Integrating the Sector Development Plan of Rio Conventions in *Hakaluki Haor*, Bangladesh; under the National Capacity Development for Implementing Rio Conventions through Environmental Governance (Rio Project)

## FINAL REPORT

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#### Submitted to:

## **United Nations Development Programmee**

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## **Acronyms and Abbreviation**

AIG = Alternate Income Generation

AIGA = Alternate Income Generation Activity

CBAECA = Community Based Adaptation in the Ecological Critical Areas

through Biodiversity Conservation and Social Protection

CREL = Climate Resilient Ecosystems and Livelihoods

CV = Curriculum Vitae

CWBMP = Coastal and Wetland Biodiversity Management Project

DC = Dry Cell

DoE = Department of Environment

DG = Director General

ECA = Ecologically Critical Areas

FGD = Focus Group Discussions

HH = Hakaluki Haor

MACH = Management of Aquatic Ecosystem through Community

Husbandry

MCG = Micro Capital Grants

MoEFCC = Ministry of Environment, Forest and Climate Change

NACOM = Nature Conservation Management

PA = Protected Area

PMU = Project Management Unit

SEMP = Sustainable Environment Management Programme

ToR = Terms of Reference

UNCBD = United Nations Convention on Biological Diversity

UNCCD = United Nations Convention to Combat Desertification

UNFCCC = United Nations Framework Convention on Climate Change

UNDP = United Nations Development Programme

VCC = Village Conservation Centre

VCG = Village Conservation Group

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## 1. INTRODUCTION

### 1.1 Project Background and Context

Hakaluki Haor is one of the largest fresh water ecosystems in Asia and it covers 18,039 hectors in dry and 39,322 hectors in rainy season. This unique wetland hosts 238 connecting *beels*, more than 100 species of fishes, 417 species of birds and also host 200,000 people, who are mostly, depend on the *haor* resources for their livelihoods. There are many projects have been implemented in the past some of them are SEMP, MACH, Nishorgo Support Project, CREL, CWBMP, CBAECA etc. However, the ecosystems are degreed but the abovementioned project activities has been created positive impacts and reduce the vulnerability at certain level and there is more scope to improve the situation by involving community people and will create opportunity to halt the degradation of the *haor* ecosystems.

Build upon the successful experiences of the Coastal and wetland Biodiversity Management Project (CWBMP), the Department of Environment (DoE) has been implementing the Community Based Adaptation in the Ecologically Critical Area through Biodiversity Conservation and Social protection (CBA-ECA) Project" to sustainably mange the globally important biodiversity and natural resource bases, while improving the livelihoods of local community and enhancing the resilience of local community against climate change impacts.

The project has taken a community based approach and has put in place an institutional framework for the management of ECAs in the country. Lower tier of this framework is the grass root level community organization, the Village Conservation Group (VCG) – is central to the ECA and its biodiversity management. The VCGs are actively engaged in designing and implementing conservation and climate change adaptation interventions. It is often emphasized that capacity building of the VCGs and livelihood improvement of poor resource users will contribute significantly in biodiversity of the ECAs and livelihood security of the people dependent on the ECA resources.

In particular, the project emphasizes on the livelihood skill development for alternate/supplementary income generation and providing some inputs to support undertaking such activities. The project also intends to introduce certain climate change adaptation measurements, in particular introduction of solar home systems for livelihood improvements. In addition, cow, sheep and chicken will provide to the VCG members for livelihoods. The echo tourism is also considering by providing capacity building training and other interventions.

Considering the situation UNDP Bangladesh came forward is taking up integrating the sector development plan of Rio conventions in *Hakaluki Haor*, Bangladesh: under the national capacity development for implementation the conventions through environmental governance (Rio Project).

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### 1.2 Objectives of the Project

The immediate objective of the project is to enhance the productivity of the forest and to strengthen awareness and skills of the community for effective managing bio-physical and aquatic biodiversity of the *Hakaluki Haor*.

Specific objectives of the project are to:

- Engage the community through improved life-skill practices which will be in the line with the sector development plan of the Rio Conventions.
- Support to the existing participatory management e.g., Village Conservation Group (VCG) by enhancing the productivity of land, protection of environment, development of eco-tourism, advanced skill building.
- Strengthen perception and behavior of the VCGs toward the Rio Conventions and the obligations of United Nations Convention on Biological Diversity (UNCBD), United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Convention to Combat Desertification (UNCCD) applicable for the haor areas.
- Make efficient communication with the central and logical government by strengthening their skills on the Rio Conventions and providing active assistance in day-to-day implementations.
- Make certain the visible outcomes of the implementation activities identified in the sector development plan at local level within the time bound.

#### 1.3 Planned Activities as ToR

According to ToR NACOM will implement the following activities under the different components in the piloting area of *Hakaluki Haor*. After discussion with UNDP and PMU DoE, the pilot area has been finalized and selected a VCG named Jodhistipur-Badedeuli Village Conservation Group. The planned activities mentioned in the ToR are:

## Component 1: Plantation in the degraded and unused land for better environmental protection

- 1.1 Conduct baseline study for identifying degraded and unused land for plantation
- 1.2 Facilitate to establishing a nursery at VCG level
- 1.1 Conduct a training for nursery establishing and operating
- 1.4 Plantation in the degraded and unused land
- 1.5 Conduct meetings with community to involving them in the nursery establishing and management

#### Component 2: Promotes livelihoods development

- 2.1 Conduct baseline study for livelihood development of the piloting area
- 2.2 Support small scale enterprises through solar panel
- 2.3 Promote livelihood development activities to the VCG (cattle, sheep, chicken)
- 2.4 Promote compost fertilizer production
- 2.5 Conduct meetings with community to involving them in the compost fertilizer production

#### Component 3: Protection of soil erosion and land degradation

- 3.1 Conduct baseline study for identification of present soil erosion and land degradation in the area
- 3.2 Selection of plantation sites and plant species
- 3.3 Plantation on gentle hill slope
- 3.4 Demonstration of hills slope farming

#### Component 4: Promote ecotourism

- 4.1 Conduct feasibility study for ecotourism development
- 4.2 Conduct capacity building training for ecotourism activities management

Component 5: Capacity building for managing ecosystem, community based adaptation and land degradation

- 5.1 Conduct community awareness meeting on ecosystem management, community-based adaptation and land degradation
- 5.2 Organize a capacity building training for community leaders and local government officials on community based ecosystem management
- 5.3 Preparation and dissemination of IEC materials for ecosystem management, community based adaptation and land degradation (Posters and booklets)

### 1.4 Project Site

Department of Environment, UNDP and NACOM selected Judhishtipur, Fenchuganj, Sylhet as project site for implementing this project. Judhishtipur is a village of Fenchuganj which is about 30 kilometer south from Sylhet.

## 1.5 Purposes of the Final report

The purpose of this report is to demonstrate the completion of project activities during the stated period and identifies different aspect of the achievement and constraints that affected the project outputs and deliverables. This final report is the final deliverable milestone and to be submitted as per the reporting requirement of the contract with UNDP.

## 2. ACCOMPLISHMENT

### 2.1 Inception activities

#### 2.1.1 Inception Meeting

An inception meeting was held with Project Management Unit at the project office at the Department of Environment, Dhaka on 10<sup>th</sup> October 2018. The meeting discussed a number of different aspects of the actions there were mobilization schedule, management arrangements and communication protocols. In meeting it was discussed that a launching workshop of the project will be held at the project site and senior MOEFCC, DOE and UNDP Official will be attended. Local different stakeholders will be invited in the workshop and update them about the project. The workshop cost will be covered by the client but necessary logistical support will be provided by NACOM.

The Project Director of the project expressed his concern that as the project is a short duration so the activities can be completed in line with the work plan. In the meeting, National Project Director (Mr. Ziaul Haque), Project Officer (Farhad Alam, Rio Project), Project Manager, NACOM (Abdul Mannan), Director, NACOM (Rashiduzzaman Ahmed) were present in the meeting.

#### 2.1.2 Staff Mobilization:

The key staffs like Programme Organizer (Haor Management), and local community volunteer were mobilized to the field just after the commencement date of the project. The Project Manager and Programme Assistant (Admin & Finance) were also onboard in due time.

#### 2.1.3 Reconnaissance Field Visit

A quick site visit was conducted by the Programme Organizer (Haor Management) and the local community volunteer. They contacted with VCG and community members and briefed about the new UNDP/DoE project. They also sat with VCG members for sharing activities of the project and getting tentative locations of plantation and livelihood activities.

On 24th and 25th of October, Project Manager -NACOM made a field visit and meet with VCG members and discussed how the implementation will be done with this short period of time.

## 2.2 Site selection for hill slope plantation and demonstration

The project team members discussed the site selection for plantation activities with VCG members but they informed that there is no fellow land in the hill slope of about 3 acres or more land for piloting for plantation. As suitable places for hill slope plantation and demonstration in one location is not available in the piloting area, the VCG group is suggested to plant hill slope plants and demos in different homesteads of VCG members. The VCG members has agreed and mentioned that they will take care of these plantations regularly.

A resource map has been prepared by the VCG members to show where plantation activities can be done in *kandas* and fallow land in the *haor* areas. The exercise aimed to raise interest and increase sense of ownership among the VCG members about the project. NACOM believes if local people own the project, then outcomes of this will sustain.

### 2.3 Facilitate of the Lunching Workshop

UNDP and Project Management Unit of DoE had organized a lunching workshop in the field (Fenchuganj Upazila Parishad, Sylhet). In that workshop senior Officials, Dr. Munjurul Hannan Khan, Additional Secretary, Dr. Nurul Quadir, Additional Secretary, Md. Mozahed Hossain, Additional Secretary of the Ministry of Environment, Forest and Climate Change participated in the workshop.



Image 1: lunching workshop

Director General of Department of Environment, Natinal Project Director of the Project and Arif Mohammed Faisal, Programme Specialist, UNDP also participated in that workshop. In the workshop DoE Representative from Sylhet and NACOM director, Fenchuganj Upazila Nirbahi Officer, Fenchuganj Upazila ECA committee members, Gilachara UP Chairman & members, local journalist Jodhistipur-Badedeuli VCG members were present in the workshop. The speakers highlighted the importance of *Hakaluki Haor*, natural resources and participation of local communities in resources conservation and sustainable management in their speech. After the workshop the guests participated in a tree plantation programme, in which they planted fruit bearing tree saplings in the hills slope and distributed sheep and chicken among the VCG members. They also attended a meeting with the VCG members. The highlights of the workshop:

- National Project Director briefly described the main objectives of the Rio Project implemented in *Hakaluki Haor*.
- *Hakaluki Haor* is one of the important wetlands of the country with good population of birds and wildlife. The *haor* is one of the fresh water mother fisheries of the country.

- The *haor* resources should be conserved by involving local communities.
- The Department of Environment has initiated a number of project in the Hakaluki haor early and formed VCC for strengthening the conservation activities. The MoEFCC has lunch SEMP, USAID supported NSP, CREL and other conservation and livelihood improvement project in haor areas.
- The Hakaluki *Haor* is an Ecological Critical Areas site and government has taken different initiative to restore the degradation of the wetlands and improve the livelihoods condition of the community people. The Rio project is another such project to improve the habitat condition and improve the livelihoods condition of the local community and capacity building activities.
- Local community people has recognized the contribution of the Ministry of Environment, DoE and CREL for continuous support and helping the VCG for sustainability and contribution in nature and biodiversity conservation.
- Under the Rio Project, one community members receive Solar Home System as he has no national grid connection.



Image-2: Meeting with the VCG members and Sheep and Chicken Distribution

## 2.4 Implemented Activities

Component 1: Plantation in the degraded and unused land for better environmental protection

#### 1.1 Identification of degraded and unused land for plantation

FGD was conducted for identification of degraded land for plantation. 12 members from local VCG were present in the FGD. According to the FGD, *Birali canal* bank found suitable for swamp plantation. They suggested Hijol, Karach and Borun species for

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plantation. Also a resource map was developed in this FGD. The resource map is included in the Annex 1.

Table -1: Outcome of the FGD for swamp plantation

Proposal/suggestion	Location	
Swamp Plantation	Birail Canal Bank of Hakaluki haor	
Plant species	Hijal, Kirach, Borun	
Plantation Time	Mid November	

#### 1.2 Establishment of a nursery at VCG level

Under the project scope a nursery was established to meet the local demand for tree saplings and to increase the income of the Judhishtipur VCG. After discussion with VCG, a land of Md. Saleh Ahmen has been selected at for nursery establishment. VCG entrusted Md. Saleh Ahmed with the responsibilities of take management and operation of the nursery. NACOM provided local VCG with the seeds, equipment and essential materials for nursery establishment.



Image-3: Established Nursery in Judhishtipur

#### 1.3 Training provided for nursery establishing and operating

A 3 days long trainings on nursery establishment and operation was provided for the members of Judhistipur – Badedeuli VCC. A total of 23 participants were present in the training, among them 17 were male and 6 were female. Upazila Agriculture Officer and Local Nursery Owner were facilitated the nursery establishment and operating training. In the training the VCC members got knowledge on various aspects of the nursery establishment and management. Upazila Agriculture Officer described various

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challenges for establishment of nursery and how to overcome the challenges. List of participants is provided in Annex-3.





Image-3: Trainings on nursery establishment and operation

#### 1.4 Planted tree saplings in the degraded and unused land

NACOM with the support of the local community planted 2150 saplings of *Hijol, Karach* and *Barun* species at the bank of *Birali canal* in Hakaluki *haor*. These species name came out when NACOM conducted the FGD to identify degraded land for plantation. To ensure the protection of the tree saplings, bamboo fence used and also a bamboo sticks are used for each sapling as a support. NACOM employed two guards after the consultation with the local VCG.



Image-4: Nursing swamp plantation ar Birali canal

# 1.5 Facilitated meetings with community for involving them in the nursery establishing and management

NACOM has facilitated two meetings with the VCG members for involving them in the nursery establishment and Management. In this meeting VCG members discussed about the management of the established nursery. Field organizer of NACOM facilitated the meetings and shared his thought and suggestions. A list of the meeting participants provided in the annex-4.

Table-2: Meeting nursery establishment and management

Date	Place	<b>Total Participants</b>	Male	Female
11-02-2019	Judhishtipur-Badedeuli VCG	20	15	05
07-03-2019	Judhishtipur-Badedeuli VCG	15	14	01

#### Component 2: Promotes livelihoods development

#### 2.1 Baseline study for livelihood development of the piloting area

A Focus Group Discussion (FGD) on the present status of livelihood of the VCG members has been conducted at Judhistipur-Badedeuly VCG, Judhistipur, Fenchugani, Sylhet. The FGD revealed that the VCG members are from different professional groups, such as farmer, fisher, day labour and housewives. Among the VCG members nine people involved in agriculture, six in daily labour, eleven in fishing and nine women (who are involved in home making). Among the VCG members, five members involved in cattle rearing (cow and goat, but a few sheep) and most of the households of the VCG members have poultry (chicken and duck). A total of 14 members got AIGA support (poultry, cow and sewing machine) from previous projects, especially from CBA-ECA and CREL Projects. A total of 24 members got loan from MCG of the VCG; among them 13 already refunded their loan and the rest 11 will be expected to refund this December. However, they did not receive any loan or support from any other organization. Only 3 members got vegetable demonstration supports from CREL Project. The VCG got support from CREL Project for establishment of a cattle farm, where they are currently rearing 4 cows and 5 cubs. They also got support for purchasing a CNG driven baby taxi, a power tiller and a rice husking machine, all of which are used for increasing VCG fund, and from which they are currently maintaining conservation costs.

Table-3. Profile of VCG members

Category/profession	Number
Agriculture	09
Daily labor	06
Fisherman	11
Home maker	9

#### 2.2 Provided support small scale enterprises through solar panel

Jodhistipur-Badedeuli VCG has 35 members. Among them only one member has no access to electricity. VCG members suggested for installing one solar panel in the house of Mr. Md. Goni Miah, who has no access to electricity. NACOM installed a 100 watt solar home system with the provision of two DC light, 1 stand fan and a mobile charging point.

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Image-5: Solar home system for Mr. Md. Goni Miah's House

#### 2.2.1 Provided Support for Dragon Fruit Cultivation

No household found without electricity in the project area except for the one house of Md. Goni Miah. So only one solar panel has been provided Goni Miah's house under the activity no 2.2. As a result budget under this activity remain unused. Therefore NACOM decided to provide Dragon fruit cultivation support to the VCG from the available funds from the Solar plnnels and UNDP approved of the plan. This will help the development of livelihood of the VCG members. As a result NACOM provided support and material for Dragon fruit cultivation. Under the supervision of NACOM field organizer VCG member prepared pit with compost fertilizers for planting Dragon Cuttings. A total 180 dragon cutting planted in the project site.



Image-5: Pit for Dragon Fruit Cultivation

## 2.3 Promoted livelihood development activities to the VCG (cattle, sheep, chicken)

NACOM has completed the activities for the promotion of livelihood development. Based on the field requirement and PPR 2008, for procurement of sheep, cattle and we published our tender notice in the daily local newspapers and received 3 tenders from three different farms. Among three farms lowest bidder farm has been selected. 8 Frisian cows, 50 sheep were purchased and distributed to the VCG s established farm. The Cattle and sheep were checked by the Upazila Livestock Officer during handover to the VCG. During the discussions with VCG members they prefer to have Turkey instead of chicken (Sonali Species). Therefore NACOM selected a firm to provide 350 Turkey after a rigorous procurement procedure. In reality NACOM distributed 359 Turkey (70 days aged) among the VCG Members. Turkey supplier provided a short training on the turkey rearing. (List of Sheep and Turkey Distribution included in Annex-5)

Table-4: Activities for promotion of livelihood development

Activity	Date of Completion
Provided Cows and Ox for Rearing	January 22, 2019
Provided Sheep for Rearing	January 22, 2019
Provided Turkey for Rearing	April 10, 2019







Image-6: Activities for promotion of livelihood development

#### 2.4 Promote compost fertilizer production

For the promotion of compost fertilizer production and it's use, a compost pit constructed near cattle farm at Judhishtipur. NACOM provided support for the construction of the compost pit for fertilizer production. Shed for compost pit constructed and compost fertilizer production is ongoing.



*Image-7: Pit for compost fertilizer* 

## 2.5 Facilitated meetings with community to involve them in the compost fertilizer production

Two meeting with local people were conducted for involving the community for production of compost fertilizer and aware them on green manuring. Twenty seven member of the local community were present in these meetings. Among them 19 were male and 8 were female. List of participants are provided in Annex 6.

#### Component 3: Protection of soil erosion and land degradation

#### 3.1 Present soil erosion and land degradation in the project site identified

A FGD was conducted for identification of degraded land and causes for soil degradation in the project area. Twelve VCG members were present at the FGD. All the house of the participated VCG members are situated on the hills slope and all of the hills are owned by local people. They identified the degraded land and also identified the causes of soil degradation. One of the identified major causes of soil erosion is degradation of plantation and unscientific cultivation in the hill areas.

#### 3.2 Selection of plantation sites and plant species

Local people of the Judhishtipur VCG decided to plant trees in their own house premises, hill slope. They also mentioned that there are no fallow hills for demonstration of hill farming practices. They suggested instead of 3 demonstration hill farming, they would like to establish 35 small demonstration plots in VCG members houses. And they emphasized on the fruit bearing species. So considering all the following tree species are selected, Mango, Jackfruit, Malta, Thai Guava, Jara Lemon, Kagoji Lemon, Seedless Lemon, Lotkon, Bilombi, Amloki for demonstration plots. For hill slope plantation, the selected species are Bohera, Horitoki, Aurjun, Local Neem, Rain Tree, Chikrashi, Agor, Chambol etc.

#### 3.3 Plantation on gentle hill slope

From the outcome of the discussion with PMU and local VCG members, NACOM along with Judhishtipur VCG planted 1000 of different plant species saplings in the hill slope. Before plantation VCG members prepared hole and mixed compost fertilizer with the soil. The planted species and numbers of saplings are given below in the table:



Image-8: Hill slope plantation for erosion protection

Table-5: Hill slope plantation information

Sl. No.	Name of species	Number of species
1	Bohera	100
2	Horitoki	100
3	Aurjun	100
4	Deshi Neem	200
5	Raintree	100
6	Chikrashi	200
7	Agor	100
8	Chambol	100
	Total	1,000

#### 3.4 Demonstration of hills slope farming

NACOM consulted with PMU and local VCG members and established 35 small demonstration plots at the surrounding of the VCG members residences. NACOM with the VCG members planted 3,300 different fruit bearing plant species in their houses. The plantation species and numbers of saplings are in below table 5



Image-9: Hill slope demonstration plot

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Table-5: Distribution of planted species and number

Sl. No.	Name of species	Number of Saplings
1	Mango (Amropali)	300
2	Jackfruit (Kanthal)	300
3	Malta	100
4	Thai Guava	600
5	Jara Lemon	600
6	Seedless Lemon	500
7	Kagoji Lemon	500
8	Lotkon	100
9	Bilombi	100
10	Amloki	2000
	Total	3,300

All of the 35 VCG members established small demonstration plots in the premises according to the available land. Numbers of saplings in their plots are given in the below table:

Table-6: Community members and receives of plant sampling for demonstration plot

Sl. No.	ole-6: Community members and receives of plant samp.  Name of VCG members	ling for demonstration plot  Number of saplings
1		180
2	Md. Shafiqur Rahman Md. Abdus Sattar	80
	Md. Helal Uddin	400
3 4	Md. Ekhlas Miah	50
5	Md. Marom Ali	30
6	Md. Dudu Miah	30
7		
8	Md. Salik Miah Md. Sunamuddin	100
		80
9	Sheikh Mohib Uddin	350
	Md. Abdul Gani	30
11 12	Shailesh Biswas Md. Hadish Ali	30
		100
13	Md. Nesar Ali	100
14	Sree Doyamoy Biswas	20
15	Md. Chinor Ali	30
16	Md. Sona Miah	60
17	Md. Mojnu Miah	200
18	Md. Mosabbir Miah	30
19	Md. Motir Ali	30
20	Sumnath Kumar Das	150
21	Saleh Ahmed	150
22	Md. Akbul Hossain	30
23	Md. Abdul Jabbar	25
24	Md. Sanur Miah	25
25	Md. Sirajul Islam	50
26	Md. Yusuf Ali	130
27	Tasirun Begum	30
28	Kallayni Rani Das	100
29	Selina Akter	200
30	Sheli Begum	30
31	Champa Begum	150
32	Semon Ara Begum	100
33	Rubena Begum	30
34	Lila Rani Acharjee	150
35	Sazia Khanom	20
	Total	3,300

### Component 4: Promote ecotourism

#### 4.1 A feasibility study for ecotourism development conducted

Feasibility study for ecotourism development in the piloting area has been completed. An external expert has conducted the survey and identified the opportunity of promoting ecotourism in the piloted area. A detailed report on the feasibility study is provided in Annex 8.



Image-10: External Expert Conducting Feasibility study for ecotourism

#### 4.2 Facilitated capacity building training for ecotourism activities management

Extenal expert and field organizer of NACOM facilirtated a two day long capacity building training on ecotourism activities management on 12-13 December'2018 at Judhishtipur VCG. Thirty members from Jodhistipur-Badedeuli VCG and Akota VCG were participated in the training. Md. Mohiuddin Mahi, CEO, Rope4, a nature based tourism organization was present as an ecotourism expert for conducting ecotourism management training. The following topics were discussed in the training sessions;

- Concept of tourism and ecotourism,
- Scopes of ecotourism in Hakaluki Haor,
- Role of eco-guide for eco-tourism facilitation,
- Role of ecotourism facilitation for ecosystems as well as ECA management,
- What to do or don't do during visiting a PA/ECA,
- Concept of biodiversity and its conservation,
- Important ecotourism spots in and around HH ECA as well as in Bangladesh.

(Detailed program schedule is given in Annex 7 and the report produced by the external expert added in the annex 8).



Image-11: Training on Management of ecotourism activities

Component 5: Capacity building for managing ecosystem, community based adaptation and land degradation

# 5.1 Arranged Programmes for Raising Community awareness on ecosystem management, community-based adaptation and land degradation

NACOM conducted 5 awareness programs for local VCGs members, community people, school students, teachers and local government officials. The awareness programs were conducted at Jadhistipur-Badedeuli VCC, Mokam Bazar, Akota VCC, Gilachara High school and Gilachara Primary school. Management of natural resource, climate change adaptation, soil degradation, protection of swamp forest and biodiversity, hill slope plantation, ecosystem management, etc. topics were discussed in these awareness programs.





Image-12: Awareness Programme

## 5.2 Organized a capacity building training for community leaders and local government officials on community based ecosystem management

NACOM successfully conducted a two days long capacity building training on ecosystem management and community based adaptation. Eighteen participants from Jodhistipur-Badedeuli VCG, Akota VCG, Gilachara UP members, local elites Participated in the training. ECA Management Officer, Sylhet, Upazila Fisheries Officer, Fenchugani, Project Officer UNDP, Project Manager NACOM and Programme Organizer were present in the training as resource persons.



Image-13: Ecosystem management training

In this training following topics discussed with the participants.

- Concepts of environment and ecosystem,
- Ecosystem functioning and its services,
- Ecosystem management through community based approach,
- Concepts of climate change and adaptation,
- Integration of climate change and adaptation issues in ecosystem management,
- Wildlife, role of wildlife for keeping environmental balance and wildlife protection, vii) Hill slope plantation, swamp plantation and swamp regeneration protection in HH ECA,
- Role of VCG and ECA Coordination Committees for Hakaluki Haor ECA Management according to ECA Management Rules, 2016,
- Fisheries Resources and Fish Sanctuary management of Hakaluki Haor ECA,
- Action Plan development for ecosystem management by VCGs.

(Detailed program schedule and participants attendance sheet are given in Annex 9 and Annex 10).

#### 5.3 Prepared and disseminated IEC materials (Posters and booklets)

NACOM prepared 6 different posers as a part of the activities of this project. Posters mainly developed focusing on tree plantation, promoting ecotourism, community based adaptation and awareness on climate change adaptation and mitigation, biodiversity conservation and reducing land degradation in Hakaluki haor. Posters also attached in the Annex-14.

NACOM also prepared 3 booklets. Those booklets focused on the community based adaptation, prospects of ecotourism in Hakluki Haor and Conservation of natural resources in hakaluki haor.

## 3. LESSON LEARNED FROM THE PROJECT

- ➤ Local/ indigenous plant should be given priority for plantation activities.
- Innovative livelihood option will be prioritize,
- Alternative livelihood options were highly appreciated by the beneficiaries such as dragon cultivation, turkey rearing, nursery.
- ➤ More emphasis should be given on ecotourism facilitation in the area. For an example the existing watch tower and Birali Khal biodiversity sanctuary should be given priority for developing ecotourism facilities in Hakaluki haor. Every year during rainy season people visit this watch tower and the plantation adjacent to Birali Khal. So Judhishtipur can be a center for flourishing ecotourism.
- ➤ Addressing various issues of governance of the VCG must be included in the activities of future conservation projects.
- ➤ Capacity building of the local community should be emphasizes for conservation of natural resource and management.

## 4. CHALLENGES

- ➤ Local influential people often tried to influence the activities of the project in their favor.
- ➤ A number of VCG members are illiterate, so it was somewhat difficult to implement the activities of the project. However, we have tried to make them more aware of the situation and about their responsibilities.
- ➤ Governance of the Judhishtipur-Badedeuli VCG should be strengthen for better conservation and sustainability.

## 5. RECOMMENDATION

- Activities related to biodiversity conservation, community based adaptation should go on without any interval. So continuation of the activities is essential.
- ➤ Union ECA Coordination Committee, Upazila Coordination Committee must play very active role in this kind of project.
- Addressing weakness of the VCG must be a part of the activities in future projects.
- More female member of the VCG should be included for balancing the group.
- > Capacity building of the VCG members will be increased on eco-tourism, NRM

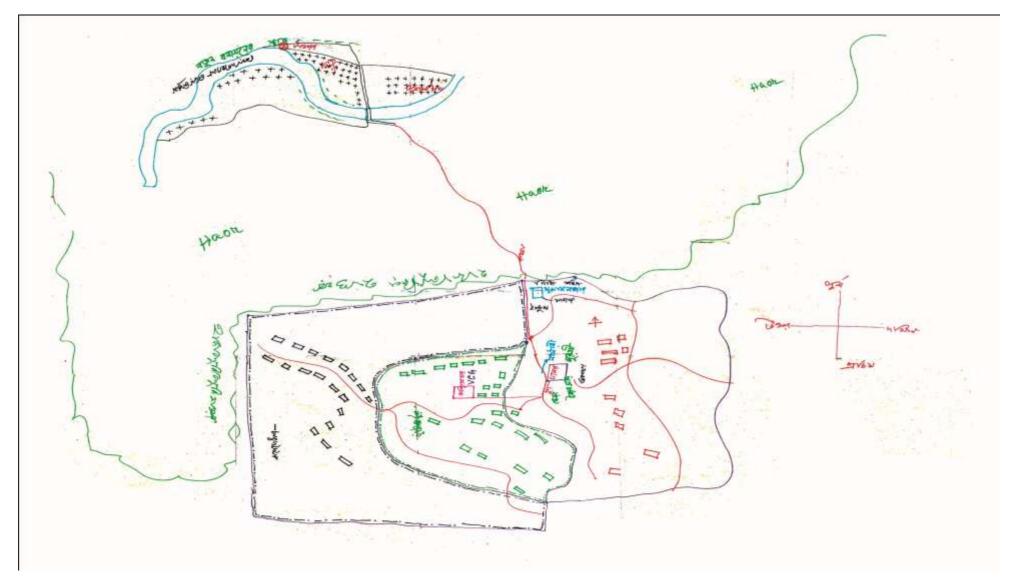


Image: Resource Map of the piloting area

## রিও প্রকল্প সহায়তায়ঃ ইউএনভিপি বাস্তবায়নেঃ পরিবেশ অধিদপ্তর ও নেচার কনজারভেশন ম্যানেজমেন্ট (নেকম)

कार्यक्रम्ब मामा FGD for identify degraded land. (1.1) তারিখঃ ২৪/১০/১৮ शनः भूमिनिक्क करणायां के की रिक्तिलेडा পদবী/ঠিকানা স্বাক্ষর অংশগ্রহণকারীর নাম -न१ ME MONTE 0 हिन्द खार्भी 61 (आ: प्राचिक भिया का: আং গনি KW)18 आ: 21/me one sh N (का ठारकी बर-SC 22 (Bashir Africad)

List of FGD participants

### নেচার কনজারভেশন ম্যানেজমেন্ট (নেকম) বিও কনভেনশন বাস্তবায়নের লক্ষো সক্ষমতা বৃদ্ধি প্রকল্প হাকাগুকি হাওড় সাইট, সিলেট

कार्यक्रत्यत्र नामः म्रह्मित्वर रक्षम् अ सुराक्ष्मभ्य (क्रिक्त म्रिक्किक्र) शनः युत्तिर्यिक्तः, - अपूत्तिक्रेन्स विक्रित्य, युत्तिर्यक्षः, जातित्रः ७४/०४/२०० स

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## কার্যক্রমের নামঃ

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## নেকম-রিভ প্রজের হাকালুকি হাওর সাইট

# টার্কি মুরগী ও খাবার বিতরণ

রুন: যুধিটিপুর ও বানেদেউলী গ্রাম, ফেব্ছুগঞ্জ, নিলেট।

তারিখ: 10.04.19 .

যুধিষ্টিপুর - বাদেদেউলী গ্রাম সংরক্ষণ দল (ভিসিঞ্জি)-এর সদস্যদের মাঝে টার্কি মুরগী ও

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25	মোঃ হদিশ আলী	গ্রাম-বাদেদেউলী, ইউনিয়ন-ঘিলাছড়া উপজেলা-ফেফুগঞ্জ, জেলা-সিলেট	22	22K8	vel 1000
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26	মোঃ সোনা মিয়া	গ্রাম- যুধিষ্টিপুর, ইউনিয়ন-খিলাছড়া উপজেলা-ফেঞ্চগঞ্জ, জেলা-সিলেট	22	32 K	8 ~ C218 WATS

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39	মোঃ মজনু মিয়া	গ্রাম- যুধিষ্টিপুর, ইউনিয়ন-ঘিলাছড়া	সংখ্যা	পরিমান	
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20	স্মন্ত কুমার দাস	থাম-বাদেদেউলা, ইউনিয়ন-খিলাছডা		- Ka	vel
23	ছালেহ আহমদ	উপজেলা-ফেব্ৰুগঞ্জ, জেলা-সিলেট	22	22/9	A.S.S.
~	SWA SIRAH	গ্রাম- যুধিষ্টিপুর, ইউনিয়ন-ঘিলাছড়া	22	2019	1816 1
22	মোঃ আকবুল	উপজেলা-ফেব্ৰুগঞ্জ, জেলা-সিলেট	22	0.0	112 4
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		উপজেলা-ফেম্বুগঞ্জ, জেলা-সিলেট	22	25 kg	कारिया ।
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99	রুবেনা বেগম	উপজেলা-ফেব্দুগঞ্জ, জেলা-সিলেট	20	20,9	
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200		উপজেলা-ফেখ্যুগঞ্জ, জেলা-সিলেট	22	200	1 mides

## নেচার কনজারভেশন ম্যানেজমেন্ট (নেকস) রিও কনভেনশন বাস্তবায়নের লখ্যে সক্ষমতা বৃদ্ধি প্রকল্প হাকালুকি হাওড় সাইট, সিলেট

कार्यक्रस्पत्र गांगः कार्यक्रम् सिक

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# নেচার কনজারভেশন ম্যানেজমেন্ট (নেকম) রিও কনভেনশন বাস্তবায়নের লফ্যে সক্ষমতা বৃদ্ধি প্রকল্প হাকালুকি হাওড় সাইট, সিলেট

## কার্যক্রমের নামঃ

স্থানঃ

তারিখঃ

ক্ৰ: নং	অংশগ্রহণকারীর নাম	পদবী/ঠিকানা	স্বাক্ষর
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# Training Program schedule on Ecotourism development and ecotourism activities management Venue: Judhistipur-Badedeuly VCC, Judhistipur, Fenchuganj

Date	Time	<b>Topics Discussion</b>	Name of Trainer
Day 1	10.00-11.00	ncept of tourism and ecotourism	Md. Mohiuddin,
(12.12.18)		-	Ecotourism Expert
	11.00-11.15 Tea Break		
	11.15-12.15	pes of ecotourism in Hakaluki Haor	Md. Mohiuddin,
			Ecotourism Expert
	12.15-1.15	ncept of biodiversity and its conservation in	Bashir Ahmed,
		Hakaluki Haor	Programme
			Organizer
	01.15-2.15	Prayer and Lunch Break	
	02.15-3.30	e of eco-guide for eco-tourism facilitation	Md. Mohiuddin,
			Ecotourism Expert
Day 2	10.00-11.30	portant ecotourism spots in and around HH	Md. Mohiuddin,
(13.12.18)		ECA as well as in Bangladesh	Ecotourism Expert
	11.30-11.45	Tea Break	
	11.45-01.00	at to do or don't do during visiting a	Bashir Ahmed,
		PA/ECA	Programme
		,	Organizer
	01.00-02.00	Prayer and Lunch Break	
	02.00-03.00	e of ecotourism facilitation for ecosystems	Md. Mohiuddin,
		as well as ECA management	Ecotourism Expert

# Annex 8. Ecotourism feasibility study report







Integrating the Sector Development Plan of Rio Conventions in Hakaluki Haor, Bangladesh; under the National Capacity Develoment for Implementing Rio Conventions through Environmental Governance (Rio Project) Hakaluki Haor ECA

# REPORT on Feasibility analysis for Ecotourism development



Submitted to
Project Management Unit
Department of Environment
Agargaon, Dhaka
Submitted by



**Nature Conservation Management (NACOM)** 

January 2019

# Feasibility analysis for ecotourism development in Hakaluki Haor

#### Overview

Hakaluki Haor, Sylhet is a marsh wetland ecological system of North-Eastern Bangladesh. We are blessed with huge inland open water resources. It has numerous rivers, canals, lakes, and vast areas of floodplains. Hakaluki Haor is one of the major wetlands of Bangladesh with a land area of 18,386 hectares, it supports a rich biodiversity and provides direct and indirect livelihood benefits to nearly 200,000 people. This Haor was declared an Ecologically Critical Area in April 1999 by the government of Bangladesh.

A total of 558 species of animals and birds have been identified here, including some very rare – already declared as threatened, vulnerable, endangered and critically endangered species. It also is a protected Ramsar site of international importance for the conservation and sustainable utilization of wetlands. The surface areais within the territory of Barlekha Upazila. It is also under Kulaura Juri upazila of Moulvibazar District and Golapganj, Fenchuganj upazila of Sylhet district.

My analysis area was Judhistipur, Fenchuganj Upazila of Sylhet district.



# **Prospect**

Natural beauty is the main attraction of Hkaluki Haor. In the rainy season, unlimited waterway and thousands of migratory birds in the winter, along with the synthetic forested environment and transparent river water, all the elements are there to attract the tourists. During my visit, I found the area perfect dry for camping to enjoy the essence of winter.

## **Transportation and Communication**

The location of Hakaluki Haor is in easily reached from any part of the country. There are available flight, train and bus to transport tourist to Sylhet and local transportations are also available to reach the site. For communications, every mobile operator is reachable in the Haor area and the internet speed is also good as well.



# **Opportunity**

An enthusiast visit took place at Hakaluki Haor in order to explore the opportunities as well as availability of natural resources to develop the eco-tourism facilities in the area. The Haor system provides a wide range of economic and non-economic benefits to the local people as well as to the people of Bangladesh.

Hakaluki Haor is the largest swamp area in Bangladesh. It is one of Asia's largest freshwater wetland. This area is filled with the richness of the natural beauty which is sufficient to attract the tourists form the country and outside as. The scope of ecofriendly activities has no bound in Hakaluki which is located in Judhistipur village of Fenchuganj Upazila of Sylhet.

Beside natural resources, local community is one of the biggest resources to conserve the nature and biodiversity by implementing and maintaining the eco-tourism activities.

# Challenges in Hakaluki Haor

- Drinking water
- Religious conservatism

# Scope of ecofriendly activity

Hakaluki Haor system contributes to the beauty of the landscape both during the monsoon and the dry season. In monsoon, its unique scenic beauty makes it a huge natural bowl of water and in the dry season it becomes vast green grassland with pockets of canals serving as resting places for migratory birds. This unique natural system can be a major attraction for tourists. There are scopes for establishing the availability for various ecofriendly activities as well.

## Scope of activity in the rainy season

- Boating & fishing
- Kayaking
- Parasailing

# Scope of activity in winter

- Camping
- Exploring rural life



#### Recommendation

I appreciate the initiative of NACOM for taking the initiative for the feasibility analysis for protecting the nature and biodiversity by utilizing natural resources at **Hakaluki Haor.** Requirements to establish Eco Tourism facilities are as follows:

- Training of local community for the profitable management of the facilities
- Motivate the local people about the environment, nature and its opportunity
- Establishment of facilities
- Availability of required equipment and gears
- Training for local people for the overall facilities management
- Basic first aid training
- Emergency and risk management



The Haor had very dense swamp forests in the past, but deforestation and a lack of conservation practices have virtually destroyed this unique forest in the last two decades. By establishing the eco-tourism facilities, local community will get the opportunity to understand the value of nature resources. They will learn how they can be mutually benefited by protecting the nature.



# Training Program schedule on Managing Ecosystems and Community Based Adaptation Venue: Judhistipur-Badedeuly VCC, Judhistipur, Fenchuganj

Date	Time	<b>Topics Discussion</b>	Name of Trainer		
Day 1	10.00-11.00	• Concepts of environment and ecosystem,	Md. Abdul Mannan,		
(10.12.18)		ecosystem functioning and its services	Project Manager		
		<ul> <li>Ecosystem management through</li> </ul>			
		community based approach			
	11.00-11.15	Tea Break			
	11.15-12.15	• Concepts of climate change and adaptation,	Md. Abdul Mannan,		
		integration of climate change and	Project Manager		
		adaptation issues in ecosystem management			
	12.15-1.15	<ul> <li>Wildlife, role of wildlife for keeping</li> </ul>	Bashir Ahmed,		
		environmental balance and wildlife	Programme		
		protection	Organizer		
	01.15-2.15	Prayer and Lunch Break			
	02.15-3.30	• Hill slope plantation, swamp plantation and	Bashir Ahmed,		
		swamp regeneration protection in HH ECA	Programme		
			Organizer		
Day 2	10.00-11.30	<ul> <li>Role of VCG and ECA Coordination</li> </ul>	Parvez Ahmed, AD		
(11.12.18)		Committees for Hakaluki Haor ECA	of DoE & ECAMO,		
		Management according to ECA	Hakaluki Haor ECA		
		Management Rules, 2016			
	11.30-11.45	Tea Break			
	11.45-01.00	<ul> <li>Fisheries Resources and Fish Sanctuary</li> </ul>	Ms. Masrupa Taslim,		
		management of Hakaluki Haor ECA	Upazila Fishery		
			Officer, Fenchuganj		
	01.00-02.00	Prayer and Lunch Break			
	02.00-03.00	<ul> <li>Action Plan development for ecosystem</li> </ul>	Bashir Ahmed,		
		management by VCGs.	Programme		
			Organizer		

# Rio Project, Hakaluki Haor, Gilachara, Fenchuganj, Sylhet Department of Environment and UNDP

# Implementing Partner: Nature Conservation Management (NACOM)

Name of Program: Training on Ecosystem Management and Community Based Adaptation Venue: Venue: Jodhistipur-Badedeuli VCC, Jodhistipur, Fenchuganj, Sylhet Date:

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# **Haor Plantation Baseline Survey Report**

Date: 24-10-2018

Venue: Judhistipur-Badedeuly VCC, Fenchugani, Sylhet

**Participants:** Judhistipur-Badedeuly VCG members ware participated in the FGD program. A total 12 members ware participated in the FGD and among them 11 were male and only 1 female.

#### Introduction

A baseline survey was conducted on the status of plantation at HakalukiHaor, especially near Judhistipur-Badedeuly VCG area of Fenchuganj Upazila to know the status of haor plantation within the project area. The survey includes present and past status of plantation in haor area, especially in BiraliKhal, Tekoni Beel, Naoria Beel and Bhitorgavi Beel. The FGD was facilitated by Project Manager and Programme Organizer of NACOM-Rio Project.

#### Methodology

The survey was conducted through direct observation at HakalukiHaor, especially near Judhistipur-Badedeuly VCG area of FenchuganjUpazilaand a Focus Group Discussion (FGD) with the members of Judhistipur-Badedeuly VCG, Fenchuganj. Programme Organizer along with the volunteer of NACOM-Rio Project and a few members of Judhistipur-Badedeuly VCG made the field visit at haor. Project Manager was present as facilitator for the FGD with 12 members of the VCG.

#### Observation

Banks of the beels and canals are suitable for plantation in haor areas. Both khas and private lands are present in the area. However, khas lands are given priority for plantation. Plantation was started from SEMPof UNDP-MoEF (2003) in the area. In NaoriaBeel, 3000 saplings of hijal and karach were planted under SEMP, but only 400 trees are now survived. In BiraliKhal (including CharuaBeel and BhitorgaviBeel and NauriaBeel), 8000 saplings were planted under SEMP (2003), but 5000 are survived in 3 different patches of BiraliKhal. But no tree is survived in Bhitorgavi, Charua or NauriaBeel. Under CWBM Project of UNDP-DoE plantation gap filing was done in BiraliKhal in 2007. Under CBA-ECA Project of UNDP-DoE, 2000 saplings were planted in TekoniBeel, but no tree is survived now. In BiraliKhal, 2000 saplings were planted in 2014 and 1000 saplings were planted in 2015 under CBA-ECA Project.BiraliKhal has barren lands for plantation of 5000 saplings both in khas and private lands.

Only two species of swamp trees, likethe *hijal* and *karach* are observed and suitable in the area among wood trees; however, some shrubs, like *ghutghuitta*, *satamuli*, *ban tulshi*, *nol*, *arang* etc. are also observed in the area. Another wood tree, *barun* can survive in the area, which is observed in other areas of the haor. During monsoon (from April – September), the area goes under water and swamp plants can survive these six months under water without physical growth. Many *karach* and *hijal* trees of the area now remain above water during monsoon.

We normally tent to plant trees during monsoon; however, for haor plantation, the time just after receding water from haor is suitable when the soil is moist enough to survive plants. It needs watering with drying out of soil during full dry season (December to February).

For plantation in khas lands, the concern VCG will not be the owner, Government of Bangladesh will be the ultimate owner of the plantation. People of the area will get ecological benefits from the plantation.

## Conclusion and recommendation

In conclusion, it can be said that due to some challenges, it is hard to make haor plantation successful. For that reason, we have to plant saplings in due time; watering, fencing and guarding are the must for making the plantation successful.

#### Soil erosion and land degradation Baseline Survey Report

Date: 13-12-2018

Venue: Judhistipur-Badedeuly VCC, Fenchuganj, Sylhet

**Participants:** Judhistipur-Badedeuly VCG members ware participated in the FGD program. A total 22 members ware participated in the FGD and among them 17 male and 5 female.

#### Introduction

A baseline study has been conducted among the members of Judhistipur-Badedeuly VCG to know the status of livelihood status of the VCG members. The FGD was facilitated by Project Manager and Programme Organizer of NACOM -Rio Project.

### Methodology

Data and information were collected through direct visit and conducting a Focus Group Discussion (FGD) with the members of Judhistipur-Badedeuly VCG, Fenchuganj. A few members of the VCG accompanied with us during the visit.

#### Observation

Judhistipur and Badedeuly are hilly villages of Fenchuganj Upazila. About 30 hills are present in the area and most of them have houses in their tops. People of the area normally plant trees and vegetables besides their houses. Huge agricultural practice is absent in those hilly areas for making soil erosion. However, only in 4 hills have agricultural practice which can create soil erosion. Only a few hills situated in the edge of haor are degraded due to wave action during monsoon. A small canal named Changchhari River crosses through the villages carrying silts from different hills.

### Conclusion and recommendation

Soil erosion is not prominent in the area due to plantation of huge trees around houses by their own. Agricultural practice is also very limited in the hills of the area. So, it is better to promote them plantation of more fruit trees and wood trees around their houses to protect their hill as well as houses from soil erosion.

# BASELINE STUDY REPORT ON STATUS OF LIVELIHOOD DEVELOPMENT IN THE PILOTING AREA

Date: 09-12-2018

Venue: Judhistipur-Badedeuly VCC, Fenchuganj, Sylhet

**Participants:** Judhistipur-Badedeuly VCG members ware participated in the FGD program. A total 17 members ware participated in the FGD and among them 14 male and 3 female.

#### Introduction

A baseline study has been conducted among the members of Judhistipur-Badedeuly VCG to know the status of livelihood status of the VCG members. The FGD was facilitated by Project Manager and Programme Organizer of NACOM –Rio Project.

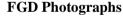
#### Methodology

For the study, a Focus Group Discussion (FGD) has been conducted among the members of Judhistipur-Badedeuly VCG, Fenchiganj Upazila.

#### Observation

The VCG members are from different professional groups, like farmers, fishers, day labours and housewives; among them 9 from agriculture, 6 from day labours, 11 from fishers and 9 are from women, who are mainly involved in home making.

Among the VCG members, 5 people rear cattle (cow and goat, but a few sheep) and most of the households have poultry rearing (chicken and duck, but no turkey there). A total of 14 members got AIGA support (poultry, cow and sewing machine) from previous projects, especially from CBA-ECA and CREL Projects. A total of 24 members got loan from MCG of the VCG; among them 13 already refunded their loan and the rest 11 will be expected to refund this December. However, they did not receive any loan or support from any other organization. Only 3 members got vegetable demonstration supports from CREL Project.





The VCG as an organization got support from CREL Project for establishment of a cattle farm, where 4 cows and 5 cubs are still rearing. They also got support for purchasing a CNG Baby Taxi, a Power Tiller and a rice husking machine, all of which are used for increasing VCG fund, and from which they are maintaining conservation costs.

#### Conclusion and recommendation

In conclusion, it can be said that their livelihood condition is not so good not so bad; however, the livelihood condition of other people in the village are better than the VCG member as they are formed with only haor dependent people. Many people of the area work abroad, so they can get money behind their livelihood here. Despite their individual livelihood condition, the financial strength of the VCG is not so strong. So, strengthening strength of the VCG we should provide livelihood to the VCG. However, as poultry rearing is not so profitable in farming, it can be provided to all members individually as they should not food for rearing.

#### **Annex-14: Posters**

