



Site-Level Field Appraisal for Protected Area Co-Management: Hail Haor



A Present Picture of Baikka Beel Permanent Sanctuary of Hail Haor

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Prepared for:

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EXECUTIVE SUMMARY

A two-step rapid appraisal process- initially (RRA), followed by subsequent PRA-was undertaken to make a comprehensive situational analysis of the Hail Haor during March to April 2009, aiming to shape the future activities for the improved management of the PA within the Integrated Protected Area Co-Management Project. Specifically, the appraisals focused on the assessment of major stakeholders, understanding causes for resource degradation to promote ecologically sound management of floodplain resources including fisheries and other wetland products for the sustainable supply of food for the poor of Bangladesh and its underlying facts, identifying the challenges for the project and exploring the opportunities for its improved management. In addition to application of various RRA and PRA tools, like trend and seasonal analysis, Venn diagramming, livelihood analysis, ranking, scoring, resource mapping etc., a series of household and group interviews and group discussions were also conducted.

Hail Haor is a basin between hills that becomes a large single body of water in the rainy season and many small beels in the dry season. It is surrounded on three sides by a chain of tea gardens. Pineapple fields, groves of rubber trees and remnants of natural forest blocks. Areas above flood level are intensively cropped with rice monocultures. The surrounding hills, formerly forested area, now cleared are either used for agriculture or tea plantations.

Fishing activities in the Haor occur year-round. During the wet season, subsistence and gill net fishers predominate. Large fish are collected from the drying beels in the dry season.

The Hail Haor, in the sylhet basin, is located between to the Balishara and Barshijura hills in the east and the satgaoan hills to the west water that fills the haor originates from the surrounding hill streams of which now only 59 streams are active. Hail Haor's only discharged point is the gopla river that connects to the upper Meghna River by draining north out of the haor. The Hail Haor located in Mirjapur, kalapur, Sreemongal, Ashidrone, Bhunobir unions of Sreemongal upazila and Nazirabad, Giasnagar unions of Moulvibazar sadar upazila. All these union and upazilas are under Moulvibazar district.

MACH project had initiated sustainable resource management activities in the haor from last 10 years through establishing Co Management. Until 08 RMOs and 05 FRUGs formed for sustainable resource management of Hail Haor. For informed the matter that all RMOs and FRUGs had been registered by Social Welfare Department and they are independently functioning to take their all activities with the Department of Fisheries and assist by MACH CNRS and CARITAS.

The fishermen mentioned that they did not see several species of fish in the Haor last 7-8 years before stated work by the MACH Project. The depletion of fish production and loss of species diversity are mainly due to the closing of link canal named 'Kamarkhali Khal' located at the north of the Haor. The Kamarkhali Khal was connected with Kushiara River and acted as the major migratory route for fish to Hail Haor.

MACH is working with the communities and local government to restore wetland function through renegotiation of selected upland watersheds, excavation of key dry season perennial beels and canals, and establishment of fish sanctuaries aiming at the sustainable supply of fish and other wetland products.

A total of 45 villages having varied degree of stakes with the Hail Haor have been identified, all villages are located outside of the Haor and they are within 2 km from Haor Periphery.

About 5000-7000 people (about 700-1000 people on a regular basis) from the outside enter the Hail Haor for different resources collection. The collectors are usually aged and adult.

By now, many fish species have become extinct from the Hail Haor. Among the extinct fish species not seen: Along, pota, nandil, Kailara, bacha and gainnaya.

For meeting HH needs and added income. Scarcities in the availability of these resources in the locality are also the underlying causes for wetland use. It is unlikely to prevent the illegal fishing activities unless these underlying causal factors are addressed. The local poor people, haor villagers are mainly involved with direct extraction of wetland resources and are responsible for causing most harm to the Sanctuary.

Based on limited HH survey, it appears that in the locality, majority of the people (60-65%) are poor, followed by middle class 22-25%, extreme poor 17-20%, and 4-5% are rich. This picture in fisher men community is different, about 75% HHs are poor and 15% extreme poor and the rest belong to rich (1%) and middle class (2%). The literacy rate is low (30-40%). Currently 80-85% children go to schools. This figure varies with seasons, being most in chaitra, Baishakh, Jaistha, Ashar.

The major NGOs that operate in the locality are: HEED-Bangladesh, RDRS Bangladesh, ASA, BRAC, Grameen Bank, CARITAS, BURO Bangladesh, VARD, etc. Their major activity is credit programs exclusively for the women. Some of them have concentrated on health, education, nutrition and alternate income generation. There are also 2 community organizations deal with local problems and welfare and cultural activities. However, they are not much active.

Many NGOs and 2 banks provide micro-credit to local people. Bank loans mainly provide for agriculture. NGOs provide credit mainly for IGA. NGO's IGA programs concentrate on small business, fish culture, poultry, livestock rearing etc. and their activities mainly focused on the women. Skill development activities by the NGOs are limited.

The main sources of conflict among local people occur over land disputes, livestock grazing, children affairs, money lending and transaction, marriage affairs, family affairs, etc. Conflicts are resolved by arbitration by local elites & public representatives (UP chairman and members), Local Matbar. If the local efforts are not fruitful it may lead to filing cases with Thana-police, and may end up in courts.

Introduction

Project Background

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 Co-Management (IPAC) who works 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. Hail Haor is a site of IPAC which is an important wetland as 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 Hail Haor 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 focus group discussions were conducted.

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

1.1 Purpose of the Report

The main purpose of the present report is to present a synthesis of all findings from RRA and PRA exercises conducted in Hail Haor during April 05-10th 2009. The report also details the methodology and tools used and highlight the issues in wetland management and biodiversity conservation and identify the challenges for the IPAC. Finally the report makes suggestions on what the project and Fisheries Department need to do immediately. Finally, the report puts forward set of recommendations for the improved management of the Hail Haor.

1.2 Outline of the Report

The site level appraisal report, at first, provides an executive summary which summarizes the entire ranges of the findings, methods used, issues and challenges until identified during PRA. The report starts with general introduction in **chapter 1** that includes the information on background of the project, information needs of IPAC and logical basis for conducting PRA/RRA, the purpose of the report etc.

Chapter 2 sets out the methodology of the study that deals with the approach to implementation of the fieldwork of RRA and PRA, study team and study period, objectives and methodology of the study. The chapter also includes study period, setting RRA and PRA issues and questions, formation of RRA and PRA field teams, selection of RRA and PRA spots, choice of RRA and PRA methods and tools and the limitation of the field work. Outcomes of the RRA and PRA exercises are described in **chapter 4** which contain major findings and analyses. The findings are mainly presented as situational analysis of the

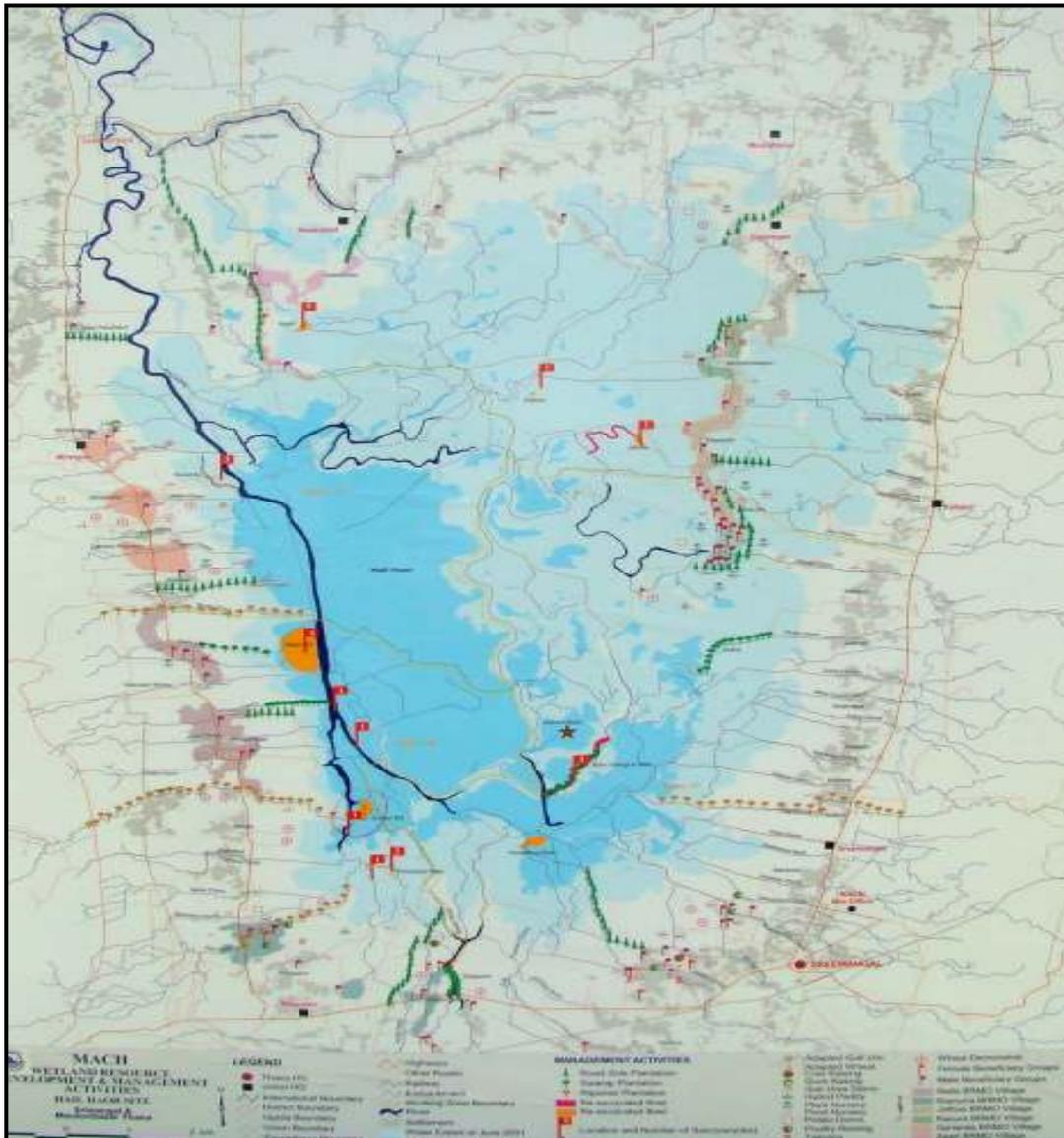
wetland resources, stakeholder analysis, resource and resource extraction, trend analysis, socio-economical situation of the surrounding area, seasonal trends in resource extraction, etc. In short, this chapter reflects the current status of the wetland dynamics with social dynamics.

2. Description of the Project Site

The Hail Haor, in the sylhet basin, is located between to the Balishara and Barshijura hills in the east and the satgaoan hills to the west water that fills the haor originates from the surrounding hill streams of which now only 59 streams are active. Hail Haor's only discharged point is the gopla River that connects to the upper Meghna river by draining north out of the haor. The Hail Haor is located in Mirjapur, kalapur, Sreemongal, Ashidrone, Bhunobir unions of Sreemongal upazila and Nazirabad, Giasnagar unions of Moulvibazar sadar upazila. All these union and upazilas are under Moulvibazar district.

Hail Haor is a basin between hills that becomes a large single body of water which overall catchments area 60,000 ha, Wet Season haor area 12,490 ha, Dry Season water area 4009 ha (March 2000), 400 ha (1999 dry season) and Adjacent floodplain 20,000+ ha. It is surrounded on three sides by a chain of tea gardens, pineapple fields and groves of rubber trees and remnants of natural forest blocks.

Map of Hail Haor



3. Methodology:

As mentioned in the preceding section a two-step rapid appraisal strategy was taken. RRA was conducted as the first in the appraisal process, followed by PRA.

RRA was carried out as an initial activity in the field with a primary focus on generating information that would help to get a sense of the range of stakeholders, key issues and challenges that need to be addressed and provide information on the context (social, economic, ecological) in which the project will operate.

Built upon the outcome of the RRA, a subsequent PRA exercise collected in-depth information on the identified issues and was designed to ensure greater participation of local people in information collection.

- Who illegally fishing and how the Hail Haor became less resources
- What are the underlying driving forces for the wetland degradation
- Cause and effects of the behavior of local people
- Opportunities for improvement in wetland management

3.1 Developing the RRA and PRA: Issues and Methods

An interactive and consultative planning workshop was organized on 12th to 13th March 2009 at IPAC north east cluster office, Sreemongal, to identify, prioritize and finalize the RRA issues and questions. The type and nature of issues, the enumerator team's accessibility and mobility in the area, the behavior of local people and their rapport with the field staff were all taken into consideration in the design of these methods and tools. The workshop was attended by site facilitator and representatives from IPAC, This workshop provided an opportunity to prepare a field protocol, decide and agree on approaches, methods and tools to be used and also to make and consolidate team understanding.

The detailed methodology for these activities was embodied in a manual and used in training workshops with the field teams to give instruction in using the research tools and to ensure that the methodology remained same across the team and across the sites. A one-day training workshop was organized for the RRA team members on 12th March 2009. A similar workshop was also held for PRA on 13th March 2009.. The purpose was to give the RRA and PRA field team instructions in using various tools. The workshop was held at the IPAC office, Sreemongal on RRA and PRA, respectively.

The RRA was mainly based on unstructured and semi-structured household interviews, KI interviews, group and focus group discussions. A limited number of other RRA tools were also used like trend analysis, seasonal analysis, sketch mapping etc. The issues and activities covered in the RRA are shown in Table 1.

Table 1. Selected RRA Issues for Hail Haor, Specific Activities and Tools Used

Sl	RRA Issues	Specific activities	Tools Used	Participants
1	Stakeholder Assessment	<ul style="list-style-type: none"> - Identification of settlements, resource users, local institutions and agencies and organization, community organizations etc and their roles and activities 	HHs Interview, KI FGD GD	Local HHs Local school teacher, Community people, villagers, elites etc Local community people Local people
2	SH Demographic profile	<ul style="list-style-type: none"> - Settlement wise no. of HHs/population - HH occupation, education, Hail Haor use, land holding 	Secondary Info HH Int., KI, GD, FGD Trend Analysis	Local union parishad HHs heads/members Community people, local public representatives
3	SH Economic Activities/ Livelihood Strategies and Human Capital Development	<ul style="list-style-type: none"> - HH primary and secondary income sources of HH - Richness/poverty - Unemployment and its seasonal trend - Credit and alternate income generating opportunities - Skill and skill development opportunities - Seasonal workload of male and female 	HH Int. GD KI FGD Seasonal Calendar	HHs heads/members Old people Public representative Local elite Community people Wetland communities
4	Gender Issues	<ul style="list-style-type: none"> - General impression on living standard, education and health status etc. - Participation in decision making (household and PA management) - Women mobility in the area - Access to IGA and credit etc 	HH Int. GD FGD KI,	HHs heads Women group Community people Local elites
5	Behavior of local people	<ul style="list-style-type: none"> - Initial response of the local people and FD staff towards the project - Sources of conflict and conflict 	FGD HH int.	Local community HHs heads

		resolution		
6	Local Level Awareness	<ul style="list-style-type: none"> - Awareness and perceptions about resource degradation and conservation - Willingness for resource conservation - Awareness about the existence of nearby park/game reserve and reserved forest - Knowledge about wetland and swamps forest preservation acts 	HH int. GD FGD	HHs heads Local community
7	Resources /resource status	<ul style="list-style-type: none"> - Trend in changes in major resource bases - Endangered/extinct plant and animals - Causes for the decline in different resources 	Trend analysis, HH int, GD KI	Local people Local HHs heads Community people Local educated old,
8	Resource exploitation	<ul style="list-style-type: none"> - Major forest resources collected, - Reasons and extent of exploitation of different forest resources - Seasonal trend in resource exploitation - Future risks 	HH int, FGD, GD KI, Trend analysis, seasonal calendar	Local HHs heads Public representatives Community people Local educated old, Local elite HHs interview and KI
10	Legal aspects	<ul style="list-style-type: none"> - Access to the wetland by locals - Wetland community and waterbody use agreement - Conflict and negotiation with FD staff - Land encroachment/recovery - Law enforcement mechanisms in the PA - Illegal fish catching from Hail haor 	FGD GD KI FGD KI	FD staff and wetland community Local community and Local elites FD staff, community people

11	Power structure	<ul style="list-style-type: none"> - Local influential and their role, local hierarchy - Nature and sources of power and their domain of influence - Conflict and conflict resolution 	HH int, FGD, GD, KI	Local HHs heads Local community and local govt. Local community Local elites
12	Others	<ul style="list-style-type: none"> - Access to areas and settlements - NGO activities in the locality - Challenges for conservation - Local problems - Mobility in the area 	HH int, FGD, GD, KI	HHs heads Local community Local people Local elites

PRA issues and questions were developed by a 3-person team of experts on the basis of field experience and outcomes of the RRA exercise. During the PRA, tools like Venn diagramming, resource mapping, seasonal analysis, trend analysis, livelihood analysis etc., were used in addition to interviews, focus groups and more informal discussions. The issues and activities performed in the PRA are summarized in Table 2.

Table 2. PRA Issues, Specific Activities Performed and Tools Used In Hail Haor

Sl.	Issues	Specific activities	Tools used	Participants
1	Wetland make up dynamics	<ul style="list-style-type: none"> -observation on forest physiography and topography and forest make up -land use cover, resource exploitation and regeneration areas, animal distribution -changes in forest cover, thickness, vegetaion, settlements, animals and availability of resources 	Transect walk KI Resource mapping Secondary data, FGD,KI Trend analysis	PRA Team Local elite, village headman, forest villagers. Local people and forest villagers
2	Local governance system and community structure and functions	<ul style="list-style-type: none"> - Decision makers--- influential people - Local community organizations and institutions and their linkages - Local conflict and conflict resolution - Local problem, cause and possible solution 	Venn diagram Ven diagram Venn diagram FGD/GD FGD & GD and Ranking	Community people Community
3	Livelihood strategies	Income and expenditure sources, Livestock, Richness and poverty	Wealth ranking	Women group and local people

			HH interview	
4	Gender issue	<ul style="list-style-type: none"> - Family decision making - - mobility - - workload <p>Education and access to credit</p>	<p>Decision making Chart</p> <p>Mobility map</p> <p>Daily and seasonal work chart</p> <p>HHs Int. & FGD</p>	<p>Women group</p> <p>Women group</p> <p>Women group</p> <p>Women and local educated people</p>
7	Collection of others resources from hail haor (like turtle, crab, snail, gastropod, bivalve, mussel, lily, lotus, grass, weed, swamp reed and aquatic fruits)	<ul style="list-style-type: none"> - Information on collector - purpose and reasons for collection - uses of the resource and extent of extraction - dependence on the extraction and marketing - conflict and negotiation with FD or other people over the extraction - needs and expectation of the collector - impact on the wetland and future risk for the collector 	FGD, KI	Community people, RMO member & FD staff , , local public representative and elite

Each PRA tool was used to collect information about more than one issue, as shown below:

Venn diagramming: local power structure, local community organizations, local institutions and agencies, local conflict and conflict resolution, family decision making, mobility of women & men,

Seasonal calendar: Different resources collection, unemployment, workload, accessibility to wetland, transportation problem, agricultural activities, collection of building materials, vegetable collection,

Trend analysis: Wetland cover, wetland thickness, Beels use, unemployment, local solvency, land encroachment, settlement/population solvency/income, livelihood expenditure, literacy, unemployment, use of wetland for income, use of waterbody for HH needs, transportation and mobility, homestead plantation, food scarcity, credit and IGA, occupation, illegal fishing, fuel wood collection, livestock, turtles and tortoises, agricultural activities, medicinal plants.

Ranking and scoring: local problem ranking, wealth ranking, and livelihood analysis

Transect walk: Soil, vegetation, land use, elevation, crops, human activities etc

Wetland resource mapping: Wetland use cover, resource zones, resource exploitation zones, resources distribution, settlements.

3.2 Fieldwork Preparation

3.2.1. Selection of RRA and PRA Sites

On the basis of information by wetland community members various sample locations were selected for the purpose of information collection. These locations are hence called RRA and PRA spots. The selection of locations was based on a number of selection criteria. The selection process was completed during planning workshop. While the number of sites visited during the RRA was limited, the team focused on gaining an overview of issues covering the whole of the Hail Haor area. A list of the selected RRA and PRA spots for HH is given in Tables 3 and 4.

Table 3. List of Selected RRA Spots & Schedule for Visits

Date	Name of spots (villages) visited		Remarks
	Villages	Location	
31/03/2009	Orientation and briefing session on RRA field exercise at IPAC Srimangal		Team arrived Srimangal on 12 th March, 2009.
01/04/2009	Gondorbopur and Vimshi Village	Villages inside of PA.	Both villagers are of mix community and appointment were made by local enumerator prior to visits
01/04/2009	Badealesha and Alioherkull village	Villages adjacent to and outside of PA, to the eastern side of the PA	One team interviewed at Badealesha and Alioherkull village
02/04/2009	Ranguria and Babosara Village	Villages adjacent to PA, to the south west , east of the PA	

Table 4. PRA Schedule, Spots and PRA Activities in Hail Haor.

Date	Village/ Location	Performed activities	Remarks
05/04/09	Sirajnagor, Rangunia, Bubamura, Hossenpur, Mordanhal	GD (2) HH interview (5)	GD with Community, Fisher Men & other villagers to know illegal fishing, wetland resources collection, wetland dynamics, and problem-ranking etc. and HH interview with female participants.
05/04/09	Uttarsur, Boruna	FGD(1), KI(1), HH interview(4)	FGD with villagers, KI with Headman, HH inter view with female participants.

06/04/09	Nayanchara, Bhunobir, Badesha	FGD (1) KI (1) HH interview (4)	FGD with Male & female resources collectors, & Fisher men, with a previous illegal fishing & K I.
07/04/09	Patrikul, Lomua	HH interview (10)	Discussion with local UP Member & RMO group member & others local stockholder about Haor management, & Breeding in Sanctuary & illegal fishing.
08/04/09	Vimshi	FGD (9) HH (2)	FGD with surrounding mix community , GD with community group, HH interview with female participant
	Boruna	GD (1), KI (1),	GD with female members, KI with present up member,
09/04/09	Chikrail	FGD (3), K I (1)	FGD with illegal fisher men, Resources collectors, K I interview with female participant
	Hazipur	FGD (2)	FGD with RMO group members

3.2.2 Formation of RRA and PRA Field Teams

The RRA field teams were formed with representatives from RDRS, CNRS and local enumerator, the teams make up for the RRA and PRA field exercises are provided in the table 5 and 6. During RRA one field team was formed, each team consisting of 6 members. And during PRA, four separate PRA field teams were formed, each team consisting of 2 members. The teams worked simultaneously in the field, but at different locations.

Table 5. RRA Team for Hail Haor

RRA/PRA Team	
Name	Duties/Organization
Md.Abdul Jalil	SF IPAC Srimangal
Md.Allauddin	Sr.FO, CNRS
Nurul Islam Rakib	Local Enumerator
Moyazzem Hossen	Local Enumerator
Md. Hamid	Local Enumerator
Bidhu Bhusan	Local Enumerator

Table 6. PRA Team for Hail Haor

Team 1		Team 2		Team 3		Team 4	
Nurul Islam Rakib	Local Enumerator	Moyazzem Hossen	Local Enumerator	Md. Hamid	Local Enumerator	Bidhu Bhusan	Local Enumerator
Md. Abdul Jalil	SF IPAC Srimangal	Amal Promanik	SF IPAC Srimangal	Mr. Minto nandi	FO, IPAC Srimangal	Mr. Minto nandi	FO, IPAC Srimangal

The RRA field exercise was conducted between 05th to 07th April 2009, and the PRA exercise between 08th to 10th April 2009, The detailed time schedule for the field activities are provided in Tables 3 and 4 respectively.

3.3 Field Implementation Strategies

3.3.1. Organization of the RRA and PRA field work

The organization of field exercises involved a series of logical steps. The field teams always made efforts to adhere to those steps. The flow of activities is shown in the following flow chart.

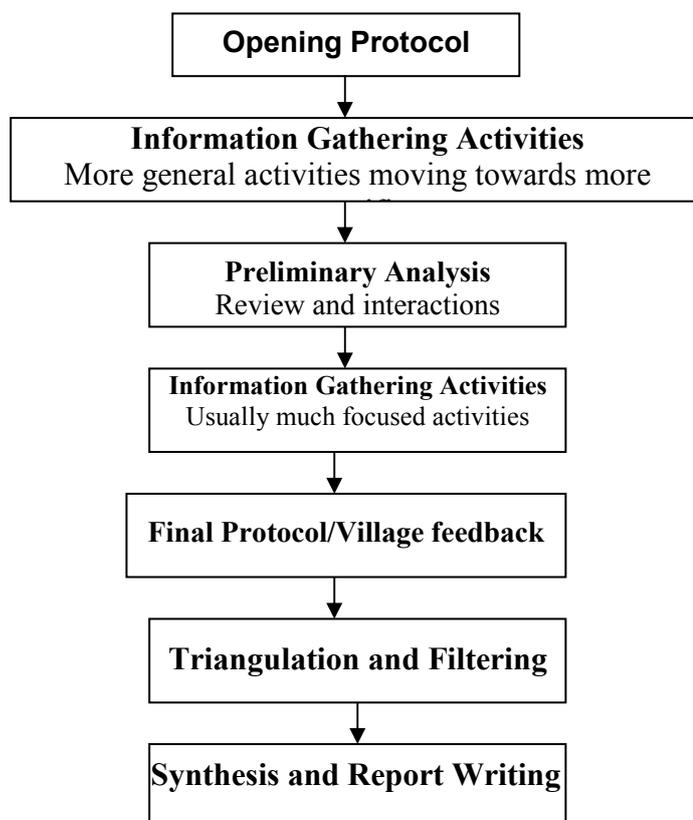


Fig. 1. Flow of RRA/PRA Field Activities (3-4 days)

During RRA exercise, a total of 20 HHs interviews, 04 group interviews, 08 key informant interviews, and 08 Focus group discussions were conducted. The other RRA tools were applied during above mentioned interviews and discussions. Similarly, during PRA a total of HH 75 interviews, 2 Group interviews and 6 focus group discussions, 10 key informant interviews were conducted. This is summarized in Table-7.

Table 7. Summary of performed activities in Hail Haor during PRA

Appraisal	Village/ Settlement covered	FGD	GD	KI	HH Interview	Transect	Resource and social mapping
PRA	15	6	2	10	75	1	1
RRA	42	8	4	8	20	-	-

The other PRA tools were used either during the above exercise or in separate exercises dedicated for this purpose. Further details on the implementation of the fieldwork methods used are provided below.

3.3.2 Household (HH) interview

- 🏠 Individual/HH interviews were conducted with randomly selected interviewees, typically visiting one household at each stop.
- 🏠 Both male and female respondents were considered.
- 🏠 Typical HH interview last for about 45 mi. – 1 hr
- 🏠 The interviewees were not treated as respondents to a questionnaire, but active participants in an unstructured/semi-structured interview. A checklist of issues was used as a basis for questions, not necessarily addressing all questions in each interview and sometimes departing from basic questions to pursue interesting, unexpected or new information, relevant to the project and situation.

3.3.3 Key informant (KI) interview

Key informants, NSP group members & local people who have extensive knowledge on the local environment, situation and events. The purpose of this interview was to utilize them in collecting information from them relevant to the project needs.

- 🏠 KI interview was by prior appointment. A local enumerator helped in making appointment with the KI. The interview was taken by paying visit to Key informant HH
- 🏠 A preliminary discussion with local UP members & NSP group members and interview of local people gave adequate clue for selecting KI. Preferably local school teachers, local elites or local public representatives would be selected as the KI.
- 🏠 A typical KI interview lasted for about 1 hrs. The entire team took part in the interview taking session
- 🏠 As with HH interview, a similar different question was used for the purpose of KI interview.

3.3.4 Group interview

- 🏠 The purpose of the planned Group Interviews was to collect some information on the locality and local situation based on the consensus of the local people & RMO group members.
- 🏠 Interviews were conducted at places, preferably at local tea stalls, road junctions and other local community places, where local people gathered spontaneously. No formal invitation to the local people was made for participating at the group interview.
- 🏠 Ranking and other scoring exercises, whenever possible, were done in such group interviews.
- 🏠 Typically a group interview lasted for about 1-1.5 hrs
- 🏠 At least one group interview was held each day
- 🏠 This was basically an unstructured interview and a checklist of issues was used as a basis for questions

3.3.5 Focus Group Discussion

Focus Group Discussions were carried out with different professional groups, resource user groups, local public representatives with a view to collect information on specific areas.

- 🏠 During PRA, FGDs were principally conducted with different stakeholder & Hail Haor group members mainly with nearest to the protected area other professional groups, like fisher men, other resource collector etc.
- 🏠 The FGDs were conducted by invitation of MACH different group members and a local enumerator was used to invite the people.

3.3.6 Other PRA tools

Other PRA tools were either incorporated into the interview and discussion processes outlined above or carried out through separate exercises dedicated for this purpose. Venn diagramming, seasonal calendaring, trend analysis, ranking, scoring etc. were done usually in separate sessions dedicated to these activities. However, sometimes, these exercises were also performed during group, focus group and key informant interviews. The participants were either invited local people & MACH/IPAC group members at places.

3.3.7. Direct Observation

The team while walking through the project area, talked to MACH/IPAC group members local people, discussed many things and made observation on the resources, people's behavior and their activities, etc. These observations and informal discussions helped to triangulate collected information and generate new questions for interview or discussions.

3.3.8. Reflection and Analysis

After each day of fieldwork, the team sat together for about 1 ½ hours for team interaction and triangulation. The activities performed during the session included:

- 📄 Reviewed information gathered that day and made summary of the information, triangulated whenever necessary. The person designated for report writing took note of discussions
- 📅 Planned the next day's activities

4. Outcomes:

4.1 Stakeholder Assessment:

Three categories of stakeholders were identified in the Hail Haor.

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

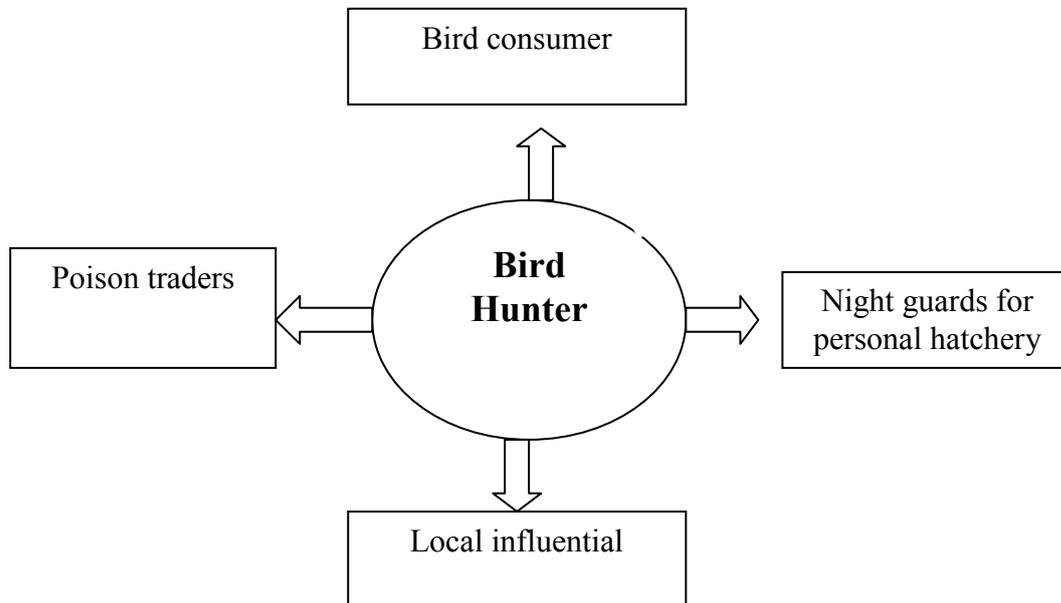
I. Primary stakeholders are those persons who directly depend upon haor for their livelihood. They are mainly farmer, fishermen and local ultra poor who collect fishes, crops, vegetables, turtle, bird, medicinal plants etc. Table 1 shows the primary and secondary stakeholders along with their description,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

II. Fisherman: Principal resources of Hail haor is fishes and depending on this thousands of people maintain their livelihood. Fishermen are the direct resource collector who is mainly the local poor 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 water area for fishing.

III. Farmer: For sedimentation over year, vast fertile land for farming has developed in Hail 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 threats for haor because of encroachment of land, insecticide and pesticide use in the crop and vegetable field and others water demand, particularly irrigation for boro /paddy.

IV. Bird hunter: Some of the local 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 catches it, slaughter, press in sack, come out of haor and sold it to the contracted villagers. But it is in fact that it is gradually decreasing for

strongly follow up by the RMO members. In most cases bird hunters do it for his livelihood. For the conservation of bird species this is one of the greatest challenges.



IV. Cattle grazer: Large number of barren lands is 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 is destroyed by the hooves attack as well as their feeding habit.

V. Fuel wood collector: Some poor local village men and women 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 is the most influential people of the locality. A large important beel may required 80,00,000/90,00,000 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, SUFO etc to manage a beel. They use some local people as a beel guard, beel management, beel fishing etc.

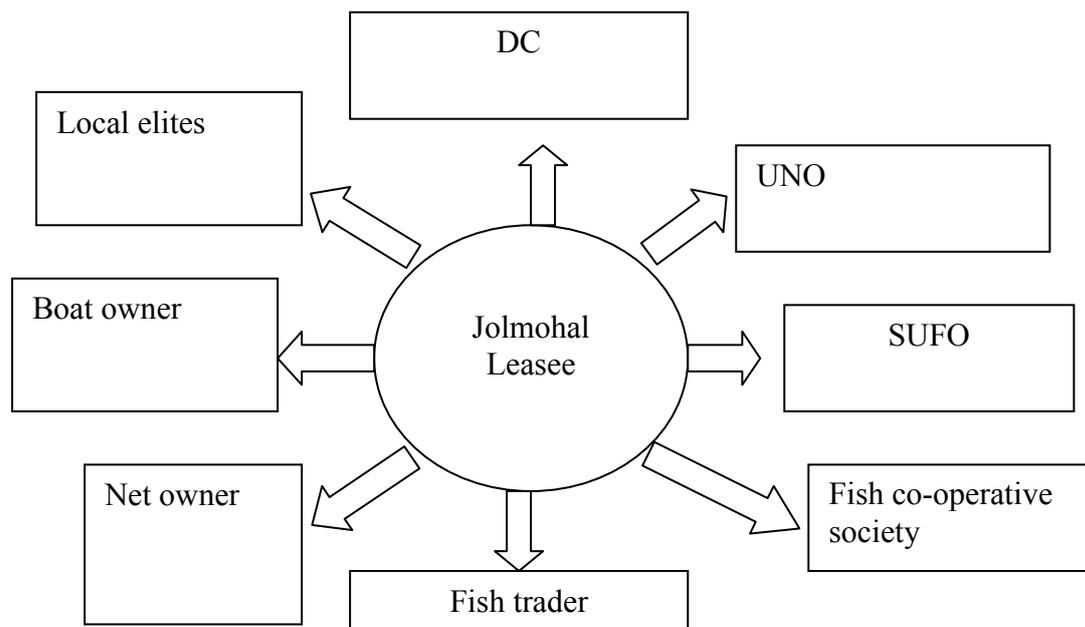


Fig - 04. : Interaction with leasee

It's true that leasing system has negative impact upon haor if the lease do not manage the beel according to the leasing policy. However, number of families maintains their livelihood depending upon this 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 has large number of net that is hired when mass fishing occur in the leased beel.
- C. Boatman:** Lease 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-operative 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 having no capacity to buy large net or boat. So, some rich man buys large net and allows 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 occurs, fisherman and lease contact with the boat owner to hire boat for fishing.

3. Institutional Stakeholders:

MACH (Management of Aquatic Ecosystem through Community Husbandry): A project named MACH is working from 1998 for the conservation of natural resources and sustainable development by Co Management, Technical supported by CNRS and CARITAS

For sustainable development MACH has done the following works:

1. Formation of RMO: RMO 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 MACH Project has formed 8 RMOs and 05 FRUGs at different villages. The RMO's and FRUGs members are of different occupations and different level of stakes.
2. Training: for the sustainability of RMO, RUG, FRUG and conservation of natural resources, RMO and FRUG members are trained in various ways like duck rearing, cattle rearing, wetland resources management, improved oven, leadership building, accounts keeping, organization development etc.

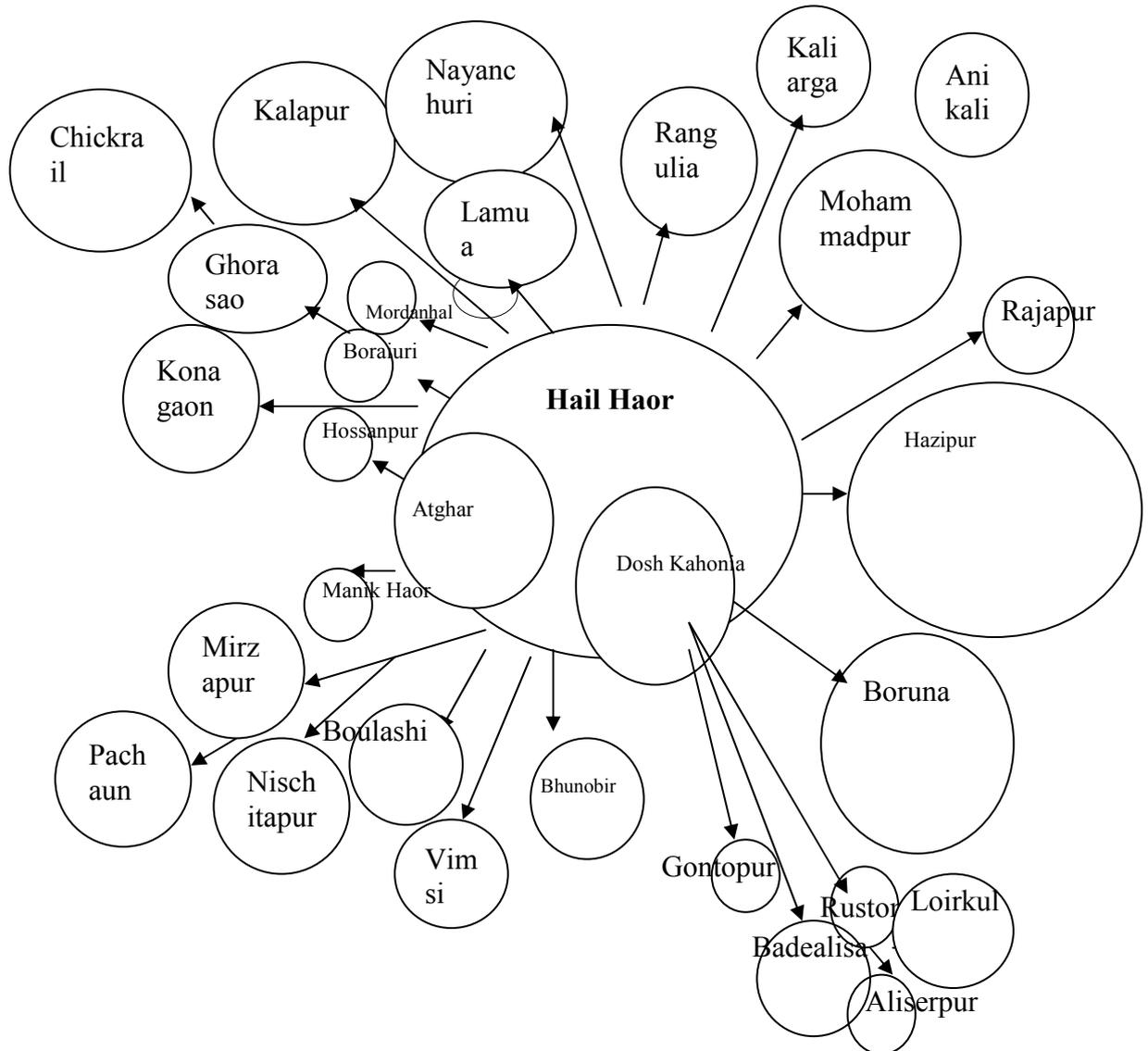
Registration of RMO: For the sustainability of RMO and FRUG, MACH CNRS and CARITAS Project already had been completed the registration of 08 RMOs and 05

5. Conservation Activities:

MACH project work 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.

- A. Bird sanctuary: Hail Haor is the paradise for hundreds of both native and migratory birds. MACH established around 38 bird sanctuary at different places around the Baikka beel and sometime adjacent houses where the birds frequently gathered.
- B. 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 RMO guards and supervised by the concerned NGOs.
- C. Swamp forest plantation: for the conservation of swamp forest, MACH has planted number of Hizol, Korch, Borun and other swamp plant species inside the haor area.
- D. Other plant nursery: RMO members were trained about plant nursery with technical support by MACH and a number of plant nurseries are formed.
- E. Fish sanctuary: Hail 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 MACH Project.
- F. Guards: for the proper protection of natural forest, sanctuaries, nurseries, plantation, MACH 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 RMO committee.

Dependent villages: Around 45 villages are depending on hail haor for their livelihood. Some of them are dependent highly and some of them are lower. Following figure shows the dependency of villages according their resource extraction.



5.1 Status and Trend in the wetland and wetland Resources

There are 138 beels in Hail Haor among this 21 beels have been managed by 08 RMOs and 13 Sanctuaries were established for fish preservation and availability of fishes in local market by safe breeding. Among 14 Sanctuaries, 01 Sanctuary is a permanent Sanctuary named Baikka Beel where everyday visitors are coming to see the beauty ness of beel using by a modern watch tower. Without it there are another major beels Sananda Kocher Khal, Balla, Digholi, Patrodoba, Dumerbeel, Borogangina Khal, Borogangina Barokandi, Jaduria, Jathuabeel, Kajura, Agura beel are represented by Foli fish, Shoil fish, Taki fish, Kai fish, Veda fish, Mola fish, Mini fish, Tanra fish, Puti fish, Baim fish, Kholisha fish, Kajuli fish, Boal fish, Chital fish, Rui fish, Katol fish, Chinri fish, Rani fish, Pabda fish and Gulsha fish are common in Hail Haor areas. There are many types of other resources such as Aquatic

fruits, Swamp Reed, Grass, Weeds, Snail, Bivalve, Gastropod, Mussel, Lily, Lotus etc also available in the Hail Haor.

21 Beels and 14 Sanctuaries of Hail Haor have been implementing by MACH Project of CNRS since last 09 years formed by the 08 RMOs for well livelihoods of community and still MACH project are going on as follow up program up to June 2010.

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

Issue	Pre-1971	15 years ago	Present	Cause of changes	Future Risk
Fish	000000	00000	000	Population pressure and use of harmful gear	Medium
Hizol, Koroch trees	000000	0000	0	Over extraction	High
Wildlife	000000	0000	000	Over extraction, hunting, habitat destruction etc	High
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 beels	High
Fuel wood	0000	000	0	Less availability of fuel wood	Medium
Species diversity (overall)	000000	0000	00	Over extraction	High

plant and animal)				and others	
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	000000	Population pressure, sedimentation and land encroachment	High

5.2 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:

5.3 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
10. Land Encroachment due to agriculture practices
11. Dry season water scarcity
12. Habitat degradation due to sedimentation

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. Moreover flooding of haor has been lowering year by year due to uptake of water from ‘Chara’ for boro cultivation.

5.4 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)

5.5 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. No government initiatives

6. Resource exploitation from Hail Haor:

Around 1,65000 peoples directly or indirectly dependent upon Hail 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 Hail 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 destruction, population ecosystem	High	Adjacent tea garden labor's HHs
12	Crab and other aquatic animal	Tea garden worker and tribal people	Own Food	Negligible	Wildlife destruction, population ecosystem	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 koroch	Leasee, local poor people	Used in "Katha", fuel	Little	Destruction of swamp forest, and fish habitat	High	Local HHs.

6.1 Dependency of the Stakeholders on the Hail Haor Resources

Traditionally, the local people are used to collect various resources from the Hail Haor. However, they are mainly dependent on the wetland resources supplies from the Hail Haor for their HH needs, whether, they get it directly or indirectly. Many local HHs also get some different resources from the Haor. At present IPAC working with the people and motivated the people about the Sanctuaries for biodiversity conservation and awareness buildup with the people.

Table1 2. Uses of Various Resources by Different Stakeholders in and Around Hail Haor

SI	Name of Resources	Users	Causes	Extent	Dependency on resources
01	Fish	Fish Retailer	Business Purpose	medium	25%
		Fish hole seller	Business Purpose	medium	25%
		Agent/Arotder	Business Purpose	medium	20%
		Local People	household use as furniture and building materials	high	80%
02	Fuel Wood	Local household	Domestic use, selling for livelihood	Medium	25%
		Outside household users	Domestic use	Less	5%
03	Aquatic Fruits	Local household	Domestic use, selling for livelihood	Medium	20%
		Local Seller	Business Purpose	Very less	15%
04	Crabs	Local household	Domestic use, selling for livelihood	Less	5%
05	Swamp Reed	Local community and outsider	Domestic use, selling for livelihood	Less	5%
7	Snail/Gastropods	Local People	Domestic use, selling for livelihood	Less	10%

SI	Name of Resources	Users	Causes	Extent	Dependency on resources
8	Vegetables	Local People	Food	Less	5%
9	Grass	Local People	For Cattle feeding	Medium	50%
10	Paddy	Community People	Domestic use, selling for livelihood	Medium	60%

6.2 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 Hail Haor

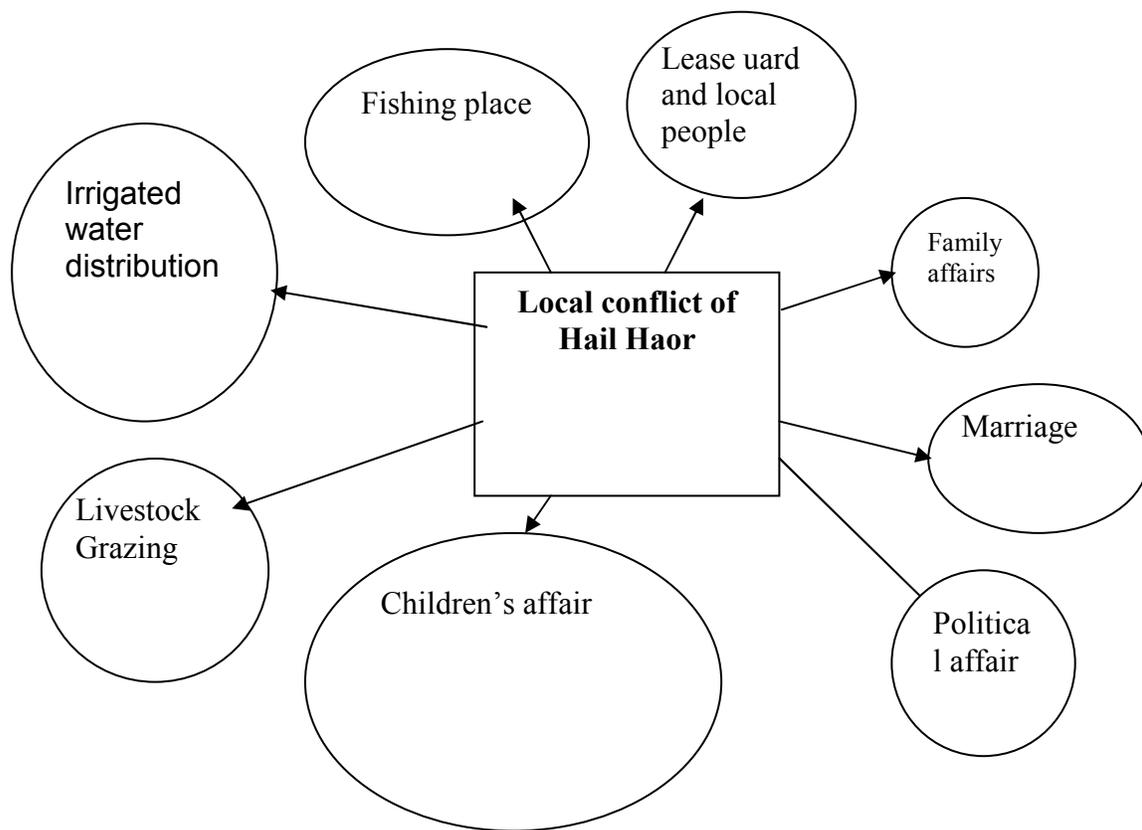
Name of Resources	Baishak	Jaista	Ashar	Sharabon	Vadra	Ashwin	Katrik	Avqraha	Poush	Magh	Falgun	Chaitra
Paddy	√	x	x	x	x	x	x	x	x	x	X	√
Fish	x	x	√	√	√	√	√	√				x
Vegetables		x	x	x	x		√	√	√	√	√	
Fuel wood	√	x	x	x	x	x			√	√	√	√
Aquatic weed	√	x	x	x	x						√	√
Bird (migratory)	x	x	x	x	x	x	√	√	√	√	√	x

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

7. Power structure and local conflict:

7.1.1 Sources of conflict:

Inhabitant of Hail 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.



1. marriage purpose
2. political affairs

Figure - 5: Showing the source of conflict

7.1.2 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

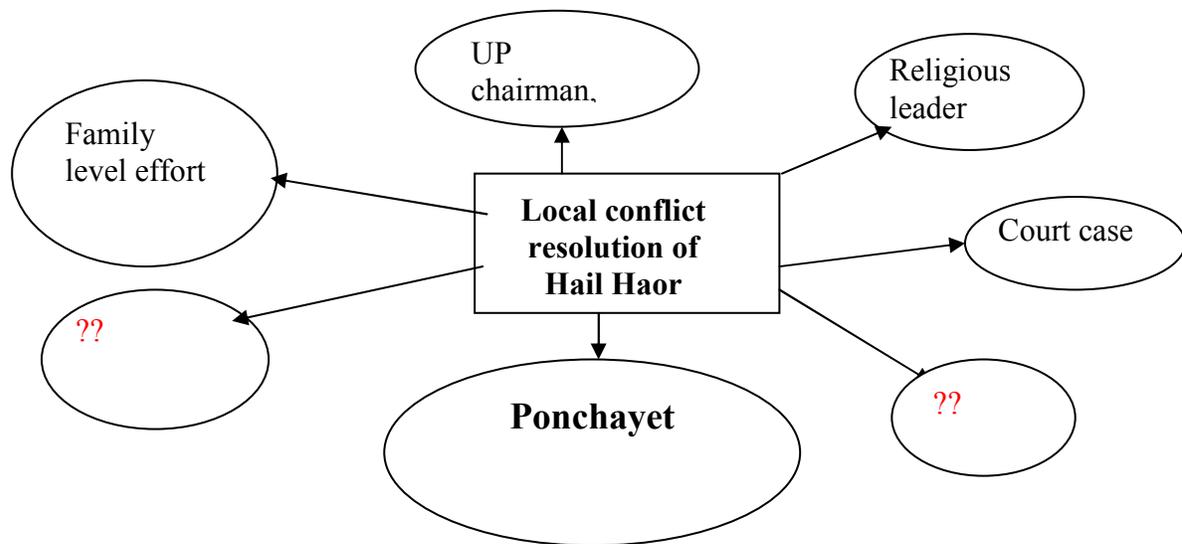


Figure- 6: Showing the conflict resolver

7.1.3 Local decision makers and influential people

A total of 29 influential persons have been identified in the locality and many of them have control over the local people, their activities and even over local administration. Some of them have linkages with the illegal fishing and other works. Borhan Uddin Choudhary, Mostaf Uddin (Hazipur), Abdul Haque (Nayansree), Abdus Sobhan Choudhory, Zira Member (Boruna), Md. Joynuddin, Monir Mia (Mirnagor) and Sudanshu Debnath (Ghorachaw) who are locally influential.

Table 20. List of Most Influential Persons of Different Villages in and Around Hail Haor

Sl no.	Name of Village	Name of most influential people
1.	Boruna	1. Abdul Sobhan Choudhary, 2. Zira Mia, 3. Mulluk Mia, 4. Sofor Uddin, 5. Anwar Uddin, 6. Md. Lutfar and 7. Monir Mia
2.	Hazi Pur	1. Borhan Uddin 2. Mostaf Uddin 3. Anwar Hossen and 4. Dr. A. Khaleq
3.	Nayansree	1. Abdul Haque 2. Monnaf Mia
4.	Hossen Pur	1. Zillu Mia 2. Nazir Mia 3. Dosir Mia
5.	Manik Haor	1. Tota Mia 2. Md. Faisol 3. Abdul Karim
6.	Mir Nagor	1. Md. Joynuddin 2. Monir Mia
7.	Atghor	1. Mahamood chairman 2. Foiz member 3. Abdul Kuddus

8.	Doskahonia	1. Abdul Khaleq 2. Shohid Master 3. Khaliq Mia
9.	Boraiuri	1. Md. raja 2. Toskir Member 3. Md. Monzu 4. Md. Saleh Uddin
10.	Ghorachaw	1. Horicharon 2. Sudhansu Debnath
11.	Mordanhal	1. Zamir Uddin 2. Md. Bashir 3. Abdus Sobhan 4. Ferdu Mia
12.	Chikrail	1. Alibuddin Khan 2. Alauddin Khan

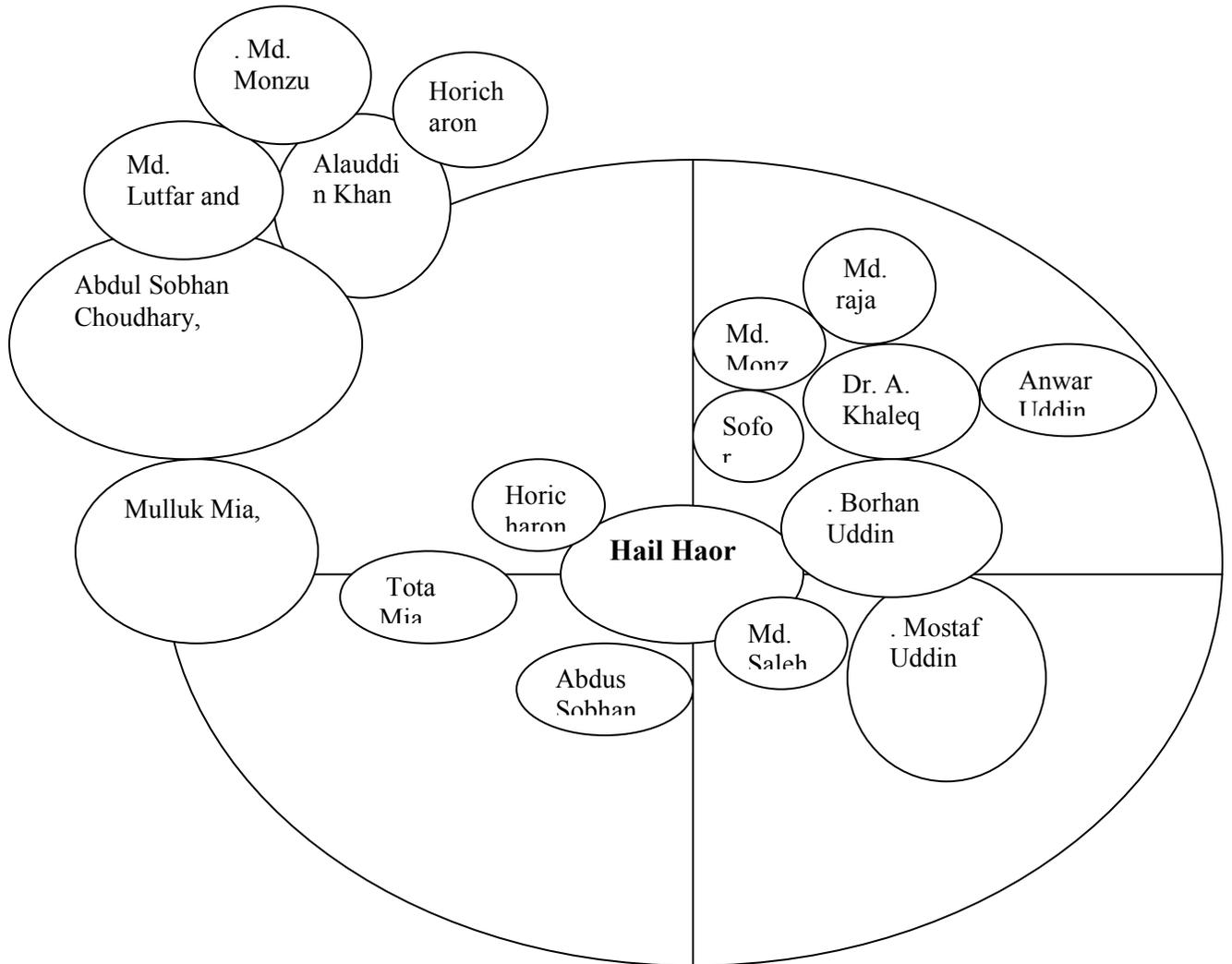


Fig. 19. Venn Diagram showing Power Structure in and around Hail Haor

7.1.4 Local community organization

There are a several community based organizations such as social club, RUG group, FRUG, youth club, Resource Management Organization (RMO) etc, namely fisherman Welfare Society, Srimongol. These are active local organizations and deal with local problems and welfare and cultural activities.

7.1.5 Settlements in and around Hail Haor and its level of stakes with the Wetland

A total of 45 villages having varied degree of stakes with Hail Haor has been identified. In Hail Haor wetland, all villages are located around the Haor, Information on the village HH number, its location and level of stakes with wetland. The total number of households in villages surrounding the Hail haor is approximately 3259. Of the identified villages, 12 (Boruna, Hazipur, UttarSur, U.UttarSur, W.Bharaura, Suilpur, Mirzapur, Vimsi, Gondorbopur, Badealisha, Rustompur and E,Layerkul) have major stakes, as more people from these villages extract various resources from the wetland.

8. Demographic Profile:

8.1.1 Household number

The total number of households in villages surrounding the Hail Haor is approximately 3259 and have stakes with the surveyed villages No. of 29, of them 790 HHs are fisherman.

Table 9. Information on Villages Having Stakes with Hail Haor

Sl. No.	Name of village	HH Nos.	Community type	Population	Level of stake
1	Mohammad Pur	96	Fishermen and Farmers	640	Major
2	Boruna	484	Local	3855	Major
3	Hazipur	362	Local and migrant	2660	Major
4	Rangunia	126	Local and migrant	1130	Medium
5	Anikalibord	391	Local	2712	major
6	Kalier Goan	73	Local	480	Medium
7	Nayan Sree	177	Local	1421	Medium to major
8	Bubasara	65	Local	575	Minor
10	Kalapur	813	Local	4553	Medium

11	Hossen Pur	63	-	417	Medium
12	Manik Haor	98	Local	636	Medium
13	Atghar	693	-	4750	Major
14	Doskahonia	88	-	517	Major
15	Boroiuri	131	-	535	Major
16	Ghora Chaow	193	Local	689	Medium
17	Mordanhal	131	Local	653	Negligible
18	Kamasit	575	-	3450	Medium to major
19	Nichintopur	612	-	3672	Medium to major
20	Mirzapur	595	-	3570	Medium to major
21	South Pachaun	548	-	3050	Medium to major
22	Boulashi	585	-	3510	Medium to major
23	Bhunobir	542	Local	3252	Medium to major
24	Vimshi	510	-	3060	Medium to major
25	Gondorbopur	422	-	2885	Medium to major
26	Rajpara	250	-	1600	Medium to major
27	Bade Alisha	225	-	1430	Medium to major
28	Alisher Pur	450	-	3200	Medium to major
29	Rustom Pur	150	-	950	Medium to major

8.1.2 Education

Among the Hail Haor community, now day's 100% children go to primary school, however, only 8-10% goes to High School and only 3% study in the colleges. Among the adult, about 80% are illiterate (above 30 years of old).

8.1.3 Unemployment

Varies between the villages. In average 25% local people are unemployed. However, there is a strong seasonal trend in unemployment level. Unemployment is a concern/problem in the area.

8.1.4 Credit

Several NGOs and 2 banks provide micro-credit to local people. Bank loans are mainly given for agriculture and Livestocks. NGOs provide credit mainly for IGA. NGO's IGA programs concentrate on small business, fish culture, poultry, livestock rearing etc. NGO credits are mainly focused on women.

8.1.5 NGOs and Banks providing credit to community:

As per the agreement of RDRS Bangladesh specially operate in the locality mainly IPAC group operating the Wetland and Forest and others NGO like CNRS, BRAC, ASA,, CARITAS, HEED-Bangladesh, Grameen Bank, Besides, Krishi Bank and BRDB also operate in the area. But RDRS Bangladesh always at attention and avoiding any overlapping .Major activities of the NGOs are concentrated on health, education and alternate income generation. Some of them have credit programs exclusively for the women. Two banks and several NGOs provide micro-credit to local people (Table 11) for improving livelihood of the local people.

Table 11. List of Ngos / Banks in the Hail Haor Area and Their Activities

Name of NGO/ Banks	Location	Activities
RDRS Bangladesh	Sreemongal & Moulvibazer Sadar	Micro credit programmes, education, health, awareness, poultry and livestock, nursery grosser shops, others small trade, and always avoid any timber sailors, wetland and forest management and furnisher shops owners
BRAC	Srimangal, Kamalganj, Moulvibazer	Micro credit programmes, education, health, awareness, poultry and livestock development
ASA	Srimangal, Kamalganj, Moulvibazer	Microcredit for agriculture, small business, poultry and livestock
BRDB	Srimangal, Kamalganj, Moulvibazer	Credit programmes, training on agriculture and other IGA
Krishi Bank	Srimangal, Kamalganj, Moulvibazer	Loan for agriculture
CARITAS	Srimangal, Kamalganj, Moulvibazer	Education, Technical training for income generation, health awareness, micro-credit for agriculture
HEED Bangladesh	Srimangal, Kamalganj, Moulvibazer	Health, education, nursery development and tree plantation
Care		Health awareness specially on AIDS

Posobid		Mirco credit programmes
VERD	Srimongal, Moulvibazer	Health, education, nursery development and tree plantation
BURO Bangladesh	Srimangal, Kamalganj, Moulvibazer	Education, Technical training for income generation, health awareness, micro-credit for agriculture
CNRS	Srimangal and Moulvibazer	Credit, Resource management organizational sustainability support to RMOs.

The micro credits are mainly given for agriculture, small business and undertaking other IGA. These IGA programs concentrate mostly on small business, poultry, livestock, betel leaf cultivation etc. NGO's credits are mainly focused on women.

There is a lack of willingness among the group members of the group to return the credit in time. There is also a lack of coordination and motivation by the NGOs working in the locality. More IGA initiatives are essential for upgrading the livelihood of the local people. Better. Skill development activities of the NGOs are limited in the area. Local people, particularly the Haor community have got some skills, like bamboo basket and mat making, fishing as an alternative income generating activity. Fig. 9 shows relative influences of NGOs in the area.

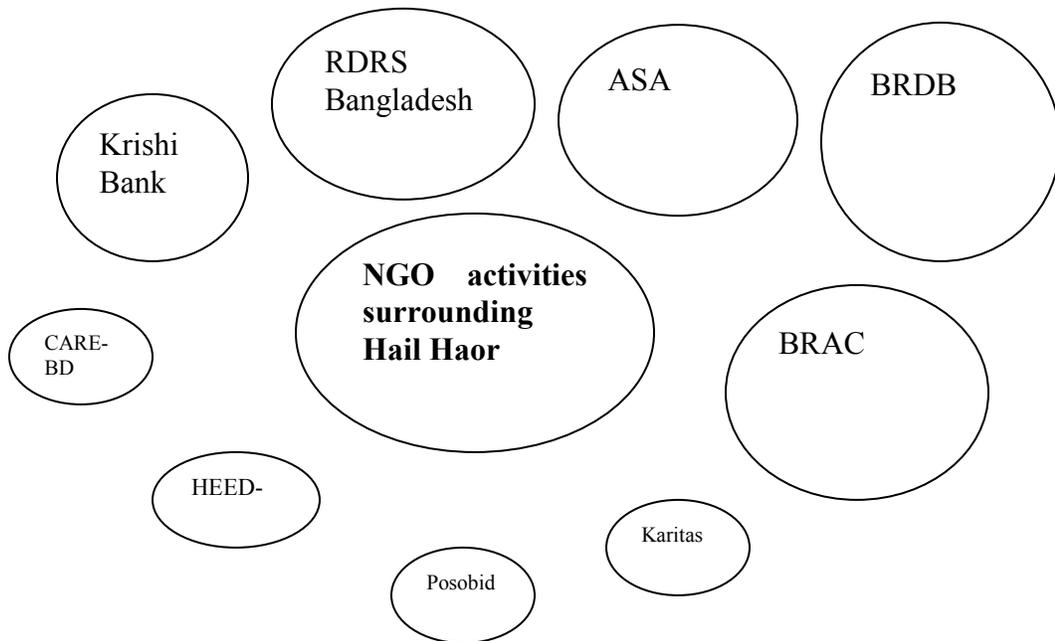


Fig. 9. Scale of activities of different NGOs in Hail Haor and its

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.

- A. Sewing
- B. Cow/goat rearing
- C. Nursery
- D. Bamboo and cane product formation
- E. Handicrafts
- F. Carpenters

8.2 HH decision-making

Different family members in taking HH decisions. In Hail Haor, husband takes the major HH decisions, followed by wife and sons.. Daughters are rarely consulted in decision making. Women of ethnic community have a major role in many HH decisions making.

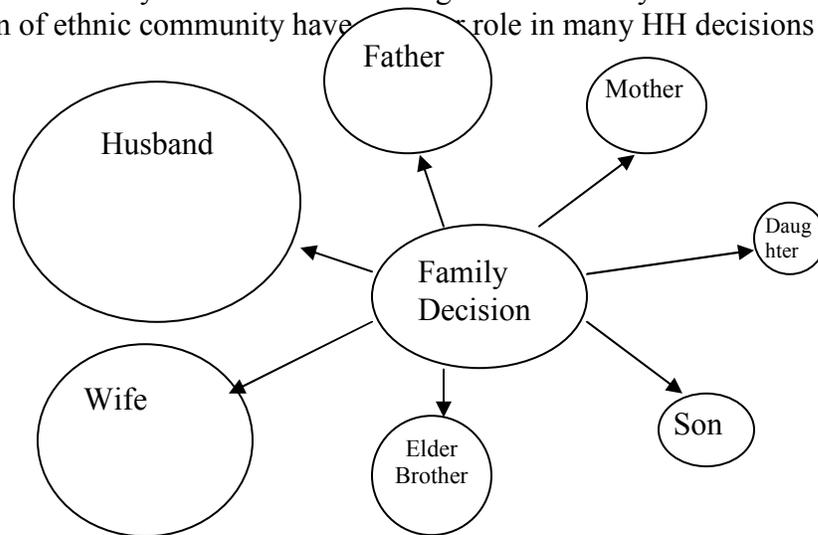


Fig. 25. Venn Diagram showing level of role of family members in decision-making

Table: 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						

8.2.1 Local governance:

Local Union Parishad is the lower level local government entity and look after local welfare and development. It has also emerged as the main center for conflict resolution. The UP members, who are elected from different areas of the Union, look after their respective areas. The local public representatives are consulted whenever there is a local issue.

Police administration at Upazila level is the local law enforcing agency and is involved with maintaining local law and order situation. The police at Sreemongal and Moulvibazer Sadar Upazila are very active and powerful. They are the authority to make arrests of warranted person by protected area causes.

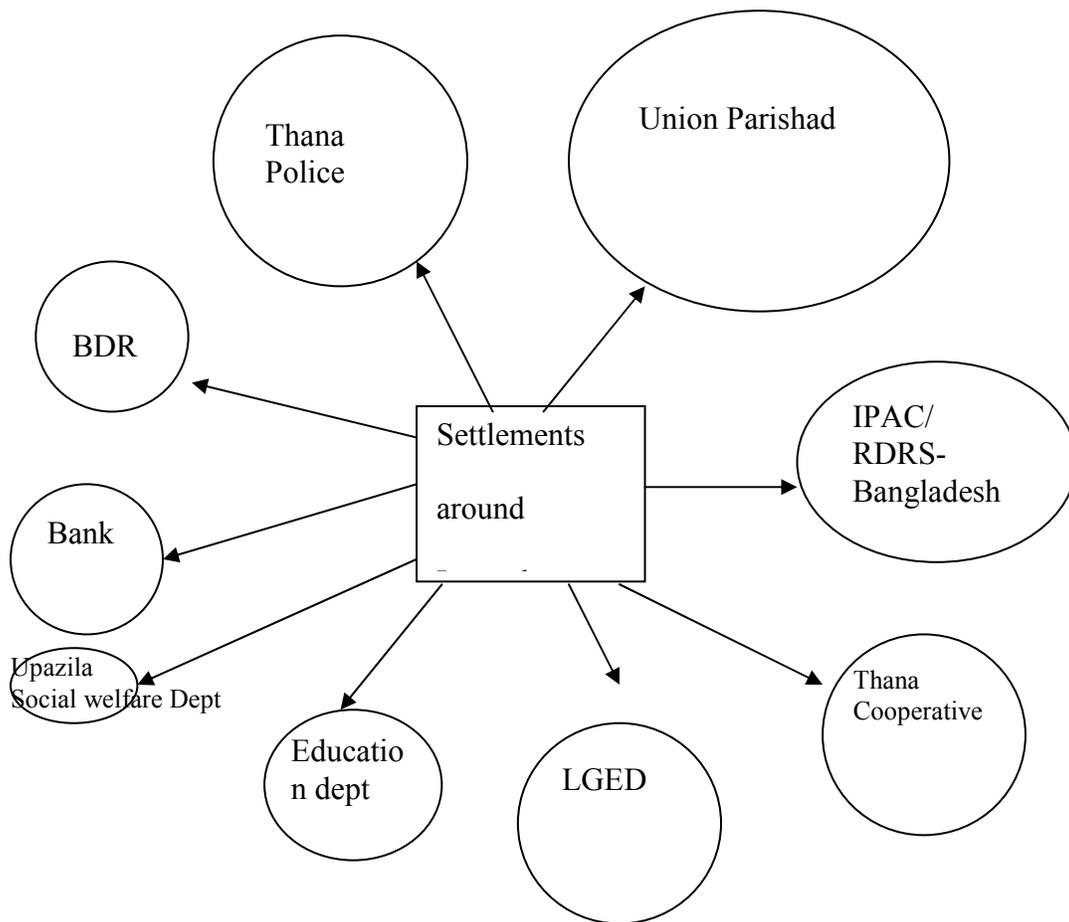


Fig. 20. Local government institutions and NGO

8.2.2 Social gathering:

People of Hail 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

12. Traditional cultures Celebrate

8.2.3 Daily work load

Fig. 26 and Fig. 27 show the daily work chart of male and female in a Hail Haor community, respectively. The females are typically involved with the household work and also help to husband for his work. The males mainly do the outdoor works related to income generation.

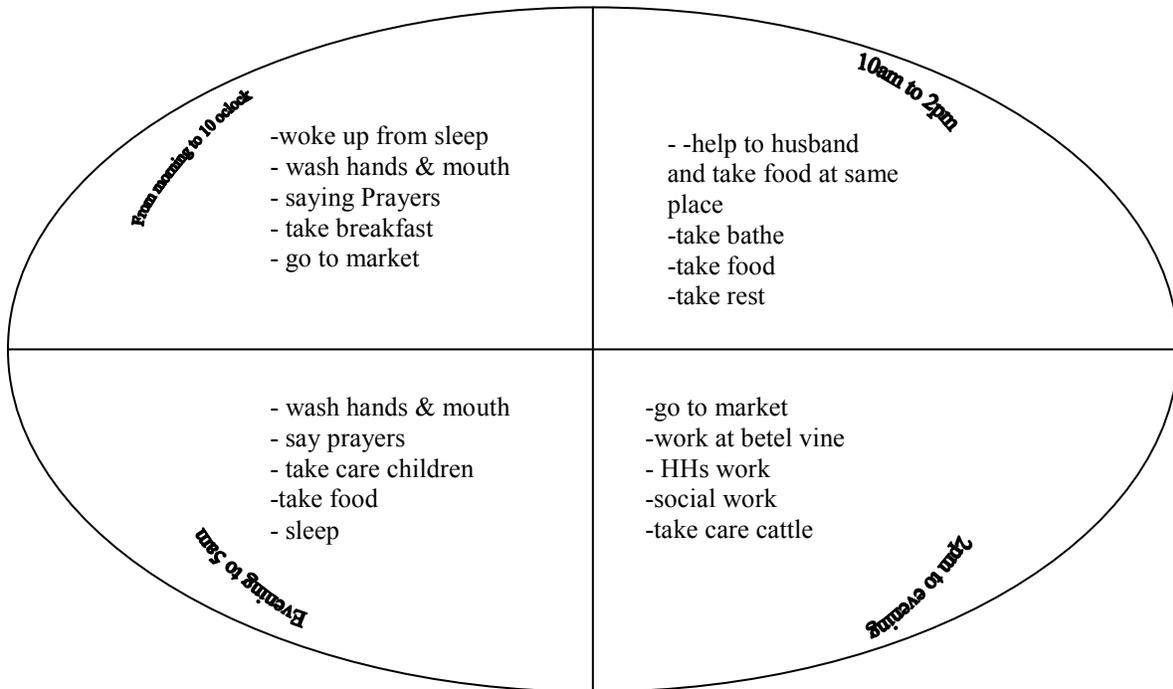


Fig. 26. Daily work chart of a men from Hail Haor

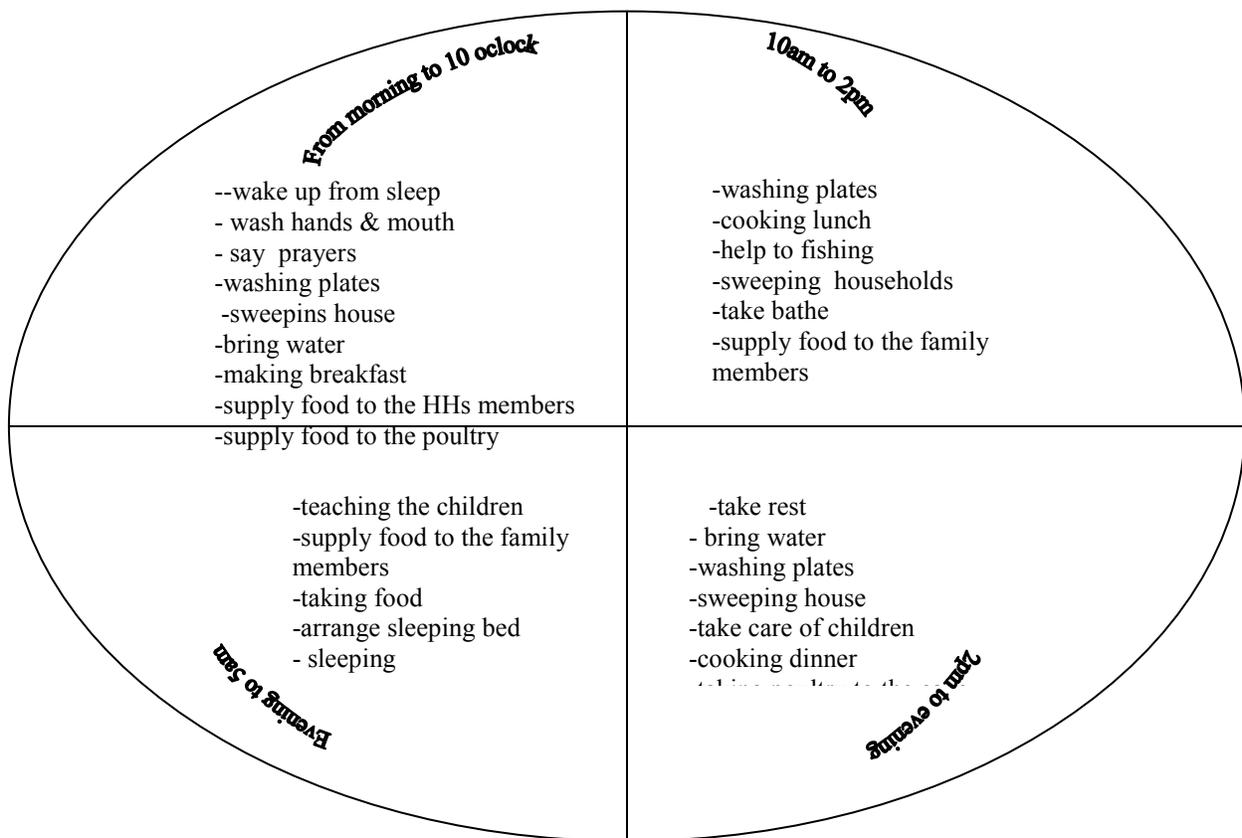


Fig. 27. Daily work chart of a woman of Hail Haor Community

8.3 Threats for Hail 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

8.3.1 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, korch seedlings
13. Lack of proper transport for field work

A. **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.

B. **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.

C. **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.

D. **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.

8.4 Local Level Awareness and Aptitude towards the Project

Local people know about some of the rules of wetland Act, At present MACH project working in this landscape area. About 80% people are aware of the Hail Haor and many people know about some restrictions in the Sanctuary.

Perception about the resource degradation and its impact is good. The local communities are well behaved and cooperative. Most of the local Bangalee are also good people. However, some of them behave rude. Some of the people expressed their concern that

MACH/IPAC program is good and to develop their livelihood day by day by this time they are getting micro credit from RDRS Bangladesh and CARITAS.

8.4.1 Suggestions and Recommendations:

1. IPAC should do something for the incorporation with GoB strategy with IPAC strategy for better support from the fisheries department.
2. Fisheries department mainly think about the revenue and less about conservation practices. So, some training may arrange about conservation of Hail haor resources for the DoF staff.
3. Lease should aware about eco-friendly fishing and conservation practices by different type of conservation training.
4. Awareness building through leaflet, brochures, bill board, drama, folksongs etc may do for the local resource users.
5. AIG training is crucial to reduce dependency upon haor for the local resource n collectors.
6. A plan of action of re-introduction and rehabilitation of endangered fish species.
7. A plan of action for protection and sustainable use of Hail haor resources and biodiversity,
8. Regularity of endowment fund provide for RMOs.
9. Fund provide for some beels for Re-excavation.



Resource Map of Borogangina RMO



Observation Tower of Baikka Beel Permanent Sanctuary

Chapra and Magura Sanctuary



Picture of a Sanctuary under Hail Haor