

APFED Showcase Project-2009  
Final Evaluation Report

# New Climate Risk Management Project



Final Evaluation Report of the APFED Showcase Project

# New Climate Risk Management Project (NCRMP)

Implemented in Faridpur, Bangladesh

March 2011



Amra Kaj Kory (AKK), Bangladesh



Institute for Global Environmental Strategies, Japan

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<b>Project #</b>	<i>(Office use)</i>
<b>Project title</b>	New Climate Risk Management Project (NCRMP)
<b>Country</b>	Bangladesh / Faridpur / Faridpur
<b>Selected year</b>	2009
<b>Implementing organisation</b>	Amra Kaj Kory (AKK)
<b>Partner organisations</b>	N/A
<b>NetRes Representative</b>	S.V.R.K. Prabhakar, Policy Researcher, IGES, Hayama, Japan
<b>Project duration</b>	March / 2010 - February / 2011 (12 months)

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# List of Acronyms

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AKK	Amra Kaj Kory
APFED	Asia Pacific Forum for Environment Development
BD	Bangladesh
BDT	Bangladesh Taka
BUET	Bangladesh University of Engineering and Technology
CBO	Community Based Organization
CNA	Community Needs Assessment
CDMP	Comprehensive Disaster Management Programme
DMB	Disaster Management Bureau
DMIC	Disaster Management Information Centre
ERP	Emergency Response Preparedness
EW	Early Warning
FGD	Focused Group Discussion
HH	Household
IGES	Institute for Global Environmental Strategies
M & E	Monitoring & Evaluation
MoU	Memorandum of Understanding
Tk	Bangladesh currency Taka

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# List of Terminology

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Best practice	A superior method or innovative practice that contributes to the improved performance of an organization, usually recognized as best by other peer organizations
Capacity	The ability to perform appropriate tasks effectively, efficiently, and sustainably
Capacity building	Improvements in the ability of institutions and organizations to either singly or in cooperation with other organizations, to perform appropriate tasks
Driving force	Forces that tend to change a situation in desirable way
Environment	The sum of factors found outside the immediate confines of the institution/organization that have a significant bearing on it. It includes policy considerations, cultural values, and donor assistance, among other factors
Goal	The desired end toward which activities are directed
Guideline	Descriptive tools that are standardized specifications developed by a formal process that incorporates the best scientific evidence with expert opinion
Information	Data which has been processed and analyzed in a formal, intelligent way so that the results are directly useful to those involved in the management of a system or process.
Input	The combination of directives, prerequisites, and resources needed to execute a process.
Institute	An entity (or group or related entities) having a legal framework, an organizational structure, operating systems, staff, and resources and constituted to fulfill a set of related functions valued by a client or constituent group. To fulfill these functions, an institution incorporates, fosters, and protects normative relationships, rules, and action patterns. To the extent that an organization succeeds in demonstrating the value of its functions and has them accepted by others as important and significant, the organization acquires the status of an institution. The key factor is a recognized, continuing, and valued role at some level of the society.
Objective	A statement that will assist in the determination if there is movement away or toward the goal. This is a desired, usually quantified, end result that a company, team, or individual wants to achieve within a specified period of time.
Outcome	Product or end-result of one or more processes and short- and longer-term results of service provision; the degree to which outputs meet the needs, expectations, and/or requirements of the customer/other stakeholder; the valued results.
Resource	Funds, human resource, time, equipment, technology etc., used to produce outputs and outcomes
Stakeholder	A stakeholder is defined as persons, groups, organizations, systems, etc., that have a 'stake' in a change effort (e.g. a development project) and that are either likely to be affected by the change, whose support is needed or who may oppose the change
UP	Union Parishad. Union Council is the first step (lowest tier) of Local Government System in Bangladesh. There are 4,466 union councils in Bangladesh. The council comprises with 1 Chairman, 9 Members and 3 Women Members who are elected by the voters of the union. Union divided into 9 wards. 9 members are the representatives of the 9 wards.
DC	District Commissioner. There are 64 districts in Bangladesh
Upazila	An administrative unit of District. Upazilas are the tertiary level of

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administrative government in Bangladesh. In 1983, the Local Government Ordinance of 1982 was amended to re-designate and upgrade the existing thanas as upazilas.

# Acknowledgements

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# I. Introduction

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The Char lands of Faridpur district constitute some of the severe flood prone areas in Bangladesh. The people of this area are affected by different disasters like as floods, droughts, river erosion, cyclone etc. Flood is recurring phenomenon in this region of Bangladesh. Both severe and moderate floods affect inhabitants in this area. In this district, the frequency of sever cyclones is not a concern when compared to the floods and droughts. This district is surrounded by the river Padma and the inhabitants live 10-12 km away from the 'main land'. The mobility of these communities is very much restricted to foot, horse carts and boats during floods. There are no hospitals, clinics, and secondary schools. There are very few primary schools and government services are almost non-existent in these areas. The communities in most of this district have to come to the main land by crossing the river and walking 10-12 miles on foot for receiving government services such as medical care and education. The char inhabitants are under privileged, hardcore poor, marginal farmers, socially neglected and oppressed. The char inhabitants are deprived of their basic rights too. These factors contribute to their high risk to natural disasters.

In addition to the above conditions, the global climate change has brought a new dimension to the development of these vulnerable communities and the district. The climate change is known to exacerbate some of the natural disasters by either increasing their frequency or by increasing the intensity of natural disasters. Under these circumstances, it is important to understand and resolve their risks to climate variability and change. With this context in view, the New Climate Change Risk Management Project was implemented in some of the most vulnerable areas of Faridpur District in Bangladesh to increase community resilience to climate change related impacts.

Faridpur has an average maximum temperature of 35.8°C, an average minimum temperature of 12.6°C, and an annual rainfall of 1546 mm. Observations made in the available literature revealed that significant deviation of monthly rainfall from one decade to the other has occurred. From the decadal trends in the rainfall variability in Bangladesh, it has been observed that there are some changes in the length of the monsoon which are significant with increased precipitation during monsoon season generates additional runoff (Chowdhury, 2009). The southwest monsoon arrives later or withdraws earlier, so soil moisture deficit can occur in some areas (especially in Ganges basin); prolonged monsoons can also contribute to more frequent flooding and increasing the depth of inundation of flood prone areas in Bangladesh including Faridpur (as observed during the 2007 flooding, as an example).

It can be stated as an example that in the Ganges basin the June rainfall during 1970 onwards

displayed positive anomaly (i.e., higher rainfall than the average), which now shows negative anomaly (i.e., lower than the average) in the recent decade 2000-09. It has also been observed that, as compared to 1970-60, there is a considerable increase (10-15%) of September rainfall in the recent decade. All other monthly deviations are noticeable.

**Table 1. Climate change impact on monsoon flooding in Faridpur**

Upazilla Condition	Area (Km <sup>2</sup> )	Inundated area (>= 0.3m) (km <sup>2</sup> )					
		Average Flood	Climate change condition	% increase due to CC	Medium Flood 2004	Climate change condition	% increase due to CC
Faridpur	2072.72	643.3	723.5	12.47	955.5	1084.6	13.51

Source: Extracted from Table 6.1, Government of Bangladesh, 2008

Agricultural crops of Faridpur are influenced by seasonal characteristics and different variables of climate such as temperature, rainfall, humidity, day-length etc. It is also often constrained by different disasters such as floods, droughts, and cyclones. The higher temperatures and changing rainfall patterns coupled with increased flooding, droughts in the central, and flooding in rainy season and drought in summer are likely to reduce crop yields and crop production. IPCC estimates that, by 2050, rice production in Bangladesh could decline by 8 percent and wheat by 32 percent (IPCC, 2007). Climate change has both negative and positive impacts on fisheries. The positive impact is the possible increase in the open water fisheries during flood. It appears that the impacts would not be remarkable in national context rather it would affect investment at individual level. It is revealed that flood and cyclone affect culture fisheries severely while the effect of other shocks such as drought, erratic rainfall, heat wave, cold wave, fogginess is low to moderate. Flood causes fish loss damaging pond dykes, hatcheries, nurseries and embankments. Fish production may also be hampered by affecting breeding ground of fish due to siltation of fish habitat. These affect the livelihoods of fishermen and fish farmers. It is revealed that extreme temperature and climate change related natural disasters would affect livestock significantly. High temperature would affect livestock in a number of ways: it causes great discomfort as in the case of human, decreases feed intake and alters nutrient metabolism leading to high loss of energy.

Therefore, some atmospheric and climatic changes in the hydro-meteorological system in the Ganges-Brahmaputra basin system in Bangladesh are very distinct. These findings show that the variations of total seasonal rainfall, the timing of onset, peak, and recession, are changing considerably at a dramatic pace. These changes could have important implications for Faridpur district which is located on the course of the river Padma. Hence, there is a need for the Faridpur district to be prepared for the future climate change impacts in a planned manner.

## II. Overview of the Project

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The 'New Climate Risk Management Project' is a pilot project on climate change selected by the APFED (Asia Pacific Forum for Environment and Development) in 2009 for joint implementation with IGES, Japan as a research institute of APFED networks and Amra Kaj Kory (AKK) as a local implementing partner in Faridpur district of Bangladesh.

The project was implemented for one year from 01 March 2010 to 28 February 2011. It has planned and implemented various community need based activities which are new approaches for the communities to reduce their climate risk and vulnerability. The project resulted demonstration of adaptation measures, increased knowledge, good practices and livelihood development which can efficiently mitigate the risk of climate variability and change.

This project aims to reduce the impacts floods (result of both climate variability and change) on communities living along the banks of river Padma in Faridpur district of Bangladesh. In this district, communities are forced to live along the river course due to land shortage often caused by annual destructive floods and high density of population in Bangladesh that has occupied every inch of land available.

The livelihoods of fishermen and boatmen rely solely on the resources of the river due to land shortage. Although these floods are an annual event, their severity and intensity seems to be increasing (Observations made by AKK). This has been resulting into more damage to property, farm land and loss of assets such as farm machinery and livestock as well as human life. As the floods cannot be predicted, villagers have to be alert to the risks both day and night. Warnings are typically relayed by word of mouth and by the time the information reaches the last/furthest household in a settlement, it is often already too late.

In this context, AKK, Faridpur proposed APFED Showcase Programme for fund request to implement the project titled "New Climate Risk Management Project (NCRMP). The APFED has approved this project after evaluation and to be implemented under the technical guidance of IGES as NetRes institute.

### 1. Objectives

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The Goal of the project is to reduce vulnerability of Char land communities of Faridpur district of Bangladesh to impacts of climate change, including variability.

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- The ultimate objective of NCRMP is to enhance the resilience of rural livelihoods and coping mechanism to climate change, and to better inform climate sensitive planning and decision making.
- The Objective of the project is to improve the management capacity of Char- land populations, settlements, and ecosystems in areas/Communities exposed to Char-land hazards.
- 300 vulnerable households demonstrate improved capacity to innovate in their livelihood strategies, reducing vulnerability to climate change

### **Specific Objectives:**

- Standardization and dissemination of existing system of hydroponics farming to 300 households.
- Minimum 25% income increase and new employment generation among 300 vulnerable households by July 2010.
- Awareness building among current 100 households of NCRMP about the adverse effects of climate change.
- Capacity building and skill development among the stakeholders in relation to cope with climate change
- Increase 20% production of soil-less agriculture through standardization and adoption.

## **2. Key activities**

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- Conduct PVCA and FGD to identify risks and resources.
- Awareness sessions on flood preparedness and hygiene promotion.
- Training on search and rescue, receiving flood early warning and dissemination to communities.
- Training on livelihood promotion during, pre- and post disaster.
- Training on early warning and flood tolerable agriculture.
- Advocacy workshop at government level on new climate risk management.
- Two temporary emergency shelters and community emergency materials store house.
- Training on international drivers and national drivers of climate change at upazila level.
- Day observation on climate disaster.

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- Flood risk mitigation works such as homestead raising.
- Aman paddy seeds distribution for flood tolerant crops production.
- Demonstration of floating garden for vegetable cultivation during floods.

### **3. Project location**

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#### **Geography:**

The project was implemented in the Faridpur district of Bangladesh. The location of the project areas is shown in Figure 1 (areas shaded in red colour). Faridpur is a district in central Bangladesh. It is a part of the Dhaka Division. Faridpur District is situated on the banks of the river Padma (Lower Ganges) (Wikipedia, 2011). The district is bordered by Madaripur, Narail, Rajbari, Magura, Shariatpur, Gopalganj, Dhaka and Manikganj. Once a subdivision, the original area of the district comprised what is today the Greater Faridpur region which includes the present day districts of Rajbari, Gopalganj, Madaripur, Shariatpur and Faridpur.

The area of the district is 2072.72 km<sup>2</sup> (Wikipedia, 2011). The district is bounded by the river Padma to the north and east and across the river are Manikganj, Dhaka and Munshiganj districts. It is bordered by Madaripur to the east, Gopalganj to the south and Rajbari, Narail and Magura to the west. The soil is highly fertile as the district lies on the banks of the mighty river Padma, also called the Lower Ganges. Other smaller rivers which flow through the district include Old Kumar, Arial Khan, Gorai, Chandana, Bhubanswar and Modhumoti. The main depressions are Dhol Samudra, Beel Ramkeli, Shakuner Beel and Ghoradar Beel. (Wikipedia, 2011)

#### **Demographics:**

Faridpur has a population of 1,714,496 people, according to the 2001 census (Wikipedia, 2011). 50.55% of the people are male and 49.23% are female. The major religions are Islam and Hinduism. 88% of people are Muslims in the district. Although once a Hindu dominated district, Hinduism has significantly declined in Faridpur with only 11% of the population being Hindu according to the latest senses. The major ethnic group are the Bengali people, as is the case in most of Bangladesh. There is also a small Bihari and Oriya population.

#### **Administration:**

Faridpur district consists of 9 upazilas, 4 municipalities, 79 union parishads, 36 wards, 92 mahallas and 1859 villages. The town consists of 9 wards and 35 mahallas. The area of the town is 20.23 km<sup>2</sup> (Wikipedia, 2011). The population of the town is 99634; male 51.73%, female 48.27%. The density of



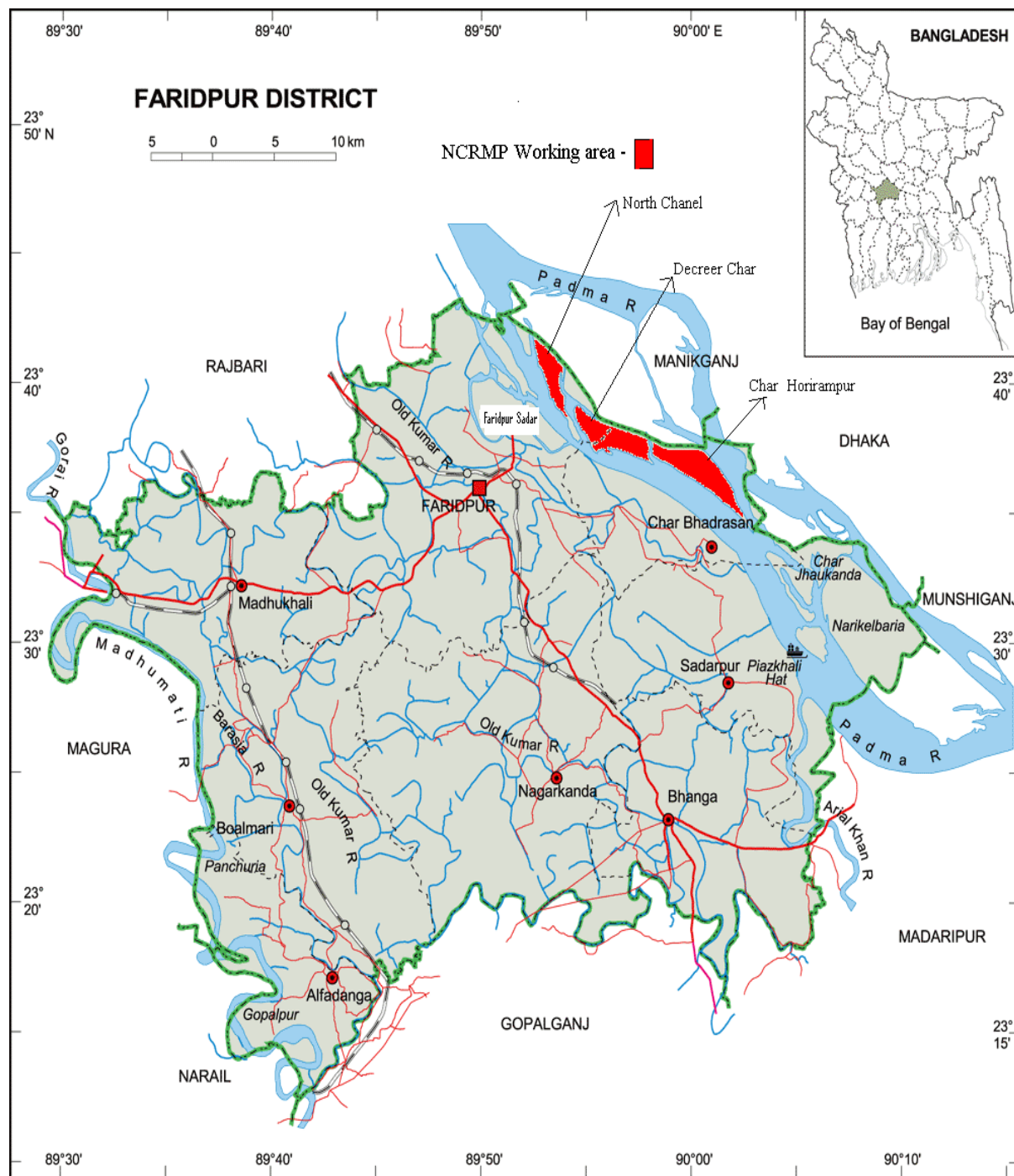
population is 4925 per km<sup>2</sup>. The literacy rate among the town people is 66.6%. The town has two dak-bungalows.

### **Economy:**

The Faridpur district mainly has agro-based economy. The main crops are jute and paddy. Other crops include peanut, wheat, oilseed, pulse, turmeric, onion, garlic and coriander. Many fruits are also produced, notably mangoes, jackfruits, black berry, oil palm, coconut, betel nut, *kul*, *tetul*, *bel*, papaya, banana, and guava. The main exports are jute, Hilsa fish and sugarcane. Faridpur is famous for producing high quality raw jute. Once, the principal earner of the country's economy, the jute industry has suffered a decline in recent years due to low prices on the international market, leading to many jute plants shutting down (Wikipedia, 2011). However, Faridpur still has quite a few which are also some of the most prominent. They include notably Faridpur jute fibres and sharif jute mills. The district, being on the banks of the Padma, also accounts for a significant portion of exports of Hilsa fish. The Hilsa found in Padma are immensely popular at home and abroad and are called the Silver Hilsa. The district has thriving fisheries and a growing poultry industry. Manufacturing is moderate in the district although there are several industries. Kanaipur Industrial Area was set up in Faridpur town during late 1980s. There are many sugar mills and jute plants as well.

In 2009, the Bangladesh government announced plans to construct the long demanded Padma Multipurpose Bridge. When completed in 2012, it will be the longest bridge in South Asia. The Padma bridge will greatly help in developing the Greater Faridpur region as it would connect Dhaka with the districts.

- Main occupations: Agriculture 42.76%, fishing 1.47%, agricultural labourer 21.67%, wage labourer 2.74%, commerce 10.63%, transport 2.06%, service 7.16%, others 11.51%.
- Land use: Cultivable land 150123 hectares, fallow land 393 hectares, forestry 1595 hectares; single crop 20.63%, double crop 62.62% and treble crop 16.75%; land under irrigation 27.54%.
- Land control: Among the peasants 23.54% are landless, 26.53% are small, 42.35% are intermediate and 7.58% rich.
- Value of land: The market value of the land of the first grade is Tk 5000 per 0.01 hectare.
- Main crops: Paddy, jute, peanut, wheat, oilseed, pulse, turmeric, onion, garlic and coriander.
- Extinct or nearly extinct crops: Indigo, *kusumphul*, *kaun*, *kalijira*, *china*, *arahar*, barley, corn, tobacco, linseed, sesame, *bhura*, *mesta*, *sanpat*.
- Main fruits: Mango, jackfruit, black berry, palm, coconut, betel nut, *kul*, *tetul*, *ata*, *bel*, papaya, banana, guava, *jamrul*.



**Figure 1. Project sites (shown as red shaded areas) of the ‘New Climate Change Project’ in Faridpur District, Bangladesh.**

- Fisheries, dairies, poultries: Dairy 124, poultry 376, hatchery 20, nursery 19.
- Communication facilities Roads: *pucca* 540 km, *semi pucca* 827 km, mud road 2919 km; waterways 468 nautical mile; railways 26 km.

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- Traditional transport: Palanquin, horse carriage, bullock cart, *goina nauka*, *bhela*, *dhuli*, *kahar*. These means of transport are either extinct or nearly extinct.
- Cottage industries: *Nakshikantha*, pottery, *khejur pati*, umbrellas, bamboo work, goldsmith, blacksmith, wood work, sewing, welding, bakery, hand loom, fishing net making, sweet meat, date molasses.



Figure 2. Snapshots of various activities carried out under the NCRMP project.

## III. Project Evaluation

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### 1. Methodology for evaluation

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#### Objectives

The overall objective of the evaluation was to assess the project performance from the point of view of effectiveness and sustainability of project processes, interventions and outcome.

Specific objectives were to assess the relevance to the needs and priorities of the project implemented in terms of its link to the needs and priorities of the target communities, other partners and stakeholders, planning, generation and delivery of services in terms of targeting, coverage, quantity and quality of activity planning and implementation; effects generated towards family and community level emergency response preparedness, institutionalizing CC at district and upazilla level, capacities of local CBO's engaged with the project, and empowerment of communities engaged to manage climate risk reduction activities grounded on rights bases approach – including self-sustainability achievement trend; efficiency in terms of operational approach and strategies applied and cost efficiency, impact, towards changes of losses caused by climate disaster, and sustainability in terms of driving and resisting forces generating from local community, existing institutional arrangement, external factors and their effects to generate positive and negative contribution towards achieving sustainability. This would help in reviewing and assessing the replication potential of project implementation strategies and processes in future Climate Change projects, and in drawing good practices, lessons and strategic recommendations for further improvement for similar future projects.

#### Scope

Scope of the evaluation was limited to conducting the surveys in the project areas. The relationship between effects such as raising houses and livestock sheds and, less visibility of human excreta is clearly linked and attributable to the impacts identified. One of the limitations of the impact assessment and its attribution to the project is that the evaluation study did not include any non-project intervention areas. However, 3 sample char villages included in the evaluation study have no presence and interventions of other actors working in the field of climate related disasters and thus the necessity of including non-project intervention char areas was less significant. Quantitative figures cited in identification of impact is not pure statistical measurement but judgemental justified by triangulation between different villages, categories of stakeholders and male and female respondents.



## Primary and Secondary Data

The primary data was generated through participatory rural appraisal methods such as key Informant Interviews, semi structured interviews, informal discussions and dialogue with community members, focused group discussions (FGD), end PVCA sessions with male CCMC members and beneficiaries of this project, separate PVCA sessions with female CCMC members and beneficiaries of this project, direct observation of work samples and outcome, observation of actual events, visiting and direct observation of villages and mitigation infrastructure developed at families, and questionnaire survey format provided by IGES. For gathering the secondary data, an extensive review of literature was done. Documents reviewed are listed in Annexure 1.

## The Survey

Both selective and random sampling methods were done. At the level of community, 3 villages were randomly selected out of 12 char-village communities covered by the project. The selected villages were Tara Majhir Dangi in North Channel union, Bapari Dangi of Decreechar Union of Faridpur Sadar upazilla & Ekram Mat. Dangi in Char Horrirampur union of Char Vadrason upazilla under Faridpur district. Considering the availability, communication feasibility and time limit, selective sampling was done to include AKK senior management staff, staff of field in project village, UP Chairman and members. The survey was carried out during 14<sup>th</sup> February to 30<sup>th</sup> March.



**Figure 3. The evaluation survey enumerator interviewing the project beneficiaries and non-beneficiaries in a group setup (picture on the left) and individually (picture on the right).**

Evaluation Questionnaires were developed (See Annexure II and Annexure III) with the help of NetRes institute and the AKK project staff. These questionnaires were translated into local language and implemented with the help of the project staff. The results were entered into an excel sheet for further analysis. The evaluation was carried out toward end of the project i.e. 14 February to 28 February. Some results of these questionnaire surveys were used in the main body of the text while others were presented in the Annexure (Annexure IV-XII).

## IV. Overarching Processes Implemented in the Project

### 1. Focus group discussions

The FGDs in 12 communities were conducted from 06/03/10 to 30/03/10 as per the action plan of NCRMP through community participation. 30-35 male and female community members have participated in each FGD. Community members were invited by AKK Field Facilitator and a cordial relationship was built between them which finally resulted in conducting a FGD in the community. 12 community FGDs were completed through collecting community geographical conditions, previous and present climate conditions, and other relevant information for the past 10 years.



**Figure 4. Focused group discussion with community members.**

The main objective of FGDs were to find out history of disasters in the respective communities, to identify the community resources, capacity, to ensure community participation, to find out community



vulnerability to climate change, past trends of disasters and related damages, to identify most important initiatives implemented thus far by both external and internal support, to identify preparedness measures against climatic disasters, and to identify strategies to overcome the projected disasters due to climate change.

**Outputs:**

- All disaster history was constructed for years 1970-2010 through conducting FGDs,
- Community resources were shown on the community resource maps,
- The FGDs have ensured 54% female participation and 46% male participation, and
- The FGDs have helped in identifying different strategies for overcoming the identified disasters and their impacts.

## 2. Conducting PVCA



**Figure 5. Community members participating in the participatory vulnerability and capacity assessment (PVCA).**

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Participatory Vulnerability and Capacity Assessment (PVCA) is the main tools for information collection and data analysis from the community. Through this tool, the community people can identify their problems and assets and can analysis their vulnerabilities and capacities. With this end in view, PVCAs were conducted in 12 communities under NCRMP for collecting baseline information of the project. The basic aim of the PVCA was to take steps for reducing risks by collecting and analyzing the information received through monitoring the vulnerabilities and capacities of char community. Seven tools were used during PVCA conduction. These are: transect works, seasonal calendars, focused group discussions (FGD), constructing risk and resource maps, constructing Venn diagrams, hazard ranking, and community visioning.

### **Outcomes:**

- Identified most vulnerable people in a participatory way,
- Identified community vulnerabilities and capacities,
- Ensured all level of community participation so that they can identify their present and future vulnerability and analyse them,
- Prepared risk reduction plan / initiative as a real fact of community,
- The NCRMP members and community people have made action plan with the findings and they are now communicating to the government, and
- Identified various risk reduction initiatives according to risk reduction plan/Right based response was undertaken as per the community disaster context.

## **3. Beneficiary selection and group formation**

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A survey was conducted by AKK team from 02 March 2010 to 08 March 2010 for project final beneficiary selection in 12 villages. 300 HHs were selected from among 836 HHs in 12 villages, 612 HHs was A category, 147 Family were B Category and 77 HHs were C Category.

- “A” category: Landless + poor + most affected by disasters, no cattle/assets/ house in low land + no regular source of income/woman headed/child managed/old/pregnant/lactating/physically handicapped.
- “B” category: Have some land + relatively less poor + affected by disasters, have some cattle/assets/ house in low land + have some source of income/woman headed/child managed/



old/pregnant/ lactating / physically handicapped.

- “C” grade: Have some land + well conditioned family + affected by disasters/not affected, have some cattle/assets/ raised land house + have some source of income /man headed/woman headed/ child managed/old/pregnant/lactating / physically handicapped /business man/service man.

12 groups were identified consisting of a minimum of 25 members from A and B category beneficiaries. They were trained to save money taking the benefit of the “New climate Risk Management Project”. After the training, the beneficiaries have undertaken different income generating activities and increased their income by many folds (please refer to Annexure VII).

## 4. CCMC formation

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Under the project, 12 CCMCs were formed in 12 target communities. CCMC is basically the main/a central platform of the project intervention. Each CCMC has 9-12 members consisting of 4 executive committee members where 50% of them are woman and in one key post, either president or treasurer, is occupied by woman. The main aim of forming the CCMC is to identify problems of the community, to prepare action plan by considering community vulnerabilities and to take suitable steps for solving them during and beyond the completion of the NCRM project. Representation has been ensured from vulnerable people regardless of cast, class, gender and religious identity. CCMC was the focal point to carry out PVCA in their area and to update PVCA records on a regular basis. They will also play a key role in the project implementation and to monitor the small scale disaster mitigation activities such as homestead raising etc. The CCMC members will have the exposure to government line departments to mobilize different services and to act as a common interest group to get attention of the policy makers and other local service providers.

### **Criteria followed for CCMC formation:**

- CCMC consist of 9-12 community members.
- CCMC consist of 1 advisor, 1 secretary, 1 cashier and several general numbers.
- At least 5- 6 female members in a committee.
- Professional group involvement was ensured including religious leaders, teachers, and health and nutrition workers.
- Highest community participation was ensured during CCMC committee formation through participatory processes such as meetings and public awareness campaigns.
- Responsible, interested and socially accepted persons were selected.

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- Priority has given to change the leader in regular intervals. The process has avoided politically motivated persons from being elected.
- Change leaders are given priority over rich members of the community.



**Figure 6. Community members participating in CCMC formation.**

**CCMC member's roles and responsibility were as follows:**

1. Mobilize community peoples and awareness building; 2. Identify and solve agriculture problems; 3. Income generating activities promoted; 4. Promote health and nutrition activities; 5. Implement women empowerment activities; 6. Implement humanitarian assistance activities; 7. Promote family planning activities; 8. Promote communication with different service holder (Government, non-government); 9. Promote right based activities; 10. Observation rally for climate disaster day; 11. Implement climate disaster risk reduction activities; 12. Implement environmental risk reduction activities; 13. Promote gender neutral development and good governance; and 14. Implement infrastructure and maintenance activities.

**Roles and responsibility of Committee chairman:**

1. Finalize the agenda of the meeting in consultation with committee members; 2. Preside over the meeting; 3. Ensure the participation of all community members; 4. Promote the environment for integrated decision making; 5. Get involved with the climate disaster related activities; 6. Maintain communication with other CCMC members; 7. Maintain communication and coordination with Union Parishad and other government and non government organization; 8. Become signatory of bank account and update the information with committee members; 9. Lead other members in search and rescue; 10. Communicate with NGOs and government for recovery and reconstruction after disaster; and 11. Play vital role to achieve project goals and objectives;

**Roles and responsibilities of committee general secretary:**

1. Call committee meeting in consultation with the chairman; 2. Follow up and approve previous activities and decisions; 3. Collect and maintain papers and documents; 4. Make regulation of meeting decision; 5. Make coordination among members; 6. Promote activities of the project; Provide boat and other logistic to affected people to go to the evacuation shelter; and 7. Monitor other members' responsibilities.

**Roles and responsibility of the cashier:**

1. Responsible for all financial transactions within CCMC; 2. Make income and expenditure account and submit to the CCMC meeting; 3. Maintain all financial documents; and 4. Be the signatory of bank account.

**General member's responsibilities:**

1. Attend the CCMC meeting regularly; 2. Assist to take decision in committee meeting; 3. Perform all activities which was given as responsibility by committee; 4. Become aware of roles and responsibilities of committee and make them aware of others; 5. Become responsible to utilize the local resources of community and make aware of the same by the community; and 6. Perform as volunteer in different disaster situations for early warning, search and rescue.



## V. Details of Project Activities

### 1. Training on flood tolerant crop production

Training and capacity building has been an important component of the project. This section describes various training activities implemented in the project along with some description on the outcomes of the training. Please refer to annexure for details on the training content (Annexure VIII-XIII).

Training on flood tolerant crop production was organized during 10 -11 May 2010 at AKK training venue, North Channel. The training was inaugurated by AKK program director B.M. Alauddin and facilitated by trainer / resource person S.M. Kuddus Mollah, and co-facilitated by the NCRMP Manager Mr. Okhil Chandra Bairagi. Please refer to annexure for details on the training content.



Figure 7. Communities are being trained on flood tolerant crop production.

## 2. Seeds distribution among 300 to households

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For flood tolerant crop production, the Aman paddy seeds were distributed among 300 household beneficiaries. The beneficiaries were selected through base line survey and seeds were distributed to the poorest, marginal farmers, woman headed families, aged, widow and disaster affected families were the direct beneficiary. After selecting the beneficiaries, the final list was shared with Union Parisad. Union Parisad endorsed the final list. The seeds distribution is inaugurated by Union Parisad Chairman in the presence of the AKK Executive Director.



**Figure 8. Left: seeds are being distributed to the beneficiaries; Right: a women inspecting her crop raised from the distributed seeds.**

## 3. Training on flood and storm warning dissemination

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Training on flood and storm early warning and dissemination in community, and flood /cyclone rescue for CCMC and communities was conducted during 14-15 April 2010. The training was inaugurated by the Assistant Deputy Commissioner and AKK Executive Director, Program Director, Water Development Board Executive Engineer were present. WDB executive Engineer was the resource person of this training. 30 male and female beneficiaries were trained on various aspects of flood and storm early warning. After the training, CCMC was provided with various logistics so that the committee can get the early warning and disseminate the same to the community members without delay.

### Steps for early warning dissemination

1. Selection of team members at the ward/community level;
2. Arrangement of training for skill development of teams;
3. Site selection for local level message dissemination;
4. Form the message based on locality after receiving message from flood forecast and warning centre;
5. Prepare plans for



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message dissemination at the local level; and 6. Creation of awareness at family and village level during the after the floods.



Figure 9. Megaphone being used for early warning dissemination.

## 4. Awareness generation

Five awareness generation sessions were organized on public hygiene, flood preparedness, and primary health care. Field facilitators Hasina Begam, Dulal Mojumder, Mahbub Hossain have conducted these sessions. Project manager Okhil Chandra Bairagi and Program Director B.M. Alauddin have attended the session on 17 June 2010 and 8 July 2010. In each session, 30-40 village members were present. The objective of the awareness session was to increase awareness on health and hygiene for women and girls on flood preparedness of community members so that the disaster risks are reduced.

Table 2. List of awareness generation sessions carried out under the project.

SI No	Date	Discussion theme	Method	Participants	
				Male	Female
01	6-7 April' 10	Hygiene promotion	Flip book, chart, lecture	07	24
02	3-4 May' 10	Flood preparedness	Flip book, chart, lecture	09	27
03	17-18 June' 10	Primary health care	Flip book, chart, lecture	11	31
04	7-8 July' 10	Hygiene promotion	Flip book, chart, lecture	16	30
05	5-6 August' 10	Flood preparedness	Flip book, chart, lecture	11	32

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SI No	Date	Discussion theme	Method	Participants	
				Male	Female
06	6-7Sep'10	Primary Health care	Flip book, chart, lecture	10	26
07	4-5Oct'10	Hygiene promotion	Flip book, chart, lecture	12	32
08	2-3 Nov'10	Flood preparedness	Flip book, chart, lecture	8	30
09	4-5 December10	Hygiene promotion	Flip book, chart, lecture	11	28
10	2-3 January11	Primary Health care	Flip book, chart, lecture	7	29
12	7-8 February	Flood Preparedness	Flip book, chart, lecture	9	27



Figure 10. Awareness generation activities in implementation.



Figure 11. Community member implementing the health and hygiene learned from the project.



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### **Results:**

- Girls and boys are practicing hand washing after defecation.
- Beneficiaries have understood about the importance of hygienic toilets.
- Beneficiaries know about and taking primary health care (PHC) for the pregnant mother, and
- Some of beneficiaries are taking flood preparedness measures such as storage of dry food, making earthen oven, and rising the cowshed.

## **5. Training on developing early warning system**

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After training of flood, storm warning receiving and dissemination in community, flood/cyclone rescue for CCMC and community beneficiary, EW system was developed. CCMC was given EW materials to receive directly early warning message. Early warning materials are Megaphone, Radio, Cell phone. AKK linked CCMC members with flood forecasting warning centre, Bangladesh (FFWC). Time to time FFWC is sending information to CCMC and CCMC disseminates the information to community people. Without this a pillar was installed by marking red, yellow and green colour. Red colour indicates water danger level, yellow colour indicates normal flood and green colour indicates normal water level. Red, yellow and green 3 types of flags were given to the community. When Water level is at danger level, the red flag is installed in the community so that people can understand easily about early warning.

### **Results:**

- Every day CCMC will receive early warning messages from the government flood forecasting warning centre (FFWC) and it is being disseminated to community people.
- Community people got concepts on flag system and pillar system and they are participating in the mobile phone messaging system consisting of early warning messages.
- They are being able to get preparation on flood and keeping survival kits for use during disaster.





Figure 12. Community members are being explained about the early warning signs.

## 6. Training on local danger level and flood marker

### Methodology for identification of location of flood marker:

**Government flood marker of Goalondo point:** The flood marker was installed according to the government flood marker for river Padma located at Goalondo point where normal level is setup to 8.5 cm. The location was selected comparing the Goalondo point. When the water comes up to 8.5 cm at Goalondo point, the preparedness level will be initiated in the communities.

**Meeting arrangement:** The project has arranged a meeting with the participation of local leaders (UP member), aged male female and flood affected people for identifying the location for establishing the flood marker. After discussing with the local communities and other stakeholders, the location with a levelled ground and reachable/accessible place was chosen.

**Considering 1st PVCA risk and resources map:** To identify the flood marker, CCMC has set up the location based on analysis and review of the 1<sup>st</sup> PVCA of the project where it has indicated lowest /most risky homesteads in the community.

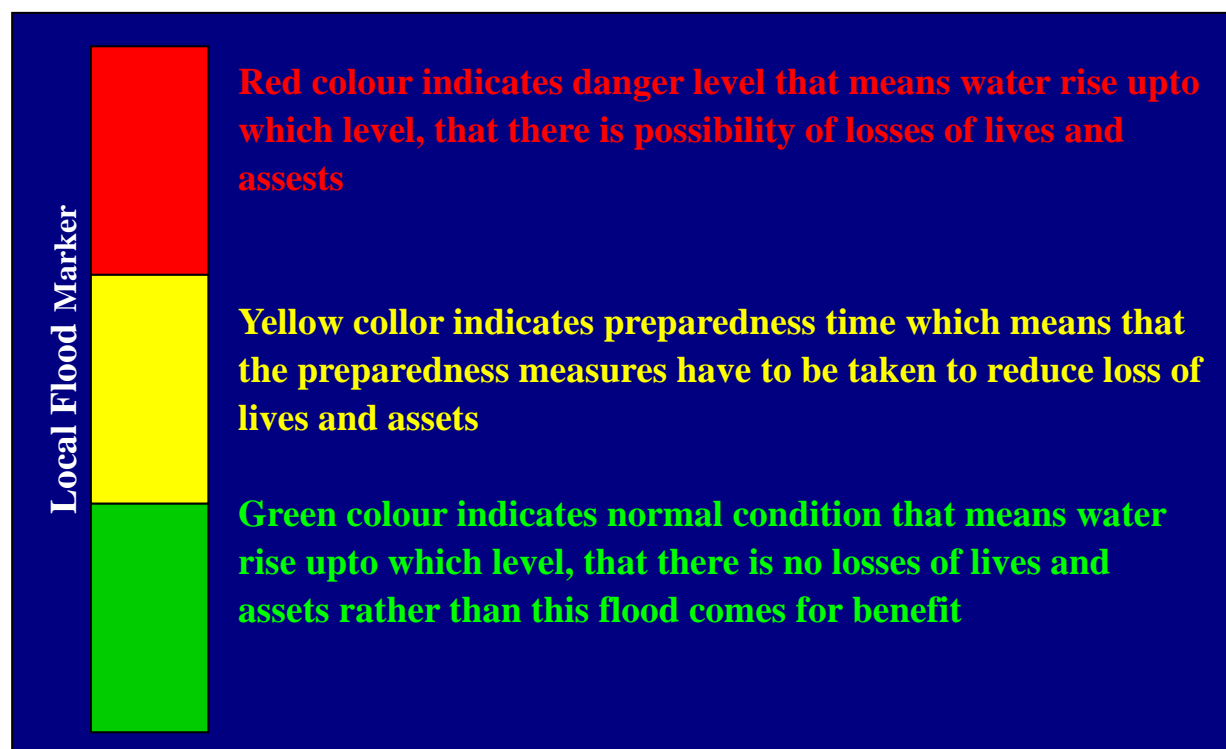


Figure 13. Figure showing different levels of early warning flood markers installed in the project.

## 7. Training on alternative livelihoods

Training for promoting new livelihoods considering climate change was conducted on 28-29 June 2010 at community level. 30 Participants were selected through baseline survey among 1600 community participants and 16 female and 14 male participants were trained. The training was facilitated by resource person Mr. Abdul Gaffar Kutubi, Assistant Director, Youth Development Board, Faridpur, A.K.M. Zahiruddin, Inspector, Youth Development Board, Faridpur and Ayub Khan, Executive Director, Pradip, Bangladesh. AKK programme director B.M. Alauddin and Project Manager Okhil Chandra Bairagi were present and co-facilitated with trainer.



**Figure 14. Training on different livelihood options being implemented.**

**Results:**

- 30 beneficiaries were trained on alternative livelihoods.
- 30 beneficiaries were introduced to the concepts of climate change and its impact.
- Income generation ideas were disseminated among 30 beneficiaries.
- These 30 participants were also trained as master trainers to train other beneficiaries.

## **8. Observation of climate disaster day**

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The National Disaster Preparedness Day (NDPD) was observed under New Climate Risk Management Project at Faridpur district level on 31 March 2010. The deputy commissioner (DC)/district Government of Faridpur has started the rally from Faridpur district administration premises. District Disaster Risk Reduction Officer (DDRRO), and all AKK staff were present in the rally. The slogan of NDPD was ‘Easy access to information, ensure safety to disaster’.

- People have become aware of disasters and known about NDPD.
- All participants took oath to be committed to be prepared for disasters.

## **9. Demonstration of floating vegetable gardens**

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A floating garden was built in the North Channel union of Faridpur sadar upazila under Faridpur district as a demonstration. It was built using water hyacinth and bamboo raft. The bamboo raft was covered with soil and cow dung and vegetables were planted after spreading the water hyacinth. Bottle gourd, egg plants, beans, *pui-shak*, cucumbers, bindweeds, were planted. Community people were



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excited during building of the floating garden with participation.



Figure 12. Community people sowing seeds on the floating bed (On the right is Program Director, AKK).

## 10. Vegetable cultivation & seedling distribution



Figure 13. Left: Seedlings of trees are being distributed; Middle: Homestead gardens are being planted with vegetables and fruit trees; Right: training program on vegetable and tree cultivation on the way.

Training on vegetable cultivation was conducted from 17 September' to 18 September 2010. 30 beneficiaries from 12 NCRMP working village have participated in the training. The training was inaugurated by District Forest Officer Mr. Osman Goni and the AKK project officers were also present there. After completion of two-day training, the tree seedlings were distributed on the third day to 300 beneficiaries. On 19 September 2010, 300 beneficiaries were given 1500 fruit bearing tree seedlings and 1500 wood tree seedlings, i.e. a total number of 3000 tree seedlings were distributed under this project. Each beneficiary family was given 10 tree seedlings in which 5 were fruit borne

and the 5 were forest wood trees. Fruit trees include mango, lemon, litchi, wood apple, guava and wood trees include mahogany, pinus, devdaru/deodar, akashi, and margosa.

## 11. Training on disaster risk management at UP level

Training for 3 union parisad and UDMC members was conducted on 27-28 December at AKK Hall room, Faridpur. North channel union parisad members, Horirampur union parisad members and Decree char union parisad members who are union disaster management committee members have participated in the training. AKK Director M.A. Jalil, Programme Director B.M. Alauddin, North Channel UP Chairman S.K. Abdus Salam, Char Horrirampur Chairman Mr Abul Hashem Decree char up Chairm Sadekuzzaman an Milon Pal and 3 Union Parisad members, female members and secretary were also present. The AKK Director gave welcome speech and inaugurated the training. Faridpur district DRRO was the core facilitator of the training. Project Manager has facilitated the session on 1<sup>st</sup> day of the training.

## 12. Advocacy workshop on climate change



**Figure 14. Advocacy workshop participated by local communities, district administration and project staff.**

A district level advocacy workshop was conducted on 06 January 2010 at the office of the Deputy Commissioner of Faridpur. The Deputy Director (DD) of social welfare, DD of agriculture, DD of livestock, DD of women affairs department, DRRO, District forest officer, AKK Executive Director, other NGOs, media representatives community civil society and community CCMC members have participated in the event. The objectives were to highlight the identified problems after conducting the PVCA of the project in 12 villages and getting the commitment from government personnel to solve these problems.

The Deputy Commissioner of Faridpur Mr. Helaluddin Ahmed, ADC-General, Civil Surgeon, Upazila

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Nirbahi Officer of Faridpur Sadar Upazila Rahima Akter, Social welfare deputy director Mr. Shahiddulla, FDA Executive Director Mr. Azharul Islam have expressed their support to the community members in promoting disaster risk reduction in their villages. The DC has appraised the community members about various services offered by the government and how to get access to these services. The event has helped both the communities and the district administration to understand each others' issues and to identify means to work together closely.

### 13. Training on national and international drivers



**Figure 15. Upazila officers are being trained on national and international drivers of climate change.**

Training on national and international drivers of climate change was conducted at upazila level on 23 February 2011 at the upazila conference room. Char Vadrasan upazila UNO Mr. Abdur Rashid, AKK Executive Director M.A. Jalil, Upazila Chairman, Upazila Forest Officer, Livestock Officer, Agriculture Officer and other department officials have participated in the event. Project manager Mr. Abdullah-Al-Mamun has introduced the project activities. The disaster manager of World Vision has facilitated the training. Through the training, upazila stakeholders were introduced to various



processes under the UNFCCC and national initiative for mitigating and adapting to climate change. The roles and responsibilities under the national adaptation strategy plan of Bangladesh government were discussed.

## 14. Disaster risk mitigation

Training on mitigating disaster risks through raising homesteads was organized on 26 November 2010. Upazila/Sub district Nirbahi Officer (UNO), Mr. Abdur Rashid inaugurated the mitigation work. All homesteads have been raised above flood level considering flood and cyclone. The beneficiaries were selected through baseline survey and the list of beneficiaries was shared with union Parishad (Local government). Homestead raising size is 42 feet length and 32 feet wide and 6 feet height which are above flood level than 2007 flood. After raising the ground, 20 household will get some construction material to strengthen their house. The materials provided are RCC pole to make strong house from cyclone, bricks, cement and sand to save from floods.

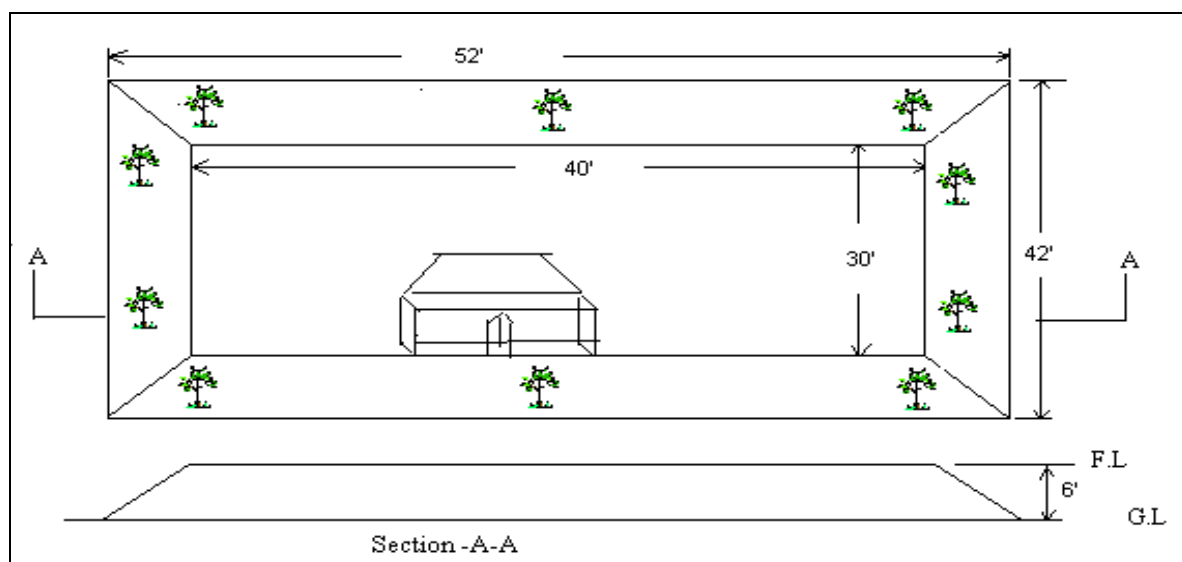


Figure 16. Layout of the raised homesteads implemented in the project.

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**Figure 17. Left: Interaction with the communities; Right: raised homestead is being constructed.**



## VI. Project Evaluation Results

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### 1. Overall project implementation

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The project has demonstrated successful implementation in 100% of the targeted areas and activities. Gender disaggregated whole community participation was the special distinction of the project; which was achieved through application of culturally relevant and attractive large group interventions and participatory techniques. The strengths of the community level processes were clearly visible in the project. Besides several other achievements, a vital achievement of the project was development and sharing of effective knowledge of adaptation strategies such as floating bed cultivation, homestead raising, use of bill boards for dissemination of information, and dissemination of early warning materials enabling field level workers and CBO members to create community awareness on content involved which also helped in mobilisation of government services and resources.

### 2. Planned and actual activities

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All activities and processes mentioned in the implementation plan were implemented during the project period. However, few changes were made in the details of the activities from the agreed implemented plan. In the implementation plan, 3 types of tree species and vegetable seedlings were planned to be distribute among the beneficiaries; but, according to the minutes of the CCMC meeting and responses of the beneficiaries, actually 10 tree seedlings per family were distributed to the beneficiaries. Beneficiaries expressed the opinion that out of 10 tree species distributed, 5 fruit tree species will start bearing fruits from the next year contributing to the income of the communities. In addition, the 5 wood tree species will protect their houses from storms and floods. All the stakeholders, including community beneficiaries, union disaster management committee (UDMC), upazila disaster management committee (UzDMC), district administration, NGO's, media representatives, private company stakeholders and civil society involved in implementation of the project activities expressed their positive opinion about the distribution of trees as a very important part of improving the community resilience to the recurring natural disasters.

Observations made from stakeholder interviews have indicated that all stakeholders were engaged in direct implementation and management of the project and have expressed their satisfaction on the standard of implementation and achievements of the project. The common and agreed (by number of stakeholders) causes of this satisfaction could be attributed to:

- Application of effective monitoring systems and intensive coaching by the implementing agency,

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- Application of effective process at the community level including community participation in the decision making, and
- Completion of targeted activities without variation and delay.

With regards to the quantity of project activity target and achievements, Table 02 summarizes that by February 28, 2011, against a total target of 115 targeted tasks the project has implemented 114 activities. Again, all of the 20 tasks were implemented successfully.

**Table 3. Planned and actual activities of the project.**

Objective	Planned Activities	Implemented Activities
Specific Objective 1: Standardization and dissemination of existing system of hydroponics farming to 300 households.	04	04
Specific Objective 2: Minimum 25% income increase and new employment generation among 300 vulnerable households by July 2010.	23	23
Specific Objective 3: Awareness building among current 100 households of NCRMP about the adverse effects of climate change.	24	24
Specific Objective 4: Capacity building and skill development among the stakeholders in relation to cope with climate change.	56	56
Specific Objective 5: Increase 20% production of soil-less agriculture through standardization and adoption.	04	04
Activities related to visibility	2	2
Other work	2	1
<b>Total</b>	<b>115</b>	<b>114</b>

### Summary of important activities

- **Formation of CCMC:** The Climate Change Management Committee (CCMC) was formed to implement project activities successfully. This committee involved actively in project beneficiary selection, demonstration of mitigation works, promoting awareness generation, tree seedling distribution and plantation, disseminating of early warning and increasing community understanding on early warning, augmentation of knowledge on climate change adaptation, better livelihoods through hydroponics vegetable cultivation, and early and flood tolerant crop production at community level.
- **Training workshops:** A total number of 210 (150 community beneficiaries and 60 Union Parishad and Upazila Administration/Sub district of Local government) were trained on various adaptation strategies to climate change. During the evaluation interviews, it was revealed that the participants of these training courses showed good retention of information, knowledge and skills imparted by the training. All training courses were viewed as need based and applied effective

methods of conducting the sessions. However, project staff and CCMC members participated in the training held the view that the duration of the training courses was short. Further, most training programs were conducted by the outside resource persons, community members had to spend 2 days for travelling to reach and back from the training venue at the district level. These hurdles could have been overcome if there are sufficient resources made available for implementing these programs so that more local programs could be conducted near to the villagers.

- **Development of early warning system:** There are indigenous signs and signals of hazard though which local char people get early warning. However, there is a need to explore more reliable early warning systems since the indigenous signs have been proven to be inadequate due to various changes happening in the nature including the climate change. As a result, the village level Climate Change Management Committee (CCMC) was formed to help manage all climate change related threats. The CCMC members now receive early warning messages from radio, TV, mobile phone SMSs and then disseminate them through warning pillar and loudspeakers made available to them and present in mosques. Through this project, the EW boards and pillars were established in 12 communities so that community members can easily receive and understand the flood danger level and could take preparedness measures. The early warning logistics were distributed among CCMC members. The main logistics made available were a megaphone, radio, a torch light, a cell phone, a pair of gumboots, life jacket, and several lifebuoys.
- **Demonstration of alternative agriculture:** The project has demonstrated agriculture activities that can help communities to produce crops during difficult periods of droughts and floods. A floating garden was demonstrated in Imarat Mat. Dangi and community people have fully participated in demonstration measures so that they can easily perform the same during floods. All beneficiaries have expressed their willingness to make floating garden during six month floods since it provides them an additional and assured income and source of calories and protein depending on the crop they cultivate on these floating beds. Aman paddy seeds were distributed among all project beneficiaries to demonstrate flood tolerant crop production. All the beneficiaries have cultivated Aman paddy seeds in their land. 10 tree seedlings per homestead were distributed to 300 households.
- **Demonstration of flood mitigation measures:** For flood mitigation, CCMC has discussed with the village members about raising of house and raising of livestock shed. 20 homesteads were selected by CCMC members in 12 communities whose ground was raised by 2 feet more than last highest flood level (the flood of 2007). All homestead beneficiaries have constructed their house on these raised grounds using RCC pillars and with a brick built foundation. As a result of these measures, the community members were of the opinion that their houses are now flood tolerant.

### 3. Relevance

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The evaluation from field surveys and participatory rural appraisals indicate that the interventions and activities included in the project were relevant to the felt and actual needs of the char communities. This is partly due to the reason that there are no related interventions been either planned or implemented in these areas by other NGOs or by the government agencies.

The evaluation recommends that the project continue to mobilize government related resources to address other developmental needs as well. Such a synergy between disaster risk reduction and climate change adaptation and sustainable development is essential for long-term sustainability.

### 4. Priority of the targeted issues

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**Hydroponics farming:** According to AKK management, training communities on floating bed would provide highest impact in terms of income generation and nutritional security during the floods. The interviews have revealed that this was an intelligent choice made by the implementing organization since the beneficiaries have expressed that their capacity has increased after getting training on flood tolerant crops production, hydroponics vegetable cultivation etc.

**Family level climate risk management preparedness:** Family level preparedness work was prioritized to make beneficiaries practice them during all the time and especially during the flood times. It includes promoting the culture of savings, storing dry food, stock piling the livestock feed, hygiene practices etc. beneficiaries are taking preparedness at family level for managing climate disaster.

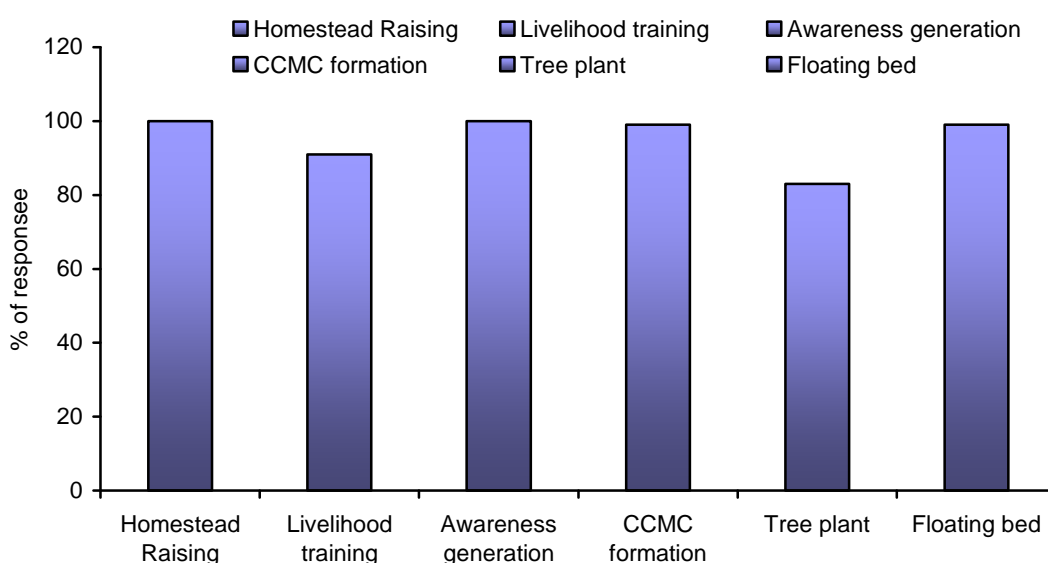
**Homestead raising:** It was an important risk mitigating activity which was implemented at a demonstration scale. This activity has helped communities to have first hand information about the concept of raising their houses above the historical flood levels. In this case, the flood level of 2007 was considered as highest.

**Establishing early warning systems:** The char lands are difficult to commute areas and are often cut off from the rest of the world in terms of communication and commutation facilities. Under these circumstances, access to early warning is hard to come by. Hence, the choice of establishing early warning systems in the form of a marked post has clearly generated a sense of security among the community members. They are now aware when to prepare and when to evacuate their villages. Since the flood posts are located in an easy to access to location, there is no need to employ a dedicated person to keep a watch on these posts.

## 5. Relevance of project scope

Project scope and expected outcome have direct relevance with activities implemented. The main outcomes of the project are:

- Community based disaster preparedness plan / risk reduction plan;
- After getting training and seeds, community people have cultivated Aman paddy and have got good yields in the first year of the project;
- Community people know how to get and preserve safe drinking water;
- The practice of raising the homestead has replicated even to the non-beneficiaries;
- Government and related stakeholders have committed to provide support to the climate risk reduction activities. DRRO committed to include climate risk reduction work in government development plan;
- Awareness have built up among community beneficiaries about climate change and preparedness to extreme events;
- Skills and knowledge on adaptation measures have reached greatly to the project beneficiaries;
- Community mobilization was facilitated by CCMC members;
- Local Government departments such as Union Parishad, Upazilla offices were well linked to the local communities to better respond to climate related emergencies;



**Figure 18. Components of project helping project beneficiaries to climate change adaptation.**



## 6. Efficiency of project operational strategies

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Multiple strategies were applied by the project which include village based risk and resource mapping; village based organization development; community awareness creation; positive discrimination policy application to women's participation; establishment of community based early warning systems and linking it with the DMIC; receiving flood early warning 72 hours in advance; linkage building with upazilla government departments for better access to government services; coordination with UP; establishment of village based EW board; hydroponics cultivation; raising homesteads; linking indigenous and scientific knowledge, and promoting personal hygiene, access to safe drinking water etc. The project also has engaged multiple stakeholders which include especially the government machinery that is often neglected by the NGO-led activities in most of the developing countries. This has brought great visibility to the project activities in the district.

## 7. Effectiveness

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The project has created the following positive effects:

### **Augmentation of knowledge and awareness among the community about climate risk reduction:**

From the field visits and interviews, it was observed that the project has contributed to the knowledge and awareness among the community members on various issues related to the climate change and related driving forces and needed adaptation mechanisms.

### **Improvement in mitigation measures and Emergency Response:**

The project has contributed to the improved emergency response and disaster mitigation efforts. The Figure 19 indicates responses from the community members on the impact of the project in terms of the risk reduction. The community members were of the opinion that raising the cattle shed has contributed to a sense of security to them since the loss of cattle and other assets were one of the major concerns for them during the floods. Following the cattle shed raising, the preparedness activities have contributed to the next biggest sense of security to them since they opined that the preparedness would help them to avoid any kind of 'surprises'.

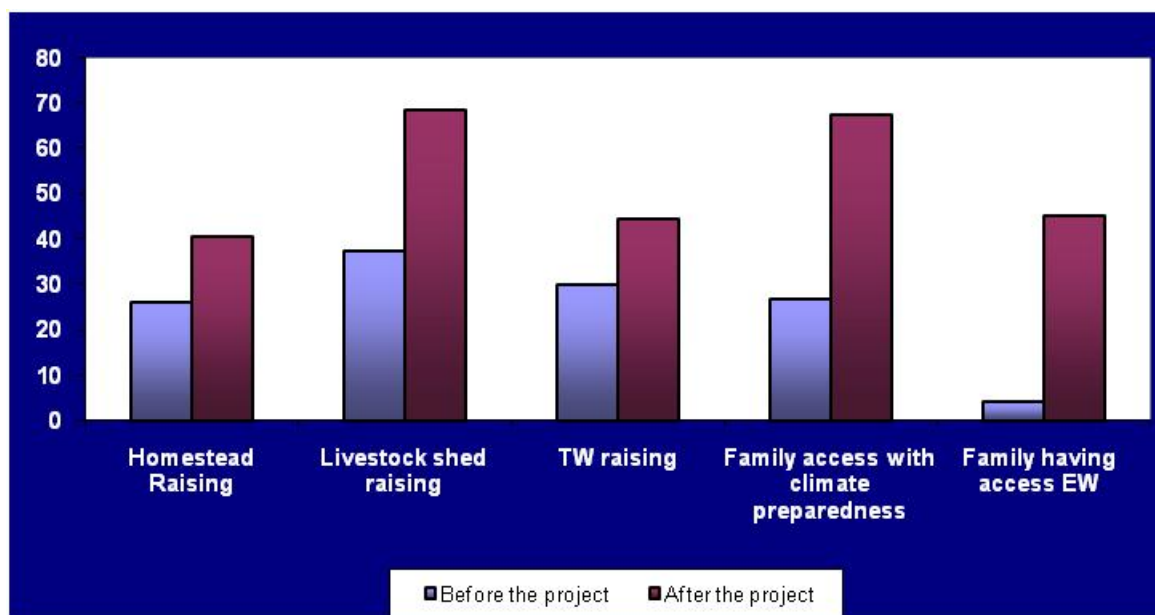


Figure 19. Climate disaster preparedness before and after the project.



Figure 20. Left: tree seedling plantation in progress; Middle: personal preparedness to floods; Right: replication of homestead raising outside the project.

**Strengthening institutional linkage and coordinated effort on climate risk reduction issue among relevant stakeholders at union, sub district and district level:** responses of stakeholders presented in Tables 4 and 5 indicate that the project has made efforts towards institutional linkage building among relevant stakeholders. Responses cited in the table 4 indicate that the project has transformed the culture of non-collaboration into a culture of greater collaboration between government agencies, media, NGOs and communities at the district and upazilla (sub-district) level. It has also activated UDMC and UZDMC. However, stakeholders have suggested that besides event wise discussion and sharing, it would have been better to establish a quarterly sharing mechanism by forming multi-stakeholder forum of sharing at upazilla and district level. The project has brought the communities together and instilled the sense of collaboration and coordination among them.

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Table 4. Responses to questions related to the project relevance.

Field	Relevance										
<p>Evaluation Question</p> <p>Information questions</p> <p>* How does the project build -up of on the clearly defined conceptual framework, approach and systematic process of operation?</p> <p>*What is the compatibility and differences reflects in targeted activities of the project plan and the target community expressed needs towards Climate risk reduction?</p> <p>* How the needs were assessed and Identified?</p> <p>* How emerging needs were articulated in the project plan and implementation?</p> <p>* What could make the project design more relevant?</p>	<p>How does the project demonstrate its merit of constructing itself on the priority needs of the target communities?</p> <table border="1" data-bbox="660 365 1134 969"> <thead> <tr> <th colspan="2" data-bbox="660 365 1134 398">Source of information</th> <th data-bbox="1134 365 1418 398">Method/ tools</th> </tr> <tr> <th data-bbox="660 398 868 432">Secondary</th> <th data-bbox="868 398 1134 432">Primary</th> <td data-bbox="1134 398 1418 432"></td> </tr> </thead> <tbody> <tr> <td data-bbox="660 432 868 969">Proposal PCVA report.</td> <td data-bbox="868 432 1134 969">*Community members Involved both male &amp; female</td> <td data-bbox="1134 432 1418 969">*Document review and distillation * FGD with male and female project beneficiaries FGD and project process mapping with entire field facilitator</td> </tr> </tbody> </table>		Source of information		Method/ tools	Secondary	Primary		Proposal PCVA report.	*Community members Involved both male & female	*Document review and distillation * FGD with male and female project beneficiaries FGD and project process mapping with entire field facilitator
Source of information		Method/ tools									
Secondary	Primary										
Proposal PCVA report.	*Community members Involved both male & female	*Document review and distillation * FGD with male and female project beneficiaries FGD and project process mapping with entire field facilitator									
<p>Field</p> <p>Evaluation questions:</p>	<p>Effectiveness</p> <p>*What effects generated by the project relevant to specific objective-1?</p> <p>*What effects generated by the project relevant to specific objective - 2?</p> <p>*What effects generated by the project relevant to specific objective - 3?</p> <p>*What effects generated by the project relevant to specific objective - 4?</p> <p>*What effects generated by the project relevant to specific objective - 5?</p> <p>*What effects the project created in terms of participation and empowerment?</p> <p>* What effects the project generated in terms of creating sustainability potential?</p>										
<p>Information questions</p> <p>* What are the achievement, variation and reasons of variation towards achieving intended effects towards enhance the resilience of rural livelihoods and coping mechanism to climate change, and to better inform climate sensitive planning and decision making.?</p> <p>What Understanding, skill and knowledge of livelihood development and adaptation in</p>	<table border="1" data-bbox="660 1473 1134 1944"> <thead> <tr> <th colspan="2" data-bbox="660 1473 1134 1507">Source of information</th> <th data-bbox="1134 1473 1418 1507">Method / tools</th> </tr> <tr> <th data-bbox="660 1507 868 1541">Primary</th> <th data-bbox="868 1507 1134 1541">Secondary</th> <td data-bbox="1134 1507 1418 1541"></td> </tr> </thead> <tbody> <tr> <td data-bbox="660 1541 868 1944">Project implementation plan, Baseline survey reports Monitoring reports Consolidated summary of project activity implementation</td> <td data-bbox="868 1541 1134 1944">CCMC members, community beneficiaries, local elite person</td> <td data-bbox="1134 1541 1418 1944">Document review and distillation Gender Disaggregated knowledge and behaviour tree exercise with project target community - Time line Pie Chart of coverage Gender disaggregated</td> </tr> </tbody> </table>		Source of information		Method / tools	Primary	Secondary		Project implementation plan, Baseline survey reports Monitoring reports Consolidated summary of project activity implementation	CCMC members, community beneficiaries, local elite person	Document review and distillation Gender Disaggregated knowledge and behaviour tree exercise with project target community - Time line Pie Chart of coverage Gender disaggregated
Source of information		Method / tools									
Primary	Secondary										
Project implementation plan, Baseline survey reports Monitoring reports Consolidated summary of project activity implementation	CCMC members, community beneficiaries, local elite person	Document review and distillation Gender Disaggregated knowledge and behaviour tree exercise with project target community - Time line Pie Chart of coverage Gender disaggregated									

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Field	Relevance		
<p>climate risk reduction</p> <p>* How effective were the methods, tools and materials used for awareness creation?</p> <p>What was the achievement, variation and reasons of variation towards achieving intended effects towards improve the management capacity of Char- land populations, settlements, and ecosystems in areas/communities exposed to Char-land hazards?</p> <p>* How effective were the five strategies applied?</p> <p>What could make those strategies more effective?</p>	<p>and outcome</p> <p>Quarterly project tracking report</p> <p>Project proposal, implementation plan</p> <p>Baseline survey reports</p> <p>Monitoring reports</p> <p>Consolidated summary of project activity implementation and outcome</p> <p>Quarterly project tracking report</p>	<p>CCMC members, project beneficiaries</p>	<p>method/tool preference scoring session with targeted community members</p> <p>Document review and distillation</p> <p>Observation of community action plans and its implementation?</p> <p>Strategy effectiveness Ranking</p>
<p>* What are the achievements, variation and reasons of variation towards 300 vulnerable households demonstrate improved capacity to innovate in their livelihood strategies, reducing vulnerability to climate change?</p> <p>* How effective were various demonstration measures undertaken?</p> <p>* Who are Stakeholders/actor involved and their influence and effectiveness to undertake mitigation measures?</p> <p>* What could make those measures more effective</p>	<p>Project proposal, implementation plan,</p> <p>Baseline survey reports</p> <p>Monitoring reports</p> <p>Consolidated summary of project activity implementation and outcome</p> <p>Quarterly project tracking report</p>	<p>CCMC members, project beneficiaries, UP members, UDMC members, DPHE</p>	<p>Document review and distillation</p> <p>Direct observations of outcome created by various mitigation measures?</p>
<p>What is the level quality of participation of women, marginalized male, and children and disable people?</p>	<p>Monitoring reports</p> <p>Consolidated summary of project activity implementation and outcome</p> <p>Quarterly project tracking report</p>	<p>Community members, CCMC, other sub group, disable personas women members</p>	<p>Document review and distillation</p> <p>FGD with local NGO partners on types of participation.</p> <p>SSI with CCMC, women members, disable persons</p>
<p>How the project does interpret sustainability?</p> <p>What kind of effects directly linked to progress sustainability?</p> <p>What is the community partner organization's level of ownership and receptiveness towards project approach and interventions?</p> <p>What are the level of involvement / ownership of local government bodies (including elected bodies such</p>	<p>Project proposal</p> <p>Project progress reports</p> <p>Monitoring reports</p>	<p>CCMC members</p> <p>AKK management, Field facilitator, UP chairman and members</p> <p>UDMC members</p>	<p>Document review and distillation.</p> <p>SSI with CCMC - PC members</p> <p>AKK management</p>

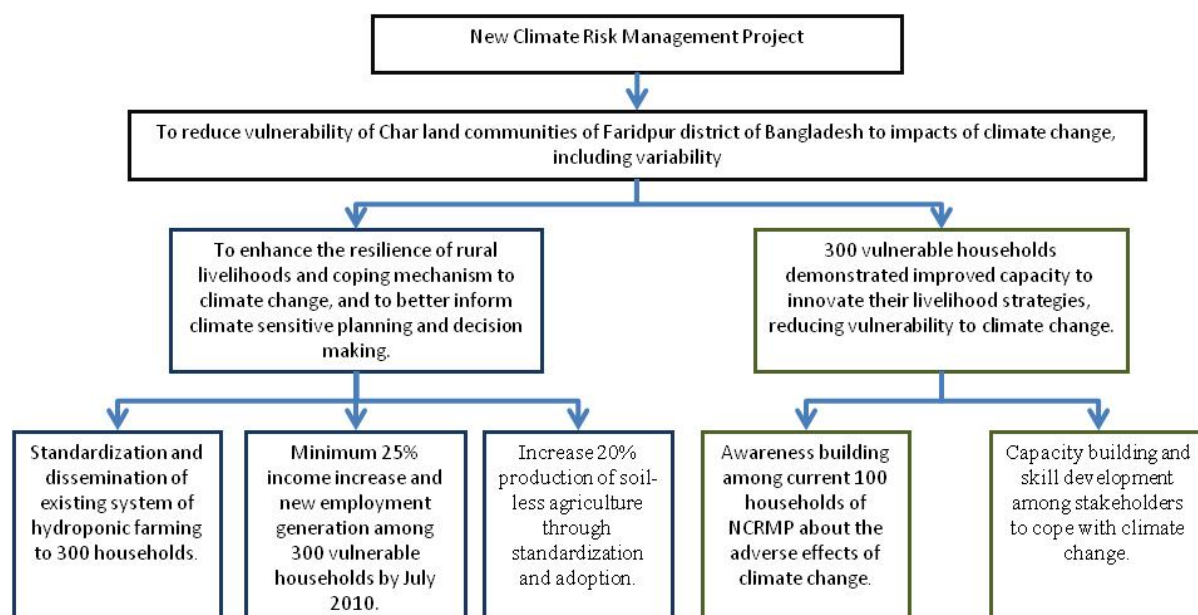
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Field	Relevance		
as UP / UDMC) and other relevant stakeholders as well as level of coordination ensured in project geography?			
Field Evaluation Question	Impact *What impact the project has created at the level of project community? *What impact the project has created towards capacity development of CBO? *What impact the project has created towards institutionalizing climate risk reduction in government development plan and operations at upazilla?		
Information questions	Source of information	Method/tools	
	Secondary	Primary	
What changes have taken place among target communities in terms of physical preparedness & response system in place to cope with the immediate impact of floods?	PCVA reports Baseline survey reports Progress reports Consolidated matrix of activities implemented and output created.	CCMC, sub groups, other community actors, persons received training	Time line resource mapping. FGD, Comparative bar graph of lose estimation (with flood 2007)
What changes have taken places among the communities in terms of human resource and organizations towards preparedness & response system?	Initial & final PVCA reports		
What changes have taken place among the community in terms of prevalence of water borne diseases and reduction of financial losses caused by water borne diseases?	Rapid damage and needs assessment report of floods carried out by Govt.		
How do those changes of response system would effects reduction of losses in comparison with previous flood -loses?			

## 8. Achievement of project objectives

The conceptual basis of the project was New Climate Risk Management (Figure 21). According to this concept, the project has continuously linked response, preparedness and adaptation and development interventions but through different interventions. The project was implemented community level emergency preparedness and combined it with the improvement of income generation and gender mainstreaming as cross-cutting issues.





**Figure 21. Logical framework of the project.**

These objectives and results area were not free-standing but mutually reinforcing with each other. For achieving intended results and objectives shown, operational strategies of the project included:

- Information, education and communications at family and village level: emergency response preparedness, income generation, and resource mobilization involving multiple methods and social groups
- Community mobilization and development of village based community organization
- Village based participatory assessment and planning
- Training and facilitation to UDMC and UZDMC to response plan
- Establishment of village based early warning system
- Establishment of village based emergency response equipments and logistics
- Development of small scale physical infrastructure for homestead raising
- Observation of climate disaster day
- District and upazilla (sub-district) level advocacy workshop.

## 9. Attribution of outputs to the project objectives

**Reduction of damages/loses cause by flood:** Data presented in Table 05 and 06 indicate that the

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project has created noteworthy positive potential to reduce losses and damages caused by floods. In comparison with losses caused during the 2007-flood, both male and female CCMC members were of the opinion that there would be less loss of houses, livestock and other assets if a flood occurs at the same level as the year 2007. However, they felt that the loss to crops could still happen if they are growing in the field. Both male and female CCMC members think of livestock damage would go down from about 60% to 20% thus the net reduction of livestock loss would be 40%.

**Table 5. Opinion of male CCMC members on the effects of project towards mitigation measures development and ERP.**

Indicator	Before the project			After the project		
	V1	V2	V3	V1	V2	V3
House ground raising	30	8	40	56	24	40
Livestock shed raising	45	12	55	74	50	82
TW raising	40	18	32	70	12	52
Families take pre flood emergency preparedness	35	7	38	60	24	50
Family having access in EW	4	4	5	40	43	52

Here, V1: Tara Majhir Dangi, North Channel Union, Faridpur Sadar Upazila; V-2: Bapary Dangi, Decree Char Union, Faridpur Sadar, Faridpur; V-3: Ikram Mat. Dangi, Horraram pur Union, Char Vadrasan Upazila, Faridpur.

**Table 6. Response regarding the effectiveness of the project toward floods in different project locations.**

Loss /damage	Flood 2007			If 2007 level flood occurs		
	V1	V2	V3	V1	V2	V3
House	60	100	100	20	30	10
Livestock	60	70	50	20	30	10
Crops	80	100	100	80	80	100
Poultry	90	70	70	50	30	20
Tree seedlings	100	90	100	50	60	10
Fishing boat/net	30	60	20	10	40	12

Here, V1: Tara Majhir Dangi, North Channel Union, Faridpur Sadar Upazila; V-2: Bapary Dangi, Decree Char Union, Faridpur Sadar, Faridpur; V-3: Ikram Mat. Dangi, Horraram pur Union, Char Vadrasan Upazila, Faridpur

**Income generation and increase:** CCMC members and the community respondents have informed that the project has contributed to substantial increase in their income by 40-60%. 300 households have got seeds from this project and they have good yield from cultivation Aman paddy. This has also contributed to additional calories and nutritional security to the project beneficiaries.

**Savings of CCMC:** 12 CCMC members are saving money through a bank account. Every CCMC members and community people who are willing to save money are depositing money on a monthly basis. Each participant in the savings program should deposit a minimum of 5.00 (BDT) in every month. The collected money will be deposited in the bank account using which the committee

members can design additional income generating activities. The community members are now able to think about investing in small scale ventures including even purchasing a small boat that will come handy during the floods. Other community members have started growing vegetables, leasing land for paddy and vegetable cultivation, and installing groundwater wells for cultivation during dry season.

**Reduction of financial losses caused by waterborne diseases:** Due to reduction of water borne diseases financial loss at families have reduced. Both male and female CCMC members have informed that in comparison with the past (before the project) on an average 50% families had to experience 6 times of exposure with water-borne diseases but now it has come down to 3-times.

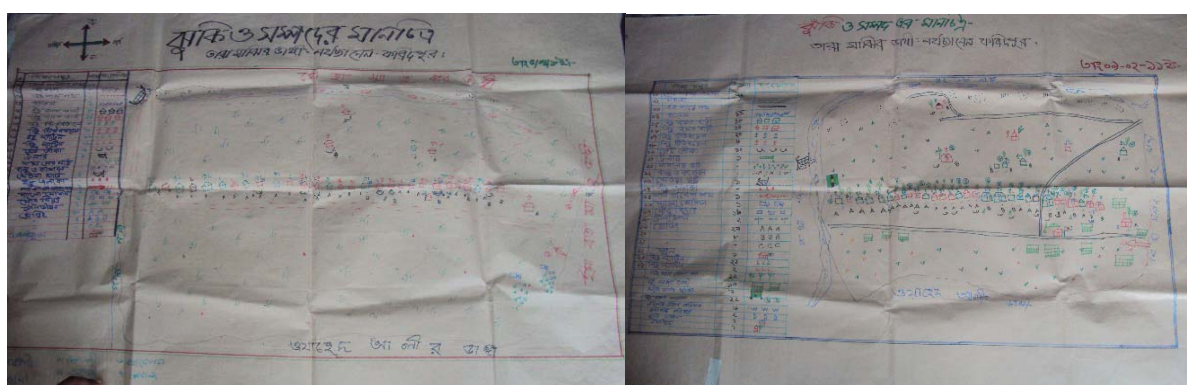


Figure 22. Risk and resource map before the project (left) and after the project (right)

## 10. Self-reliance of the project

Information summarized in the Table 4 and the report of the project team indicates the following driving and limiting factors and critical issues to be considered to make the project more effective and efficient.

### Driving factors

1. Project interventions are relevant to the felt and actual needs of the community
3. Effective project management and leadership
4. Cordial relationships between direct and indirect stakeholders
5. Willingness and acceptance of relevant government departments to integrate climate risk reduction into their work

### Limiting factors

1. Fragile nature of the char lands due to erosion
2. Poor people cannot participate in the process due to the pressure of livelihood activities

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(preoccupation)

3. Community attitudes of getting direct services from the project to meet other felt needs related to primary health care and livestock care
4. Extremely marginal economy and subsistence living of families in char lands
5. Government institutions and structure is well set for response and not for climate risk reduction.
6. Absence of official mandate to engage staff of relevant government departments to integrate climate risk reduction
8. Government has no resources to facilitate this kind of climate risk reduction processes at the community level
9. There is a fear of creating dependency attitude among the community

### **Critical issues requiring attention**

- Addressing diversified needs of people relevant to reduce causes of vulnerability especially including gender issues
- Through the formation of village based community organization, institutional linkage and relationship building between CCMCs and government departments the project has created some sustainability potentials. However, the utterances of CCMC members presented in Table 4 inform that CCMCs are not yet confident enough to take up the process by their own. Reasons of not being able to run the process are:
  - CBOs have no enough funds to operate at village level
  - CBO don't have its own staff to facilitate the processes on a long term basis

## **11. Participation**

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According to the Table 7, all the respondents were of the view that the project has created congenial environment for women's participation. On a scale of 1 to 100, both male and female respondents were in agreement that women participation in community development activities has gone up from 5 to 70%. Data in Table 7 also complement that now women are more aware about women rights and raising collective voice and actions to establish their rights to participate.

**Table 7. Participation in the project as reported by the respondents.**

Respondent	Response
Female and male CCMC members of Tara Majhir Dangi	All people of the village, village leaders, UP chairman & members, male, female, imams, religious leaders, students, teachers. We are able to stay in this char land even during flood.
Female and male CCMC members of Bapary Dangi	Male, female, rich, poor, children, teachers, disable persons, imams. We all make floating bed in flood season.
Female and male CCMC members of Ikram Mat. Dangi.	Male, female, rich, poor, children, teachers, disable persons, imams . We could get the EW of Flood.

## 12. Analysis of factors attributable to project results

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**Community participation:** Community participation was the main factor that has attributed to the success of the project. 100% participation was observed in all the activities implemented under the project.

**APFED Showcase Fund:** APFED Showcase Programme fund was provided timely by IGES and it was helpful to successfully implement the project.

**Need based activities:** The activities were undertaken as per the needs of the communities. The identified activities were accepted by the communities.

**Resources persons:** Timely availability of resource persons has helped in conducting the training programs envisaged under the project.

## 13. Strategy to continue to support

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There is a great deal of support from the project beneficiaries for the project to continue. In order to do this, the implementing agency has considered some options to make the project sustainable:

- Provide technical support and revolving credit to promote livelihood options and other needed support to the project beneficiaries whenever required.
- Continue to moderate the interaction between the community and the local administration.
- Facilitate reviewing community action plans by providing technical help to the CCMC members.



## VII. Lessons Learnt

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- Climate Change issue is a considerable challenge posing the poorest of the poor living in the char lands. The amount of resources available to be prepared and adapt to climate change impacts are immense and the local NGOs are not well equipped to implement relevant projects without external support. This project has come into existence only because of the external support provided in the form of APFED Show Case Program and the technical help made available through the NetRes institutes.
- Despite the efforts of the NGOs, the direct involvement of the local governments in the project is still absent. There is a need that the local governments continue to engage in such projects so that there is a cross-fertilization of ideas and uptake of knowledge into the governments systems.
- The number of poor requiring assistance such as raising their homesteads is much beyond the scale of the project of this nature. Even while the project staff understands this limitation, they face a tough situation when interacting with the communities since there are too many of them needing such help (category A beneficiaries as indicated in the Chapter IV).
- The experience of the implementing agency suggests that for a better uptake of project activities by the beneficiaries, the project should be of a minimum duration of 3 years.
- There is no publication related activities in this project such as flip books, flip charts, leaflets, brochures, etc. which could play an effective role to increase community people awareness in climate risk reduction.

## VIII. Recommendations to the Implementing Organization

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The New Climate Risk Management Project (NCRM) has provided valuable lessons and experiences to the local NGOs that have not yet started working in the area of climate change adaptation and mainstreaming climate change considerations into their local risk reduction initiatives. From this perspective, climate change adaptation and mainstreaming climate change considerations into local initiatives is still at a nascent stage for many of these NGOs. This project in a way provides an entry point for these NGOs to start thinking about implications of climate change for them and for the constituency that they are addressing while also providing an entry point to the local governments and other stakeholders that they engage with. As a result, the project has helped in spreading the word of ‘what needs to be done in a change world’ though in a modest manner.

There are several successes that the project has achieved despite of the reason that both the concept and content of the project are new to both the implementing agency and the agencies and communities that they have collaborated and engaging with. These successes were well documented in the project evaluation report preceding this section. The report clearly indicate that the community engagement process in itself proved to be an essential prerequisite for any climate change adaptation program or project due to the reason that the communities are the first impacted and they are the first responders to these climate change manifestations.

One of the first observations one would easily make while implementing or guiding somebody implementing these kinds of projects is that there is no ‘reliable’ local information for either educating the community members or for designing adaptation interventions at the first place. Educating local communities about global climate change would make little sense to the local communities if the information doesn’t connect them to the reality that they have been observing around them. Hence, the first intervention would be to strengthen the existing risk reduction measures without even asking ‘how much more need to be done’ since the existing interventions themselves needs a fillip to take care of the ‘current observed climate variability’. This may raise a question of whether or not ‘tightening the existing systems’ would suffice to be eligible for a project to be termed ‘climate change adaptation project’. The answer depends on how the context of adaptation is defined within the project. Probably taking a win-win route would be much easier for these projects, a route in which the activities implemented hold good for the current climate and for the future climate.

Assessing the activities implemented in this project, the project includes both kinds of activities, activities that hold for a future climate change (e.g. floating vegetable gardens that hold good for any level of floods) and for the current floods (e.g. raising the homesteads). Raising the homesteads above

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the historical level could be a safe approach but may not be termed as ‘climate proof approach’ in absence of reliable climate change impact predictions since nobody can tell if 2 feet above historical floods would suffice and for how long. One of the limitations is that there are cost implications as well. Raising the homesteads from 2 feet above historical flood level to 4 feet above historical flood levels costs more which means additional financial burden for the implementing agencies and for the communities who share the costs.

While it has been a challenge for the implementing agencies to implement these projects, it becomes even more challenging when the local governments consider these projects as ‘out of their mandate’. It is often hard to make them believe that there is a value to integrate the idea of raising homesteads within government driven programs or to introduce training programs on floating vegetable cultivation since they consider these are outside their mandate. The limited resources with the local governments make it even more difficult to find any engaging point with them. The best one could expect is to invite a government official to distribute project benefits to the beneficiaries. The challenge is how to move from this point of engagement to the point of even more stronger engagement such as joint implementation of projects? The project has certainly helped in engaging the local governments to the first step.

The following recommendations appear to be valid for implementing climate change adaptation projects:

- 1) Climate change adaptation cannot be isolated from any other development efforts. Both development and adaptation are closely interlinked, particularly at the local scale we experienced.
- 2) There is limited knowledge amongst local communities on what climate change is, why it is happening and how to respond to it. While improving understanding of climate change amongst local communities might be important, communities are interested in understanding how to cope with, and adapt to, change – of which climate change is just one part.
- 3) Good progress has been made so far in Faridpur and this progress has established a good point to move forwards from. But local governments and NGOs could play a even greater role in promoting local adaptation initiatives by close closely collaborating with each other.
- 4) Local actions could be more closely based on thorough or ‘scientific’ climate change vulnerability assessments for which the knowledge and tools be made available.
- 5) Gender aspects could also have been better addressed by the local initiatives, bearing in mind the strong involvement of women in the self-help groups being formed for promoting rural entrepreneurship.

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6) While the emphasis of the initiatives was on enhancing incomes and livelihoods, more can be done to promote access to resources such as land, health, education, communication facilities, and energy sources. More effort in these areas is needed.

## IX. List of References

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## X. Annexure

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### **1. Annexure I: List of documents reviewed for preparing this evaluation report**

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- Field visit reports by AKK team members
- Clips of news of projects published in news papers
- Minutes of staff meeting of AKK
- Note of observations of field visits by AKK managements
- Quarterly project progress reports
- Power point presentation materials of the project
- Transforming Char Lives: Booklet of Success cases, Published by Oxfam ( October 2010)
- Monthly quantitative and qualitative monitoring reports of the project
- Report of the initial PCVA
- Baseline survey report

## 2. Annexure II: Questionnaire for measuring the impact of the Project: Communities

S No: \_\_\_\_\_; Village Name: \_\_\_\_\_; Upzila name: \_\_\_\_\_

1. Respondent Age: \_\_\_\_\_ Gender: Male Female Primary beneficiary Secondary
2. Occupation: Farmer, Rural artisan, Business, Others  
(Specify: \_\_\_\_\_)
3. Selection of the beneficiary: Do you think the beneficiaries are fairly chosen through community consultation? Yes No Not aware about the procedure followed for selection
4. Do you think the project has chosen the correct interventions suitable for your location? Yes No Not aware about the nature of interventions chosen
5. What is the nature of your participation in the project?  
 Attended the meetings conducted  Received training  Received raised house  Received seeds  
 Received fruit trees  Member of the Climate Change Management Committee
6. Rate how the project has helped you to adapt to the climate change (1 is least and 5 is most effective in adapting to climate change)?  1  2  3  4  5
7. Rank components of the project in terms of helping you adapt to the climate change (rank top 5)

Item	Rank
1. Raised housing	_____
2. Livelihood Training	_____
3. Awareness generation	_____
4. CCMC formation	_____
5. Training on early warning	_____
6. Others (Specify: _____)	_____

8. The relevance of project to your local needs (as a group/society): 100% relevant, 80% 60%, 40%, 20%, Not relevant, Not sure
9. Rate the project interventions for their usefulness on the scale of 1-5 where 1 is not useful and 5 is very useful

Type of project intervention	Rating for their usefulness (1 is not useful, 5 is very useful)				
1. Raised housing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. Livelihood Training	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. Awareness generation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. CCMC formation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. Training on early warning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6. Others (Specify: _____)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

10. Rate the project interventions for their sustainability on the scale of 1-5 where 1 is unsustainable and 5 is highly sustainable

Type of project intervention	Rating for their usefulness (1 is not useful, 5 is very useful)				
1. Raised housing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. Livelihood Training	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. Awareness generation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. CCMC formation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. Training on early warning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6. Others (Specify: _____)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

11. How do you think the project sustainability can be improved further?  
 By extended project funding,  By continued engagement of local communities by the NGO,  By sharing success story with communities nearby,  By sharing success story with government,  By sharing success story with elected members,  All above
12. What project component has helped you the most in increasing your income? \_\_\_\_\_
13. Why? \_\_\_\_\_

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14. How much of your income has increased due to project activity in terms of percentage:  Less than 10%  10-25%  25-50%  50-75%  75-100%  More than 100%
15. What is your understanding of climate change? \_\_\_\_\_
16. How can you adapt to climate change? \_\_\_\_\_
17. Mention one important practice of the project you would like to adopt? \_\_\_\_\_
18. Why: \_\_\_\_\_
19. What kind of support do you think are needed to adopt the technologies and skills provided by the project?  
 Financial (e.g. Loan)  Technical (e.g. training)  Others  
(Specify: \_\_\_\_\_)
20. Were you satisfied with the relevance of technologies provided by the project?  Yes  No
21. Were the training programs organized by the project were effective in gaining the related skill?  Yes  No
22. Was the information provided to you sufficient for you to understand the subject?  Yes  No
23. What other help do you think the project could have provided? (list top three needs/help) \_\_\_\_\_
24. Should the project outputs continue to help communities in the years to come?  Yes  No
25. If no, which component of the project will cease to be useful in the near future? \_\_\_\_\_
26. What kind of support do you think you should have provided to project that would have helped the project better in promoting climate change adaptation? \_\_\_\_\_
27. Specify two important benefits you obtained from the project: \_\_\_\_\_

### 3. Annexure III. Questionnaire for institutional stakeholders

S No: \_\_\_\_\_; Village Name: \_\_\_\_\_; Upzila name: \_\_\_\_\_

1. Respondent

Age: \_\_\_\_\_ Position/designation: \_\_\_\_\_

2. Selection of the beneficiary: Do you think the beneficiaries are fairly chosen through community consultation?  Yes  No  Not aware about the procedure followed for selection

3. Do you think the project has chosen the correct interventions suitable for your location?  Yes  No  Not aware about the nature of interventions chosen

4. What is the nature of your participation in the project?

Attended the meetings conducted  Member of the Climate Change Management Committee  Provided training to the project beneficiary  Approved project activities  Others (Specify: \_\_\_\_\_)

5. Rate how the project has helped the communities to adapt to the climate change (1 is least and 5 is most effective in adapting to climate change)?  1  2  3  4  5

6. Rank components of the project in terms of helping the communities adapt to the climate change (rank top 5)

Item	Rank
1. Raised housing	_____
2. Livelihood Training	_____
3. Awareness generation	_____
4. CCMC formation	_____
5. Training on early warning	_____
6. Others (Specify: _____)	_____

7. The relevance of project to the local needs (as a group/society):  100% relevant,  80%  60%,  40%,  20%,  Not relevant,  Not sure

8. Rate the project interventions for their usefulness on the scale of 1-5 where 1 is not useful and 5 is very useful

Type of project intervention	Rating for their usefulness (1 is not useful, 5 is very useful)				
1. Raised housing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. Livelihood Training	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. Awareness generation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. CCMC formation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. Training on early warning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

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6. Others (Specify: \_\_\_\_\_)  1  2  3  4  5

9. Rate the project interventions for their sustainability on the scale of 1-5 where 1 is unsustainable and 5 is highly sustainable

**Type of project intervention**      **Rating for their usefulness (1 is not useful, 5 is very useful)**

1. Raised housing  1  2  3  4  5

2. Livelihood Training  1  2  3  4  5

3. Awareness generation  1  2  3  4  5

4. CCMC formation  1  2  3  4  5

5. Training on early warning  1  2  3  4  5

6. Others (Specify: \_\_\_\_\_)  1  2  3  4  5

10. How do you think the project sustainability can be improved further?

By extended project funding,  By continued engagement of local communities by the NGO,  By sharing success story with communities nearby,  By sharing success story with government,  By sharing success story with elected members,  All above

11. What is your understanding of climate change? \_\_\_\_\_

12. How can you adapt to climate change? \_\_\_\_\_

13. Mention one important practice of the project would you like to promote through your organization?

14. Why: \_\_\_\_\_

15. What kind of additional support do you think are needed to adopt the technologies and skills provided by the project?  Financial (e.g. Loan)  Technical (e.g. training)  Others  
(Specify: \_\_\_\_\_)

16. Were you satisfied with the relevance of technologies provided by the project?  Yes  No

17. Were the training programs organized by the project were effective in gaining the related skill?  Yes  No

18. Was the information provided to you sufficient for you to understand the subject?  Yes  No

19. What other help do you think the project could have provided? (list top three needs/help)

20. Should the project outputs continue to help communities in the years to come?  Yes  No

21. If no, which component of the project will cease to be useful in the near future? \_\_\_\_\_

22. What kind of support do you think you should have provide d to project that would have helped the project better in promoting climate change adaptation? \_\_\_\_\_

23. Specify two important benefits your organization obtained from the project: \_\_\_\_\_



## 4. Annexure IV. Responses on how the project has helped in adapting to climate change

No of Respondent: 58

Female:44, Male: 14

Respondent: Beneficiaries and secondary beneficiaries under the project.

Here, V1=Tara Majhir Dangi under North Channel Union, V2=Ekram Mat. Dangi under Char Horrirampur Union, V3=Bapary Dangi under Decreer Char Union.

Project Components	V1-North Channel (No of respondent)					V2-Char Horrirampur (No of respondent)				
	1	2	3	4	5	1	2	3	4	5
Rank										
Raised housing	0	0	0	0	22	0	0	0	0	12
Livelihood Training	0	0	0	1	21	0	0	0	0	12
Awareness generation	0	0	0	0	22	0	0	0	0	12
CCMC Formation	0	0	0	0	22	0	0	0	0	12
Training on early warning	0	0	0	1	21	0	0	0	0	12
Tree seedling plantation	0	0	0	6	16	0	0	0	3	09
Floating bed	0	0	0	1	21	0	0	0	0	12

Project Components	V3-Decreer Char (No of respondent)					UP /UZ representative (No of respondent)				
	1	2	3	4	5	1	2	3	4	5
Rank										
Raised housing	0	0	0	0	16	0	0	0	0	8
Livelihood Training	0	0	0	2	14	0	0	0	2	6
Awareness generation	0	0	0	0	16	0	0	0	0	8
CCMC Formation	0	0	0	0	16	0	0	0	1	7
Training on early warning	0	0	0	0	16	0	0	0	0	8
Tree seedling plantation	0	0	0	1	15	0	0	0	0	8
Floating bed	0	0	0	0	16	0	0	0	0	8

## 5. Annexure V. Responses on the sustainability of the project activities

No of Respondent: 58

Female: 44, Male: 14

Here, V1=Tara Majhir Dangi under North Channel Union, V2=Ekram Mat. Dangi under Char Horrirampur Union, V3=Bapary Dangi under Decreer Char Union.

Respondent: Beneficiaries and secondary beneficiaries under the project.

Project Components	V1-North Channel (No of respondent)					V2-Char Horrirampur (No of respondent)				
	1	2	3	4	5	1	2	3	4	5
Rank										
Raised housing	0	0	0	0	22	0	0	0	0	12
Livelihood Training	0	0	0	1	21	0	0	0	0	12
Awareness generation	0	0	0	0	22	0	0	0	0	12
CCMC Formation	0	0	0	0	22	0	0	0	0	12
Training on early warning	0	0	0	1	21	0	0	0	0	12
Tree seedling plantation	0	0	0	5	17	0	0	0	3	09
Early Warning logistic	0	0	0	1	21	0	0	0	0	12

Project Components	V3-Decreer Char (No of respondent)					UP /UZ representative (No of respondent)				
	1	2	3	4	5	1	2	3	4	5
Rank										
Raised housing	0	0	0	0	16	0	0	0	0	8
Livelihood Training	0	0	0	2	14	0	0	0	2	6
Awareness generation	0	0	0	0	16	0	0	0	0	8
CCMC Formation	0	0	0	0	16	0	0	0	1	7
Training on early warning	0	0	0	0	16	0	0	0	0	8
Tree seedling plantation	0	0	0	1	15	0	0	0	0	8
Early Warning logistic	0	0	0	2	14	0	0	0	1	7

## 6. Annexure VI. Responses on how the sustainability of the project can be improved further

No of Respondent: 58

Female: 44, Male: 14

Here, V1=Tara Majhir Dangi under North Channel Union, V2=Ekram Mat. Dangi under Char Horrirampur Union, V3=Bapary Dangi under Decreer Char Union.

Respondent: Beneficiaries and secondary beneficiaries under the project.

Issue/particulars	(No of respondent)				
	V1	V2	V3	UP/Upazila	%
By extended project funding	05	03	04	5	29
By continued engagement of local communities by NGO	11	08	08	3	52
By sharing success story with communities nearby	02	01	01	0	06
By sharing success story with Government	0	0	01	0	02
By sharing success story with elected members	0	2	0	0	03
All above	0	0	2	0	03
Beneficiary practices and maintenance of the assets	2	0	0	0	03

## 7. Annexure VII. Responses on the percent of income increased due to the project

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No of Respondent: 58

Female: 44, Male: 14

Here, V1=Tara Majhir Dangi under North Channel Union, V2=Ekram Mat. Dangi under Char Horrirampur Union, V3=Bapary Dangi under Decreer Char Union.

Respondent: Beneficiaries and secondary beneficiaries under the project.

Increased income in %	No of respondents				%
	V1	V2	V3	Total	
Rank					
0-10%	1	0	0	1	02
10-25%	1	0	1	2	03
25-50%	14	15	12	41	71
50-75%	4	5	3	12	21
75-100%	1	1	0	2	03
Above 100%	0	0	0	0	00

## 8. Annexure VIII. Training schedule for poultry and livestock

Day / Time	Content	Sub content	Methods / Tools used	Facilitator
1 <sup>st</sup> Day: 9.30 am – 10.00 am	Inauguration	-Registration -Inauguration	Lecture	Hasina Aktar BM. Alauddin
10.00 am - 10.30 am	Expectation justify	-Introducing -Expectation of beneficiaries	Card/VIP card	Mamun, Ramkomol Roy
10.30 am - 11.30 am	Goal, Objective, importance	-Training objective -Importance based on char land -Overall goal of the training	Lecture, Brown paper, Permanent marker	Mamun, Suraya
11.31 am- 11.45 am	Tea break			
11.46 am- 12.30 pm	Variety of Livestock	-Variety of Livestock -Characteristics of livestock -Livestock rearing during flood	Lecture, Flip chart, Flip book showing	Pronob Kumar Ghosh-District Livestock Officer. Faridpur
12.31 pm- 1.30 pm	Shelter of Livestock	-Types of Shelter -Importance -Risk free shelter	Lecture, Flip book, Flip chart showing	Pronob Kumar Ghosh-DLO, Faridpur.
1.31 pm- 2.30 pm	Lunch break			
2.31 pm- 3.30 pm	Food of Livestock /Fodder	-Types of Fodder -Collection and maintenance of Fodder -Effect of weather, climate change, flood and disasters in livestock rearing	Lecture, feedback and Flip book and flip chart	Pronob Kumar Ghosh-DLO, Faridpur, Ramkomol Roy -FF.
3.31 pm- 4.30 pm	Diseases of Livestock	-Causes of Livestock diseases -Symptoms/criteria of diseases - Primary treatment of diseases	Lecture, sharing with beneficiaries, flip book, flip chart	Pronob Kumar Ghosh-DLO, Faridpur, Ramkomol Roy-FF.
4.31 pm- 5.00 pm	Summary of discussion	-Any question of day long discussion - Summary of discussion	Free discussion, question and answer	Participants and Pronob Kumar Ghosh-DLO, Faridpur, Ramkomol Roy-FF.
2 <sup>nd</sup> day: 9.00am- 9.30 am	Recap of previous day discussion	Recap of discussion	Free discussion	Participants



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Day / Time	Content	Sub content	Methods / Tools used	Facilitator
9.30 am-10.30 am	Diseases prevention	-Types of Vaccine -Methods of Vaccine -Collection of Vaccine -Procedures of Vaccination	Lecture, Flip book, Flip chart, Free hand Practical	Pronob Kumar Ghosh-DLO, Faridpur.
10.31 am-11.30 am	Poultry rearing	-Variety of Poultry -Characteristics of poultry -Selection of poultry for flood adaptation	Lecture, Flip book, Flip chart	Pronob Kumar Ghosh-DLO, Faridpur.
11.31 am-11.45 am	Tea break			
11.46 am-12.45 pm	Shelter of Poultry	-Types of Shelter -Arrangement of Safe shelter -Prepared of shelter as suitable for flood.	Lecture, Flip book, Flip chart	Suraya Akter
12.46 pm-1.45 pm	Poultry Food	-Types of Food -Providing food according to chick age -Importance of food -Food maintenance	Lecture, Flip book, Flip chart	Suraya Akter
1.46 pm-2.45 pm	Lunch			
2.46 pm-3.45 pm	Diseases of poultry	-Causes of Poultry diseases -Symptoms of diseases -What diseases occurs during flood/after flood -Primary tratment	Lecture, flip book, flip chart of livestock department of government showing	Pronob Kumar Ghosh-DLO, Faridpur
3.46 pm-4.30 pm	Prevention of diseases	-Vaccine -Methods of Vaccine -Collection of Vaccine -Procedures of Vaccination	Lecture, flip book, flip chart of livestock department of government showing	Pronob Kumar Ghosh-DLO, Faridpur
4.31 pm	Session evaluation and closing	-	-	Participants, B.M. Alauddin

## 9. Annexure IX: Training schedule for flood tolerable

### crops production

Time	Content	Sub content	Method	Materials	Facilitator
1 <sup>st</sup> day					
9.30 am-10.00am	Inauguration	-Registration -Welcome speech	Lecture	Attendance sheet	Hasina, B.M. Alauddin
10.00am-11.00am	Expectation justify	-Expectation of all beneficiaries -objective of training	Brain storming	VIP Card, Poster paper, Marker, sign pen	Hasina, Okhil Chandra Bairagi
11.00am-12.00am	Basic Climate Change Science: Global Warming, Greenhouse Gases and Consequences	-What is weather and climate -what is climate change, -what is global warming, source of greenhouse gases, consequences of GHG concentration in the atmosphere (mainly temperature change)	Lecture, Brain storming, Power point presentation	Poster paper, Laptop, Multimedia	Mamun
12.00pm-12.15pm	Tea break				
12.15pm-01.45pm	Climate Change Scenarios in Bangladesh	-Changes in temperature (changes in land Surface Temperature) - Variation in Rainfall	Lecture, Power point presentation	Poster paper, Laptop, Multimedia	Mamun
1.45pm-2.45pm	Lunch				
2.45pm-3.45pm	Weather effect in Paddy production	-Temperature -Effect of cold wave on Boro paddy which is harvested in April -To be done to overcome damages/effect of paddy -Effect of sunshine, rain, moisture for good yield	Lecture	Fact sheet /Flip book, Flip chart	Agriculture Officer
3.45 pm-4.45pm	Paddy cultivation in flood prone	-Types of Flood in Char land / Flooding pattern in Char land	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer

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Time	Content	Sub content	Method	Materials	Facilitator
	area	-Problems of paddy cultivation in flood prone areas -Selection of suitable paddy			
2 <sup>nd</sup> day					
9.30 am-10.00am	Recap of previous day discussion				
10.00am-11.00am	Flood tolerant crops in flood prone areas	-Aman paddy in flood prone areas -Variety of paddy for flood prone areas -Suitable Time for production	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer
11.00am-12.00am	Paddy seedlings/plants production in Flood affected areas (Floating seed bed)	-Importance -How to prepare floating seed bed -The appropriate time for seedbed preparation.	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer
12.00am-12.15pm	Tea break				
12.15pm-1.15pm	Characteristics of good seeds	-Importance of good seeds -Characteristics of good seeds	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer
1.15pm-2.15pm	Seeds storage	-Importance of seeds storage -Procedures of seeds storage	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer
2.15pm-3.15 pm	Lunch				
3.15pm-4.15pm	Evaluation of training				Beneficiaries/participants
4.15	Closing				B.M. Alauddin

## 10. Annexure X. Training schedule for climate resilient livelihood promotion

Time	Content	Sub content	Method	Materials	Facilitator
1 <sup>st</sup> day					
9.30 am-10.00am	Inauguration	-Registration -Welcome speech	Lecture	Attendance sheet	Hasina, B.M. Alauddin
10.00am-10.30am	Expectation of training	-Expectation of all beneficiaries -objective of training	Brain storming	VIP Card, Poster paper, Marker, sign pen	Hasina, Okhil Chandra Bairagi
10.30am-11.15am	Livelihood context in Char area	-What is livelihood -Livelihood system of Char land Peoples -Livelihood Coping Mechanism with Climate change and disaster	Brain storming, lecture	VIP Card, Poster paper, Marker, sign pen	SM Kuddus Mollah AKK core trainer
11.15am-12.00pm	Basic concepts of Climate Change	-What is climate change, -Why climate change occurs -What is climate disaster	Lecture, Brain storming, Power point presentation	Poster paper, Laptop, Multimedia	Mamun
12.00pm - 12.15pm	Tea break				
12.15pm - 01.45pm	Climate Change Scenarios in Bangladesh	-Changes in temperature (changes in land Surface Temperature) - Variation in Rainfall	Lecture, Power point presentation	Poster paper, Laptop, Multimedia	Mamun
1.45pm-2.45pm	Lunch				
2.45pm-3.45pm	Weather effect in crops production	-Temperature -Effect of floods in livelihood -To be done to overcome damages/effect of Flood -Effect of droughts in crops production -To be done to overcome damages /effect of drought	Lecture	Poster paper, Flip book, Flip chart	Agriculture Officer
3.45 pm-	Crops	-Types of Flood in	Lecture and	Poster Paper,	Agricultur

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Time	Content	Sub content	Method	Materials	Facilitator
4.45pm	cultivation in flood prone area	Char land / Flooding pattern in Char land -Types of crops in flood prone areas -Selection of suitable ground -Selection of suitable crops	picture showing	Flip book, Flip chart	e Officer
2 <sup>nd</sup> day					
9.30 am-10.00am	Recap of previous day discussion				
10.00am-11.00am	What is alternative livelihood considering new climate	-What is alternative livelihood system -Importance of alternative livelihood -Suitable Time for alternative livelihood	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agricultur e Officer
11.00am-12.00pm	Alternative livelihood option	-Cow & goat rearing -Milky Cow rearing -Homestead vegetable cultivation. -Floating Cultivation	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agricultur e Officer
12.00pm	Tea break				
-					
12.15pm					
12.15pm-1.15pm	Alternative livelihood option	- Tailoring -Handicraft -Seeds preservation -Livestock vaccinator	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agricultur e Officer
1.15pm-2.15pm	Alternative livelihood option	- Shallow machine repairing -Boat and fishing -Poultry	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agricultur e Officer
2.15pm-3.15 pm	Lunch				
3.15pm-4.15pm	Diseases and insecticides	-Livestock diseases -Primary treatment -Crops insecticide	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agricultur e officer
4.15	Evaluation and closing	-	-		Beneficiari es, B.M. Alauddin

## 11. Annexure XI. Training schedule for disaster risk reduction at Union level

Time	Subject	Content	Method	Materials	Facilitator
Day One: Understanding Climate Change, Climate Change Scenario, Responses to Climate Change					
9.30 am-10.00am	Welcome, Opening and Introductions	<i>Registration</i> Welcome Address by Host Chapter 01 of the Module Objective of the training course, contents of the training course, methods to be applied, training materials to be used, facilitators and their role during the training, review of the logistical matters etc. Self Introduction by all participants Sharing their expectations Presentation of Project progress.			Hasina, B.M. Alauddin, Mamun.
11.00am-12.00am	Basic Climate Change Science: Global Warming, Greenhouse Gases and Consequences	Chapter 02 of the Module What is weather and climate, what is climate change, what is global warming, source of greenhouse gases, consequences of GHG concentration in the atmosphere (mainly temperature change) <i>Approach: One Powerpoint Presentation, questions and answers</i> Purpose: Purpose of this session is to introduce basic climate change science and form a base to discuss the issue further as well will also be used to assess knowledge of the participants on basic climate change science			Mamun
12.00pm-12.15pm	Tea break				
12.15pm-01.45pm	Climate induced disaster in Bangladesh	Chapter 03 of the Module This session will introduce the trainees with the different disaster due to climate change and their consequences such as Changes in Flood pattern, change in cyclone severity, change in cold, drought  <i>Approach: One PowerPoint Presentation based on comparing present situation with previous, One Case Study Presentation from the Char area, questions and answers</i>			District relief and rehabilitation officer (DRRO)
1.45pm-2.45pm	Lunch				
2.45pm-3.45pm	Impacts of	Chapter 04 of the Module			District relief



Time	Subject	Content	Method	Materials	Facilitator
3.45 pm-4.45pm	Climate Change on different sector	This will cover impacts of climate change on different sectors under different climate change scenarios. <i>Approach: One Powerpoint Presentation on sectoral impacts based on IPCC Assessment Report, questions and answers</i>			and rehabilitation officer (DRRO)
	Linkage between Climate Change and Disaster	Chapter 05 of the Module The session titled “Link Between Climate Change and Disaster” is designed to provide <ul style="list-style-type: none"> <li>• Identification of area specific extreme climatic events or disasters i.e. flood, cyclone, etc.</li> <li>• Analysis of intensity and frequency of those events depending on temporal dimension</li> <li>• Vulnerability of the community to those events</li> </ul> <i>Approach: One Powerpoint Presentation based on IPCC Assessment Report, One Case Study. Presentation from the region or from the host country, questions and answers</i>			District relief and rehabilitation officer (DRRO)
2 <sup>nd</sup> day: Adaptation to Climate Change, Link between Adaptation Development, Methods and Tools for Assessment and Group Exercise					
9.30 am-10.00am	Recap of previous day discussion				
10.00am-11.00am	Adaptation to Climate Change	Chapter 06 of the Module Adaptation science, types of adaptation, context specificity of adaptation etc. <i>Approach: One Powerpoint Presentation</i>			District relief and rehabilitation officer (DRRO)
11.00am-12.00am	Link between Adaptation to Climate change and Development	Chapter 07 of the Module This session will cover link between adaptation and development, where commonalities and differences exist. <i>Approach: One Powerpoint Presentation based on different report, questions and answers</i>			District relief and rehabilitation officer (DRRO)
12.00am-12.15pm	Tea break				
12.15pm-1.15pm	Characteristics of good seeds	- Importance of good seeds - Characteristics of good seeds	Lecture and picture showing	Fact sheet, Flip book, Flip chart	Agriculture Officer
1.15pm-2.15pm	Methods and Tools: Impacts, Vulnerability and Adaptation	Chapter 08 of the Module This session will cover different top-down and bottom up methods and approaches. <i>Approach: One Powerpoint Presentation based</i>			District relief and rehabilitation officer (DRRO)

Time	Subject	Content	Method	Materials	Facilitator
2.15pm-3.15 pm 3.15pm-4.15pm	Lunch Group Exercise	Chapter 09 of the Module In this session, the trainees were segregated into groups and they will assess vulnerability of different sectors based on local knowledge. <i>Approach: Group formation, deliberation of group works on work sheet, Group presentation, questions and answers</i>			Beneficiaries/p articipants
4.15	Closing				B.M. Alauddin

## 12. Annexure XII. Training schedule for vegetable cultivation

Training duration: 2 days

Day	Time	Content	Facilitator
1 <sup>st</sup> Day	9.30 am- 10.00am	Inauguration	M.A. Jalil
	10.00am-11.00am	Introduction and expectations	Mamun
	11.00am-12.00pm	Objective of course, Introduction to vegetables, importance of vegetable cultivation, prospects of vegetable cultivation	Mamun, SM Kuddus Mollah
	12.00pm-12.15pm	Tea break	
	12.15pm-01.15pm	Land selection and prepare for cultivation	SM Kuddus Mollah, Core trainer of AKK
	1.15pm-2.15pm	Lunch	
	2.15pm -3.15pm	Vegetable cultivation methods, compost prepare, clean weeds	SM Kuddus Mollah, Core trainer of AKK
	3.15pm-4.15pm	Sowing seeds, making seeds bed, take care of seeds bed	SM Kuddus Mollah, Core trainer of AKK
	4.15pm-4.45pm	Summary of discussion	Beneficiaries
	9.30 am-10.00am	Recap	Beneficiaries
2 <sup>nd</sup> day	10.00am-11.00am	Summer vegetable seeds, winter vegetable seeds, methods of seeds production	Golam Rabbani, Resources person
	11.00am-12.00pm	Floating vegetable cultivation Identification the problem of water logging/flooding, effect of flood on food and nutrition	Golam Rabbani, Resources person
	12.00pm-12.15pm	Tea break	
	12.15pm-1.15pm	Floating vegetable cultivation, importance during flood, methods of floating vegetable cultivation	Golam Rabbani, Resources person
	1.15pm-2.15pm	Lunch	
	2.15pm-3.15pm	Types of floating vegetable, maintenance, insecticide	Golam Rabbani, Resources person
	3.15pm-4.15pm	Steps of floating bed prepare, seeds sowing	Golam Rabbani, Resource person
		Course evaluation	Beneficiaries, Ramkomol Roy

## 13. Annexure XIII. Training schedule for early warning dissemination

Participants: Members of the CCMC Groups; Duration: Two Days

Time	Title of the Session	Contents
1 <sup>st</sup> day		
9.30	Pre-training activities	Inauguration and objective
10.00	Introduction	Introduction among the participants, Training expectation
11.00	Floods in Bangladesh	Causes, past history, geo-physical vulnerability and changing scenario due to climate change
12.30	Tea break	
12.45	Flood forecasting and warning system in Bangladesh	Importance, existing system and limitations
1.45	Prayer and lunch break	
2.45	Community based flood warning system	Forming Warning Dissemination Groups (WDG), linking with national source, identifying local mediums and technologies and awareness raising
4.30	Summary of discussion	
2 <sup>nd</sup> day		
9.30	Recap	
10.00	Identification of local reference	Identification of local danger level and installation of flood marker
12.00	Tea break	
12.15	Flood warning message and interpretation	Development of warning message considering local context and livelihood groups, Warning flag and interpretation
1.30	Prayer and lunch break	
2.30	Role and responsibilities in warning dissemination	Pre, during and post flood
3.30	Development of warning dissemination plan	Identification of dissemination points, identifications of dissemination mediums, identification of activities, identification of responsible persons
4.45	Post training activities	Training evaluation, Remarks by the guest and participants, Certificate distribution
5.00	End of the training course	

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