

Integrated protected area co-management (IPAC)

ipac



RRA/PRA Findings of Hakaluki Haor

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With partners: RDRS, CODEC, & CIPD

Table of Contents

<i>Contents</i>	<i>Page No.</i>
1 - Introduction	01
2 - Methodolog	01
2.1 - Household Interview	02
2.2 - Key informant interview	02
2.3 - Focus group discussion	02
3 - Outcomes and findings from RRA/PRA of Hakaluki Haor	04
3.1 - Salient features of Hakaluki Haor	04
3.1.1 - Notification of ECA	04
3.1.2 - Geographic location	04
3.1.3 - Administrative jurisdiction	06
3.1.4 - Geographic feature	06
3.1.5 - Sociological condition	07
3.1.6 - Biological description	07
3.1.7 - Prohibited activities in Hakaluki Haor ECA	08
3.2 - Stakeholder assessment	09
3.2.1 - Primary stakeholder	09
3.2.2 - Secondary stakeholder	11
3.2.3 - Institutional stakeholder	16
3.2.3.1 - Land ministry and fisheries department	16
3.2.3.2 - CWBMP	16
3.2.3.3 - Other NGOs	23
3.3 - Dependent villages	23
3.4 - Resource and resource status of Hakaluki	25
3.5 - Trend in changes of resources of Hakaluki Haor	27
3.6 - Causes of degradation	28

3.6.1 - Causes of degradation of fish species and population	28
3.6.2 - Causes of degradation of wildlife	29
3.6.3 - Causes of degradation of plant species	29
3.7 - Resource exploitation and dependency on Hakaluki Haor	30
3.8 - Seasonal changes of resource extraction	32
3.8.1 - Paddy collection	32
3.8.2 - Fish collection	32
3.8.3 - Vegetables collection	33
3.8.4 - Fuel wood collection	33
3.8.5 - Bird hunting	33
3.8.6 - Aquatic weed collection	33
3.9 - Power structure and local conflict	34
3.9.1 Sources of conflict	34
3.9.2 - Conflict resolution	34
3.9.3 - Some local influential people of Hakaluki Haor	35
3.9.4 - Conflict with fisheries and other GoB department	37
3.10 - Social gathering	37
3.11 - Socio-economical activities and livelihood strategies	38
3.11.1 - Demographic profile	38
3.11.2 - Richness and poverty level	40
3.11.3 - Unemployment	40
3.11.4 - Workload	41
3.11.5 - Credit	41
3.11.6 - Leisure period	42
3.11.7 - AIG scope	42
3.12 - Gender issue	43
3.12.1 - Family decision making	43
3.12.2 - Outdoor mobility and access to credit and IGA	44
3.13 - Male female workload	
3.14 - Threats for Hakaluki Haor and its resources	47
3.15 - Challenges for Haor and its resource conservation	47
3.16 - Opportunities	48
3.17 - Suggestions and recommendations	48

Appendix – 1: Map showing Agricultural land, patches of swamp forest and important beels	50
Appendix – 2: Map showing Important river, canal, human approaches, Fish Sanctuary etc.	51
Appendix – 3: Figure showing water coverage during dry season and monsoon.	52
Appendix - 4: Name of villages having stakes found while RRA/PRA.	53
Appendix – 5: Name of some important beels	57

<i>Sl. No.</i>	<i>List of Tables</i>	<i>Page no.</i>
01	RRA/PRA issues for Hakaluki Haor	03
02	Information on the primary and secondary stakes of Hakaluki	13
03	List of NGOs working as partners of CWBMP	16
04	List of other NGOs working in Hakaluki Haor	23
05	Information on villages having stakes with Hakaluki Haor	23
06	Some threatened animal and plant species of Hakaluki Haor	26
07	Status and trend in changes of resources in Hakaluki Haor	27
08	Information on resource extraction from Hakaluki Haor	30
09	Seasonal calender of resource exploitation	32
10	Some local influential people of Hakaluki Haor	36
11	Comparison of educational status of male and female in Hakaluki	38
12	Principal occupation and trend in changes of occupation	40
13	Livelihood status of Hakaluki Haor	40
14	Seasonal workload of male and female of Fisherman family	41
15	Seasonal workload of male and female of Farmer family	41
16	Name of NGOs and banks from where people take credit	42
17	Information on family decision making	43
18	Mobility and participation in social events and access to credit and IGA by male and female in Hakaluki Haor	44

<i>Sl. No.</i>	<i>List of Figures</i>	<i>Page no.</i>
01	Map of Hakaluki Haor	05
02	Administrative jurisdiction	06
03	Interaction with bird hunter	10
04	Interaction with leasee	11
05	Showing the sources of conflict	34
06	Showing the conflict resolution	35
07	Level of role of family member in Hakaluki Haor	43
08	Workload of male	45
09	Workload of female	46

<i>Sl. No.</i>	<i>List of Appendix</i>	<i>Page No.</i>
01	Appendix – 1: Map showing Agricultural land, patches of swamp forest and important beels	50
02	Appendix – 2: Map showing Important river, canal, human approaches, Fish Sanctuary etc.	51
03	Appendix – 3: Figure showing water coverage during dry season and monsoon.	52

04	Appendix - 4: Name of villages having stakes found while RRA/PRA.	53
05	Appendix – 5: Name of some important beels	57

01 - Introduction:

Bangladesh is full of natural resources that are declining day by day due to over extraction, human pressure, non-eco-friendly agricultural practices, leasing system etc. To protect these resources from further depletion, government of Bangladesh has started a new project named Integrated Protected Area Comanagement (IPAC) who work in forest, wetland and ECA areas to conservation of its resource. USAID is the donor, IRG is the implementer of this project and it is implemented by the department of fisheries, forest and environment. Hakaluki haor is a site of IPAC which is an important wetland as a mother fisheries of Bangladesh.

A two-step rapid appraisal process, initial RRA, followed by a subsequent PRA , was undertaken to make a comprehensive situational analysis of the Hakaluki Haor ECA during April, 2009, aiming at helping to shape the future activities for the improved management of the haor within the IPAC Project. Specifically, the appraisals focused on the assessment of major stakeholders, resources and its status, understanding the causes for resource degradation, identifying the threats and challenges for the project. Various RRA and PRA tools were used, including trend and seasonal analysis, Venn diagramming, livelihood analysis, ranking, scoring and resource mapping. In addition a series of household and and focus group discussions were conducted.

This report contain brief description about the stakeholder, geographical feature, different type of resources, resource status, livelihood strategies, legal and gender issues etc.

02 - Methodology:

To conduct this RRA/PRA activity, first we have contacted with the union parishad to know about the haor dependent villages and to talk with the UP chairman about our objectives. In some cases UP chairman becomes a Key informant. Then we went to the targeted villages with the help of local enumerators and filled our questioners. Usually a

standard village of each union was selected to fill up at least one Key informant, one Focus group discussion and three Household questioners. Thus we complete eleven Key informant, eleven Focus group discussion and thirty two Household questioners. After RRA we get the list of both primary and secondary stakes along with some other relevant information to add with PRA questioners. Then we fill again six Key informant, six Focus group discussion and eighteen Household survey. Resource mapping was done while we got the Focus group discussion. All information from those questioners was incorporated and the report was formed by using computer.

2.1 - Household (HH) interview:

Household interviews were conducted with randomly selected interviewees, typically visiting one household at each stop. Both male and female respondents were considered. HH interviews typically last for about 1.5-2.0 hour. The interviews were conducted with both closed and open structured questionnaires. A checklist of issues was used, though not necessarily addressed all questions in each interview and often deviated from basic questions to pursue interesting unexpected or new information, relevant to the project and situation.

2.2 - Key informant (KI) interview:

As a key informants those peoples were selected who is aged, leader and have a vast knowledge about the area, resources, threats, situation such as UP chairman, old fisherman, old farmer, Leasee, teacher, fish traders etc. KI interview was conducted by both prior appointment and spot visit. A local guide helped in making appointment with KI. The interviewee was selected after discussion with local chairman or other people. A typical KI interview lasted for about 1.75-2.0 hour. Nearly similar questions were used for the purpose of Key Informant interview.

2.3 - Focus group discussion (FGD):

The purpose of focus group discussion (FGD) was collect information on the locality and local situation based on the consensus of the local people. Interviews were conducted at places, preferably at local tea stall, peoples gathering places and other local community places where local people spontaneously gathered. Mapping, seasonalities, scoring, diagram drawing etc were done in such FGD. Typically a FGD lasted for 2.0-2.5 hour. At

least one FGD was held each day. Nearly same questions along with some other topics was shared with the FGD participants.

Table - 01: RRA/PRA Issues for Hakaluki Haor

Sl.	Issues	Objectives	Tools used	Participants
1	Stakeholder identification	Identify the direct and indirect resource users, persons who may play important role in haor conservation and the institutions that work for haor conservation	FGD, KI and Venn diagram	PRA Team, Local people, VCG member
2	Geography of Hakaluki Haor	To know about the wetland coverage, important beels, dependent villages, rivers, canals, agricultural area etc identification	Resource mapping, Secondary data, FGD, KI Trend analysis	PRA Team, Local people, NPPP of CWBMP
3	Resource and resource status	Information collection about resources, its past and present status and threatened resources	FGD, KI, trend analysis	Local community people, aged persons
4	Resource exploitation and dependency	Identify the threats for future resource availability, causes of threats, probable solutions	FGD, KI, HH interview	Local man and women, leasee
5	Demographic profile	To know about the education, principal occupation, secondary occupation of the haor dependent people	FGD, KI, HH interview, trend analysis	PRA team and local people, chairman
6	Livelihood strategies	Learn about occupation, workload, leisure period, unemployment, dependency on fisheries	HH, FGD, KI interview	Local man, women, UP chairman
7	Legal aspects	Collect information about the awareness of resource users, interaction with the government, illegal activities etc	FGD, GD and KI HH, KI interview, secondary data, discuss with UFO	Local male, female participants, UFO

8	Gender issue	Information on household decision making, education, credit and social mobility of female	KI, FGH interview	Local Male and female
9	Resource generation practices	to know about the activities that done by CWBMP for resource regeneration practices, problems for natural regeneration etc	FGD, secondary data, interviewing with VCG guards	PRA team, local people, VCG guard
10	others	To know about the scope and challenges for haor and its biodiversity conservation	FGD, KI, Secondary data	Local people, leasee, UFO

03 - Outcome and findings from RRA/PRA of Hakaluki Haor

From the RRA/PRA we got the following findings:

3.1 - Salient feature of Hakaluki Haor:

3.1.1 - Notification of ECA:

Hakaluki Haor, the largest haor in South Asia and one of the important mother fisheries of Bangladesh supporting around 190,000 people for their livelihood, reached at a state of critical condition of degradation for over extraction of resource, natural sedimentation and human pressure. In recognition of the urgent need to protect Hakaluki Haor, the Government of Bangladesh in 1999, under the provisions of the Bangladesh Environment Conservation Act (BECA), declared this site as an “Ecologically Critical Area” (ECA). (Fig-2)

3.1.2 - Geographical location:

Hakaluki Haor located in the north-east of Bangladesh latitudinally between 24o35’N and 24o45’N and Longitudinally between 92o00E and 92o08E. Total area of the Hakaluki Haor ECA is about 39,323 ha and comprising mainly of freshwater wetland (The Hakaluki Haor) and the surrounding hillocks; reserve forests; planted forests; tea states and rubber gardens.

Appendix - 1. Map of Hakaluki Haor ECA (using for Waterfowl Census 2008)

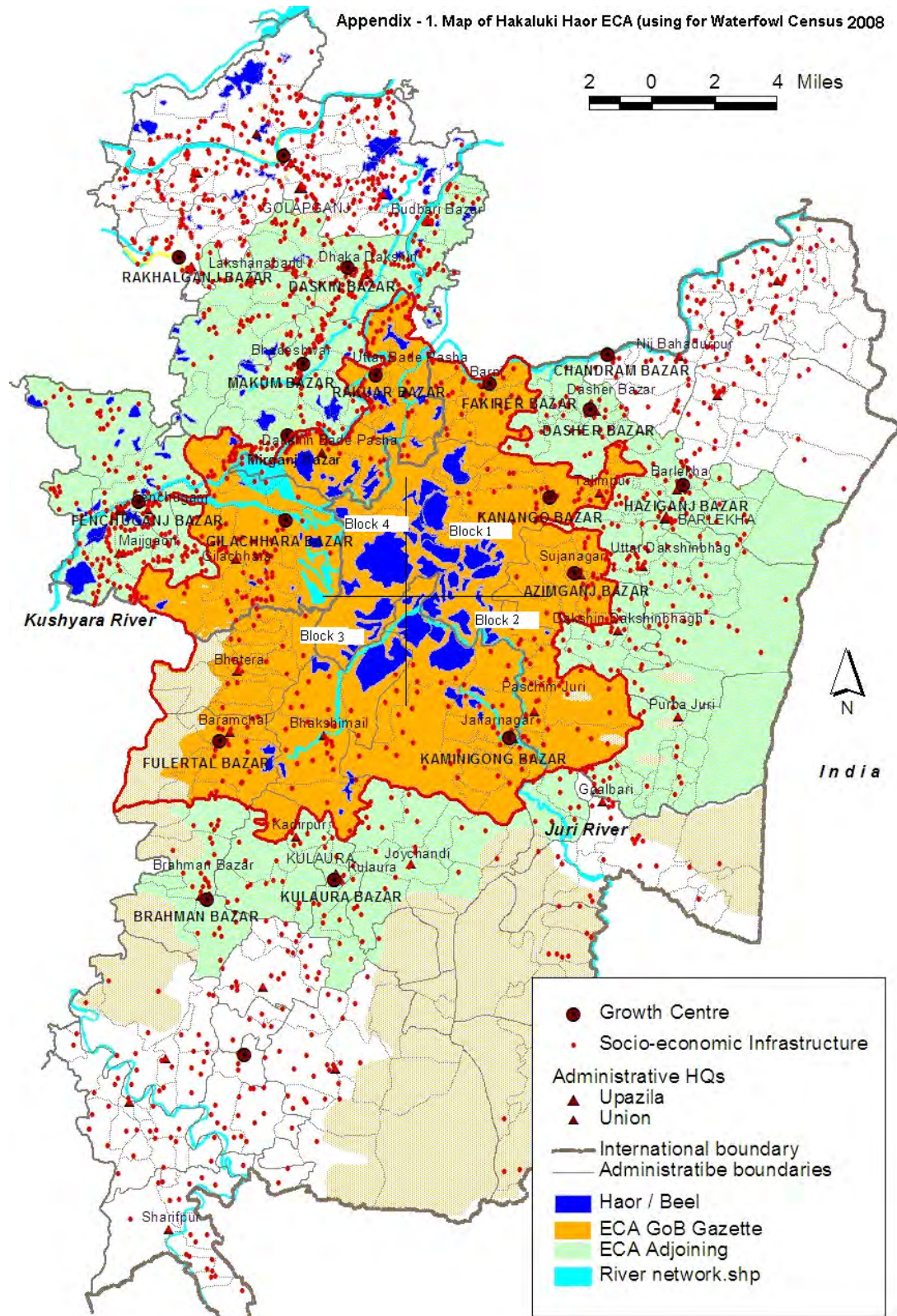


Fig-1 : Map of Hakaluki Haor ECA

3.1.3 - Administrative jurisdiction:

Hakaluki Haor falls under the jurisdiction of two districts (Moulvibazar and Sylhet), five Upazilas (Kulaura, Barlekha, Fenchugonj, Paschim Juri, and golapgonj), and eleven Unions Bhatera, Baramchal, Bhakshimail, Jaifarnagar, Barni, Talimpur, Sujanagar, Paschim Juri, Gilachhara, Uttar Bade Pasha, and Sarifganj).

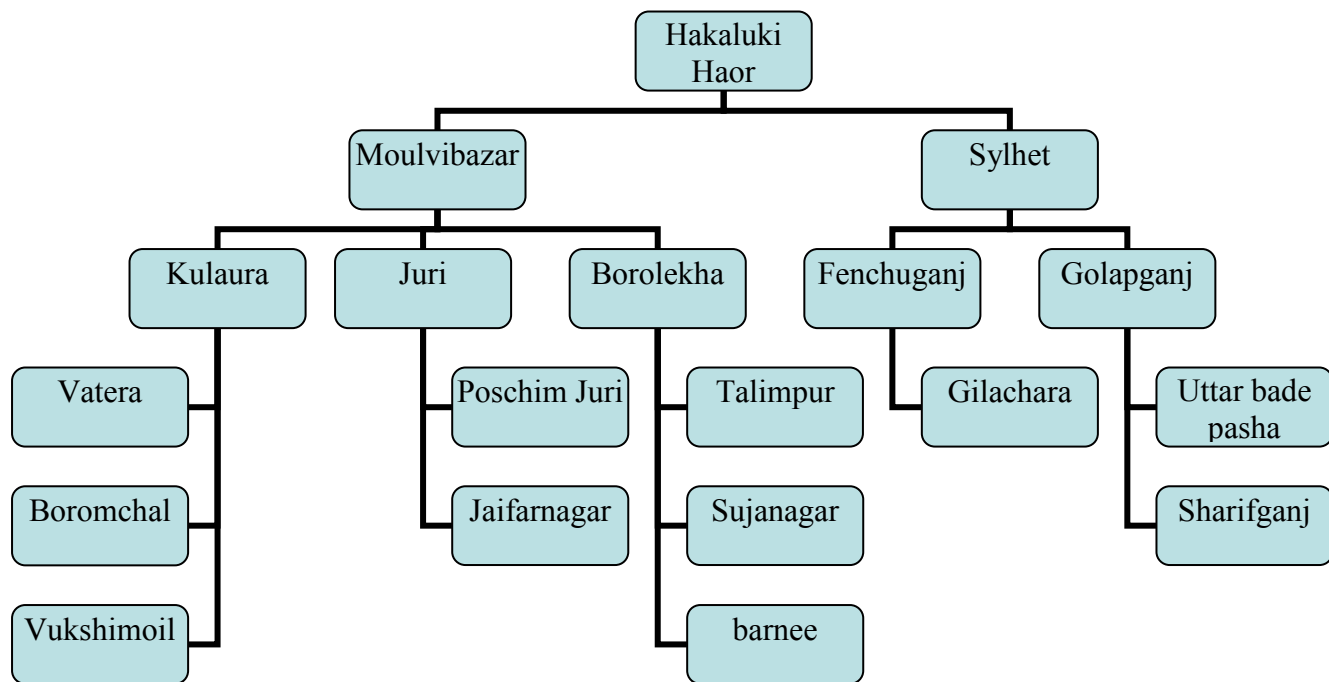


Fig -2: Administrative jurisdiction of Hakaluki Haor

3.1.4 - Geographical feature:

Hakaluki Haor is a shallow basin nested between the Patharia and Madhab hills in the East and the Bhatera hills to the West. It is made up of more than 238 small, medium and large interconnecting beels some of which are perennial and others seasonal. During the dry season the area covered by these beels is approximately 4,400 ha but with the onset of the rains in the summer the entire area floods to about four and half times this size is approximately 18,000 ha and remains underwater for up to five months. During this period, all the beels are united as one large lake, or haor, making Hakaluki Haor the largest freshwater wetland in Bangladesh.

Hakaluki Haor is fed mainly by the Juri/ Kantinala, Sonai/ Bordol, Damai, Fanai, and Kuiachara Rivers, and drains through a single outlet, the Kushiara River. The Bordol/ Sonai and Juri/ Kantinalla Rivers originate in India.

Intermediate place between the Haor basin and homestead land are called “kandi”. Usually reed swamp plants are found in these kandi. Kandi is fairly deeply flooded during the rainy season and dry out during the dry season. Hakaluki haor becomes an important transport pathway particularly while it is flooded.

3.1.5 - Sociological condition:

Some 190,000 people live in about 254 villages of the Hakaluki Haor ECA area. As the Haor floods annually, habitations are clustered along its slightly raised fringes. Fisheries and agriculture are the two main livelihoods for local people who live in and around the ECA. Other livelihood practices supported by Hakaluki Haor wetland include cattle grazing, NTFP collection, duck rearing, and sand mining. Land ownership is not equally distributed among the population of the ECA. Most of it is owned by a small number of rich farming families. Land not owned privately belongs to the government and is located in the more central areas of the ECA that are prone to flooding.

More generally, the Haor serves as a transport pathway particularly while it is flooded, provides water for drinking and washing, provides micro-climate regulation, and holds significant potential for generating income as a tourist attraction.

During monsoon season, fishing and boat navigation is the only use of the haor. Thousands of families subsist on fishing in the flooded haor for their livelihood during monsoon season.

3.1.6 - Biological description:

As the country’s largest inland freshwater wetland, Hakaluki Haor is a critical habitat and breeding ground for fish and other aquatic species and is considered as one of only four major “mother fisheries” in Bangladesh (FAP 6, 1994). More than 100 fish species have been recorded in the Haor, approximately one third of which are listed as nationally endangered.

Hakaluki Haor wetland is also home to globally significant waterfowl especially large numbers of migratory ducks species (particularly *Anatidae spp*) that winter in the ECA. Mammals and reptiles known to occur in the ECA area include *Lutra lutra*, *L. perspicillata*, *Canis aureus*, *Vulpes bengalensis*, *Herpestes spp*, the cobra *Naja naja* and a variety of water snakes, freshwater turtles and tortoises. Other important wildlife at

Hakaluki Haor ECA includes a variety of frogs and toads, monkeys, the Irrawady Squirrel, and the Gangetic Dolphin that inhabits the Kushiara River and which is now highly threatened.

Wetland vegetation in Bangladesh is represented by a total of 158 species. The Hakaluki Haor wetland system supports at least 73 of these species, or nearly half of the national total. The flora at Hakaluki Haor wetland is typified by a combination of ecologically important remnant swamp forest (trees, shrubs, grasses and aquatic plants) and reed lands. Swamp forests consist of *Barringtonia acutangula*, *Pongamia pinnata*, *Crataeva nurvala*, *Trewia nudiflora* and *Salix tetrasperma*. A fully-developed stand exhibits a closed canopy with mature trees standing ten to twelve meters tall. Associated with these at the edges of the water bodies were thick spiny bushes of wild rose *Rosa clinophylla*, and scrub *Lippia javanica*, *Ficus heterophylla* and *Phyllanthus disticha* although this form of vegetation is now largely absent.

As Hakaluki haor is an ECA so, some sorts of activities, resource extraction, land use are prohibited.

3.1.7 - Prohibited activities in Hakaluki Haor ECA:

The ECA notification identifies the following activities as prohibited:

- Felling or extracting of trees and forest;
- Hunting and poaching of wild animals;
- Catching or collection of snail, coral, turtle and other wild creature;
- Establishment of industries that may pollute soil, water, air and/or create noise pollution;
- Any activity that is likely to threaten the habitat of flora and fauna
- Any activity that is likely to destroy/ alter the natural characteristics of soil and water,
- Any activity that is likely to cause harm to fish and other aquatic life

Illegal fishing gear use, brood fish catching, hunting, dewatering of beels were extensively practiced before 5/10 years ago. After the intervention of CWBMP project these illegal activities become fewer. But still now such illegal activities happen by the local elites. The illegal bird hunters kill the birds by poisoning at night or dawn and sell it outside of the local villages. land encroachment is still happens at the margin of haor area.

3.2 - Stakeholder Assessment:

Three categories of stakeholders were identified in the Hakaluki haor ECA.

- 1. Primary stakeholder**
- 2. Secondary stakeholder**
- 3. Institutional stakeholder**

1. Primary stakeholders are those persons who directly depend upon haor for their livelihood. They are mainly farmer, fishermen and local ultra poor who collect fishes, crops, vegetables, turtle, bird, medicinal plants etc. Table 1 shows the primary and secondary stakeholders along with their description, activity, dependency, level of stakes and other informations.

I. Fisherman: Principal resources of Hakaluki haor is fishes and depending on this thousands of people maintain their livelihood. Fishermen are the direct resource collector who are mainly the local ultrapoor people of the villages. As most of the beels are leased by the elite and influential peoples, they have very few accesses in those beels for fishing. Leased beels are protected by guards. So, they have to take permission to enter there for fishing. But at monsoon they got much free land for fishing.

II. Farmer: For sedimentation over year, vast fertile land for farming has developed in Hakaluki Haor. Local peoples use the coast of beels for planting paddy, adjacent area for vegetables and other crop production. This is one of the major threat for haor because of encroachment of land, insecticide and pesticide use in the crop and vegetable field and others water demand.

III. Bird hunter: Some of the local ultra poor people hunt the bird during winter season mainly by using different type of gear and the most harmful is using poisonous bait. They collect insecticide or poison from the local market, mixed with crops like rice and spread it to the area where the birds are usually rest or feed. These activities usually done by night to dawn when there is very few presence of human. Birds take the poisonous grain and become inactive or nearly dead. Then the hunter catch it, slaughter, press in sack, come out of haor and sold it to the contracted villagers. In most cases bird hunters do it

for his livelihood. For the conservation of bird species this is one of the greatest challenges.

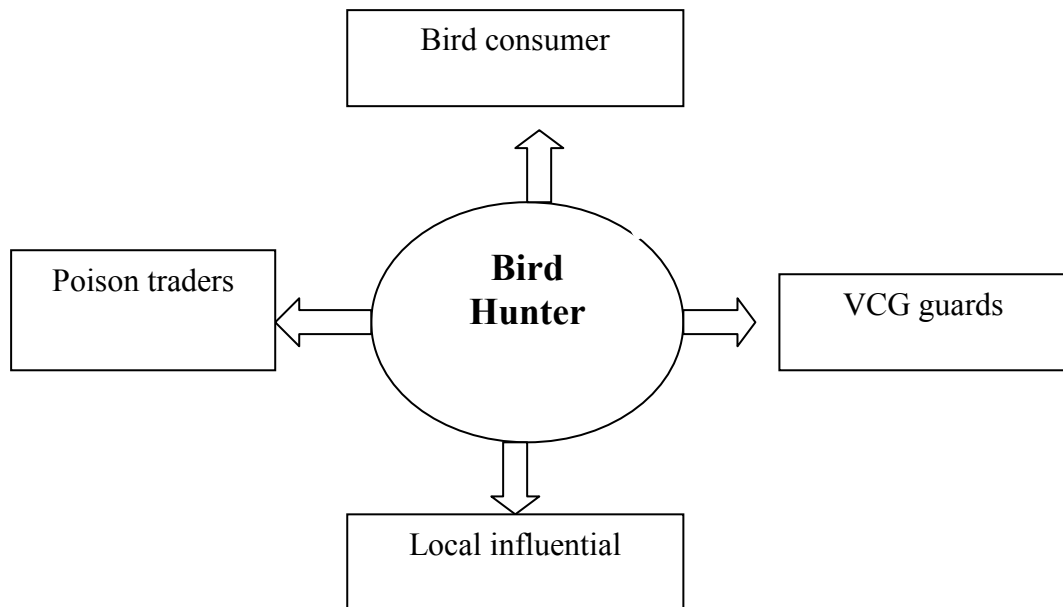


Fig-3: Interaction with the bird hunter.

IV. Cattle grazer: Large number of barren lands are found in the haor where the farmers tent their flock of cows. These flocks are usually called “Batan”, where the cows or buffalos are brought from other villages and grazes in a specific season. Small natural plant of hizol, korch, borun, nolkhagra etc are destroyed by the hooves attack as well as their feeding habit.

V. Tea garden labor: Some tea garden labor and tribal people catches turtle, kuchia, crab and some other wild animal for their food. As their targeted species becomes rear so, their intervention becomes down.

VI. Fuel wood collector: Some poor local village woman collect fuel wood for household demand. Different types of plants like ghagra, nolkhagra, branches of hizol, koroch etc. are usually collected as fuel wood.

2. Secondary stakeholders are those persons who do not collect the resources directly from the wetland but have linked with resource extraction by leasing, trading, buying or by other ways. Jolmohal leasee, bird consumer, net and boat owners, fish traders etc are the secondary stakeholders.

I. Fisheries leasee: Fisheries lease holder are the most influential people of the locality. A large important beel may required 80,00000/90,00000 taka to take as lease from the government which is totally impossible for the original local fisherman. The elite persons have good interaction with the fisheries co-operative society, government officers like, DC, UNO, UFO etc to manage a beel. They use some local people as a beel guard, beel management, beel fishing etc.

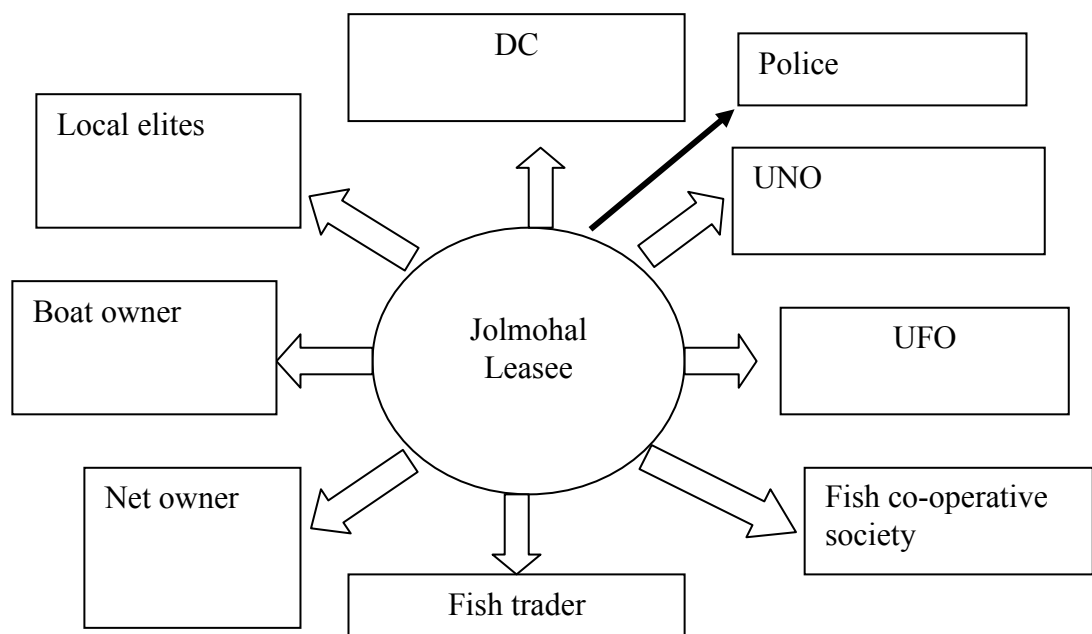


Fig - 04. : Interaction with leasee

Its true that leasing system has negative impact upon haor if the leasee do not use according to the leasing policy. However, number of families maintain their livelihood depending upon these lease holder. In the following some dependent families and their dependency are given:

- A. Beel guard: Number of local people get job to guard the leased beel. They get monthly salary for this.

- B. Net owner: Some local villager have large number of net that is hired when mass fishing occur in the leased beel.
- C. Boatman: Lessee does not possess any boat normally. So during fishing boat and boatman are hired.
- D. Day labor: For fishing number of ultra poor people get their work in hoar by fishing in the leased beel, otherwise they have no work to do.
- E. Fish sorter: After fishing different types of fishes were sorted with different categories such as large, small, carp fish, cat fish etc. There some people get their job.
- F. Foria: During fishing some peoples were contacted to buy the fish from the beel. They buy and directly sell to the fish traders or local market. Thus he has got a benefit.
- G. Others: Some ultra poor collect small fishes that entangled with the large net. Thus the net becomes clear and collector get some fishes.

II. Fish co-operative society: These organizations are formed by a number of fisherman and the influential and the rich man get lease through them. In government leasing system member of Fish co-opearative society is preferable so, the lessee contact with the society, give them some benefit like cash money or other conveniences for the society and get lease through them.

III. Net owner: As the fisherman are mostly ultra poor and they have no capacity to buy large net or boat. So, some rich man buy large net and allow it as hire. A large net may be 200-300ft or more long which required 10/15 persons to operate.

IV. Boat owner: Some local villagers have boats that use in fishing from haor as well as transport during monsoon from one place to another. While mass fishing occur, fisherman and lessee contact with the boat owner to hire boat for fishing.

V. Insecticide or poison traders: They are the important stakes for the conservation of haor and its resources. They sell insecticide to the farmer to use in the crop field which causes great harm for the water quality and soil fertility. Some bad guys buy the poison and use it for bird hunting.

Table - 02: Information on the primary and secondary stakeholders of Hakaluki haor.

Sl. No	SH name	SH type	SH description	SH activities	Dependency	Level of stake	Remarks
1	Fisherman	Primary	Both adult and young male	Catch fish sell it to market	Dependent for their livelihood	Major	Local fisherman has got few access in the leased beel. They catches fish during monsoon in the flooded area
2	Farmer	Primary	Both adult and young male	Produce crops, vegetables in the haor basin and adjacent area of haor	Dependent for their livelihood	Major	Farmers encroaching land continuously.
3	Net maker	Secondary	Usually female	Produce net and sell it to the fisherman	Both livelihood and extra income	Medium	Both male of female do this activity during leisure period or month
4	Bamboo and cane	Primary	Adult male of some	Make different	Both livelihood	Minor	Cane product becomes

	product producer		villages	fishing gear and other	and extra income		rare due to scarcity of raw material cane
5	Boatman	Secondary	Adult male	Drive boat during monsoon and catches fish	Livelihood	Medium	Only found during monsoon. Most of them use the boat for fishing and some boat are used for transport
6	Leasee	Secondary	Local elite	Take lease from government and do fishing, collect aquatic weeds, cultivate crops etc.	Lucrative Business	Major	High influential people get lease with interaction of fish co-operative society, GoB officer, use local ultra poor for Beel guard, fishing etc
7	Mediator (Foria)	Secondary	Adult male of local and outsider	Buy fishes from the Leasee and local fisherman and sell it to fish traders	Livelihood and business purpose	Minor	Active only when there is mass fishing
8	Tea garden labor	Primary	Adult male of adjacent tea garden and tribe	Catch turtle, crab, kuchia etc	Meet household needs	major	During dry season they become activate
9	Bird hunter	Primary	Local few adult male, elite	Hunt migratory and local birds	Livelihood, hobby	Major	Some influential people do hire ultra poor to do this
10	Fish co-operative society	Secondary	Formal member of the society	Elite get lease through the member of fish co-operative society	To get some extra benefit in fishing	Medium	Get much honorium or help by managing lease of beel for the elite
11	Insecticide traders	Secondary	Local market shopkeeper	Sell insecticide to the bad people who use it to kill birds	livelihood	Medium	Bird hunter buy poison from them and use for hunting
12	Fishing gear traders	Secondary	Local adult male	Produce different type of fishing gear like and sell it to	Livelihood and alternative income	Minor	This activities is mainly done during the fishing peak season

				the local fisherman			
13	Batan owner/cattle grazer	Primary	Some rich/elite person of local adjacent villages	Tent their flock of cow/buffalo by cowboy	For milk production	minor	Activate during dry season
14	Local doctor (kaviraj)	Primary	Very few persons who produce traditional medicine	Collect different medicinal plant from haor	Produce local traditional medicine	Negligible	Very few in number as these medicinal plants are not available
15	Fuel wood collector	Primary	Local woman, small boys	Collect some dead or dry plant like ghagra, nol, hizol etc	Use as fuel	Minor	During dry season this activities specially done
16	Aquatic weed collector	Primary	Some ultra poor people	Collect aquatic weed like makhna, shinger etc	Sell in market	Minor	People as hired by the leasee to these weeds

3.2.3 - Institutional stakeholders are those GoB officers, projects, institutions, NGOs which works for the conservation of haor and its resources.

3.1.3.1 Land ministry and fisheries department:

Hakaluki haor is the property of land ministry and these lands are leased through open tender and member of fish co-operative society are preferable to get lease. In the beel leasing system, there are two committees: 1. District level jolmohal leasing committee and 2. Upazilla level beel leasing committee. In District leasing system, DC president and ADC is the member secretary of that existing committee and the beels are leased through open tender. In Upazilla beel leasing committee, UNO is the president and the beels less than 20 acres are leased through Upazilla level beel leasing committee. So, the people made a better relationship with the DC, UNO to get a beel lease.

3.2.3.2 - CWBMP:

A project of DoE named CWBMP (Coastal and Wetland Biodiversity Management Project) is working for the conservation of Hakaluki Haor and its biodiversity for the last 4/5 years. Two major NGOs CNRS and CFSD working as an implementing partners of CWBMP project with the partnership of IUCN, NACOM, Prochestha and IDEA.

Table - 3: List of NGOs working partners of CWBMP in Hakaluki haor.

Name of NGO	Location	Activities
CFSD	Kulaura, Moulvibazar	Implementing body of CWBMP project of DoE. Conservation activities, AIG training, Relief at disaster, micro credit etc.
CNRS	Juri, Borolekha, Moulvibazar	Implementing body of CWBMP project of DoE. Conservation activities, AIG training, Relief at disaster, micro credit etc.
NACOM	Kulaura, Moulvibazar	Partner of CFSD and doing conservation activities.
IUCN	Kulaura, Moulvibazar	Partner of CFSD and doing conservation activities.
Prochestha	Borolekha, moulvibazar	Partner of CNRS and doing conservation activities.
IDEA	Juri, Moulvibazar	Partner of CNRS and doing conservation activities.

Project Name: Coastal and Wetland Biodiversity Management Project (CWBMP)

Working Area:

(a)Cox's Bazar region- 1. Teknaf peninsula 2. St. Martin Island 3. Sonadia Island;

(b)Hakaluki region- 1. Hakaluki haor

Project duration:

7 years Start Date: November 01, 2003

 End Date: October 31, 2009

Implementing NGOs:

1. CNRS (partner: IDEA and Prochestha) 2. CFSI (partner: NACOM and IUCN)

Objective of CWBMP

The main objective of the project is to ensure the conservation and sustainable use of globally significant wetland biodiversity through management as ECAs and support DoE to institutionalize the concept of ECA management using the experience gained from the project demonstration sites. The detail objectives are listed below;

1. To ensure the conservation and sustainable use of globally significant Coastal biodiversity at the Cox's Bazar sites through their management as ECAs
2. To ensure the conservation and sustainable use of globally significant wetland biodiversity at Hakaluki Haor site through its management as an ECA
3. To support efforts by DOE to institutionalize the concept of ECA management using the experience gained through the above demonstration sites

Project implementation framework:

CWBMP National project steering committee:

The Project Steering Committee together with the executing agency, be responsible for overall project oversight. The Secretary, MOEF chair the PSC. Members of the PSC include all members of the National ECA Committee, as well as the Deputy Commissioners of Moulvi Bazar Districts. Representatives of Ministries of Fisheries and Livestock; Land (ADC Revenue); Water Resources; LGRD & Cooperatives; Disaster Management and Relief; Department of Agriculture Extension, and other relevant ministries/agencies, the private sector, industries, local NGOs/CBOs/Civil society. Representatives from other institutions may join the PSC upon nomination by the Chair. The Project Steering Committee has a crucial role in guiding the Project on the appropriate track throughout the Project's life. The

PSC structure is outlined below. The structure of CWBMP Project Steering Committee is as follows:

01. Secretary, Ministry of Environment and Forest, Chairman
02. Director General, Department of Environment, Member
03. Chief Conservator of Forest, Forest Department, Member
04. Director General, Department of Fisheries, Member
05. Director General, Agriculture Extension Department, Member
06. Director General, Department of Social Welfare, Member
07. Chairman, Tourism Corporation, Member
08. District Commissioner, Sylhet, Member
09. District Commissioner, Moulvibazar, Member
10. District Commissioner, Cox's Bazar, Member
11. Representative, Land Ministry, Member
12. Representative, Ministry of Water Resources, Member
13. Representative, Local Government Division, Member
14. Representative, Ministry of Fisheries and Livestock, Member
15. Representative, Ministry of Disaster Management, Relief and Rehabilitation, Member
16. Representative, Commerce Ministry, Member
17. Representative, Rural Development and Cooperation Division, Member
18. Assistant District Commissioner (Revenue), Sylhet, Member
19. Assistant District Commissioner (Revenue), Moulvibazar, Member
20. Assistant District Commissioner (Revenue), Cox's Bazar, Member
21. Program Coordinator, Sustainable Environment Management Program
22. Project Director, UNDP/FAO Community Fisheries Project, Member
23. Project Director, St Martin's Biodiversity Conservation, Marine Park Establishment & Development Project, Member
24. Representative, Local NGO, Member
25. Local Govt. Representative, Member
26. Representative of Civil Society, Member
27. Biodiversity Management Expert, CWBMP, Member
28. Representative, UNDP/GEF, Member
29. National Project Director, CWBMP, Member Secretary

National ECA Committee:

A National ECA Committee established in order to create an inter-sectoral channel of communication between MOEF and other Government ministries with potentially overlapping interests within ECAs. Committee members include representatives from the Department of Forest, Department of Fisheries, Department of Agricultural Extension, Social Affairs Department, Ministry of Lands and Tourism Department (other concerned Departments). The Secretary, MOEF, will chair the Committee, assisted by the NPD, representative of local NGOs/CBOs/Civil society and local government representative. The project BME and a representative of UNDP/GEF will attend as observers. The Committee will meet annually and on an ad-hoc basis as required. The structure of the National ECA Committee has 16-members and is as follows:

01. Secretary, Ministry of Environment and Forest, Chairman
02. Director General, Department of Environment, Member
03. Chief Conservator of Forest, Forest Department, Member
04. Director General, Ministry of Fisheries, Member
05. Director General, Agriculture Extension Department, Member
06. Director General, Department of Social Welfare, Member
07. Chairman, Tourism Corporation, Member
08. Representative, Land Ministry, Member
09. Representative, Ministry of Water Resources, Member
10. Representative, Local Government Division, Member
11. Local Government Representative, Member
12. Representative of Civil Society, Member
13. Representative, NGO, Member
14. Biodiversity Management Expert, CWBMP, Member
15. Representative, UNDP/GEF, Member
16. National Project Director, CWBMP, Member Secretary

District ECA committee:

Number: Two

Total member: Variable

President: Deputy commissioner

Secretary: Ecologically critical area management officer

Members: One representative from all the GoB department like land, livestock, forest, co-operative, agriculture etc. are presents as a member of District level committee.

Role: When any solutions does not get from Upazilla ECA committee, then they take initiatives and a meeting occurs monthly or when necessary.

Upazilla ECA committee:

Number: Five

Total member: variable

A upazilla level ECA committee is present which has a following structure:

President: Upazilla Nirbahi Officer

Secretary: Ecologically critical area management officer

Member: one representative from all the GoB department like land, livestock, forest, co-operative, agriculture etc., NGO representative, fisheries co-operative society representative, VCG representative.

Role: When any solutions does not get from Union ECA committee, then they take initiatives and a meeting occurs monthly or when necessary.

Union ECA committee:

Number: Eleven

Total member: 17

President: UP chairman of that union

Secretary: NPPP of DoE

Members: all (9) UP members, NGO representative, Fish co-operative society representative, VCG representative, agriculture officer representative, union land office representative, harmful stake such as brickfield owner representative.

Role: For the problems that is not solved by the VCG, Uion ECA committee take initiatives. VCG representatives inform the Union ECA committee about the present status of the work about conservation and others. A monthly meeting usually occurs in Union ECA committee.

VCG: Village Conservation Group

Number: Twenty Eight

Total member: 27

VCG is the root level conservation committee. They work in the field and directly involve with conservation and management activities. It has two governing body. 1. General body

which has 18 members and 2. executive body which has 9 members. Executive body has the following structures who are selected by election in general body.

Role: VCG are the most crucial body for conservation of Haor and its resources. Directly they implement the activities that is assigned from the authority and they took eyes to ongoing works. VCG also look after the sanctuaries, plantation, guards etc. If they found any illegal activities like dewatering, hunting, illegal fishing gear use etc. they directly informed to concerned persons or body.

President: 1 persons

Vice president: 1 persons

Secretary: 1 persons

Assistant secretary: 1 persons

Cashier: 1 persons

Executive members: 4 persons

VCG has an advisory committee which has 4/5 members comprising UP members, local influential and local leaders (ponchayet).

Conservation activities:

CWBMP working both for the conservation of resources through community involvement and the sustainable development of the community people. as for resource conservation they have done following activities that I have identified from the PRA activities.

1. Bird sanctuary: Hakaluki haor is the paradise for hundreds of both native and migratory birds. CWBMP established around 15 bird sanctuary at different places besides the beel and adjacent houses where the birds frequently gathered. These bird sanctuaries are managed by the concerned VCG and NGOs. Number of guards are also assigned to protect these sanctuaries.
2. Bird nest: In different places of inside the haor they formed bird nest where the birds take rest as well as used as nesting place during breeding season. Bird nests are also protected by the VCG guards and supervised by the concerned NGOs.
3. Wildlife sanctuary: In Vatera union there is a wildlife sanctuary where different types of mammals, birds, number of reptile species, amphibians are found their safe resting

and breeding places. They have also formed turtle hatchery for the conservation of local turtle species. VCG guards look after the sanctuaries.

4. Swamp forest plantation: for the conservation of swamp forest, CWBMP has planted number of Hizol, Korch, Borun and other swamp plant species inside the haor area.
5. Road side plantation: Out of haor they have also road side plantation where different types of wood, medicinal, fruits species are planted. Some guards are assigned to protect and to look after both the swamp forest plantation and road side plantation.
6. Medicinal plant nursery: around 50 species of different medicinal plants have planted in the medicinal plant nursery that is maintained by VCG.
7. Other plant nursery: VCG members were trained about plant nursery with technical support by CWBMP and a number of plant nursery is formed.
8. Fish sanctuary: Hakaluki haor represents more than hundred of local fish species. For the conservation of these species in rivers, lake and beels some fish sanctuaries are formed by CWBMP.
9. Guards: for the proper protection of natural forest, sanctuaries, nurseries, plantation, CWBMP has assigned number of guards who protect illegal fishing, hunting, look after swamp plantation etc. Guards are usually paid a monthly honorary and they are regulated by VCG committee.

For sustainable development CWBMP has done the following works:

1. Formation of VCG: VCG or village conservation group is an organization who directly involve for the conservation of the haor and its resources. Depending upon the dependency of resource extraction CWBMP has formed 28 VCG at different villages. The VCG members are of different occupations and different level of stakes.
2. Grants for VCG: for the sustainability of VCG, CWBMP has provide 100000 taka as a grants. VCG members can take small loan for AIG and other purposes with permission of committee.
3. Training: for the sustainability of VCG and conservation of natural resources, VCG members are trained in various ways like duck rearing, cattle rearing, wetland resources management, improved oven, leadership building, accounts keeping, organization development etc.
4. Registration of VCG: For the sustainability of VCG, CWBMP took initiatives for the registration of VCG and even now nearly twenty VCGs are registered and rests are on going process.

3.2.3.3: Other NGOs:

Number of NGOs working with the haor dependent people by providing credit for different causes like small business, agriculture purpose, gardening, nursery, farming, fish culture etc. In case of dull season when people has scarcity then they take loan from these NGOs and maintain their livelihood. These NGOs also do some other social activities like sanitation, health, education, relief work etc.

Table - 4: List of other NGOs working in Hakaluki Haor

BRAC	Different places adjacent to the haor	Micro credit, relief distribution during disaster moment, WASH programme and other social work
CARITAS	Different places adjacent to the haor	Micro credit and other social work
BURO	Different places adjacent to the haor	Micro credit and other social work
Shonirvor Bangla	Different places adjacent to the haor	Micro credit and other social work
VARD	Different places adjacent to the haor	Micro credit and other social work
BDN	Different places adjacent to the haor	Micro credit and other social work
Grameen Bank	Different places adjacent to the haor	Micro credit
Krishi Bank	Different places adjacent to the haor	Micro credit

3.3 - Dependent villages:

According to data from CWBMP around 256 villages are identified as different level of stakes. While RRA/PRA field work, we get 187 village and settlements (appendix - 1) that are dependent upon haor for their livelihood and RRA/PRA conducted following 30 villages:

Table – 5: Information on 30 Villages Having Stakes with Hakaluki Haor where RRA/PRA conducted

Sl. No.	Name of village	HH nos	Community type	Location	Level of stake
1	Alinagar	400	Fishing and agriculture	Inside the ECA	Major
2	Berkuri	380	Fishing	Inside the ECA	Major
3	Brohmateka	350	Fishing	Inside the ECA	Major

4	Noagaon	400	Fishing and agriculture	Inside the ECA	Major
5	Nizgilachara	220	Fishing	Inside the ECA	Major
6	Judhistipur	180	Fishing and agriculture	Inside the ECA	Major
7	Belagaon	450	Fishing	Inside the ECA	Major
8	Supatek	240	Fishing and agriculture	Inside the ECA	Major
9	Rangziol	200	Fishing and agriculture	Inside the ECA	Major
10	Borne	250	Fishing and agriculture	Inside the ECA	Major
11	Islampur	225	Fishing	Inside the ECA	Medium
12	Nurjahanpur	165	Fishing and agriculture	Inside the ECA	Major
13	Vularkandi	85	Fishing	Inside the ECA	Major
14	Khatkai	170	Fishing	Inside the ECA	Medium
15	Doshghori	140	Fishing	Inside the ECA	Major
16	Halla	350	Fishing and agriculture	Inside the ECA	Major
17	Kazirband	220	Fishing and agriculture	Inside the ECA	Major
18	Shahpur	175	Fishing	Inside the ECA	Medium
19	Mirshankar	200	Fishing and agriculture	Inside the ECA	Medium
20	khutaura	120	Fishing	Inside the ECA	Medium
21	Murshidabad	250	Fishing and agriculture	Inside the ECA	Major
21	boromoidan	225	Fishing	Inside the ECA	Medium
22	shadipur	440	Fishing and agriculture	Inside the ECA	Medium
23	borogaon	200	Fishing and agriculture	Inside the ECA	Major
24	Sreerampur	60	Fishing	Inside the ECA	Medium
25	Khagteka	170	Fishing and agriculture	Inside the ECA	Major
26	Momeenchara Tea Estate	-----	Collect Kuchia, turtle	Adjacent to Haor	Mediulm
27	Boromchal	-----	Collect	Adjacent to	Mediulm

	Tea Garden		Kuchia, turtle	Haor	
29	Vijoya TG	----	Collect Kuchia, turtle	Adjacent to Haor	Mediulm
30	Marina	-----	Collect Kuchia, turtle	Adjacent to Haor	Mediulm

3.4 - Resource and resource status of Hakaluki haor:

Hakaluki Haor (HH) is one of the important habitats of swamp forest among few wetlands in Bangladesh. One third of this wetland has habitat of swamp forest which has been converted into scrub forest, grazing land and agricultural land over the years. However, there are still some sporadic patches of degraded swamp forests in the centre of the haor. People around HH depend on it for fuel wood, fodder & thatching materials. In the clump of Hijol (*Barringtonia acutangula*), Barun(*Crataeva nurvala*), koroch (*Pongamia pinneta*), Nol (*Phragmites karka*) plant species, fishes get their hiding place during monsoon; people cut the branches for of hizol, koroch for katha formation; collect nol mat formation, fuel wood; Shotomul, Onontomul, Amrul for medicine etc. According to local peoples no species yet been extinct but many plant and animal species become threatened due to the over extraction, sedimentation, hooves and grazing action of cattle etc.

Hakaluki haor support more than hundred local fish species of which some are critically endangered. For over extraction, using non-ecofriendly fishing gear, insecticide use in crop land the number and species number also declining day by day.

Hakaluki haor is the paradise for both local and migratory bird species along with other wild animals like amphibians, retiles and mammals. According to CNRS baseline survey HH supports 12 species of amphibians, 70 species of reptiles, 417 species of birds and 59 species of mammals.

After intervention of CWBMP swamp forest becomes regenerated, fish population increased, bird population increase and illegal activities becomes lower.

In the following some threatened animal and plant species are given.

Table - 06: Some important threatened animal and plant species

No	Plant	Fish	Bird	Wild animals
1	hizol	puda	dhoirolly	python
2	koroch	chitol	crane	fishing cat
3	Borun	bou/rani	vulture	dolphin
4	Jarul	bachha	chokia	panther
5	pani koroch	ritha	goose	turtle
6	lod dombura	lacho	kite	hog
7	Bonna	pabia	tern	deer
8	chichra	baghair	stork	armadillo
9	shotomul	raiyaal	cormorant	dolphin
10	nolkhagra	gonia	dahuk	jackel
11	pishach	pangas	bolua	herpestes
12	makhna	chelapata	buzzard	bull frog
13	lotus	baghmach	king fisher	balloon frog
14	Lily	khalla	haria pakhai	
15	Onontomul	foli	sorab pakhi	
16	Amrul	baiem	kura	
17		rani	jungle fowl	
18		baos	telamai	
19		naneen	sukhraj	
20		banshpata	chokha	
21		elong		
22		paapia		
23		pabda		
24		shing		
25		shrimp		
26		hilon		
27		chela		
28		kalaiya		

29		moilai		
30		kataira		
31		kuchia		

3.5 - Trend in Changes of resource in Hakaluki Haor:

Around 30/40 years ago hakaluki haor was highly dense with different plant species, beels were full of different types of fish species and the jungle were the safe place for wildlife. For sedimentation, land encroachment, over extraction of resources, insecticide use in the crop field, hunting etc these resources become depleted and just a remnant are remaining. In the following resource trend of Hakaluki haor is shown:

Table - 07: Status and Trend in Changes of Resources in Hakaluki haor

Issue	Pre-1971	15 years ago	Present	Cause of changes	Future Risk
Fish	000000	00000	000	Population pressure	Medium
Hizol, Koroch trees	000000	0000	0	Over extraction	High
Wildlife	000000	0000	000	Over extraction, hunting, habitat destruction etc	High
Cane	000000	000	0	Over extraction	Medium
Herbs and Shrubs	00000	000	0	Over extraction and use of fertilizers and insecticide in the agricultural field	Medium
Medicinal plants	00000	000	0	Habitat destruction and over extraction	High
Turtles and tortoises	000000	000	0	Over extraction and use of chemicals and dewatering of beels	High
Natural vegetable	00000	000	00	Over extraction and habitat destruction	Medium
Fodder	00000	0000	0	Over extraction and habitat destruction	medium
Aquatic weed	00000	0000	00	Over extraction and insecticide use	Medium
Crab	0000	00	0	Over extraction and dewatering of	High

				beels	
Fuel wood	0000	000	0	Less availability of fuel wood	Medium
Species diversity (overall plant and animal)	000000	0000	00	Over extraction and others	High
Wetland Cover	00000	0000	000	Sedimentation, formation of agricultural land, land encroachment	High
Land Encroachment	0	000	0000	Population pressure and carelessness of government	High
Cattle renching	00000	0000	000	cattle farming are less found	Medium
Agricultural practices	0000	00000	00000	Population pressure, sedimentation and land encroachment	High

3.6 - Causes of degradation:

Day by day the species and individual number of plant, fish and wild animals are decreasing. Both natural and manmade situations are the principal causes for the decreasing of biodiversity.

In the following some crucial causes for degradation are described:

3.6.1 - Causes for degradation of fish species and population:

1. Fishing by complete dewatering of beel
2. Brood fish catching
3. Lack of fish food
4. Scarcity of hiding place for fish during monsoon
5. increase of fisherman number
6. insecticide use in the crop field
7. fishing by using “kapri” and “current” net
8. water quality degradation
9. present leasing policy

when the beels are completely dewatered, then phytoplankton, zooplankton, beneficial insects, aquatic weeds etc also die which causes the scarcity of fish food. As the hizol trees are cut down for fuel wood and “katha” formation, so during monsoon fishes get very few hiding place and ultimately caught by the fisherman. For the increase of population, number of fisherman also increases. On the other hand wetland becomes encroached and smaller. Thus it give a high pressure to the fish population. For more production of paddy and vegetables farmer use insecticides to the field. Which washed by rain and flows to haor and degraded the water quality along with fish production. Now, a new threat has encountered for fisheries is “kapri and current” net which is made of mosquito cartain and all sizes of fishes are caught.

3.6.2 - Causes for degradation of wildlife:

1. Hunting
2. Lack of proper nesting place for birds
3. Lack of food for birds (specially insects which dies due to use insecticide in the crop field)
4. Lack of hiding place
5. Lack of awareness
6. Preyed by other wildlife (specially birds)

3.6.3 - Causes for degradation of plant species:

1. Over extraction of plants for fuel wood
2. Cattle renching destroy the natural seedlings of hizol and other plants
3. Shrubs type of plants are also collected for fuel wood (eg. Ghagra)
4. Ecosystem destruction
5. Conversion of agricultural land
6. Katha formation by cutting hizol trees
7. No government initiatives

3.7 - Resource exploitation and dependency on Hakaluki Haor:

Around 1,90000 peoples directly or indirectly dependent upon Hakaluki haor for their livelihood by collecting different types of resources like fish, rice, vegetable, aquatic weeds, fuel wood etc. Mainly people collect the resources for selling, own consumption, fuel, and medicine purpose. Some resources like fish, wildlife, swamp forest and aquatic weeds are depleted very quickly it shows the maximum risk for availability. Resources mainly fish goes to Moulvibazar, Sylhet, Bianibazar, Dhaka and in local market for selling.

Table - 8: Information on Resource Extraction from Hakaluki Haor

Sl. No	Name of resources	Resource collector	Purpose	Extent	Impact	Risk	Destination
1	Fish	Fisherman, farmer	For Selling, own food	Large	Reduce fish production	High	Moulvibazar, sylhet, bianibazar and local market
2	Paddy	Farmer	For selling and own food	High	Land encroachment, soil fertility reduced, water sharing with wetland demand high	Medium	Local HHs, local market
3	Seasonal Vegetables	Farmer	Own food and selling	Medium	Low impact	Medium	Local HHs, and local market
4	Natural Vegetables	Local woman specially	Own food and selling	Little	Low impact	Moderate	Local HHs
5	Shingra	Little boys, small businessman	Food, selling	Negligible	Habitat and ecosystem destruction	High	Local market, HHs
6	Bird	Hunter, Unknown people	Selling and own food	Little	Decrease number of bird species, increase harmful insect population, water quality depleted	High	Adjacent, inside villages of haor

7	Snail	Duck rearer	Food for duck	Little	Ecosystem destruction	Medium	Local HHs
8	Cowdung	Local Woman, little boys, girls	Fuel	Negligible	No impact	Negligible	Local HHs
9	Shrub and herb	Farmar, day labor, woman, cowboy	Fuel wood	Little	Fish habitat and ecosystem destruction	Moderate	Local HHs
10	Shaluk	Ultra poor and little boys	Selling	Negligible	Fish habitat and ecosystem destruction	Moderate	Local HHs, local market
11	Turtle	Tea garden worker and tribal people	Selling	Negligible	Wildlife population destruction, ecosystem destruction	High	Adjacent tea garden labor's HHs
12	Crab and other aquatic animal	Tea garden worker and tribal people	Own Food	Negligible	Wildlife population destruction, ecosystem destruction	High	Adjacent tea garden labor's HHs
13.	Makhna	Some ultra poor, little boys	Selling, food	Little	Aquatic habitat destruction	moderate	Local market, Sylhet, Dhaka, Local HHs
14	Medicinal plants	Village doctor, local people	Produce local medicine	Negligible	Low impact	Moderate	Local Doctor
15	Nolkhagra	Local poor people, small businessman and woman	Made mat (pati), use for fuel	Little	Fish habitat destruction	High	Local HHs
16	Hizol korocho	Leasee, local poor people	Used in "Katha", fuel	Little	Destruction of swamp forest, and fish habitat	High	Local HHs.

3.8 - Seasonal changes in resource extraction:

All types of resource are not found all the year round. Some are extracted during winter season, some are in summer and some are in monsoon. In the following table seasonal mass collection or peak season of different resources are shown. Other resources which are not mentioned in this table have few or negligible collection.

Table -9: Seasonal Calendar of Resources Exploitation in Hakaluki Haor

Name of Resources	Baishakh	Jaista	Ashar	Sharabon	Vadra	Ashwin	Katrik	Avqraha	Poush	Magh	Falgun	Chaitra
Paddy	√	x	x	x	x	x	x	x	x	x	X	√
Fish	x	x	√	√	√	√	√	√				x
Vegetables		x	x	x	x		√	√	√	√	√	
Fuel wood	√	x	x	x	x	x			√	√	√	√
Aquatic weed	√	x	x	x	x						√	√
Bird (migratory)	x	x	x	x	x	x	√	√	√	√	√	x

*(√ -- shows the availability and x – shows the scarcity of resources)

3.8.1 - Paddy collection:

As paddy is harvested for single time and farmers become busy in the month of Chaitra and Baishakh just before the rainy season. Farmers get very little time to collect his grain specially paddy as the harvesting season is just near rainy season. So, they collect within a few days by hiring local day labor. Peoples from different districts like Dinajpur, Mymensingh, Bogura come to this greater Sylhet region to find work.

3.8.2 - Fish collection:

From the month of Ashar fishing activities start as because plenty of water. Local fishermen catch fishes themselves but when there is mass fishing in leased beel then other peoples, boat, net are hired from other fishermen. Local fishermen sell the fishes directly to the local market but when mass fishing occurs then “Foria” buy the fishes from the leasee and then he sell it to local market or outer market if necessary. Leasee catches fish and major part are sell to the market but local fishermen do it for both selling and self consumption.

3.8.3 - Vegetable collection:

Vegetables are collected highly from Kartik to Falgun as this period seasonal vegetable are massively grown. Both natural and cultural vegetables are collected by the local people for self consumption and selling.

3.8.4 - Fuel wood collection:

Due to the scarcity hizol, korch trees local people collect the ghagra, nol and other shrub like plants for fuel. These resource are collected during dry season and very ultra poor people collect for their self consumption. People get major fuel wood from market that comes from the nearest forest. These fuel wood are found only in dry season.

3.8.5 - Bird hunting:

Birds are mainly hunted in the winter season as there availability of migratory birds. Other indigenous species are less collected due to low population. Mostly the hunter sell it rather than self consumption as they hunt it massively. Specifically its very hard to know that where they sell birds but some are locally sold and some are sold out side to haor area like as in Bianibazar.

3.8.6 - Aquatic weed collection:

Aquatic weeds like makhna, shinger, okol, lotus, shaluk are colleted by ultra poor people and local small boys for selling and self consumption in winter and dry seasons specially. Medicinal plants collected by the local traditional doctors (kaviraj). Medicinal plants are usually used for pain killer, headache, gastral disturbance, wound etc. These resources are in great risk as for over extraction, dewatering of beels, insecticide use and change of water quality.

3.9 - Power structure and local conflict:

3.9.1 - Sources of conflict:

Inhabitant of Hakaluki haor is mostly ultra poor and very few conflicts is found. The main sources of conflict among local people are, children affairs, livestock grazing, irrigated water distribution, fishing place, lease guard and local people, couple affairs, marriage, political affairs etc. Though there are both hindu and muslim community but its very hard to found any conflict about religious purpose.

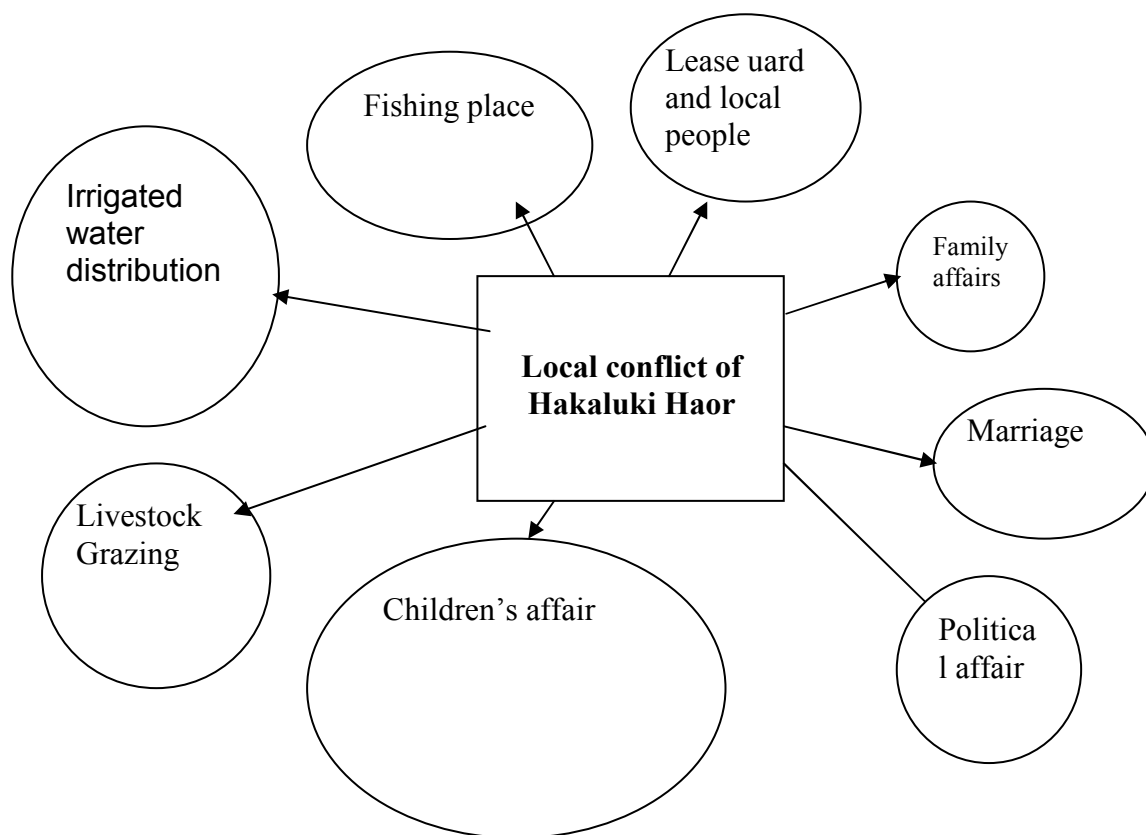


Figure - 5: Showing the source of conflict

3.9.2 - Conflict resolution:

I. Resolver:

Conflicts are resolved by arbitration by local elites, public representatives like UP chairman, members, religious leader, Ponchayet. If the local efforts are not fruitful it may lead to filing cases with Thana-police, may eventually end up in courts.

Ponchayet:

It is a team where locally elite, influential, powerful, religious leaders, aged personnels are involved the problems and give solutions.

II. Process:

Usually the problems are solved by the justification of case from the arguments of both parties at presence of witness. If some body get physical hurt, then some money installed to the ponchayet from both parties which used for treatment and ultimately the guilty persons are punished with financial penalty. In case of religious affair, religious leaders take initiative and resolved according to religious legislation.

In some cases the local highly influential people do not accept the trial of Ponchayet and no body talk against them.

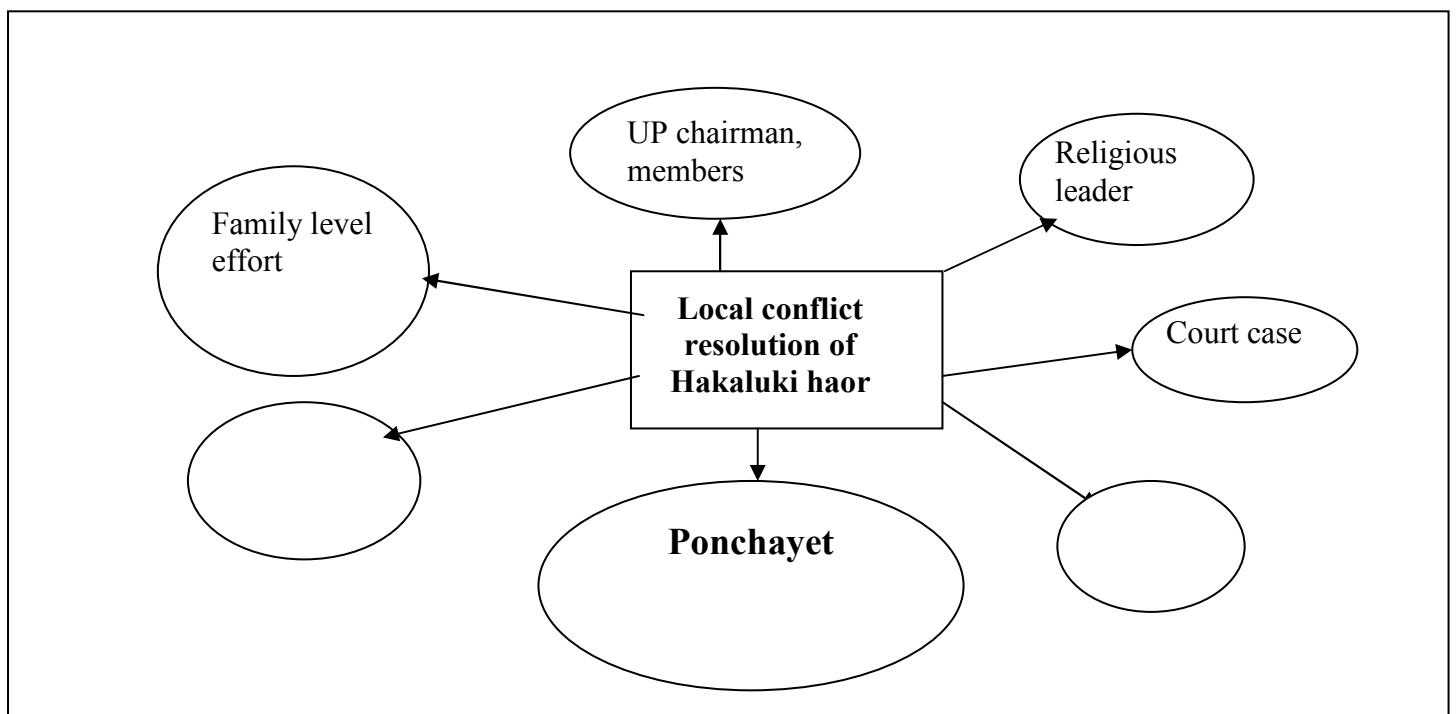


Figure- 6: Showing the conflict resolver

3.9.3 - Some local influential people:

Hakaluki haor comprises two district, five upazilla, eleven union and nearly 256 dependent villages. Usually all the local UP chairman, UP members, local elite, lesee, religious leaders, abroad stayer are the influential people. on the other hand some political leaders are also so called influential. But in case of haor management all of them are included as influential

people. in the following some persons with his address and occupations are given who are mostly influential in case of haor issue.

Table -10: Some local influential people of Hakaluki Haor

Upazilla	Union	Name	Village	Occupation	Remarks
Kulaura	Bhatera	Hazi Abdus Shahid Chowdhury	Maijgaon	1 st – Business 2 nd – farming and foreign currency	Has stake in Jolmohal Leasing in HH
	Baranchal	Raja member	Alinagar	1 st – business 2 nd - farming	Leader of fisheries co-operative society and stake in jolmohal leasing
	Bhukshimoil	Rafiq Miah	Moheshghori	1 st – lease holder 2 nd – farming	Relative of former MP
Juri	Paschim Juir	Sudhir Biswas	Krishnanagar	1 st – lease holder 2 nd – farming	Powerful stake in social conflict resolver and decision making
	Jaifarnagar	Badrul Alam Badal	Bhobanipur	1 st – lease holder 2 nd – farming	Powerful stake in social conflict resolver and decision making
Fenchuganj	Gilachara	Mahmud Hossain Chowdhury	Judhistipur	1 st – farming 2 nd – foreign currency	Educated and honest person, stake in conflict mitigation
Golapganj	Uttar Badepasha	Moinuddin Bahadur	Keotkona	1 st – farming Foreign currency	Chairman candidate, stake in conflict resolution
	Sharifganj	Pakhi Miah	Khatkai	1 st – farming 2 nd – foreign currency	Local AL political leader
Borolekha	Sujanagar	Hafiz Uddin	Chintapur	1 st – agor business 2 nd – farming and foreign currency	Local politician

	Talimpur	Surman Ali	Murshidabad	1 st – UP chairman 2 nd – lease holder and farmin	Social conflict resolver
	Barni	Prof. A.K.M. Helal	Barohal	1 st – teaching 2 nd – farming and lease holder	Good stake in jolmohal leasing and conflict mitigator

3.9.4 - Conflict with fisheries and other department:

Though Hakaluki haor is one of the important mother fisheries of Bangladesh but only two UFO/SUFO persist for its conservation and management. Kulaura UFO look after Kulaura, Juri and Borolekha part and UFO Golapganj look after his own part. Fenchuganj has no UFO/SUFO. Due to the scarcity of manpower government has less intervention in the haor area. So, its hard to found any conflict with fisheries department and local people. While PRA activities only a few people informed us about the persistence of agriculture officer and other haor concerned officer.

3.10 - Social gathering:

People of Hakaluki haor usually gather in different religious matrimonial and cultural occasions. Among them some social event are enlisted where the peoples gather.

1. Weekly Muslim's jumah prayer
2. Eid
3. Puja
4. Waz mahfil
5. Matrimonial ceremony
6. Village fair
7. Jatra
8. Village trial
9. UP election
10. Local games
11. National cultural program

3.11 - Socio-economic activities and livelihood strategies:

3.11.1 - Demographic profile:

I. Education:

Not only in haor area but also greater Sylhet region has poor education status. Males are comparatively more educated than female. But now in primary and secondary school level education females are higher in number. Very few number boys and girls go for college and hard to found any boy or girl who goes to university. Religious rules and regulations are maintained strictly in this area. So, number of boys and girls studied in Madrasha rather than school.

Male have the tendency of going abroad when they become matured and fit for work. So, they don't care about study and the females usually do not study when they pass high school due to religious issue. For these reasons education level is lower here in case of other regions of Bangladesh.

Principal causes for poor education level:

1. Religious restriction for females
2. Tendency for going abroad for male
3. Scarcity of available school
4. Lack of awareness

Table - 11: Comparison of Educational Status of Male and Female in HH Area

Overall literacy (based on adult)		Educational level (based on students)				
		Primary	Secondary	Colleges	Above	Informal
Male	0000	0000	000	0	0	
Female	000	00000	0000	0		

II. Occupation:

Principal occupations of haor dependent inhabitants are mainly fisherman, farmer, day labor, abroad stayer, service holder, small businessman etc. As secondary occupation beel leasing, motor driving, rickshaw/van driving and day labors are main. In the following percentage of different occupations are given:

1. Fisherman: 40%
2. Farmer: 90%
3. Day labor: 10%
4. Abroad stayed: 5%
5. Service holder: 5%
6. Others: 2%

III. Overlapping in occupation:

Though their principal occupation is fishing and farming but there is overlap in between this two occupation. All farmers catch fishes during monsoon and some of the farmers are lease holder. On the other hand most fisherman also cultivate some land to fulfill his demand of rice. As the paddy are cultivated on the bank of the beel which is Khas land and the fisherman cultivate on request of leasee. Some fisherman also cultivate land as “Borga chash”. This overlap happen due to the unavailability of resources of some time. Such as fish are mainly from Ashar to Agrahayan and the rest time local fisherman have nothing to do. Its very hard to maintain their livelihood by the income of these few months. So, they have to work as a day labor or cultivate paddy or look for other works. Local farmers cultivate different types of crops like paddy, vegetables and others from Ashin, Kartik to Baishakh. The rest of the time they have to do some other alternative income generation activities.

IV. Trend in occupation change:

Fishing and farming are the traditional occupation of this region but due to population growth, less availability of resources, people goes to secondary occupation to maintain their livelihood. After the liberation war some people comes from another district and settled besides haor and they are called “Bengli” according to native inhabitants. These bengli are much more industrious and they started alternative or secondary occupation first. Some people claim that these bengli do some illegal activities like stealing, robbery etc in the haor area.

In the following table principal occupation and trend in changes occupation of haor dependent peoples are given.

Table - 12: Principal occupation and Trend in Changes in Occupation

Sl	Occupation	Before 1971	Before 15 Years	Present
01	Fisherman	000000	0000	0000
02	Farmar	0000	00000	00000
03	Day labor	00	000	000
04	Abroad stayed	0	00	000
05	Service holder	0	00	00
06	Businessman	0	00	00
07	Motor Driver		0	0
08	Rickshw/van driver		0	00
09	Small shop keeper		0	0

3.11.2 - Richness and poverty level:

Depending upon the principal occupation richness and poverty level are differ. Among the Haor dependent people very few persons are rich, mostly poor, some are extreme poor and the extreme poor and poor are landless. Abroad stayer, leasee holder, businessman are rich, local fisherman, and farmer are poor and some day labors are extremely poor.

Table - 13: Livelihood Status of the Hakaluki haor

Rich	Mid. Class	Poor	Extreme Poor	Landless
10%	25%	40%	15%	25%

3.11.3 - Unemployment:

Unemployment is one of the major problem in Haor area. We can divide unemployment in to two ways.

1. Usual unemployed
2. Seasonal unemployed.

1. Usual unemployed are those young boys especially who's brother or father stay in abroad. They do not do any work and they do not participate in haor conservation or destruction.

2. Seasonal unemployed are those adult male who have nothing to do during dull season. As for example farmers become unemployed when their crop harvesting over mainly in the month of Jaishtha to Sravan.

3.11.4 - Workload: Workload for male and female depend upon resource collection by farmer and fisherman in different months. Usually the females have some household work all the year round but the male spend leisure period when they have no field work. Fisherman has heavy workload from Agrahayan to Magh as this is the peak season for fishing and the farmer has heavy workload from Agrahayan to Baishakh.

Table - 14: Seasonal Workload Of Male And Female of fisherman

Months across column	Baishakh	Jaistha	Ashar	Shrabon	Bhadra	Ashwin	Kartik	Agrahayan	Poush	Magh	Falgun	Chaitra
Male	0	000	000	000	000	00	0	000	0000	000	00	0
Female	00	00	00	000	000	00	00	0000	0000	00	00	00

Table - 15: Seasonal Workload Of Male And Female of farmer

Months across column	Baishakh	Jaistha	Ashar	Shrabon	Bhadra	Ashwin	Kartik	Agrahayan	Poush	Magh	Falgun	Chaitra
Male	00000	000	00	0	0	0	0	00	000	000	0	0000
Female	00000	000	00	00	00	00	00	000	00	00	0	0000

3.11.5 - Credit:

A large number of people take loan from different NGOs, Bank and VCG committee. Several NGOs and 2 banks provide micro-credit to local people. Bank loans are mainly given for agriculture. NGOs provide credit mainly for different income generation activities. NGO credits are mainly focused on women. Sometimes people take loan to maintain their livelihood specially in Ashwin, Kartik, Ashar and Sravan month. Out of these NGO and bank some VCG members take credit from VCG committee.

Purpose of credit:

1. Small business
2. Farming
3. House repairing
4. Cattle rearing
5. Poultry
6. Livelihood purpose

Table - 16: Name of NGOs and bank from where people take credit.

No.	Name of NGO/Bank
1	BRAC
2	CARITAS
3	BURO
4	Shonirvor Bangla
5	VARD
6	BDN
7	Grameen Bank
8	Krishi Bank
9	ASA
10	HEED
11	CNRS

3.11.6 - Leisure period: At the leisure period people do nothing except gossiping, roaming here and there etc. Some people do some alternative income generation activities like net forming (specially female), bamboo and cane product forming, rickshaw/van driving, small business etc.

3.11.7 - AIG scope: in the month of Kartik and Chaitra people have nothing to do and they have financial scarcity. So, these months they take loan from the NGO and maintain their livelihood. People got some AIG training From CWBMP through CNRS and CFSD. According to season and skill local people have following scope for alternative income generation.

1. Sewing
2. Cow/goat rearing
3. Nursery
4. Bamboo and cane product formation
5. Handicrafts
6. Carpenters

3.12 - Gender Issue:

3.12.1 - Family decision making:

In case of family decision making husband are the family leader and take all the decision. He also asked to his wife, father, mother, elder brother also about their comments on the particular decision. In a word husband is the all in all of a family.

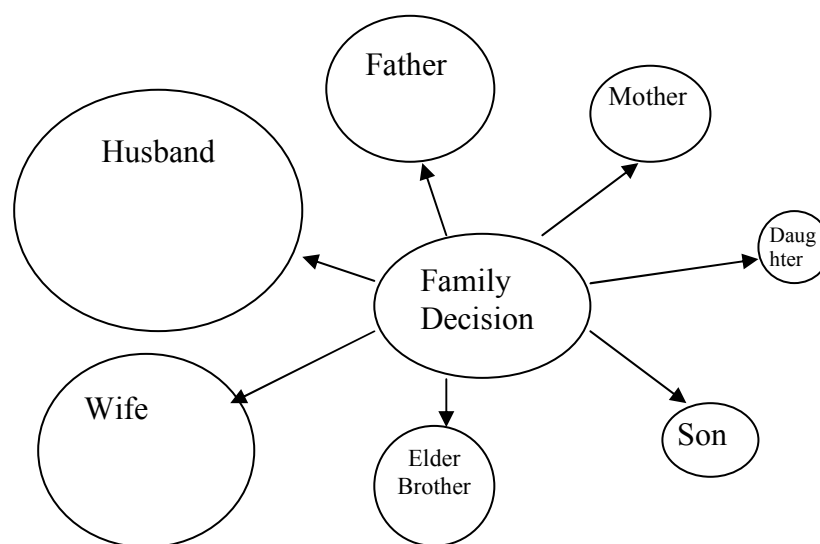


Figure - 7: Venn Diagram showing level of role of family members in decision-

Table - 17: Information on Family Decision-Making

Name of decision	Husband	Wife	Father	Mother	Elder Brother	Younger Brother	Son	Daughter
Marriage	0000	00	0	0			0	0
Sowing crops	0000	0	0					
Land purchase	00000		00		0			
Land selling	00000		00					
Treatment	000	00						
Education	000	000						
Fish selling	00000							
House making	00000	00	0					
Cattle Purchase	0000	0			0			
Loan	0000	000						
Savings	0	00						
General expenditure	000	0						

3.11.2 - Outdoor mobility and access to credit and IGA:

Overall, in Hakaluki haor area, outdoor mobility of females is considered to be moderate because of religious restrictions and social pressure. Females must have to take prior approval from the husband to go out for any reason. Participation to social events by women are comparatively less than males. However, now a days access to NGO credit and IGA is much more higher in case of women. But in case of bank loan males are prioritized.

Table - 18: Mobility and Participation in Social Events and Access to Credit and IGA by Male and Female in Hakaluki Haor

	Outdoor mobility	Participation in social events	Access to credit	Access to IGA	Education	Employment
Male	0000	0000	0	000	00	00
Female	000	0	000	00	00	0

In case of resource extraction from haor and other conservation related activities, females have very low participation. Now VCG of CWBMP project maintain a rule that is 25% female is mandatory to form a VCG.

3.12 - Male and female workload:



Fig - 7: Daily work chart of a men from Hakaluki

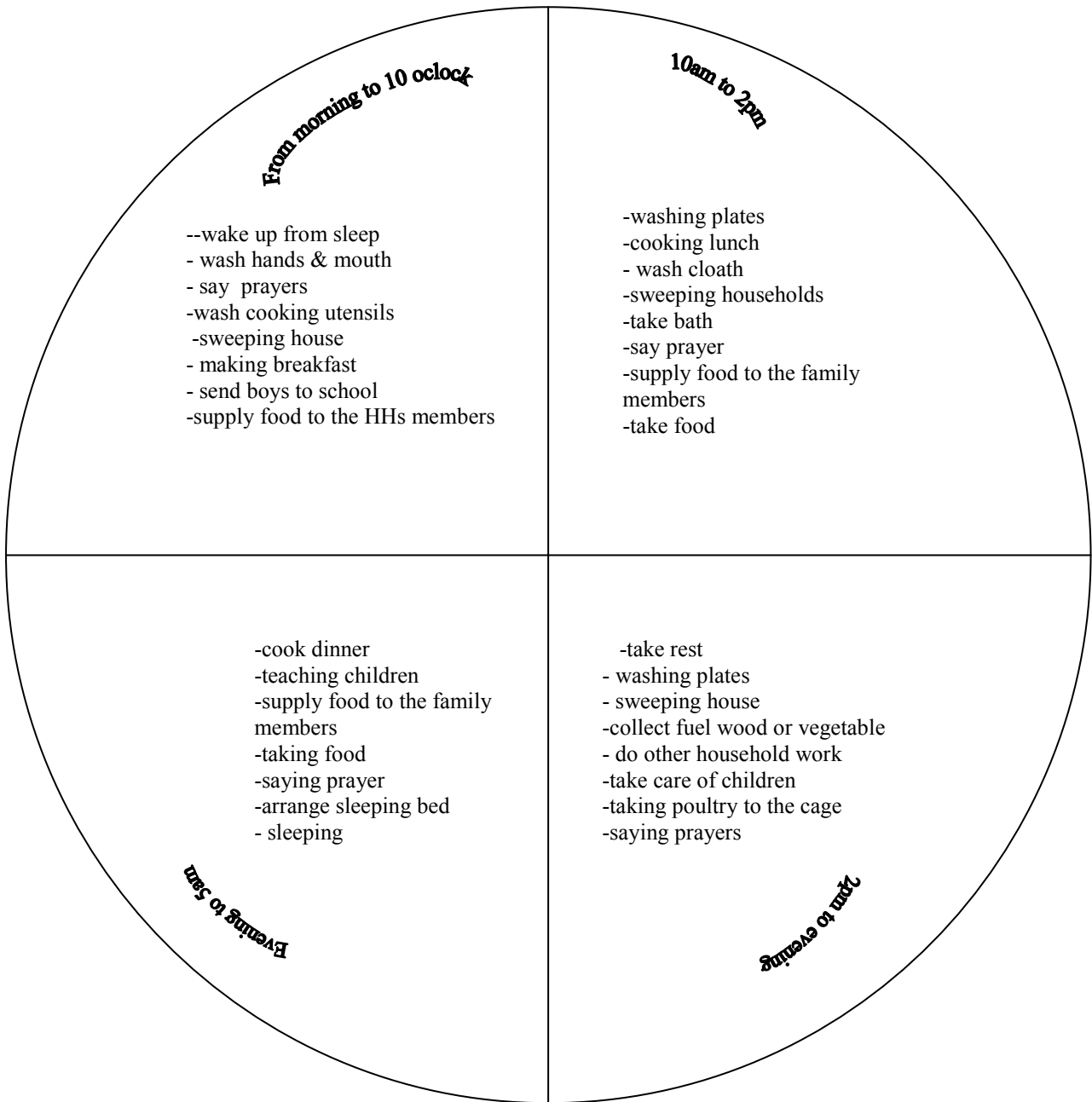


Fig - 8: Daily work chart of a men from Hakaluki

3.13 - Threats for Hakaluki haor and its resources:

1. Sedimentation
2. Over extraction of fisheries resources
3. Over extraction of fuel wood
4. Land encroachment
5. Non-eco-friendly leasing system
6. Unplanned irrigation system
7. Loss of bird population through hunting
8. Loss of other wild animal through over harvesting
9. Conversion of agricultural land
10. Cattle grazing
11. Poor enforcement of fisheries and wildlife protection act
12. Use of insecticide in the crop field
13. Lack of awareness
14. Loss of fish fertility due to use of pesticide and herbicide
15. Less involvement of local dependent villagers
16. Lack of alternative income for dependent people

3.14 - Challenges for Haor and its resource conservation:

1. Control over extraction of resources
2. Formation of eco-friendly leasing system
3. Reduce local poverty and unemployment
4. Active participation of GoB concerned department
5. Recovery of encroached land
6. Reduce insecticide, herbicide and pesticide use
7. Stop bird and other wildlife killing through hunting
8. Control cattle grazing
9. Ensure natural water flow
10. Control the use of harmful fishing gear
11. Interfere of influential people
12. Protection of natural hizol, koroch seedlings
13. Lack of proper transport for field work
14. Support from Government Officers

3.15 - Opportunities:

1. **Existing CBO of CWBMP:** Twenty eight CBOs are existing which were formed by CWBMP and they work for the conservation of resource. IPAC can use the existing CBOs collaborating with CWBMP instead of forming new CBOs.
2. **Ecotourism development:** Hakaluki haor is the paradise for migratory birds. During winter thousands of visitors comes here to visit the birds as well as the natural beauty. If infrastructures are developed this will attract more visitors and ecotourism could be planned accordingly.
3. **Re-excavation of Degraded water bodies:** Principal problem for Hakaluki haor is sedimentation. IPAC can re-excavate some important Beel, canal, river and bring back the natural environment again.
4. **Scope for alternate income generation activities:** In some specific season local people have no work to do. That season IPAC may trained them for AIG activities like duck rearing, cattle rearing, handicrafts, nakshi etc. Some people are skilled to produce different type of bamboo and cane product and they may trained by Asiatic.
5. **Habitat restoration:** Swamp forest plant species like hizol, korch are germinated automatically and huge in number. If the natural seedlings are protected from the cattle then the swamp forest will restore automatically without any new plantation of seedlings. By restoring the swamp forest we can automatically restore the fish and wildlife species population.

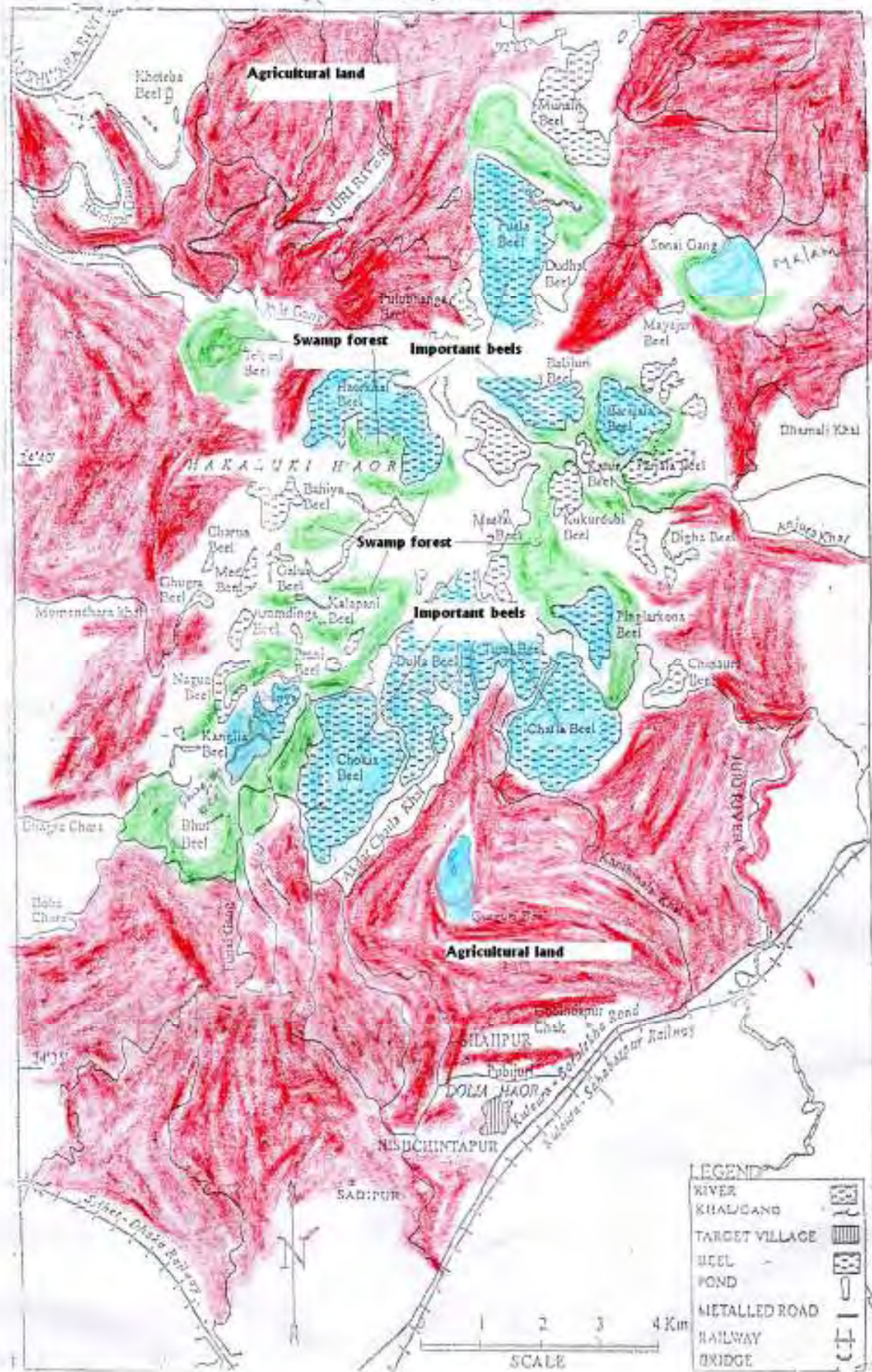
3.16 - Suggestions and Recommendations:

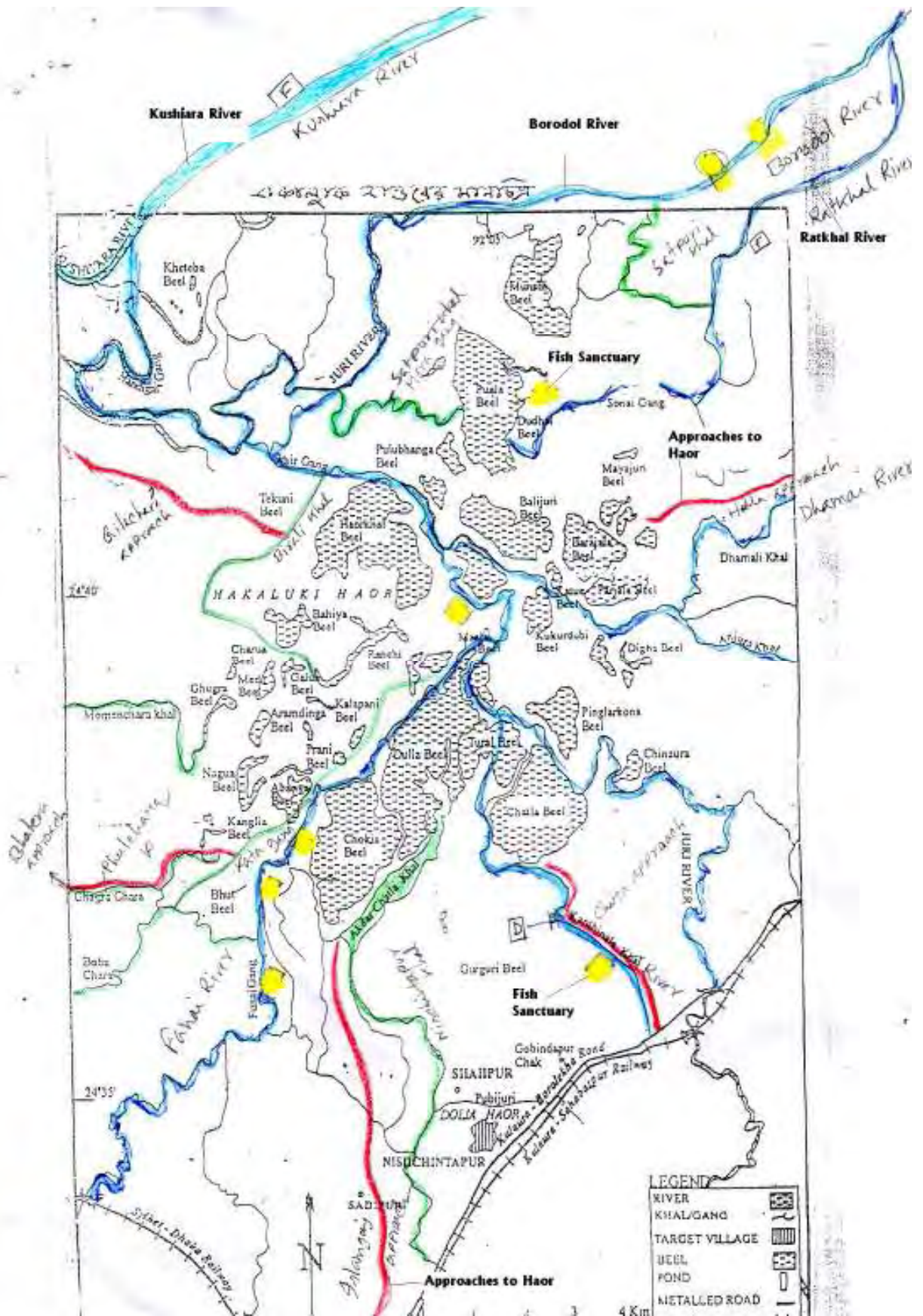
Hakaluki haor has a diversified resources which is managed by a few staff of government and CWBMP working with two large NGO consortium for a long time and they have already a co-management system there. For successful intervention of IPAC following matters should consider with high priority:

1. As CWBMP is the major stake in Hakaluki haor and it will be really tough to work there ignoring them so, IPAC should take necessary steps making for institutional arrangement with them.

2. IPAC should do something for the incorporation with GoB strategy with IPAC strategy for better support from the fisheries department.
3. Fisheries department mainly think about the revenue and less about conservation practices. So, some training may arrange about conservation of Hakaluki haor resources for the DoF staff.
4. Leasee should aware about eco-friendly fishing and conservation practices by different type of conservation training.
5. Awareness building through leaflet, brochures, bill board, drama, folksongs etc may done for the local resource users.
6. AIG training is crucial to reduce dependency upon haor for the local resource collectors.
7. If IPAC works with the existing VCG of CWBMP following initiatives may take:
 - Registration of some VCG is an issue for sustainable running.
 - VCG guards should give more logistic supports.
 - ECA committee at different level should activate immediately.
 - VCG members should give more training and logistic support for sustainable running VCG.

Map showing Agricultural land, patches of swamp forest and important beels





Map showing Important river, canal, human approaches, Fish Sanctuary etc.

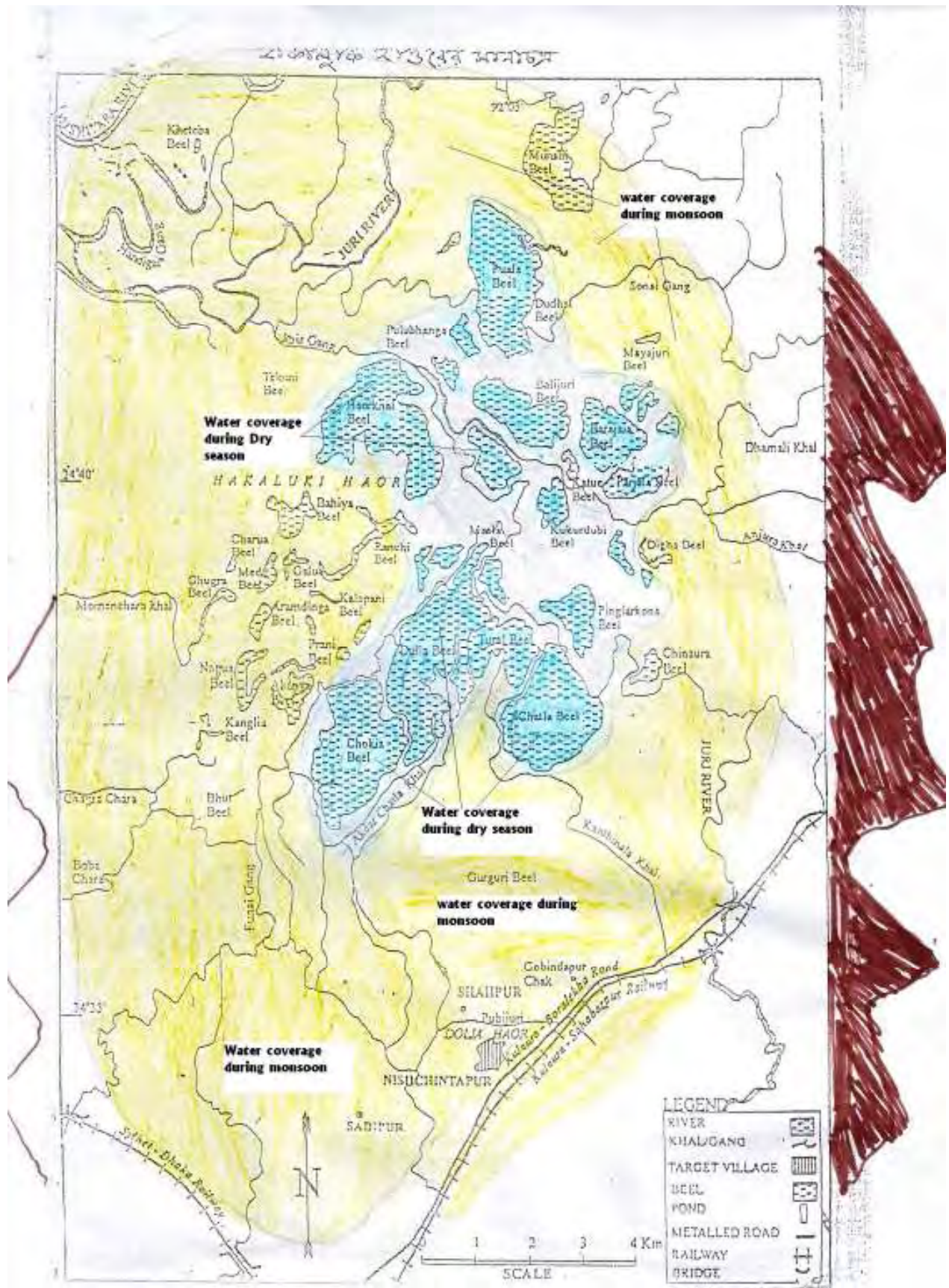


Figure showing water coverage during dry season and monsoon.

Appendix - 4: Name of villages having stakes found while RRA/PRA.

No.	Name
1.	Khatkai
2.	Panigaon
3.	Kutura
4	Boromoidan
5	Ashigor
6	Meherpur
7	Doshghori
8	Halla
9	Nurjahanpur
10	Kadipur
11	Rangziol
12	Salia kazibad
13	Borne
14	Belagan
15	Berkuri
16	Borogaon
17	Funaichar
18	Alurkandi
19	Islampur
20	Dakshin Badepasha
21	Shimultala
22	Khagteka
23	Gilachara
24	Shahpur
25	Yusufnagar
26	Jolduba
27	Monikuna
28	Bade deuli
29	Jangirai
30	Vukshimoil
31	Kalikrishnapur
32	Badepasha
33	Nurjahanpur
34	Mochani
35	Shomarah
36	Barhal
37	Nagua
38	Uzirpur
39	Judhisthipur
40	Mirshangkar
41	Kazirband
42	Shotpur
43	Pakshail
44	Shunapur
45	Mirganj

46	Dashia
47	shosharkandi
48	Murshidabad
49	Boromoidan
50	Sreerampur
51	Dhormodehi
52	Badda
53	Volarkandi
54	Amtoil
55	Saatghori
56	Kolartoli
57	Patna
58	Tekalee
59	Ghochhara
60	Gazipur
61	Modhupur
62	Honorpar
63	Taltola
64	Nizkalighar
65	Mera dui
66	Jogotpur
67	Shinghonath
68	Niz gilachara
69	Chuar kandi
70	Anandapur
71	Golapnagar
72	Panidhora
73	Jamira
74	Kadipur
75	Shonaichar
76	Mehari
77	Panishar
78	Ponaichok
79	Boshonpur
80	Rampur
81	Oorkuji
82	meherpur
83	Polobanga
84	Gorgori
85	Brohmateka
86	Kharpara
87	Hussainpur
88	khatgaon
89	Salia kazirband
90	Madani
91	Kazipur
92	Radhanagar
93	Ghuradoil

94	Khutaura
95	Alla
96	Papijuri
97	Moiyajuri
98	Durgai
99	Vaddorpur
100	Baroigram
101	Shahbajpur
102	Kathaltoli
103	Dershobazar
104	Boiragi bazar
105	Govindapur
106	Hotunagar
107	Digolbagh
108	Rajapur
109	Kurbanpur
110	Mohishguri
111	Goughora
112	Panishala
123	Horkunji
124	Dhormodi
125	Botorjal
126	Khagpara
127	Kabijabi
128	Shunapur
129	Chokorgaon
130	Govinpur
131	Holorpar
132	Jogori
133	Kutalpur
134	Patna
135	Uttor badda
136	Ranginagar
137	Barhali
138	Uttor bagmara
139	Shutaura
140	Hunoipar
141	Kolartolipar
142	Khagbara
143	Medabui
144	Parkandi
145	Khatbera
146	Gourkoron
147	Nonua
148	brohmateka
149	Rangziol
150	Nishchintopur
151	Vobanipur

152	Ghorer gaon
153	Vugtera
154	Manikshing
155	Chatera
156	Aminpur
157	Gouripur
158	Kashinagar
159	Bordamai
160	Shimultola
160	Hotunagar
162	Taliura
163	Baroal
164	Montreegaon
165	Elapur
166	Jalalpur
167	Shomai
168	Sagarnal
169	Maizgaon
170	Muktadipur
171	Shotpur
172	Barhal
173	Pakshaiyl
174	Daliha
175	Nababganj
176	Marina
177	Momarah
178	Salia
179	Vijoya TG
180	Ahmadpur
181	Boromchal Tea Garden
182	Ranginagar
183	Momeenchara Tea Estate
184	Jhogri
185	Uttor bagmara
186	Nazirkhal
187	Jukura

Appendix – 4: Name of some important beels

1. Fuala
2. Chokia
3. Malam
4. Neerai
5. Pal rangda
6. Chilay mati
7. Chatla
8. Turul
9. Gourkuri
10. Nagua
11. Dholia
12. Pingla
13. Morua
14. Shot beel
15. Jolla
16. Balijuri
17. Haorkhal
18. Polobanga
19. Mijhola
20. Foot
21. Kawa borna
22. Koier kona
23. Shiala
24. Kutaura
25. Katua
26. Kukurdubi
27. Parjola
28. Moiyajuri
29. Chowdalu
30. Ukla
31. Urudi
32. Dudhai

33. Malam
34. Koiar kona
35. Machla
36. Shatbila
37. Mamtar dak
38. Polovanga
39. Chinaura
40. Diga
41. Dosh ana
42. Kudali
43. Kutali
44. Derua
45. Poroti
46. Cinaura
47. Bage khabri
48. Jingirala
49. Chandor beel
50. Kodma
51. Balijuri
52. Guar sabra
53. Matha beel
54. Gatti beel
55. Mangle beel
56. Dokkhina
57. Ponchoram
58. Guldibi
59. Aaobonna
60. Rongchi
61. Bargabi
62. Bittogabi
63. Terabeka
64. Fotorbang
65. Gopalpur
66. Goaljur

67. Chatua
68. Baiya
69. Naudia
70. Murti
71. Naiubi
72. Dhonia
73. Mirakandi
74. Godamari
75. Sirili
76. Bagher dor
77. Halkata
78. Pachbila
79. Charkhora
80. Upor medha
81. Gosua