

**Enhancing Coping and Adaptation Capacity of the Coastal Community to Reduce
Vulnerability to Climate Change**

Implementation period

July 2008 – June 2011

Implementing Organization

Caritas Bangladesh
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Santibagh, Dhaka 1217
Bangladesh

Technical Support by

Bangladesh Centre for Advanced Studies (BCAS)
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Summary of the project

Summary Description:

Project will initiate actions for local level community and stakeholders to enhance adaptive capacity, resilience and livelihood due to impact of climate change by involving directly 250 households (based on SSN Project Design Document) focusing on key areas of environmental education, agriculture, fisheries, alternative livelihoods, water, and disaster risk reduction activities.

Legal Holder of the Project

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Project Beneficiaries:

Direct HHs	Direct beneficiaries	Indirect HHs	Indirect beneficiaries	Total HHs	Total beneficiaries
250	1,250	1,000	5,000	1,250	6,000

Total Budget in Taka:

Donor	July-Dec '08 (Taka)	Jan - Dec '09 (Taka)	Jan -Dec '10 (Taka)	Jan-June '11 (Taka)	Total budget (July '08- June 11) (Taka)
Caritas Australia	1,244,634	1,238,131	653,514	338,720	3,475,000
BCAS	200,000	300,000	300,000	200,000	1,000,000

Project Description

1. Project Title:

Enhancing Coping and Adaptation Capacity of the Community to Reduce Vulnerability to Climate Change.

2. Project period: July 2008- June 2011

3. Project location and target community

3.1 Location:

Three unions (Munshigonj, Ramzan nagar and Koikhali) in Shyamnagar *upazila* (sub-district) under Satkhira district. All unions are located near the Sundarbans (mangrove forest) and is about 130 Km Southwest from divisional town, Khulna.

3.2 Target community:

Approximately 250 poor and marginal families of various occupational groups (small and marginal farmers, fishermen, wage labor, forest resources extractors, rickshaw/van puller, and women headed families) have been selected as direct beneficiaries based on the set criteria of their socio-economic and livelihood conditions.

In addition, the community people as a whole will be considered as indirect beneficiaries, because most of the community people will also be benefited from project intervention. The direct beneficiaries will share their knowledge, technologies, and experience with the neighboring families.

4. Problem statement:

The biophysical and socio-economic condition in the coastal zone of Bangladesh is highly vulnerable to salinity, sea level rise, erosion, cyclone and storm surges. Significant part of the coastal area is already facing problems related to salinity intrusion, cyclone and tidal surges, erosion, water logging, which will be aggravated further under warmer climate particularly due to sea level rise. Coastal agriculture, fisheries, livelihood activities of the poor and marginal groups and domestic water sources and uses of all are the key vulnerable sectors in the coastal area. The field reconnaissance under SouthSouthNorth2 (SSN2: the joint North and South collaborative project), in the area reveals that increasing salinity in the locality has affected water, soils, agriculture, vegetation, mangrove, fisheries and livelihoods activities of the communities and households. The locality also faces serious health risk due to increased salinity resulting in scarcity of fresh drinking water. It has been observed that cyclones with tidal surge, increase width of river and tidal level are also damaging human settlements, homestead, infrastructures, productive land and natural resources, which decrease the livelihood assets and potentials of the poor and marginal community. About 60%-70% people are poor in the locality. Of them, about 40% are extremely poor, who live on daily wage labor, collection of forestry products from the Sundarbans and subsistence fishing while others are engaged in agriculture, shrimp fry collection and fish cultivation, small trading etc. The people in the selected villages lack proper understanding and awareness about the emerging changes in nature, environment and climate. Further, they do not have adequate disaster preparedness at family and community levels.

Sustainable Environment Management Program (SEMP) experience

Since 1998, under SEMP sponsored by the Ministry of Environment and Forests (MoEF) and funded by United Nations Development Programme (UNDP), Caritas has been entrusted to implement the Sustainable Resources Management in the Brackish Water Areas, with the goal of establishing participatory eco-system management through community based natural resource management. Under this project, Caritas has undertaken awareness building and small scale technology development activities involving local communities on environmental management, explored a range of natural resource management opportunities and livelihood options in the coastal brackish water areas. Addressed the problems of coastal communities in relation to agriculture, forestry, fisheries, poultry and livestock, supported supply of safe drinking water and sanitation to the targeted communities. Motivated poor farmers in eco-friendly activities through on-farm demonstration activities, and built institutional capacity through community based organizations of the poorest and most vulnerable.

During the course of implementation of the project SEMP, Caritas Bangladesh observed that the problem of the coastal area is not only for environmental problem but there are linkages with climate related problem. With the increase of temperature the water level of the sea is increasing. Bangladesh is a low-lying country. The average height of the country is not more than 10 m from mean sea level. The height is less in the coastal area. Due to sea level rise, salinity in the coastal area is increasing over time.

Inter governmental Panel on Climate Change (IPCC) prediction

According to fourth assessment of IPCC report, the sea level will rise about 30 cm by 2030 and 50 cm by 2050 in Bangladesh coast. If the sea level raises about 30 cm, it would inundate about 4% that means 6,300 sq. km of area of Bangladesh. By the year, 2100, if the sea level raises about 100 cm, about 17.5% or 25,000 sq.km would be inundated. About 75% of Sundarban would be inundated with an increase of about 45 cm sea level rise and the whole Sundarban would be inundated if sea level raises about 67 cm.

Through the project intervention the adaptive capacity at community and family and local level will be enhanced through improving existing coping mechanism and introduction of need based new activities and technologies for different occupational groups and families particularly for the poor, marginal and women to address negative impact of climate change, risks and vulnerability. Sharing of project learnings and experiences, and advocacy to influence policy and decision making process at local, regional, national and international levels will be undertaken.

6. Goal:

The goal of the project is to build peoples' adaptive capacity to reduce vulnerability due to salinity intrusion, tidal inundation and cyclone as well as to facilitate poverty reduction at local and national level to scale for the long run.

7. The objectives

To achieve the broad goal, the project has set the following specific objectives:

- ❑ to improve understanding and awareness of the selected program participants and stakeholders about the present and future salinity intrusion, tidal inundation and cyclone impacts on their lives and livelihoods and associated risk and vulnerability;
- ❑ to improve coping mechanism and enhance adaptive capacity of the vulnerable program participants including community people using adaptation practices;
- ❑ to share learning, experiences and advocacy to influence policy and decision making process at local, national and international level.

8. Activities:

8.1 Environment School program

Action -1: Renovation of three environment schools;

Action -2: Training for the school teachers;

Action-3: Develop teaching and learning materials for the students and teachers;

Action-4: Provide learning materials for the students;

Implementation strategies:

Sustainable Environment Management Program (SEMP) initiated environment school program for creating awareness about the degradation of the coastal environment for the young learners from extremely backward poor communities *i.e. jete* (fishermen community), *Munda* (Adivasi community) *etc.* Three schools were set up in this regard in three unions. After the end of donor support in December 2006, the school program is being continuing with the assistance of Caritas's own resources in a very low profile.

With the help of the project support, three environment schools will be renovated for smoothly functioning of the schooling program. One school floor will be raised to protect from water logging during heavy rainfall and to protect from submersion during tidal fluctuation and cyclone.

The project will organize two training courses on impact of climate change and sea level rise in the coastal area for the school teachers including project staff. Duration of the training courses will be two days long and the venue will be SEMP resource center at Kochukhali village under Munshiganj union. Field Officer (FO) will be responsible for organizing the training courses. Program Officer (PO) will assist organizing the training courses where Bangladesh Centre for Advanced Studies (BCAS) SSN team will facilitate as resource person. The training courses will be organized in the first quarter of 2009 and 2010 respectively.

The project will take initiatives to collect and distribute climate change related materials. Project will also take initiatives to publish a number of learning and training materials like pictorial booklet, posters to create awareness among the school children regarding environmental degradation and climate change issue. Caritas Fisheries Program (CFP) in association with SSN team, BCAS will select the key issues at the beginning of the project phase and will take necessary steps to publish the awareness materials. The education/learning materials will be published following the purchase and procurement guidelines of Caritas.

The project will provide teaching materials like chalk, duster, black board, register book, chair, and bench as per actual need of the three environment schools.

To create awareness among the program participants, the project will observe World Environment Day in each year in collaboration with BCAS, local community and local like minded NGOs. Government agencies will also be invited during the occasion. FO will be directly responsible to organize World Environment Day. Before implementation of the event a 5 members committee will be formed where representative from BCAS

SSN team and FO will be the focal persons. Approval will be taken from the Regional Office submitting the justified plan and budget. FO will initiate the program and that will begin with a rally where 200 program participants will participate with banner and festoon.

A school-based rainwater harvesting system will be setup at Mothurapur village under Munshiganj union. Latrines will also be set up at each environment schools.

8.2 Safe drinking water and plantation

Action -1: Re-excavation of ponds/canals and land shaping;

Action -2: Promote coastal afforestation.

Implementation strategies:

The project will re-excavate two ponds at two villages under two unions. Selection of pond will be done through community consultation. Agreement will be signed between pond owner, Caritas and the community people. The pond water will be used for household purposes and fish cultivation as non-commercial basis. A management committee consisting of five members will be formed who will look after the ponds. Twenty percent cost of re-excavation will be borne by the pond owner and eighty percent cost by the project.

The project will re-excavate canals as local water reservoir for providing irrigation facilities to the community people for a wide range of activities such as agriculture and vegetable cultivation purposes, plantation at the dyke, duck rearing fish cultivation etc. Twenty percent cost of re-excavation will be borne by the community people and eighty percent cost by the project. Before re-excavation of the canals a No objection Certificate (NOC) will be collected from the *Upazila Nirbahi Officer* (UNO). A five-member management committee will be formed for looking after the canals.

Land shaping is completely a new approach in Bangladesh. Most of the lands in coastal area remain fallow in winter. Land shaping is one of the effective ways for utilizing the vast fallow coastal land under cultivation/utilization. The process is that a piece of land will be leased out from non-program person and selected/collected by involving the program participants/group members those who are the owners of the land. A pond will be excavated at the middle point of the land which will cover one third of the total area for preservation of rain/sweet water. The remaining part of the land will be raised by the excavated soil. The pond water will be used as irrigation for round the year vegetable cultivation and fish cultivation. A five members committee will be formed by involving the concern farmers.

For re-excavation of ponds, canals and land shaping, the project beneficiaries will make application to the Regional Director (RD). Field Officer (FO) will make necessary recommendations on the application. Program Officer (PO) will make verification through field visit and make final recommendation and submit the same to the RD for approval. Regional Office will recommend for depositing the beneficiaries contribution (20%) to the Regional Office. Accordingly, the Regional Office will transfer required amount to the local bank account to implement the project activities. Before starting intervention, the FO will take pre-measurement of the proposed water bodies and give contract for earth cutting. Once total earth cutting work is finished final measurement will be taken for final payment in presence of the beneficiaries and PO. This re-excavation/excavation program will create short-term employment for the community people during the lean period and in long term basis. The program participants will get benefits in terms of production of fish, vegetable, plantation etc.

The project will initiate plantation (mangrove) activities at the river bank with the involvement of program participants to protect river bank erosion and cyclone. Plantation site will be selected through consultation with local community, local government authority, and relevant government agencies. A benefit sharing agreement will be developed with the involvement of concern parties like Caritas, Union Council, and Government Agencies etc.

SSN team from BCAS will provide technical support with prior consultation with Caritas Management.

8.3 Agriculture and aquaculture

Action-1: Diversification of agriculture (promotion of salt tolerant rice varieties and other crops);

Action-2: Homestead based horticulture and vegetable cultivation of targeted households;

Action-3: Promote brackish water fish species

Implementation strategies:

Saline tolerant high yielding rice varieties namely Bangladesh Rice Research Institute (BRRI) *dhan* (rice) 40, 41 and 47, Bangladesh Rice (BR)-23 will be introduced with the help of Department of Agricultural Extension of Government. Necessary seed and technologies for rice cultivation will be provided to selected farmers in selected villages for demonstration. Out of total production cost, project will provide 25-35% cost as kind to demonstration farmers.

The project will take initiatives to promote horticulture and vegetable cultivation in the homestead area. Selected beneficiaries will be provided with vegetable seed and grafted saplings which will be feasible in the project area. The farmers will provide 25-35% local contribution for the total cost.

Locally available brackish water fish species *i.e. mullet sp.*, sea bas, tilapia, *mystus sp.etc.* will be introduced by involving the selected farmers. Necessary input support like fingerlings and technologies for fish cultivation will be provided to selected farmers in selected villages for demonstration. Out of total production cost, project will provide 25-35% cost as kind to demonstration farmers.

Skill development training will be arranged to increase skill of the beneficiaries on different issues. More emphasis will be given to conduct practical hands on training sessions during the period of the crops production. The venue of maximum training will be crops field or the homestead of the farmers.

8.4 Promotion of alternate livelihoods

Action-1: Crab fattening

Action-2: Plant nursery (mangrove)

Action-3: Other income generating activities

Implementation strategies:

To create employment/self-employment and to increase income of the program participants, project will provide loan support to 800 program participants to undertake aqua-agro-livestock farming during the project period. A minimum of Tk. 3,000 and maximum of Tk. 10,000 will be provided to the program participants as loan. Thus, the project has kept provision of Tk. 750,000 in this regard. Program participants will apply for loan through FO. The FO will verify the application and will submit the same to PO for recommendation. PO will scrutinize the

applications and put up them to the Regional Director for final approval. The Regional Director will provide approval letter for providing loan. Detailed loan disbursement, installment collection and rate of interest guideline will be developed before implementation of the project. The guideline will be shared with the staff during the project orientation training. The project has set up a target of undertaking the different income generating activities by the program participants. As per the FGD findings program participants will undertake following different IGAs during the project period:

The project will give special focus on the capacity development for income diversification both men and women. Provide training on crab fattening, fish processing, kitchen gardening, apiculture, plant nursery (mangrove) and integrated fish farming will be provided to the selected beneficiaries. PO and FO will provide extensive monitoring to make them successful. FO will provide regular follow up services to them.

8.5 Awareness raising on CC impacts/risks/vulnerability and institution building

- (a) Orientation and training of staffs and community people
- (b) Climate related Information collection and dissemination at different levels
- (c) Development of communication and training materials
- (d) Social mobilization and motivation on climate change issues
- (e) Organize workshop on issue based activities
- (f) Organize training for the Community Based Organization (CBO) members
- (g) Lessons sharing

Implementation strategy:

An Orientation meeting cum workshop will be conducted before implementation of the project with the involvement of concern personnel (Caritas and BCAS).

Efforts will be made to collect and published climate change related materials/documents. Develop training and communication materials such as posters, leaflets and training modules will be developed.

Different awareness raising and motivational initiatives for expanding awareness on climate change issues among the program participants as well as mass people will be organized. Workshop on salinity tolerant rice/vegetable/fish varieties and agriculture will be organized for the program participants. Small group discussion meeting will be also arranged for the professional group members such as rice farmer, vegetable farmers, crab fattener, shrimp fry collector, bee keeper, shrimp cultivators for their common interest and **analysis of the present situation and future plan of action.**

Advocacy and lobbying workshop will be organized for the selected issues such as water logging in the costal area, salinity in the costal area, river bank erosion etc. with the involvement of local community people as well as program participants including Government officials and local government representatives.

The project will take initiative for making an Institution (CBO) by involving different professional groups working in the project area. The institution will be strengthening through organizing different types of trainings and motivational activities.

Learning from the project will be shared at local, regional and national level through organizing workshop/seminar/conferences.

SSN team from BCAS will play major role in terms of facilitating the training course, organize workshop, material development, analysis of the present situation and future plan of action based on collected data and information. They will also share the project learnings at different levels.

8.6 Exposure visit

Action-1: Visit to India

Implementation strategy:

Caritas India Invited two persons from Caritas Bangladesh to attend the International conference on climate change which will be held from 2-5 September 2008 at New Delhi. Caritas India is organizing the conference. Participants from Caritas Bangladesh will share the impact of climate change and its consequences in Bangladesh, initiatives taken by Caritas Bangladesh due to climate change etc.

9. Short-term Output

SI #	Activity	Output
1	Environment school	- Capacity developed of school children - Reduced disaster risk - Teachers knowledge will be enhanced
2	Safe water for drinking, domestic use and for irrigation	- Number of sweet water ponds and rainwater harvesting facilities increased - Increased irrigation facilities
3	Agriculture	- Saline tolerant and suitable crops and vegetable varieties introduced and practiced - Increased food production - Increased Income - Reduced CC related vulnerability
4	Aquaculture	- Saline tolerant and suitable fish species introduced and practiced - Disease will reduced - Reduced nutritional deficiency
5	Promotion of alternate livelihoods and small entrepreneurship	- Improved livelihood and welfare of the families and communities - Developed market linkages
6	Awareness raising about climate change impacts, risks and vulnerability	- Community and stakeholders would be made aware of the climate change and its associated risk and vulnerabilities - Knowledge on CC would be enhanced - Increased resilient for coping with DRR
7	Institutional capacity building of stakeholders	- Increased social capital and institutional linkages - Developed networking

10. Potential long-term outcomes

- a) Knowledge, behavior and practice changed;
- a) Adaptive capacity of the households and community to reduce risk and vulnerability enhanced;
- b) Community cope better with salinity, cyclone and tidal surge;

- c) Wealth and well being of the targeted households increased;
- d) Replication of good lessons and adaptation activities at different community levels;
- e) Provide policy guidance for community adaptation at regional, national and global level;
- f) Enhancement of regional, continental and global exchange and capacity sharing.

11. Management strategy:

The three years project will be implemented in one Caritas Regional Office *i.e.* Caritas Khulna under the guidance of Development Director, Caritas Central Office. The project will be coordinated by Caritas Fisheries Program through Caritas Khulna Regional Office.

12. Monitoring and supervision

This project will be implemented directly by Regional Director, Caritas Khulna with the involvement of Program Officer (PO) and Field Officer. The PO will be responsible for overall implementation of the project specially the necessary technical support to the FO and beneficiaries. Field Officer will provide feedback to RD through PO for taking corrective measures for further improvement of the project activities implementation.

Director-CFP, Regional Director and Project Coordinator-CLACC (Capacity strengthening of civil societies in LDCs for Adaptation to Climate Change) and BCAS team, will follow up and monitor the overall project implementation achievements and problems encountered during the implementation. The drawbacks of the implementation will be discussed among the concerned personnel for future steps.

13. Reporting

Tri-monthly and annual reports will be developed during the implementation of this project. Register to be maintained at beneficiary level for timely documentation of adaptation activities. PC-CLACC and BCAS team will cross check the information during field visit.

14. Auditing

Internal audit of Caritas as six-month basis and the external audit team as yearly basis will audit the project.

15. Evaluation

An external evaluation will conduct at the end of third year of the project cycle to determine the impact of project activities.