crab collectors and crab fattening with assistance by the project. Crabs are purchased from the crab beneficiary group members and other shops of Kalbari and Harinagar markets. Crabs are sold to the Parulia, Shakhipur and Kaliganj markets using project transport. There is always a risk for price fall in the international market and chances to lose money instead of making profit as it is applicable for all business. Mortality rate of water crab (soft shell) within crab fattening farm influences business and is a factor for making profit. A five member committee is formed for *Jalley* (Crab) enterprise and maintaining a bank account for transactions of project funding, expenses and profit accounts through resolution. Allocated funding for crab culture and crab depot was transferred to Sundarban Handicraft enterprise with prior permission of AGIRE. January and February months are the breeding season for Sundarban crab and harvesting is ban during the season by the Forest Department. There is growing concern from the crab collectors and an appeal from the society to find a way out for alternative livelihood security.
- iv) **Jalley (Fish) Enterprise:** *Jalley* (fish) enterprise is established near Harinagar market by making a partnership with a local fish trader by capital investment with 25% share basis by making an agreement. It was impossible to invest such a huge capital for fish drying house (locally called *Khoti*) and set enterprise by the fishermen group. Fish mostly shrimp are purchased from the fishermen group members and other fishermen by using group savings and project funding at a fair price and appropriate weight. Usually fishermen have to weigh 1200 grams instead of 1000 grams while selling to the money lenders (*Mohajan*). Traditional exploitation of *Mohajan* is always a barrier for the poor fishermen and community based entrepreneurship or enterprise development and ensuring selling fish/shrimp to *khoti* beneficial for the *Jalley* (fish) cooperative enterprise. Shrimp is dried under smoking/ fire house (inside *Khoti*) put in packages and exported to Chittagong market for high price. A five member committee is formed for *Jalley* (fish) enterprise and maintaining a bank account for transactions of project funding, expenses and profit accounts through resolution. Fall in shrimp price in chittagong market caused a loss of business in recent October cycle
- v) **Sundarban Handicraft:** Sundarban Handicraft enterprise is set at Gopalpur village of Syamnagar by involving scheduled caste Hindu people locally called Muchi or Rishi, the disadvantaged community. Sundarban Handicraft items such as school bag, tourist bag, hand fan, mobile cover, wall mat with Sundarban wildlife (tiger, deer, and lizard) logo are being prepared by the women of Gopalpur village in order to raise incomes by selling the souvenir products and promote the Sundarban culture and heritage among tourists. As part of Gopalpur cottage industry development, men are preparing *Kula* (winnowing platter or tray), *Chalan* (sieve) *Chak* (sewing frame) from bamboo and women are sewing different souvenir items particularly wall mat by their own hand. An experienced painter was employed for

Sundarban Handicraft development. A sewing-machine, a showcase, chair, table has been purchased besides the construction of a small house for running sewing activities together. By now 25 women members are engaged in different phases from 20 families out of 81 families in Gopalpur village. Day by day, Gopalpur dwellers are being motivated to become nature conservationists through Sundarban Handicraft activities. Involvement of *Munda* tribal women within Sundarban Handicraft are in the process. Also crocodile, turtle, deer and tiger portraits are made by honey wax for selling to Sundarban tourists in cooperation with PROCHESTA, a small artist shop in Khulna city. Handicraft items are placed to Burigoalini Visitor's Centre and CCEC Khulna Office for sell. A six member executive committee is formed for Sundarban handicraft development including project financial assistance, expenses and income accounts. Sundarban Handicraft was not a component of the proposed project but we agreed with AGIRE and WWF that some funding should be diverted to Sundarban Handicraft activities, particularly after the AGIRE first mission to Gopalpur village on May 11, 2008.



**Embankment Repair/Maintenance:** Embankment construction particularly *Ring Badh* repair of Jatintranagar sluice gate under polder 5 of BWDB was an urgent need and the project supported repair and maintenance works by engaging local people as wage labour.

## F. Mangrove Regeneration and Plantation

Mangrove regeneration, nursery raising and plantation were the major actions where the residual fund was added besides approved project funding. A memorandum of Understanding (MOU) is signed between CCEC and BWDB and 57 acres (approx.) land was leased out for seven years period (2008-14) for mangrove plantation and regeneration activities. Linkage was established with Mangrove Silviculture Division, Khulna under Forest Research Institute (FRI) for technical expertise. Another Memorandum of Understanding (MOU) was signed between Centre for Integrated Studies on the Sundarbans (CISS) and CCEC for technical knowledge on mangroves. The CISS is a centre of Forestry and Wood Technology Discipline under Khulna University. Sundarban Mangrove Protection Society (SMPS) is formed by involving 600 (320 man and 280 women) local communities and divided them into 30 small groups related to plantation plots.

A number of MPS group meetings were conducted on the importance of mangroves, biodiversity conservation, conservation ethics, Sundarban management laws and regulation, intrinsic value of nature and natural resources, role of carbon sequestration thus clear understanding between the relation of existence of mangroves and its role in protecting river bank erosion & reduce the impact of natural disasters is developed by the MPS members. Women members are motivated to collect dead leaf and twigs for fuel consumption from river bank in order to reduce pressure from Sundarban Reserved Forest.



Initially 26 plantation plot and four nursery plots were identified within 57 acres of BWDB land between BWDB embankments and Rivers stretches 9.45 km (Burigoalini to Mirgach location). Plots were fenced using bamboo and nets. About 128000 seeds were collected from Malancha and Kalagachi River using labour force in cooperation with MPS members. And 93611 seeds were germinated in four nursery plots in June-July 2008. However, 79550 mangrove seedlings were transplanted in 26 plots in August-September 2008 but unusual high tide, water inundation and current flow damaged a part of seedlings (49% approx. including general mortality). Again seeds were collected and raised in the nurseries and seedlings were collected immediately from Sundarban seedbed in cooperation with Forest Department thus replenish the dead plants and recovered the mortality. A list of plots and seedlings raised is shown in the Annex: 8. Guarding has been established for the protection of mangrove seedlings by involving local poor, especially women. A seven member executive committee is formed for Sundarban Mangrove Protection Society (SMPS) development and maintaining a bank account in the name of Sundarban Mangrove Protection Society and keeping records of project funding, expenses and prior financial requirement notice for using money through resolution.

Decision is made by the Sundarban Mangrove Protection Society (SMPS) by taking committee resolution for keeping some project money in their SMPS bank account for using the money for mangrove regeneration and plantation purposes in the next six years as the lease agreement with BWDB is for seven years (2008-2014). It is logical that substantial amount of money is required for future guarding, replacing dead seedlings, payment of lease money to the BWDB yearly, nursery raising, replanting and maintenance purposes in the next years (ANNEX-8). It will take few years to get the product from planted trees and primary agreement between BWDB and CCEC is for seven years. Moreover the project plans to prepare pickles from keora (*Sonneratia apetala*) fruits by involving MPS women in near future. Agreements for distribution of share are as follows, BWDB (40%), Local Government /Union Parishad (5%), CCEC (10%), and MPS (45%). CCEC keeps the share for service charge for future continuity. Poverty reduction of the Sundarban coastal communities and climate change adaptation at the high risk zone of Bangladesh Sundarban was one of the major factors undertaking the initiative.

# MANGROVES PLANTATION/REGENERATION/NURSERY SITE MAP

**LEGEND**  
 PLANTATION  
 NURSERY



## G. Disaster preparedness and mitigation:

Initiatives on disaster preparedness and mitigation were undertaken by addressing the following;

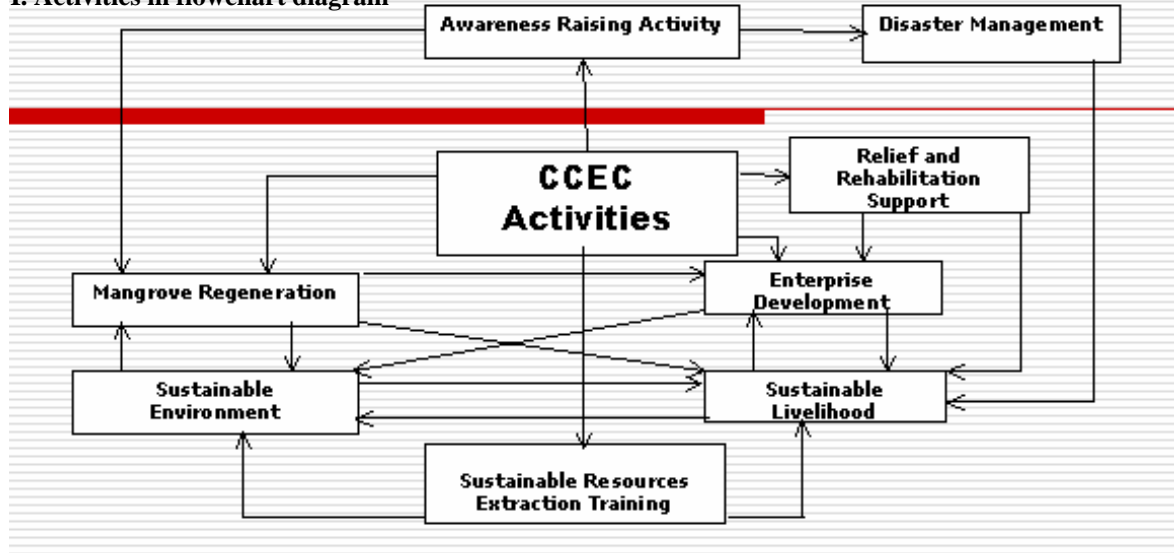
- i) Disaster Management Committee (DMC) coordination meeting (8)
- ii) Development of 11 member executive committee (Annex:9) and 101 member volunteers group of Disaster Prevention Preparedness and Management Committee for the Sundarban Stakeholders (DPPMC-SS)
- iii) Communicating Disaster Risk Reduction (DRR) messages among the school teacher, students and Sundarban communities using leaflet, poster, philip chart, and newsletter
- iv) Networking with GO (7) /NGOs (22) and communicating nature conservation and disaster messages among 2500 beneficiaries
- v) Demonstrate Sundarban folk songs and drama (POT) on Natural Disaster and Sundarban conscious society building at key community locations
- vi) Communicating DPPMC-SS messages to Comprehensive Disaster Management Programme (CDMP), national project for integrating device for warning signals for Sundarban stakeholders

## H. Environmental Conservation Activities:

- i) Transmitting environmental education messages among 85 schools teachers (85) students (3562) and Sundarban communities using leaflets, posters and newsletters.
- ii) Celebration of World Environment Day (5 June), Mangrove Action Day (July 26<sup>th</sup>)
  - i) Organizing Children's Art Competition
  - ii) Distributing trees among the children, tribal community and plantation
  - iii) Counselling between FD and CCEC thus advocating conservation laws and ethics among the Sundarban stakeholders
- iv) Sundarban Introductory leaflet with English and Bangla language is provided to hundreds of Sundarban tourists
- v) Selling Sundarban handicraft souvenirs with conservation image and messages
- vi) Training women for collecting dead leafs and twigs for fuel consumption in order to reduce pressure on Sundarban resources.



## I. Activities in flowchart diagram



### 1.5 Specific objective

Specific objective of the program is to establish long-term rehabilitation of livelihoods of the Sundarban stakeholders by setting up of Small and Medium Entrepreneurs (SME) involving 150 stakeholders in particular, and the existence of the enterprises and its operational performance by making gradual development of their economic activities associating five member committee and opening bank accounts for each enterprise is the evidence of livelihood security i.e. poverty reduction of the stakeholders. Again the project establish Sundarban handicraft enterprise in addition and creates livelihoods opportunity for another 33 Sundarban communities especially the women (25). Development of Disaster Prevention Preparedness and Management Committee for Sundarban stakeholders (DPPMC-SS) and distributing enterprise profit money among the erosion victim Sundarban stakeholders (12) of Gabura village is an immediate action perfectly meets specific objective provided related to disaster prevention.

### 1.6 Results and indicators

Results	Indicators
1.a) List of 150 and 33 stakeholder beneficiaries from Sundarban stakeholder and Sundarban Handicraft 1.b) Formation of 11 groups 1.c) Development of questionnaire 1.d) FGD meetings (11 No.) 1.e) Need Assessment	1.1 Primary and (Administered questionnaire) Secondary data (GO and NGO information/report 1.2 .1. FGD Report 1.2.2. Participants Lists 1.2.3. Photographs 1.3 Need Assessment Report
2.a) List of 13 distribution items 2.b) List of resettlement items (net, boat, gear, BLC) 2.c) 52 shelters constructed	2.1. Relief bag and register 2.2. Register book- Boat, BLC, Net/gear/ Shelter 2.3. Photographs and video documentation
3. Establishment of SBMJMCS involving 150 SS, Open a bank account in the name of cooperative society and continuing savings and share deposit in the bank account	3.i) Existence of society office, assets (furniture), evidence of records (register, resolution, bank statement and pass book)
4.a) 150 Sundarban Stakeholder-SS trained on capacity building & sustainable harvesting 4.b) A total of 600 MPS member trained on nursery and plantation) 4.c) 33 people trained (25 women and 8 men) on Sundarban Handicraft products making	4. i) Training module for SS (4 Nos) 4. ii) Mangrove Philip chart 4.iii) Quality products 4.iv) Participants lists/ banner/photographs/video documentation/ paper clippings,
5.a) Establishment of five enterprises (Bouali, Mouali, Jalley-crab, Jalley-fish and Sundarban Handicraft), crab fattening  5. b) Business profit accounts, bank savings, monetary support to 12 vulnerable Sundarban stakeholders of Gabura due to embankment erosion	5. i) Existence of enterprise shops (5), assets (furniture, equipment), register/resolution books 5.ii) Bank statements, disaster donation record 5.iii) salary register 5.iv) List of new 150 SS 5. v) Souvenir products (school bag, mobile cover,

5.c) employment opportunity 5.d) Capacity building of the society/enterprise by listing another 150 beneficiaries. 5.e) Raise height of 200 meter risk embankment ( <i>Ring Badh</i> ) of Jatindranagar sluice under BWDB polder 5	wall mat, etc.) 5.vi) Register for 63 labour for 5 days for embankment repair 5.vii) photographs, paper clippings,
6.a) Collection of 128000 seeds, raise 93611 seedlings in four nursery and plantation 79550 seedlings in 26 plots 6. b) Signing of MOU between BWDB and CCEC and leased out 57 acres (approx.) of land stretches over 9.45 km. 6. c) Signing of MOU between CISS/KU and CCEC and link Mangrove Silviculture and Forest Department for technical expertise 6.d) Formation of Sundarban Mangrove Protection Society (SMPS) 6. e) Agreement among agencies (BWDB-40%, Union Parishad (5%), CCEC (10%), and SMPS (45%).for benefit sharing 6.f) Protection of 9.45 km area for natural regeneration by SMPS group formation	6.i) Existing of four nursery and 26 plantation plots with seedlings 6.ii) MOU documents 6.iii) MOU documents 6.iv) List of 600 SMPS beneficiaries, bank statement, evidence of records (register, resolution) 6.v) Agreement document 6. vi) Photographs, paper clippings,
7.a) Communicate Disaster Risk Reduction (DRR) message among 11159 (DPPMC-112, DMC- 400, , SS - 500, NGO networking (22 but beneficiaries from 14)/GO/NGO beneficiaries- 2500, teacher-85, students-3562, Sundarban POT- 4000 people)	7.i) List of DPPM-SS committee ANNEX-10, list of DMC and Report, banner, photographs, paper clippings, list of SS, list of GO/NGO, leaflet, poster, newsletter, list of teacher and students, Register for SS, Drama/folk script, pot painting, video film
8. Raise environmental awareness of teacher-85, students-3562; public awareness through World Environment Day, Mangrove Action Day; art competition involving 64 children of six schools, distribution of seedlings among children with priority to <i>Munda</i> community, Follow Sundarban conservation regulation and sustainable harvesting methods by SS, Legal aid support for SS involving BELA , Reduce pollution and eco-tourism promotion, Tourist attraction for Sundarban visits and income generation of the local communities, Reduce pressure from Sundarban	8. Paintings of children, list of children with full address, sample Crest for children's award, Sundarban Introductory leaflet, EE package, leaflets, Register for Visitor's comment, MOU between BELA and CCEC

## 1.7 Monitoring and Evaluation

Training and Monitoring Officer based on the field is the key man responsible for monitoring the project activities. Field Supervisors (3) working under the Training and Monitoring Officer are also play a part of monitoring of the programmes implemented under the project. Again, a monitoring cell is established for monthly reporting and personnel under the cell visits the site and report on the progress or depravity of project activities to project coordinator. Above all, the project coordinator oversees the different components, consult project employees and undertake decision in collaboration with key stakeholders involved in the programmes.

Evaluation responsibility is given to Prof. Dr. Salequzzaman, Head of Environmental Science Discipline of Khulna University, Khulna. Several meetings have been done with him and two of his associates involved in the exercise. They have visited the field sites and interviewed stakeholders, took photographs. An evaluation report is due on 20th November 2008 but expected to be available soon.

## 2. RISKS AND ASSUMPTIONS

### 2.1 Pre-conditions

It was apprehended that Sundarban stakeholders faces natural disasters such as cyclone and tidal surge every year and loses their professional accessories such as net, boat gear and formation of stakeholder society could be as a means of reducing risks. Development of Disaster Prevention Preparedness and Management Committee for the Sundarban Stakeholders (DPPMC-SS) under Sundarban stakeholder society and donation of monetary support to the Gabura vulnerable stakeholders due to polder embankment erosion and crop loss in September 2008 were more in line and met presumptions thus favourable to the implementation of the programme.

## 2.2 Risk assessment

Unusual tidal height, water inundation, heavy rainfall, drought and heavy current flow damaged 38% (approx.) and natural death causes 11% (approx.) mortality of planted seedlings which is a risk factor for Sundarban coast of Bay of Bengal. Since geographical location of Bangladesh is always a risk for natural disasters such as flood and tidal surge there is a need for adopting mitigation measures for example; seedlings replacement by raising nursery and continued maintenance for mangrove regeneration and plantation purposes in the next three to four years for completing seven years cycle.

Price fall in the international and national market dominates local business and markets. Mortality rate of water crab (soft shell) within crab fattening farm influences business and is a factor for making profit or loosing. Banning of Boat License Certificate (BLC) for Sundarban golpata (thatch materials) and goran (tree) harvesting/business in 2008-09 FY, due to cyclone Sidr made *Boualies* insecure ever before and the situation may worsen if the governmental embargo continued. Unsustainable harvesting for Sundarban resources is always a concern for Sundarban resource harvesting. Again natural golpata production in Sundarban decreases tremendously and is a high risk for the *Bouali* community.

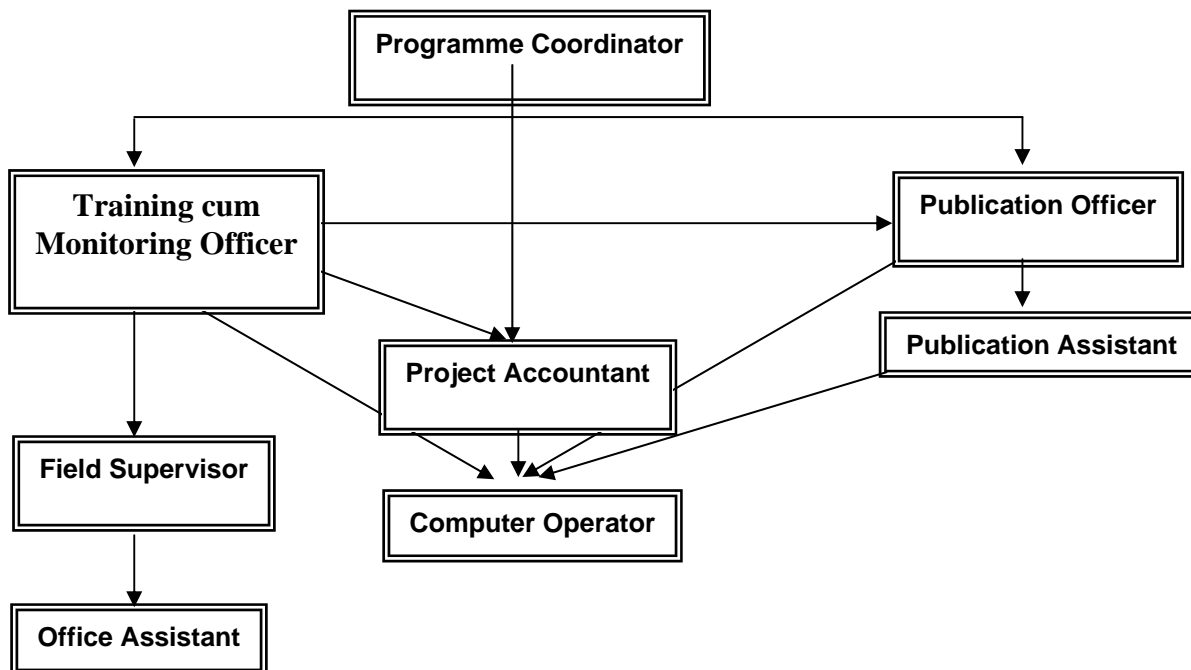
Insufficient flowering of Khalisha trees declines nectar blooming making crisis for sufficient honey production in Sundarban SRF threatening sustainability of honey collectors.

Traditional exploitation of money lenders (*Mohajan*) is always a barrier for the poor crab collectors, fishermen, honey extractors and wood/thatch collector thus community based entrepreneurship or enterprise development and ensuring selling which in turn sufficient money is required to escape money lender exploitation in crab, fish, honey and wood/thatch sectors.

## 3. SECURITY

### 3.1 Situation in the field

Mangrove plantation is quite secured because Bay of Bengal is calm in winter season (November-January) and no chaces for natural disaster in this season. Economic development of stakeholder enterprises are gradually improving but 9th perliament election of Bangladesh on 29 December 2008 may worsen the situation of politics and enterprises as well. Field transport communication is fine.



### **3.SUSTAINABILITY AND MAINSTREAMING**

#### **3.2 Sustainability**

Agreement among shareholders such as BWDB (40%), Local Government /Union Parishad (5%), CCEC (10%), and MPS (45%) for getting benefit after seven years from the mangrove plantation including twigs for fuel consumption after four years and keora curry as food is highly beneficial for the Sundarban Mangrove Mangrove Protection Society (SMPS) established by the project again the organization is planning for taking lease of the lands for another seven years cycle eventually the SMPS gets more benefits. Economical sustainability of the four different enterprises secures livelihood and natural disaster of the Sundarban stakeholders thus ensures long –term sustainability. Enlisting of new 150 stakeholders coincide with project sustainability along with the capacity building of the Sundarban stakeholder cooperative society.

#### **3.2 Linking**

The project connected the programme with the emergency response, disaster preparedness and coping strategies to the Upazilla level Disaster Management Committee (DMC) chaired by the Upazilla Nirbahi Officer (UNO) and Union level DMC chaired by the UP Chairman and the systems already in existence within the local government systems of Bangladesh. Also communicated NGOs such as Caritas, Grameen bank, Shusilan, Uttaran and Humanitarian Timber, a local consortium group for Sidr Shelter Reconstruction process in Bangladesh

#### **3.3 Mainstreaming**

Environment is the central part of the project and environmental conservation messages were communicated to 12421 populations, a) 183 direct beneficiaries and 12238 indirect beneficiaries incorporating i) 2500 NGO beneficiaries, ii) 4000 (20\*200 people (average) in each gathering in public campaign awareness demonstration in Sundarban folk songs (POT), iii) 3562 Students participation from school/college and circulation of environmental education messages in the form of leaflets, posters, newsletters and Flipcharts, ee package (teachers manual, students booklet and poster), v) 500 Sundarban stakeholders participation in Pot song, dissemination of Bangladesh Wildlife (Preservation) (Amendment) Act, 1974, vi)500 Visitors received “Sundarban Introductory” leaflet with Sundarban information, regulation and tourist’s behaviour (*Bring back your memory without touching a leaf*) and recorded their comments in Register Book, viii) 600 members with the formation of Sundarban Mangrove Protection Society (MPS), and ix) 64 Children in 6 schools through Art competition at World Env. Day is the evidence of documents for environmental movements. Again gender was one of the key elements for mainstreaming thus incorporated in the project activities.

### **4. COORDINATION**

#### **4.1 National and local authorities**

BARCIK: Bangladesh Resource Centre for Indigenous Knowledge  
BELA- Bangladesh Environmental Lawyers Association  
BLC- Boat License Certificate  
BFRI- Bangladesh Forest Research Institute  
BISIC- Bangladesh Small and Cottage Industries Corporation  
BWDB – Bangladesh Water Development Board  
CDMP- Comprehensive Disaster Management Programme  
CISS- Center for Integrated Studies on the Sundarbans  
COE- Centro Orientamento Educativo  
DRR- Disaster Risk Reduction  
DMC- Disaster Management Committee  
DPPMC-SS: Disaster Prevention Preparedness and Management Committee for Sundarban Stakeholders  
FD- Forest Department  
FGD-Focused Group Discussion  
FRI- Fisheries Research Institute  
KU –Khulna University  
MOU: Memorandum of Understanding  
SBMJMCS- Sundarban Bouali Mouali Jalley Multiple Cooperative Society  
SME- Small and Medium Enterprise  
SMPS- Sundarban Mangrove Protection Society  
SRF- Sundarban Reserved Forest  
UNO- Upazilla Nirbahi Officer  
UP-Union Parishad

#### **4.2 Field co-ordination fora**

The project coordinated Non Governmental Organisations (NGOs) for example; BARCIK, SUDIPTI and LEADERS who works in the field of humanitarian grounds related to Sundarban stakeholders thus involved NGO beneficiaries shown in Annex: 3. Again Bangladesh Environmental Lawyers Association (BELA) was associated for legal aid support to Sundarban stakeholders by involving BELA panel of advocates.

#### **4.3 Implementing partner(s)**

WWF ITALIA; and CCEC and SUDIPTI (cultural CBO), CHITROSUCHI were the local implementing partners involving BWDB, FD, CISS/KU, Mangrove Silviculture, NGOs (BELA, SHETU, BARCIK, PROGATI) and UNO, shyamnagar, Satkhira.

### **5. CONCLUSIONS**

#### **5.1 Conclusion and comments**

AGIRE assisted and CCEC in cooperation with WWF Italy implemented “Rehabilitation for Sidr affected Sundarban stakeholders” project was a great attainment to support the helpless Sundarban stakeholders Bangladesh based on the catastrophic cyclone Sidr of 15 November 2008. Emergency food aid, shelter construction, embankment repair, resettlement accessories such as boat, net and gear acquirement was great support along with the establishment of four different enterprises by stakeholder category by profession (Bouali, Mouali and Jalley (fish) and Jalley (crab) and running profitable enterprise business. Again long term support is attained in mangrove regeneration and plantation program with the formation of Sundarban Mangrove Protection Society (SMPS) and making benefit agreement among shareholders such as BWDB (40%), Local Government /Union Parishad (5%), CCEC (10%), and MPS (45%) was very beneficial. More over capacity building awareness raising and linkage among concerned agencies was very effective.

Rehabilitation of livelihoods of the Sundarban stakeholders is a giant task and long term process but the program was for eight months which is not sufficient