

*ipac*

**Site-Level Field Appraisal for Integrated  
Protected Area Co-Management Project:**

**Medhakachapia National Park(MKNP)**

**April 2009**

**IPAC Project**

**Chakaria Site**

**South Eastern Cluster**

**Cox's Bazar**





*ipac*

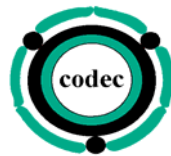
**Site-Level Field Appraisal for Integrated  
Protected Area Co-Management:  
Medhakachapia National Park(MNP)**

*Prepared for:*  
**International Resources Group (IRG)**



*Prepared by:*  
**Chakaria Site Team**

*ipac* South Eastern Cluster  
Cox'sbazar



**April 2009**



## **Table of Content**

### **List of Tables**

### **List of Figures**

### **Acronyms**

<b>1. Introduction.....</b>	<b>8</b>
1.1. Project Background.....	8
1.2 Information needs of IPAC and logical basis for conducting PRA/RRA.....	10
<b>2. Description of the Project Site .....</b>	<b>12</b>
<b>3. Methodology .....</b>	<b>14</b>
3.1 Study location and schedule of RRA/PRA .....	14
3.2 Setting RRA and PRA Issues and Questions .....	16
3.3 Formation of RRA and PRA Field Teams .....	19
3.4 Selection of RRA and PRA Spots.....	19
3.5 Holding Orientation for Conduction of RRA/PRA .....	19
3.6 Choice of RRA and PRA Methods and Tools .....	20
3.7. Field Implementation Strategies for the Selected Tools .....	21
3.7.1 Household (HH) Interview: .....	22
3.7.2 Key Informant (KI) Interview.....	22
3.7.3 Group Interview .....	23
3.7.4 Focus Group Discussion .....	23
3.7.5 Other PRA tools.....	23
3.7.6 Direct Observation.....	23
3.7.7 Secondary Information Collection.....	24
3.7.8 Organizing RRA and PRA field work .....	24
3.8: Limitation of the Fieldwork.....	25
<b>4. Findings.....</b>	<b>26</b>
4.1. Forest Land Use Cover and Forest Dynamics .....	26
4.2 Settlements and its level of Stakes with the National Park.....	28
4.3 Stakeholder Assessment.....	29
4.4 Resource user’s group (dependency, impact and risk) .....	33
4.4.1 Institutions/Organizational Stakeholders.....	36
4.5 Local Community, Power Structure, Local Governance .....	37
4.5.1 Local power structure/ Influential persons .....	38
4.5.2 Local Community Organization and NGO.....	41
4.5.3 Local conflict. Conflict regulation, social adhesion and cohesion .....	42
4.6 Socio-economic setting and dynamics.....	44
4.6.1 Demographic Profile.....	44

4.6.2	Livelihood analysis .....	46
4.7	Uses of the forest and forest resources .....	47
4.7.1	Fuel wood collection from the National Park .....	48
4.7.2	Illegal tree felling:.....	52
4.7.5	Hunting and killing of wildlife: .....	54
4.7.6	Land encroachment and transformation.....	54
4.8	Gender Issues (Mobility, decision making, daily work activities, etc.).....	57
4.9.	Local level problem and expectations.....	62
<b>5.</b>	<b>Present Issues and Challenges for IPAC at MKNP .....</b>	<b>65</b>
5.1	Present Issues of Concern: .....	65
5.2	Challenges:.....	65
<b>6.</b>	<b>Suggestions and Recommendations.....</b>	<b>66</b>
<b>Annex I</b>	<b>.....</b>	<b>68</b>

**Photo gallery**

## **List of Tables**

Pages

Table 1.	List of selected RRA spots and Schedule for visits	
Table 2.	PRA spots and schedule for conducting field activities	
Table 3.	Selected RRA/PRA Issues for Medhakachapia national park, specific activities and tools used	
Table 4.	RRA and PRA Team for MKNP	
Table 5.	Records of performed activities during PRA at MKNP	
Table 6.	Trend analysis (Forest quality and resource use matrix).	
Table 7.	Identified settlements and their level of stakes with MKNP	
Table 8.	Identified stakeholder (SH) groups in Medhakachapia National Park (based on PRA findings)	
Table 9.	Settlement wise relative distribution of different stakeholders in MKNP.	
Table 10.	Summery information on resource exploitation in MKNP	
Table 11.	Seasonality chart on various matrices for MKNP	
Table 12.	List and location of Sawmills around the MKNP	
Table 13.	Trend analysis of socio-economic situation	
Table 14.	List of powerful and influential persons in MKNP and surrounding areas.	
Table 15.	Information of NGOs active in MKNP	
Table 16.	Sources of conflict and its resolution	
Table 17.	Cause and effect ranking (understanding underlying facts)	
Table 18.	Mobility and participation in social events and access to credit and IGA by male and female at MKNP	
Table 19.	Seasonal workload of male and female	
Table 20.	Decision making role of male and female in the family	
Table 21.	Comparison of educational status of male and female at MKNP	
Table 22.	Ranking of local problems and enquiry into its solution	

## **List of Figures**

	Pages
Figure 1.	Map of Medhakachapia National Park
Figure 2.	Flow of RRA/PRA field activities
Figure 3.	Power structure of MKNP
Figure 4.	Venn diagram: Sources of Conflict
Figure 5.	Different steps followed in conflict resolution.
Figure 6.	Flow diagram on fuel wood collection and processing
Figure 7.	Venn diagram of fuel wood consumption
Figure 8.	Venn diagram of NTFPs consumption
Figure 9.	Types and stages in land encroachment in MKNP
Figure 10.	Types and stages in land encroachment in MKNP
Figure 11.	Daily work chart of men at MKNP
Figure 12.	Daily work chart of women at MKNP

## **Acronyms**

<b>Acronym</b>	<b>Detailed name</b>
AIGA	Alternative Income Generating Activities
ASA	Association for Social Advancement
BO	Beat Office/ Beat Officer
BRAC	Bangladesh Rural Advancement Committee
BRDB	Bangladesh Rural Development Board
CBO	Community Based Organization
CMC	Co-Management Committee
CODEC	Community Development Centre
Dept.	Department
DFO	Divisional Forest Officer
FD	Forest Department
FGD	Focus Group Discussion
Fig.	Figure
GD	Group Discussion
Govt.	Government
HHs	Households
IGA	Income generating Activities
Int.	Interview
IRG	International Resource Group
IPAC	Integrated Protected Area Co-Management
kg	Kilogram
KI	Key Informant Interview
LGED	Local Government Engineering Department
MACH	Management of Aquatic Ecosystem through Community Husbandry
MP	Member of Parliament
NACOM	Nature Conservation Management
NGO	Non Government Organization
NSP	Nishorgo Support Project
NP	National Park
PA	Protected Area
PDB	Power Development Board
PRA	Participatory Rural Appraisal
RDRS	Rangpur Dinajpur Rural Service
RO	Range Office
RRA	Rapid Rural Appraisal
SH	Stakeholder
FWS	Fasiakhali Wildlife Sanctuary
MKNP	Medhakachapia National Park
Tk.	Taka
UP	Union Parishad
USAID	United States of Association for International Development
WFC	WorldFish Center
BASTOB	Bangladesh initiative for peoples help development
SARPV	Social Assistance and Rehabilitation for the Physically Vulnerable

## **1. Introduction**

### **1.1. Project Background**

Bangladesh is one of the countries most vulnerable to biodiversity conservation and it needs adaptation and conservation strategies to tackle its vulnerabilities. For this reason, sea level rise, depletion of sweet water sources, floods and droughts are some direct consequences of biodiversity set to adversely affect life and livelihood of large population at Bangladesh forest and coastal areas.

In Bangladesh natural forests are under constant pressure and have already been significantly degraded and fragmented. In an estimate, forest cover in the country has fallen by more than 50% since 1970. This situation is threatening the value of these forests habitat for biodiversity and for provision of vital environmental services. If this trend continues, it will soon result in serious ecological catastrophe and declining spiral and production and productivity irreversibly detrimental to the livelihood of people living in around the forest, historically dependent on them. Therefore, there is an urgent need to reduce the detrimental impact on forest biodiversity and maintain resource sustainability through improved management and creating alternative livelihood opportunities for people dependent on forest and forest resources.

The reckless extraction of forest resources and negligence to nurturing of nature has led to present alarming state of global climate. The alarming situation in forest degradation in the country and the Government's commitment to national and international community, suppressed Government effort to designate and establish a number of protected areas (including national Park, Wildlife Sanctuary, game Reserve, Wetlands, Ecologically Critical Area-ECA) with biodiversity significance under the provision of Wildlife Preservation Act 1973. But there has been a little change in the degrading situation of these PAs with regard to biodiversity and its environmental services.

Responding to the urgent need to address the forest and the wetland conservation and related economic opportunity creation, the US Government and government of Bangladesh



elaborated and signed a Grant Agreement to improve management of open water and tropical forest resources.

In the context of agreement, the Forest and Fisheries Department has worked with USAID to jointly develop a project called Integrated Protected Area Co-management (IPAC). This project follows the successful completion the MACH project funded by USAID from 1998-2008, to support the department of fisheries and local stakeholders in the Management of Aquatic Eco-systems through Community Husbandry (MACH). IPAC also continues support provided to the Forest Department Nishorgo program aimed at promoting the co-management of forest protected areas. Initially IPAC is working in 26 protected area sites, including the Medhakachapia National Park. (Existing direct PA-08, new direct PA-08 and new indirect PA-10).

IPAC will support the co-management of a range of protected areas in both terrestrial and aquatic ecosystems, including national parks, wildlife sanctuaries and game reserves as well as wetland fisheries sanctuaries and ecologically critical areas.

IPAC is being implemented through the Ministries of Environment and Forests and Fisheries and Livestock. The primary technical implementing agencies of the Government of Bangladesh are the Forest Department, the Department of Fisheries and Department of Environment. Other Government stakeholders are also involved including the Ministries of Land, Water Resources, Finance, Chittagong Hill Tracts affairs and others. At the local level, District Commissioners, UNO and district level technical staff play a key role in co-management, along with local NGOs, community based organizations and other local leaders.

IPAC is also designed to communicate with and to support the development of a wide range of constituencies with a stake in conservation of natural resources as well as those in a key positive of influencing decisions about the use and management of natural resources. This includes political and opinion of leaders, religious leaders, students, journalists, scouts, and at the youth program participants, tourists and other visitors to protected areas, environmental and conservation organizations as well as corporate leaders and private sector partners.

The overall IPAC objective is to promote and institutionalize an integrated protected area co-management system for sustainable natural resources management and biodiversity conservation that results in responsible, equitable economic growth and good environmental governance.

IPAC support for field level implementation will be concentrated in five clusters located in the Sundarbans, Chittagong Hill Tracts, the Modhupur National Park, and targeted wetlands and forest in the central area, the Teknaf Peninsula and South Eastern areas, and around Srimangal, Sylhet and North eastern area of Bangladesh.

## **1.2 Information needs of IPAC and logical basis for conducting PRA/RRA**

For our project development or research, information is needed for designing and planning project interventions, setting implementations strategies, evaluation and monitoring of project performance and impact. Information at the initial stages of the project thus helps the project in carrying out its activities effectively and efficiently.

It has been emphasized from the beginning that IPAC will avail information overload; rather it will concentrate on collection of relevant information by using appropriate methodology. Therefore it was necessary to carefully scrutinize the information needs and determine its relevance to the project objectives and activities.

The generation of information, in principle, is guided by project objectives and goals. IPAC will develop a protected area strategy that applies to all ecologically and economically significant area, including fresh water and forest ecosystems; build technical capacity for protected areas co-management; expand geographic area under co-management to ensure the long term success of the model and to extend socio-economic benefits to surrounding communities and address climate change mitigation and adaptation issues. Otherwise the project supports the further development of the natural resources sector and the conservation of biological diversity. Therefore, generation of information is thus centered on the characterization of local community/stakeholders likely to be involved with the project and local resources that are to be managed.

This preliminary assessment of information needs for IPAC through scoping exercise provided precursors for brainstorming for identifying specific information needs that will be collected through subsequent appraisals. It was thought that at the initial stage of the project a rapid appraisal would be very appropriate in terms of cost effectiveness, usefulness, reliability and overcoming the constraints.

Rapid Rural Appraisal (RRA)/Participatory Rural Appraisal (PRA) on package of methods and tools for collection of qualitative information about local people, their life, environment, their resources, activities and living conditions in a short time. The purpose is to utilize knowledge of the local people in designing and setting implementation strategies of a project and to monitor and evaluate project performance and impact. It is also considered as a process for involving local people in the project planning, implementation and monitoring. In fact, RRA/PRA is thus considered as an integral part in down top planning process in many development or resource conservation projects.

RRA was carried out as an initial activity in the field with primary focus on stakeholder assessment and also equally intended for generating information that will help to get a sense of range of key issues and challenges that need to be addressed and be better informed on the context (social, economic, ecological) in which the project is likely to be intervened.

But upon the outcome of RRA, subsequently PRA was planned to collect in depth information on the identified issues and to ensure greater participation of local people in information collection.

The main purpose of the present report is to present a synthesis of all findings from RRA and PRA exercises conducted in Medhakachapia National Park during February to March, 2009. The report also details the methodology and tools used and highlight the issues in forest management and biodiversity conservation and identify the challenges for the IPAC. Finally, the report puts forward set recommendations for the improved management of the National Park (PA).

## **2. Description of the Project Site**

The Medhakachapia National Park is generally tropical semi-evergreen forest of Bangladesh. It is situated at about 110 km south of Chittagong city and around 50 km north of renowned tourist capital of Bangladesh-Cox's Bazar. The GPS location of the park is 21<sup>0</sup>45' to 21<sup>0</sup>40' N and 92<sup>0</sup>4' to 92<sup>0</sup>8' E. The park has covered only one Union of Chakaria Upazila namely Khutakhali Union.

Earlier the park was under the jurisdiction of Cox's Bazar Forest Division, but in the recent past, it has been transferred to newly separated Cox's Bazar North Forest Division. Administratively the park is under the management of Medhakachapia beat of Fulchari Range, Cox's Bazar North Forest Division.

Medhakachapia National Park is declared as a national park through a Gazette Notification in April 04, 2004 under the provision of Wildlife preservation act. As per the gazette Notification the national park covers an area of 396 ha. The western side of the park is Bakumpara, South Medhakachapia and Middle Medhakachapia village, in the southern side Khutakhali High School, Khutakhali and Nolbunia, in the northern side Paglir beel & North Medhakachapia and in the eastern side Jungle Khutakhali Reserve Forest.

The national park has covered 02 (partly) mouzas and around 15 villages (locally called para) within 1-3 km around the national park. Out of all villages 60% is located inside and at the edge of the forest and the rest are located outside, but either adjacent or very nearby the forest. In the national park (inside and around landscape) there are about 3000 HHs and the total population is about 20000.

The park area is generally gently hilly to mountainous with shallow to deep gullies and gentle slopes. It is a tropical semi evergreen forest in the Garjan belt that extends from Chittagong to Cox's Bazar and originally the whole park area was completely rich with Garjan forest with natural associates of Garjan in the area. The other associate trees include Telsur, Chapalish, Jam, and very less variety of other species. Besides this some species of other trees, bamboos, canes and grasses were also profuse in the park area. But due to illicit

*Integrated Protected Area Co-management (ipac): Chakaria Site*

felling, unauthorized cutting and harvesting, severe encroachment in the past the most valuable trees have been disappeared and at present the stock is poor. Approximately 20-25 plants that include around 12 species of trees and the rest are herbs and shrubs are present now.

Severe encroachment leading to expansion of settlements and agriculture, tree poaching, hunting, shooting, collection of fuel wood, bamboo and cane and other forest products are the major causes for the degradation of the forest and its resources. On the other hand, poor forest management by FD, deterioration of law and order situation, in effective implementation of law, adverse role of the local influential people, operation of sawmills, poverty and unemployment are the major underlying factors for the forest degradation.

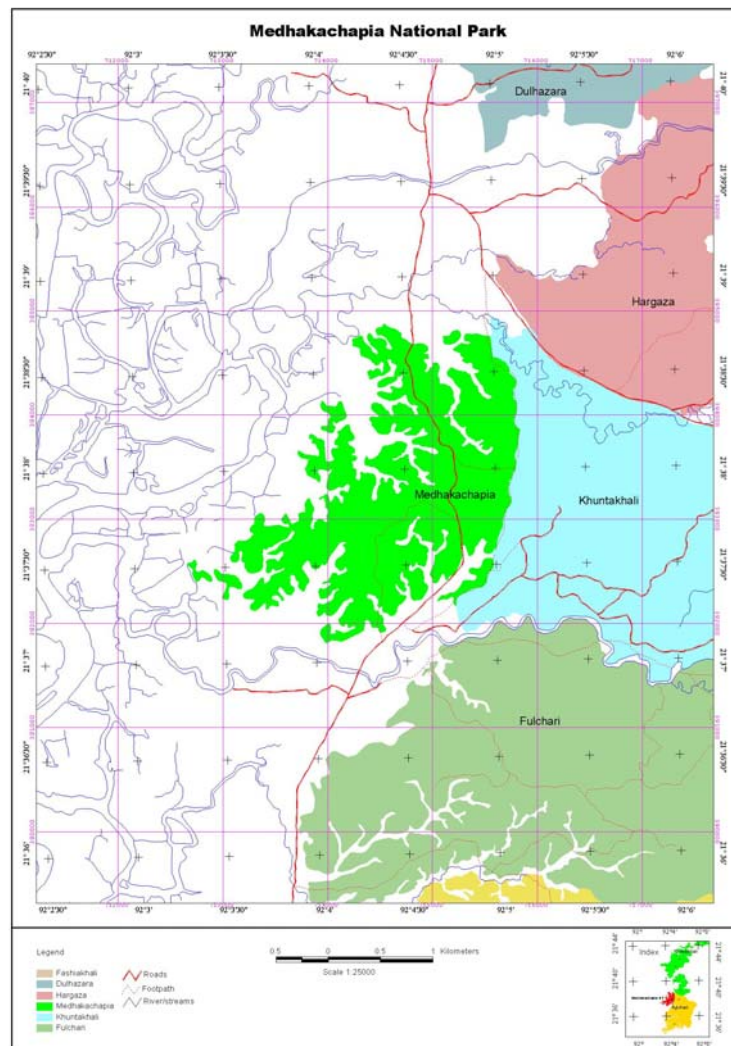


Figure 1. Map of Medhakachapia National Park

### 3. Methodology

For the collection of field data two methods were followed that are Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA). RRA was conducted as the first and initial step in the appraisal process that was followed by PRA. The overall objectives of the RRA and PRA are to come up with a comprehensive situational analysis of Medhakachapia National Park know the following information in general:

- Who destroys and how the forest is destroyed
- Reasons to know behind the forest destruction
- Cause and effect of behavior of local people
- Challenges and opportunities for its improvement and management.

#### 3.1 Study location and schedule of RRA/PRA

RRA and PRA field exercises at Medhakachapia National Park were conducted from February 10, 2009 to February 26, 2009. The details time schedule is shown below:

Table 1. List of selected RRA spots and Schedule for visits

<b>Date</b>	<b>Name of Spots/Villages</b>	<b>Activity</b>	<b>Remarks</b>
01.02.2009	FD Range Office, Fulchari, Beat Office, Medhakachapia	Acquaintance with FD personnel and planning for RRA in the Medhakachapia NP	
03.02.2009	UP Office	For secondary data collection	
04.02.2009	MKNP	Reconnaissance visit to the MKNP	
08.02.2009	MKNP	Reconnaissance visit to the settlements in and around MKNP and adjoining area	
10.02.2009	MKNP, Beat Office	Finalize PRA schedule and identify PRA tools to be used in MKNP	PRA Team formation

Table 2: PRA spots and schedule for conducting field activities

<b>Date</b>	<b>Village</b>	<b>Activities done</b>	<b>Remarks</b>
10.02.2009	Beat Office, MKNP	GD with FD personnel and Forest	To know the overall situation of forest resources and pressures from surrounding population

*Integrated Protected Area Co-management (ipac): Chakaria Site*

<b>Date</b>	<b>Village</b>	<b>Activities done</b>	<b>Remarks</b>
		Villagers	
11.02.2009	Office para (Middle Medhakachapia)	GD, resource mapping, HH interview	Inside MKNP; GD with Middle Medhakachapia communities regarding forest dynamics, trend, illegal timber felling and socio-economic aspects of the community
12.02.2009	Kutubdiapara	GD, Resource mapping, Trend analysis, seasonality and HH interview PA Transact	To know the stake of Kutubdiapara on adjoining forests and overall situation of forest destruction;  Transact walk inside the MKNP
14.02.2009	Bakkumpara	GD, Trend analysis, Resource mapping and HH interview	Discussion on various issues regarding Bakkumpara community and MKNP resource usages.
15.02.2009	Garjan toil	GD, FGD, Resource Mapping, Venn Diagram and HH interview	General discussion with the settlers in Garjan toli para of MKNP and conducted resource mapping.
16.02.2009	North Medhakachapia	GD, Trend analysis, Resource mapping and HH interview	To know migration pattern in forested landscape and dependency of local communities over forest resources.
18.02.2009	Segun bagicha	FGD, resource mapping, HH interview	FGD with forest villagers who are settled by FD
19.02.2009	Shikder para	GD, Trend analysis, Resource mapping and HH interview	General discussion with the settlers in Shikder para of MKNP and conducted resource mapping.
22.02.2009	Paglir beel	GD, Resource mapping, Trend analysis, seasonality and HH interview	Conducted GD to evaluate the level of dependency and stake of local communities over MKNP
23.02.2009	Office Para	KI, Trend	Conducted key informant interview,

Date	Village	Activities done	Remarks
		analysis, seasonal calendar	trend analysis of forest destruction and different aspect of livelihood of local communities
02.03.2009		KI interview	KI of Local elites of MKNP.
09.03.2009	MKNP, Beat office	FGD	FGD with female fuelwood collectors from MKNP adjoining villages
	Fulchari Range Office	FGD	Discussion with FD personnel at Fulchari Range regarding different aspects of MKNP.

### 3.2 Setting RRA and PRA Issues and Questions

To finalize the RRA and PRA issues and questions all the Site Coordinators along with Site Facilitators with the guidance of Performance Monitoring and Action Research took responsibility based on previous experience and exercises of Nishorgo and the team finalize the RRA and PRA issues and questions that was also sent to PRA expert, Governance Specialist of IPAC central team for his suggestion and improvement. Later on a field experiment was done in presence of central PRA expert at Borochoa village, one of the renowned village under Himchari national park where local FD staffs were also involved.

Table 3: Selected RRA/PRA Issues for Medhakachapia national park, specific activities and tools used

SI	RRA/PRA issues	Specific activities	Tools used	Participants
1	Stakeholder (SH) Assessment	Identification of local settlers, resource users, institutions, agencies, community organizations and their relation with the MKNP	GD, KI, Resource mapping and HH interview	Local people, forest villagers, settlers, local elites and civil society members
2	Resource status	Identification of trend and causes of forest degradation and loss of wildlife	GD, FGD, KI and HH interview	Local people, KI, local elderly members, FD personnel
3	Forest make up dynamics	Identify forest landscape including species diversity, distribution, landuse/ land cover, regeneration and distribution of wildlife;	Forest transact walk, resource mapping, GD, FGD, Trend analysis and KI	Local people/settlers, FD personnel and forest villagers
4	SH Demographic	Identification of settlements inside and adjacent to MKNP,	GD, FGD, KI, Trend analysis,	Community people, forest



SI	RRA/PRA issues	Specific activities	Tools used	Participants
	profile	population/HHs, education, forest use, occupation and land holding	HH interview, Secondary information	user groups, settlers, FD staff and local union parishad
5	Economic activities/ livelihood strategies and human capital development	Identification of current occupation, skill, education, seasonal calendar of employment and credit facilities	GD, FGD, KI, HH interview, village transacts, Seasonal calendar	Local people, forest settlers, FD staff, fuel wood collectors, local government representatives, NGO workers
6	Fuel wood and dry leaves collection	Identify Information of collectors, distribution, purposes & driving forces, extent & seasonality of collection, marketing channel, conflict & negotiation with FD and its impact of forests	GD, FGD, seasonal calendar	Community people, fuel wood and dry leaves collectors, FD personnel
7	Illegal timber poaching	Identify purposes & driving forces for illegal timber felling, key players and network of poachers, role of local elites, conflicts & negotiation process with FD, trend of illegal timber felling	GD, FGD, KI	Community people, illicit timber feller and FD personnel
8	Removal of Garjan sapling and girdling of mature Garjan	Identify sapling collectors, purpose and extent of sapling collection, seasonality and Identify the reasons and extent of mature Garjan girdling.	GD, FGD, KI and HH interview	Local people, salt cultivators and local FD personnel
9	Land encroachment	Identify historical perspective and trend of forestland encroachment, reasons and extent of encroachment, legalization process, conflicts and negotiation process.	GD, FGD, KI, trend analysis and secondary info	Local settlers, encroachers, forest villagers and FD personnel
10	Forest villagers	Identify distribution of forest villagers, registered and actual number of FVs, compliance to FD agreement, resource exploitation and dependence on forest resources, involvement in	GD, FGD, KI, trend analysis, secondary info	Forest villagers, FD personnel, local community members and villager registrar in FD office

SI	RRA/PRA issues	Specific activities	Tools used	Participants
		land encroachment process, relationship and conflicts with FD		
11	Gender issues	Identify status of women in various aspects of family, social and professional life including education, health, IGAs, mobility and decision-making process	GD, FGD, KI, Mobility and seasonal calendaring	Female groups of housewives, fuel wood collectors, local female leader and community people.
12	Perception of local people towards PA	Identification of local peoples' response towards MKNP and its resources; issues of conflicts regarding encroachments and biodiversity conservation	GD, KI, HH Interview	Local community, FD staff
13	Local level awareness	Identifying local level awareness about resource degradation and conservation; perception of local people for biodiversity conservation and sustainable resource uses. Awareness of local communities regarding forest act and wildlife (preservation) act	GD, FGD, KI, HH interview	Community people and leaders, different forest user groups, FD personnel
14	Resource regeneration and management	Identify availability and problems of natural regeneration; management of natural regenerations	GD, FGD	Local people, FD personnel and secondary data from FD
15	Legal aspects	Identify rights of local people in access to forests, forest conflicts (like land encroachment, illicit felling, hunting, shooting, poaching etc) and their negotiation process, law enforcement mechanism in the MKNP.	GD, FGD, KI	FD personnel, encroacher, fuelwood collector and local community
16	Power structure	Identify local influential people and their role in forest conservation, encroachment, conflict resolution and maintaining social cohesion.	KI, GD, FGD	Local community, influential people, FD personnel
17	Others	Identify NGO activities in the locality, challenges for conservation with	GD, FGD, KI and HH interviews	Local people, community leaders, NGO

SI	RRA/PRA issues	Specific activities	Tools used	Participants
		recommendations		personnel and FD personnel

### 3.3 Formation of RRA and PRA Field Teams

The RRA and PRA field team was formed considering the background and experiences particularly on PRA conduction and facilitation. The team consists of 3-4 members. During PRA conduction local FD personnel was duly informed time to time and a representative was also present with the team.

Table 4. RRA and PRA Team for MKNP

SI No	Name	Designation	Responsibilities
1.	Md. Muzammel Hoque	Site Coordinator	Team Leader
2.	Mr. Ruhul Mohaiman Chy	PMARA	Rapportear
3.	Baran Barua	Site Facilitator	Facilitator
4.	Md. Kamruzzaman	Site Facilitator	Rapportear
5.	Md. Helal Uddin	Accountant	Logistic Support
6.	Ms. Zannatul Ferdous	Local Enumerator	
7.	Mr. Muktul Hossain, Headman	Local Enumerator	
8.	Mr. Mohiuddin, Villager	Local Enumerator	

### 3.4 Selection of RRA and PRA Spots

At first the name and list of the beat wise villages, inside and outside of Medhakachapia National Park within 3-5 km, were identified based on the information provided by the FD local officials and staffs (Table 1 and 2). Preliminary information was also found out about the villages and the people, which are almost responsible for the destruction or protector of the forest. The selection of villages/spots for PRA/RRA was based on a number of selection criteria. The selection process was completed mainly based on the extent of destruction from different perspectives.

### 3.5 Holding Orientation for Conduction of RRA/PRA

A one-day orientation was conducted by Governance specialist of IPAC central team at IPAC Southeastern Cluster, Cox's Bazar and followed by field test at Borochora, under Himchari national park on February 28, 2009. The purpose of the orientation was to give an overall idea to the RRA/PRA field team to conduct RRA/PRA using various tools and techniques.

### **3.6 Choice of RRA and PRA Methods and Tools**

During orientation RRA/PRA methods and tools to be used for generation of information were discussed and selected. The type and nature of issues, accessibility and mobility in the area, behavior of people and rapport of the field staffs were decided. Different techniques and tools used for generating information for various set issues and questions are provided in Table 6.

The details methodology for each tools was embodied in manual and used during orientation so that the methodology remained same across the team and across the sites. It was mentioned that a particular tool might not exclusive for a particular issue; rather a tool may be used for a number of issues.

RRA is mainly based on the unstructured and semi structured HH interview, fuel wood consumption and enterprise survey, group and focal group discussion and at the same time used some limited number of RRA tools like, trend analysis, seasonality's, sketch mapping etc. But, in addition to Focus Group Discussion and group Discussion various PRA tools like, Venn diagramming, resources mapping, seasonality's, trend analysis, livelihood analysis etc. were used during PRA exercises.

#### **Matrix covered under various PRA tools are described below:**

**Venn Diagramming:** Local power structure, local community organizations, local institutions and agencies, local conflict and conflict resolutions, family decision-making, mobility of women and man, local NGOs/CBOs etc.

**Seasonal Calendar:** fuel wood, dry leaf, bamboo and timber collection, unemployment, workload, accessibility to forest, transportation problem,, brickfield/sawmill operation, forest

patrol, agricultural activities, collection of building materials, hunting and shooting, vegetable collection, damages by elephant etc.

**Trend Analysis:** Forest cover and thickness, tall trees, herbs and shrubs, forest use, unemployment, local solvency, land encroachment, settlement/population, solvency/income, livelihood expenditure, literacy use of forest for income, use of forest for HH needs, transportation and mobility, homestead plantation, food scarcity, credit and IGA, occupation, damages by elephant, wildlife, hunting and shooting, illicit felling, fuel wood collection, bamboo and cane collection, agricultural activities, medicinal plants etc.

**Ranking and Scoring:** local problem ranking, wealth ranking and livelihood analysis.

**Transect Walk:** Soil, vegetation, land use, elevation, crops, wildlife, human activities etc.

**Forest Resource Mapping:** Forestland use cover, resource zones, resource exploitation zones, animal distribution, settlements etc.

Table 5. Records of performed activities during PRA at MKNP

<b>Beat</b>	<b>Village/ Settlements covered</b>	<b>FGD</b>	<b>GD</b>	<b>KI</b>	<b>HH interview</b>	<b>Transect</b>	<b>Institution visit</b>	<b>Resource and social mapping</b>
Medhakachapia	16	09	22	05	800	02	14	31

### **3.7. Field Implementation Strategies for the Selected Tools**

While conducting RRA a total of 500 HHs, 10 groups, 15 key informants interviewed and 13 FGD were conducted. The other RRA tools for Fuel wood consumption and enterprise support were also applied during above mentioned interviews and discussions. In the same way during PRA a total of 800 HHs, 16 groups interviewed, 09 FGD and 22 GD were conducted (Table-7). The other PRA tools were practiced during the exercise mentioned above ore some cases separately as per objectives.

### **3.7.1 Household (HH) Interview:**

At first a checklist/semi structured questionnaire was developed at first based on the requirements of the project objectives. For HH interview two processes were followed. During PRA conduction some HHs were interviewed by the PRA team. On the other hand, due to shortage of time a local educated female was oriented in the office for household and fuel wood consumption survey and other relevant issues. Then she surveyed in different villages as per instructions. During HH survey:

- Individual HH were interviewed by random selection visiting one HH at each step.
- Both male and female respondents were considered
- For interview generally 45 minutes – 1 hour time required
- During interview information were gathered as per checklist at first. But instruction was also given to keep records for other most informant any information separately relevant to the project and situation

### **3.7.2 Key Informant (KI) Interview**

The key informants are local people who have extensive knowledge on their local environment, situation and events. The main purpose of taking interview of them is to find out actual causes of forest destructions and conservation issues based on their experiences.

- The interview of key informant was taken by prior appointment. A local guide and some cases FD officials helped in making the appointment of key informant. As per appointment the PRA team visited either in their residence/house or by inviting him in a fixed a place.
- During selecting key informant priority was given to select local age old school teachers, retired officials, local elites, and public representatives.
- The interview lasted for around 2 – 2.5 hours. The whole team participated to take key informant interview.
- Pre prepared questionnaire was used during the interview.

### **3.7.3 Group Interview**

- The main purpose of group interview was to collect information of targeted PAs of the surrounding local community based on the consequences of the local people.
- The interview was conducted at any suitable places like, tea stalls, road junctions and other any important places where some people always gather. No formalities or invitation were given to take group interview.
- Trend analysis, seasonality's, ranking and scoring were done in group interviews.
- The interview generally lasted for about 2-3 hrs.
- The group interview was taken along with other PRA activities or some cases separately
- The pre prepared questionnaire or checklist was used during the interview.

### **3.7.4 Focus Group Discussion**

Focus Group Discussions (FGD) were carried out with specific groups/professional like, fuel wood collectors, resources user groups, local govt. representatives, FD officials etc. with a view to collect information on specific areas/issues.

- The FGD was conducted by pre appointment of the specific groups or inviting them in a suitable place.
- A local guide with the help of FD officials was used to invite the people for FGD.
- In each FGD session a senior FD officials was always present.
- The session was continued for about 3 -4 hrs.

### **3.7.5 Other PRA tools**

Trend analysis, Venn diagramming, resource mapping, seasonal calendar, transect, ranking, scoring etc, were generally carried out in separate sessions. But in some cases these exercises were also performed along with GD, FGD and key informant interviews. No formal invitation was made to conduct this type of PRA exercises.

### **3.7.6 Direct Observation**

During interview, general discussion with the various local people so many important information were gathered that was most relevant to PA management and conservation perspectives. These informations were recoded giving special priority and helped in generating new questions for interview or discussions or taking decision in confusing and controversial issues.

### **3.7.7 Secondary Information Collection**

Essential demographic and secondary data were collected from respective Union Parishad, LGED and range & beat office of Forest Department.

### **3.7.8 Organizing RRA and PRA field work**

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

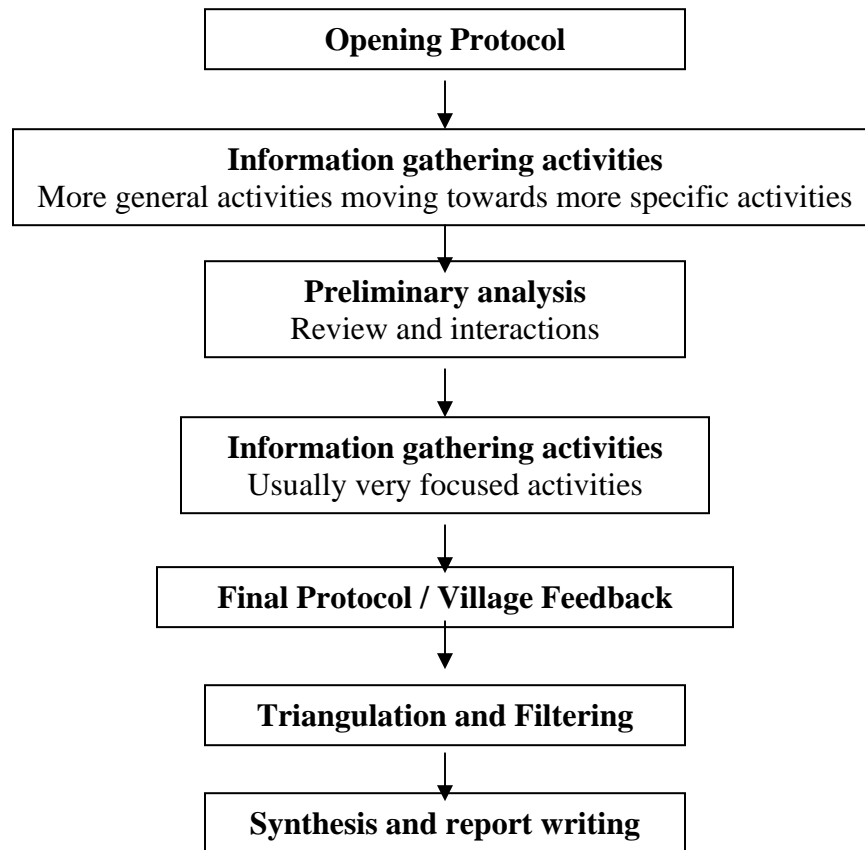


Figure 2. Flow of RRA/PRA field activities



### **Team interaction**

Everyday after field work the team sat together for one and half-hour were in the evening for team interaction and triangulation. The activities performed during the session include:

- Data compiled and summary of the all information was prepared.
- All essential information were recorded so that during report preparation nothing is missed
- Planned for the next day field activity
- Made methodological review.

**Triangulation and filtering:** Some same information was collected from the various sources. The team cross-checked the same information and accepted the most logical one. The team members had the opportunity to use his/their own judgment in accepting an answer.

### **3.8: Limitation of the Fieldwork**

The main limitation of the field work was to continue the PRA activity with a very small team. It became very difficult to carry out the activity with 2-3 persons. On the other hand, sometimes some team members had to engage with other essential field activity that hampers seriously to complete the field activity as well as reporting timely. Besides, severe load shedding (minimum 8-10 hours/day particularly in day time) hampers in report preparation unbelievably. But the team took it is a challenge to complete the PRA report as per deadline. So whole the team worked even in the all nights to complete the report.

## **4. Findings**

### **4.1. Forest Land Use Cover and Forest Dynamics**

The Primary natural forest i.e. beautiful Garjan forest is almost evenly distributed throughout the park except some variations are remarkable in encroached areas.

The vegetation cover is dominated by herbs, shrubs and bush at the eastern-southern site of the park. But in the western as well as northern site of the park the density of herbs and shrubs are not so prominent. In these areas some Garjan saplings with other associated plants are visible. Though 2 years before there were availability of various bamboos, last year almost all the bamboos died after bearing fruits. Agricultural field are found in almost 10 valleys and it covers around 10% area of the park.

Table 7 shows the trend in changes in forest quality and uses of resources and also shows the reasons behind for that change. In the national park the forest cover has been decreased by more than 30%, forest thickness by 45% abundance of tall trees and wildlife by 75-80%, in compare to 1970. Actually when the auction system was allowed and continued by the Forest Department at that time most of the valuable and tall trees were stolen along with the auction trees. Besides during 2001-2006 period most of the tall trees were cut by the local elite persons getting political help indirectly. The another remarkable threat was found that some people and children were gardling the large & mother Garjan tree for the collection of oil and eventual dying up.. As the park is heavily encroached by the local and some Rohingya people and those are completely dependent for fuel wood on the park herbs and shrubs are gradually decreasing day by day. Though hunting and illegal tree felling once increased have now decreased significantly particularly hunting due to its non availability. Fuel wood collection as well as agricultural activities has also remarkably increased. Land encroachment was mainly stated in 1963 after cyclone in coastal areas and it was also high after 1991 due to deadly cyclone in the coastal areas.

Table 6: Trend analysis (Forest quality and resource use matrix).

<b>Issues</b>	<b>Pre- 1971</b>	<b>In 1990</b>	<b>Present (2009)</b>	<b>Major cause of changes</b>
Forest cover	7	5	3	Excessive exploitation/ tree felling/ tree poaching/ expansion of settlement and agricultural activities and betel leaf cultivation, land encroachment and conversion/ problem in regeneration
Forest density	7	5	3	Density of trees (no. of trees in unit area) decreased due to illegal felling and encroachments
Dominant species (Garjan)	8	5	1	Cyclone damage and heavy illicit felling during 1996 - 2000
Herbs/ Shrubs/ undergrowth	10	6	1	Excessive collection of fuelwood and poles for HHs / salt field uses
Wildlife	10	7	3	Loss of habitat, shelter and fodder
Hunting	8	5	0	Less no. of wildlife and enforcement of wildlife act
Illegal tree felling	6	5	4	Enforced forest patrolling and less pressure from politicians and local elites
Fuelwood collection	8	6	4	Less availability of herbs and shrubs; local people collect dry leaves during winter
Encroachment	4	3	5	Since 1963/64 forest villagers are settling; after 1991 cyclone huge landless people encroached; recently Rohingya settlers are migrating and settling in the MKNP.
Natural Bamboo	8	5	1	Recent (2008) flowering caused complete destruction of bamboo grooves. Paglir beel area, landscape of MKNP some natural bamboo grooves are available
Fruit bearing trees in the park	5	2	1	Less diversity of species and rarely found
Agricultural activities	3	5	8	Due to increased population, more people need to feed and agro-crops are farming along the valleys and Ghona (plain lands inside the hills).
Medicinal plant	8	6	2	Due to forest destruction and more availability of allopathic medicine and few people can identify medicinal plants.
Damage by elephants	2	4	7	Due to lack of fodder species for elephant and habitat destruction, wild

<b>Issues</b>	<b>Pre- 1971</b>	<b>In 1990</b>	<b>Present (2009)</b>	<b>Major cause of changes</b>
				elephant herds often destroy homesteads and crop fields.

Much wildlife has been extinct by this time from the park and the extinct animals are Bengal tiger, deer, peacock, wild dog etc. On the other hand, some animals have also become endangered in the park and these are barking deer, bear, honoman, python, cobra, vultures, etc. Besides many plant species have also become endangered and these are mainly Dhaki jam, Chapalish, Gamari, Telsur, etc. Boilam the tallest trees of the park completely extinct.

**Fig 4 shows the transect map of the park along the western side to eastern side of the park.**

The figure clearly indicates the abundance of natural forest is significantly less compared to a perception transect map drawn as per local people memory indicate how the forest has changed over time. The main reasons for the changes are due to transformation of forest land into agriculture, replacement of natural forest by extensive encroachment and over population.

#### **4.2 Settlements and its level of Stakes with the National Park**

During PRA/RRA conduction 9 villages have been identified inside the village. There are another 5 villages within 1-2 km surrounding area of the national park. So people from about 16 settlements villages inside and adjacent the national park is directly or indirectly dependent on the park (table-8).

Among those 9 settlements are inside the park area with more than 1400 HHs. About one-third of these populations settled in the forest hills of the park after devastating cyclone in 1963 from the nearby coastal area and some households were also settled after the cyclone of 1991 and the rests accumulated gradually. In this regard, it is evident that declaration of a portion of forest reserves to be a Protected Area is solely based on scientific and forestry

view points whereby local political and administrative elites are often disregarded with idea sharing. Consequently politicians and local elites often treat forestlands as either no man's property or wastelands. Political leaders and local administration, hence, rehabilitate poor migrants into the forests. Table 9 shows the identified settlements and their level of stakes with the national park.

Table 7: Identified settlements and their level of stakes with MKNP

SI	Village	Union	Total HHs	Location of village	Level of stake
1	Maidda Medhakachapia (Office Para)	Khutakhali	200	Inside MKNP	Major
2	North Medhakachapia	Khutakhali	150	Inside MKNP	
3	Kutubdia para	Khutakhali	370	Inside MKNP	Major
4	Hazi para	Khutakhali	100	Inside MKNP	Major
5	Bakkumpara	Khutakhali	200	Inside MKNP	Major
6	Nalbunia	Khutakhali	100	Inside MKNP	Major
7	West Garjantali	Khutakhali	150	Inside MKNP	Major
8	Middle Garjantali	Khutakhali	180	Inside MKNP	Major
9	East Garjantali	Khutakhali	150	Inside MKNP	Major
10	Shikder para	Khutakhali	250	Northwest outside	Moderate
11	Dulahazara	Khutakhali	200	North outside	Moderate
12	Notun para, Dulahazara	Khutakhali	150	North outside	Moderate
13	Maij para, Dulahazara	Khutakhali	180	North outside	Moderate
14	Pagrir beel	Khutakhali	300	North outside	Major
15	Shegunbagicha	Khutakhali	250	East, outside	Major
16	Villager para	Khutakhali	70	East, outside	Major

Level of stakes has been determined on the basis of distribution of different resource users and people having land within the national park.

### 4.3 Stakeholder Assessment

**Primary stakeholder:** Primary stakeholders are those involved with direct extraction of resources from the forest or their activities directly affect the forest. There are about 9 primary stakeholders are identified during PRA/RRA. The influence and impact of their activities on forest resources have also been gathered during PRA/RRA sessions.

**Secondary stakeholder:** Secondary stakeholders are those indirectly linked with the forest, involved with trading or exert influences on the forest.

**Institutional stakeholder:** Institutional stakeholders are those involved with development activities and administration of the adjoining area.

Stakeholder identification is the most important activity of PRA/RRA. Based on accurate identification of stakeholders and their dependency on forests and role in forest conservation success of co-management approach depend. So it has been given most priority to identify stakeholders during PRA/RRA. Table 9 shows the stakeholders of Medhkachapia National Park and their role and impact on forest and its resources.

A total of 12 categories of stakeholders are identified during PRA, out of which 8 are primary stakeholders and they are dependent directly on forest resources extraction. Out of the rest 4 categories of secondary stakeholders 3 categories of stakeholders are indirectly responsible for forest degradation. Of the resource users, 7 stakeholders have major stakes with the forest. The important primary stakeholders are: fuel wood collector, illegal tree feller, land encroachers, forest villagers, salt/shrimp cultivators and Rohingya settlers. Among the secondary stakeholders timber merchants and political and local elites are most important.

Table 8: Identified stakeholder (SH) groups in Medhakachapia National Park (based on PRA findings)

Sl. No.	Stakeholder (SH) type	SH description	Role/Description of activities of SH	Impact on forest resources	Level of stake	Risks
1	Forest Department Primary SH	Legal custodian of the MKNP	Park Management, administration, forest patrol	Management and control of resources	Major	Low
2	Fuel wood collector Primary SH	Local poor, children, women and unemployed adults	Remove garjan saplings, dry branches as fuel wood; girdle mature garjan trees at its base	Loss of biodiversity and natural regeneration	Major	High
3	Dry leaf collector Primary SH	Poor women and children	Sweep away dry leaves from forest floor during winter	Reduce forest fire but loss of humus	Minor	Low
4	Forest Villagers	Registered forest villagers	Increased population of villagers, land	Increased pressure on forests and	Major	High

Sl. No.	Stakeholder (SH) type	SH description	Role/Description of activities of SH	Impact on forest resources	Level of stake	Risks
	Primary SH	settled during in 1963/64	encroachment and its conversion, sometimes facilitate illegal tree felling and assist migrants to settle in the MKNP	reduced biodiversity		
5	Illegal tree feller Primary SH	Local poor labors backed by local elites/ businessmen / FD staff	Remove big trees as timber and as fuel wood.	Reduced forest cover, loss of trees & poles; loss of habitat	Major	High
6	Land encroacher Primary SH	Settlers from offshore islands are backed by local influential	Settle and built houses in the MKNP with assistance from local elites, forest villagers and forest staffs	Habitat destruction, shrinkage of forest land, loss of biodiversity	Major	High
7	Salt/Shrimp cultivators Primary SH	Labours and owners of salt farms MKNP surrounding flood plains	Local people engaged in salt farming during winter and shrimp farming during monsoon	Use Garjan sapling in salt cultivation	Major	High
8	Rohinga settlers Primary SH	Migrants from Myanmar settle down in the hilly forest areas	Due to unemployment, illiteracy and big family size, they are being target of local influential and get shelter in the hills; entire livelihood is dependent on forest resources	Encroachment, reduce forest area, over exploitation of forest resources and reduce biodiversity	Major	High
	Police Secondary	Responsible for ensuring local level	Assist FD in prevention of illicit timber	Control of resource transportation	Major	High

Sl. No.	Stakeholder (SH) type	SH description	Role/Description of activities of SH	Impact on forest resources	Level of stake	Risks
	SH	law and order situation	poaching and dealing with forest cases			
9	Timber Merchants Secondary SH	Local timber merchants	Maintain a strong network among local power structure and forest administration	Removal of valuable and mature forest trees; influence in illegal felling	Major	High
10	NTFP collector Secondary SH	Local people	Few local people collect bamboo, cane, and medicinal plants.	Loss of biodiversity and NTFPs	Moderate	High
11	Local NGOs Secondary SH	Involve in socio-economic development of local communities	Play good role in community mobilizing, ability to work with grass root people; Communities are benefited through access to micro-credit supports	Play positive role in forest conservation, provide livelihood supports to the communities	Major	Low
12	Political/local elites Secondary SH	Political, Local Government, Businessmen and elites leaders in the communities	Influence in forest land encroachment, involve in illegal tree felling, provide political and legal back up to poachers	Forest destruction, encroachment and biodiversity loss	Major	High

Table 9: Settlement wise relative distribution of different stakeholders in MKNP.

Village / settlements	Location	Resource extraction				
		Fuel wood/dry leaves	Illegal timber felling	Collection of NTFPs	Collection of sapling	Land encroachment
Maidda Medhakachapia (Office Para)	Inside MKNP	00000	00	000	000	0000
North Medhakachapia	Inside MKNP	00000	00	000	000	000
Kutubdia para	Inside	00000	000	0000	000	000



Village / settlements	Location	Resource extraction				
		Fuel wood/ dry leaves	Illegal timber felling	Collection of NTFPs	Collection of sapling	Land encroachment
	MKNP					
Hazi para	Inside MKNP	0000	00	0000	00	000
Bakkumpara	Inside MKNP	00000	000	0000	00	00
Nalbungia	Inside MKNP	00000	0000	0000	000	0000
West Garjantali	Inside MKNP	00000	00000	00000	0000	0000
Middle Garjantali	Inside MKNP	00000	00000	00000	0000	0000
East Garjantali	Inside MKNP	00000	00000	00000	0000	0000
Shikder para	Northwest outside	00	0	00	0	-
Dulahazara	Northwest outside	00	-	00	0	-
Notun para, Dulahazara	Northwest outside	00	-	-	00	00
Maij para, Dulahazara	Northwest outside	00	-	-	0	0
Paglir beel	North outside	0000	0000	00	00	00
Shegunbagicha	North outside	0000	0000	00	00	000
Villager para	North outside	0000	00	00	0	00

From the above table it is clear that almost all the villages inside and adjacent are dependent for fuel wood from the park. The village Garjan toli, Shegun bagicha and Paglir bill are directly involved in illicit felling along with other destructive activities.

#### **4.4 Resource user's group (dependency, impact and risk)**

There are 9 major resources that are exploited by the local people; reasons for exploitation and different level of stakeholders were identified during RRA/PRA.

**Resource exploitation and harvesting:** Govt. has banned systematic and legal harvesting of forest produces since 1972. But still some illegal harvesting of firewood, saplings and poles are continues. From the HHs interview of RRA it is revealed that highest percentage (around

60%) of the HH inside and adjacent of the park collect fuel wood followed by dry leaves (30%), bark of trees (10%) and vegetables (3%). The HH interview also shows that 80% cases the HHs informed that they collect fuel wood directly from the park area and 20% cases they purchase or collect it from the collectors. It has been also found that the main reason for collection is for domestic uses and some cases for commercial purposes (around 20%).

It has also been found that the encroachers those are living illegally inside the park area are mainly involved in illegal fuel wood harvesting remarkably and sometimes some adjacent village people with the help of some encroachers involved in illegal tree felling. Grazing by cattle of the villagers is also a major cause of natural regeneration and forest deterioration.

Table 10: Summery information on resource exploitation in MKNP

SI	Name of exploitable forest resources	Reasons for exploitation	Users	Extent	Dependency	Risk
1	Fuel wood	For HHs consumption and commercial uses	Local people, tea stalls and hotel owners	High	High	High
2	Dry leaves	As biomass fuel for HHs consumptions	Local women and children	Moderate	High	Low
3	Timber	For Commercial & HHs uses	Local people, timber industries	Moderate	Moderate	High
4	Garjan sapling	Used as pole in salt cultivation	Salt cultivation	Moderate	Moderate	High
5	Bamboo	As fencing materials; in 2008 flowering destroyed bamboo grooves	Locals and outside people	Less	Moderate	Low
6	Medicinal plants	As medicine and commercial	Traditional healers	Less	Less	Low

SI	Name of exploitable forest resources	Reasons for exploitation	Users	Extent	Dependency	Risk
		use				
7	Herbs/ shrubs	Fencing, fuelwood, materials for HHs consumption	Local people and small businessmen	High	Moderate	High
8	Fruits	For consumption	Local people, birds, monkey	Less	Less	Low
8	Grass	As fodder	Livestock's	Less	Less	Low
9	Natural ground water flow	Irrigation in the agri-fields; HH consumptions	Local farmers and HHs	Moderate	Moderate	Moderate

**Seasonal trend in resource extraction:** The seasonal trend of resource exploitation is variable round the year. Fuel wood is mainly collected during winter due to easy access to forest. Dry leaves are also collected during winter and summer as leaves is dry during this season. Though illicit felling is less in the park some illicit felling occurs whole round the year particularly in the rainy season as at that time forest patrol is less due to rains. Damages by elephant are maximum in the month of Zaista nad Falgun.

Table 11: Seasonality chart on various matrices for MKNP

Name of resources	Baishak	Jaistha	Asar	Srawan	Vadra	Ashwin	Kartik	Agrahayan	Paush	Magh	Falgun	Chaitra
Unemployment					000	0000	000					
Solvency	000							0000				0000
Accessibility to forests					000	0000	000					
Transportation facility / mobility	000							0000				0000
Sawmill	000	00						000	0000	00000	00000	00000
Forest patrol	000	000	000	000	000	000	000	000	000	000	000	000
Agricultural activities			000	000					00000	00000		
Timber felling						00	00					
Fuel wood					000	0000	0000					

Name of resources	Baishak	Jaistha	Asar	Srawan	Vadra	Ashwin	Kartik	Agrahayan	Paush	Magh	Falgun	Chaitra
collection												
Salt cultivation							00	000	000	0000	0000	00
Shrimp farming	00	00000	00000	0000	00	00	00	0	00	00	00	0
Damage by elephant	0						0	00	000	000	000	00

Forest villagers were registered and settled in MKNP in early 50s in forestlands for their dwelling and in return they were to assist FD in patrolling and other assistance to the FD for forest conservation. In the initial stage 16 HHs of Forest villagers used to play significant role in establishing and patrolling forest resources. FD staffs used to get all sorts of support from them in forest management whereby forests lies in remote locations of the country.

Over time population in forest villages increased and due to socio-economic changes forest villagers have widened their involvement in illegal removal of forest produces, encroachment of forestlands in guise of villager banner. Recently Forest villagers have become an issue for the forest conservation since they are not so cooperative to FD and little or no actions can be taken against them. Forest villagers are reported to have grabbed more forestlands than that of their allocation and often facilitate encroachment by migrating poor.

Table 12: List and location of Sawmills around the MKNP

Name of Saw mill	Village/ location	Distance from the MKNP	Remarks
Joyal Gong	Khutakhali Bazar	1 km	
Nurul Islam	Khutakhali Bazar	1 km	

#### 4.4.1 Institutions/Organizational Stakeholders

Some institutions/organizations were identified those have stake with the forest. Details information of them was gathered during PRA. There are no organizations having direct stake with forest except FD and local Government. But there are some institutions/organizations having stake with peoples of surrounding villages and also with the forest villagers.

**Forest Department:** Legally Forest Department is the responsible authority for the management and conservation of forest resources. But due to lack of sufficient staffs and forest guards FD face severe problem in forest protection and management.

**Local Government:** Local Government such as Union Parishad with the help of forest villagers and encroachers has developed some roads and social/educational institutions inside the park area for the facilities of the people residing inside the park area. Local Govt. act as pressure group and many cases act as negotiator between FD and local people for the establishment of roads and other institutions.

**Police administration:** On behalf of Dulhazara highway police, there is a highway police patrol shed where some police patrol though they do not play significant role in forest resources protection. But sometimes while they remain in their duty the illicit fellers do not get courage to enter inside the forest for illicit felling.

#### **4.5 Local Community, Power Structure, Local Governance**

Over the time MKNP has been experiencing significant changes in its socio-political and biophysical features. PRA findings enumerated the status of various issues since liberation of the country in 1971 with additional milestone of 1990 and that of the current. Issues identified are population growth, income and employment status, income from forests and household needs, livelihood expenditure, literacy, homestead plantations, mobility, food security, credit and AIGAs, major occupation and human-animal conflicts prevail in inside and surrounding communities based on general discussions, FGD, key informant interviews and other PRA tools as cited in table 14 below.

Table 13: Trend analysis of socio-economic situation

<b>Issue</b>	<b>Pre-1971</b>	<b>Up to 1990</b>	<b>Present</b>	<b>Major Causes for Change</b>
Settlement/Population	00	000	0000	Lack of planning activity, Migration of people after cyclone in 1963 and 1991
Solvency/Income	00	000	0000	Population increased but decreased agricultural land and also the income source

*Integrated Protected Area Co-management (ipac): Chakaria Site*

Issue	Pre-1971	Up to 1990	Present	Major Causes for Change
Livelihood Expenditure	00	000	00000	Less opportunity for income and price hike of daily commodities
Literacy	0	00	000	Increasing facilities in school, and mass awareness by the both Govt. and NGO, providing sub-scholarships and incentives
Unemployment	0	000	0000	Less scope for job, Population increase
Use of Forest for Income	00	00000	0	Availability of resource in the forest which in past easy to harvest but now lack of resource hinder to earn.
Use of Forest for HH Needs	000	00000	0	Logarithmic change because of scanty resource for livelihood, Resource degradation
Transportation and Mobility	0	00	0000	Development of new roads and highways
Homestead Plantation	0	00	0000	Awareness increase for plantation by the Govt. and NGOs
Food Scarcity/Starvation	0	00	000	Increased population and poverty
Credit and IGA	—	00	0000	More scope for credit and IGA by the Govt. and NGOs
Occupation	Agriculture, Salt cultivation	Salt Cultivation, Day labor, Agriculture, tree feeling, fishing	Salt cultivation, Agriculture, Day labor, tree feeling, business, service	New occupations are being emerged
Damages by Elephant	0	00	00000	As elephant habitats are being disturbed, human-elephant conflicts are increasing;
Livestock	0000	000	000	Due to decrease in grazing land and shortage of fodder

#### **4.5.1 Local power structure/ Influential persons**

Around 60 influential people out of whom around 35 people are more influential have been identified during PRA/RRA conduction. They are powerful or influential in political, administrative and/or social perspectives. Table 15 and figure 6 shows influential peoples

who are regulating forest resource uses and maintain good linkages among the local power structures. Among them Union Parishad chairmans, members, local elites, headmen from forest villages, businessmen and local elites are remarkable. They have significant influence in forest resources extraction, land encroachment, regulating local markets for timbers and other NWFPs. In order to formulate co-management councils these people should be consulted and be identified as key players for local affairs.

Table 14. List of powerful and influential persons in MKNP and surrounding areas.

Sl.	Name	Designation/ occupation	Address/ location	Remarks
1	Mr. Md. Hossain		Middle medhakachapia (Office para)	
2	Mr. Abu Taleb		Middle medhakachapia (Office para)	
3	Mr. Bodiul Alam		Middle medhakachapia (Office para)	
4	Dr. Shahidul		Kutubdia para	
5	Mr. Monjur		Kutubdia para	
6	Moulana Zabbar		Kutubdia para	
7	Monjur	UP member	Kutubdia para	
8	Mr. Ali Akbar	Ex. Chairman	Kutubdia para	
9	Mr. Nur Ahmed Ansari	Head Teacher	Kutubdia para	
10	Dr. Saiful Islam		Kutubdia para	
11	Mr. Osiur Rahman	UP Member	Kutubdia para	
12	Mr. Shafi	Professor, Idgah College	Kutubdia para	
13	Mr. Saber Ahmed		Segun bagicha	
14	Mr, Nurul Azim		Segun bagicha	
15	Mr. Shamsur Alam		Segun bagicha	
16	Mr. Shab uddin		Segun bagicha	
17	Mr. Safi Alam		Segun bagicha	
18	Mr. Shahidul Haque		Segun bagicha	
19	Mr. Oli Ahmed		Segun bagicha	
20	Mr. Md. Bashir Ahmed		Bakkum para	
21	Mr. Khalil	UP Member	Bakkum para	
22	Mr. Nurul Kabir		Bakkum para	
23	Mr. Kabir Ahmed		Bakkum para	
24	Mr. Hasan Ali		Bakkum para	
25	Mr. Shahid Hossain		Bakkum para	
26	Mr. Abdus Salam		Bakkum para	
27	Mr. Nazrul Chowdhury	Motowalli, Wakf Estate	North Medhakachapia	Most influential in MKNP
28	Mr. Oli Ahmed		North Medhakachapia	
29	Mr. Jafar Alam		North Medhakachapia	
30	Mr. Jamal Uddin		North Medhakachapia	

*Integrated Protected Area Co-management (ipac): Chakaria Site*

<b>Sl.</b>	<b>Name</b>	<b>Designation/ occupation</b>	<b>Address/ location</b>	<b>Remarks</b>
31	Mr. Ati Qllah		North Medhakachapia	
32	Mr. Ali Akber		North Medhakachapia	
33	Mr. Shamsul Alam		North Medhakachapia	
34	Mr. Abdul Malek		North Medhakachapia	
35	Mr. Abdul Hakim		North Medhakachapia	
36	Mr. Nuruzzaman		North Medhakachapia	
37	Mr. Nabi Hossain		North Medhakachapia	
38	Mr. Redwanul Haque		North Medhakachapia	
39	Mr. Momtazul Karim		Sikder para	
40	Mr. Shahab Uddin		Sikder para	
41	Mr. Shah Alam Company		Sikder para	
42	Mr. Akter Kamal Chowdhury	Chairman	Sikder para	
43	Mr. Mohammed Hossain	Master	Sikder para	
44	Begum Mohiuddin		Sikder para	
45	Mr. Mojibur Rahman		Paglir Beel	
46	Mr. Jashim Uddin		Paglir Beel	
47	Dr. Nurul Kabir		Paglir Beel	
48	Mr. Fazlur Rahman		Paglir Beel	
49	Mr. Kamal uddin		Paglir Beel	
50	Mr. Monsur		Paglir Beel	
51	Dr. Mir Ahmed		Garjan Toli	
52	Mr. Mostak Ahmed		Garjan Toli	
53	Mr. Abu Taher	UP Member	Garjan Toli	
54	Mr. Oli Ahmed		Garjan Toli	
55	Mr. Rashid Ahmed		Garjan Toli	
56	Mr. Fazal Ahmed		Garjan Toli	
57	Hazi Abdus Salam		Garjan Toli	
58	Mr. Jalal	UP Member	Garjan Toli	
59	Hazi Jainal Abedin		Garjan Toli	
60	Mr. Nazir	UP Member	Garjan Toli	



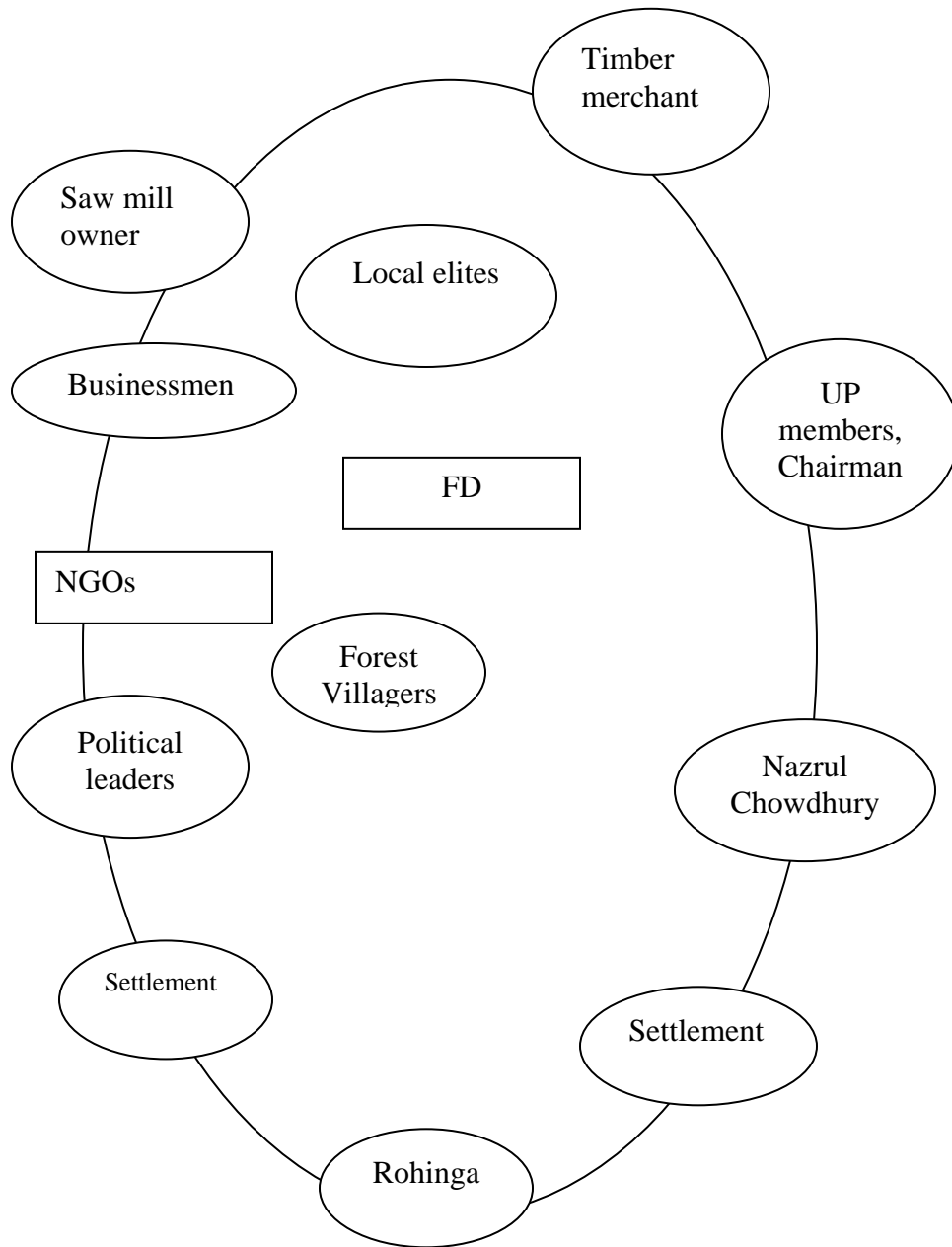


Figure 3: Power structure of MKNP

#### 4.5.2 Local Community Organization and NGO

There are so many NGOs are working in and around Medhakachapia National Park. Table below shows the information of NGOs along with their activities and other relevant information.

Table 15: Information of NGOs active in MKNP

Sl.	Name of NGOs	Area/ location of work	Activities
1	BRAC	Chakaria Thana	Pre School Education
2	Grameen Bank	Chakaria Thana	Micro-credit
3	ASA	Chakaria Thana	Micro-credit
4	Coast, Bangladesh	Chakaria Thana	Micro-credit
5	Digonto	Chakaria Thana	Micro-credit
6	Proshika	Chakaria Thana	Micro-credit
7	SARPV	Chakaria Thana	Health care and primary education
8	BASTOB	Chakaria Thana	
9	Krishi Bank	Chakaria Thana	Micro-credit
10	Agrani Bank		

#### 4.5.3 Local conflict. Conflict regulation, social adhesion and cohesion

Figure 7 indicates the main reason and sources of conflicts at MKNP. Land disputes over illegally occupied are the most vital issue for conflicts followed by money lending, other financial matters, family affairs, Rohingya settlers, kid’s matters etc. at MKNP. Further, table 19 shows the sources of conflict and its resolution and figure 8 illustrates the process of conflict resolution as conceived through the PRA at MKNP

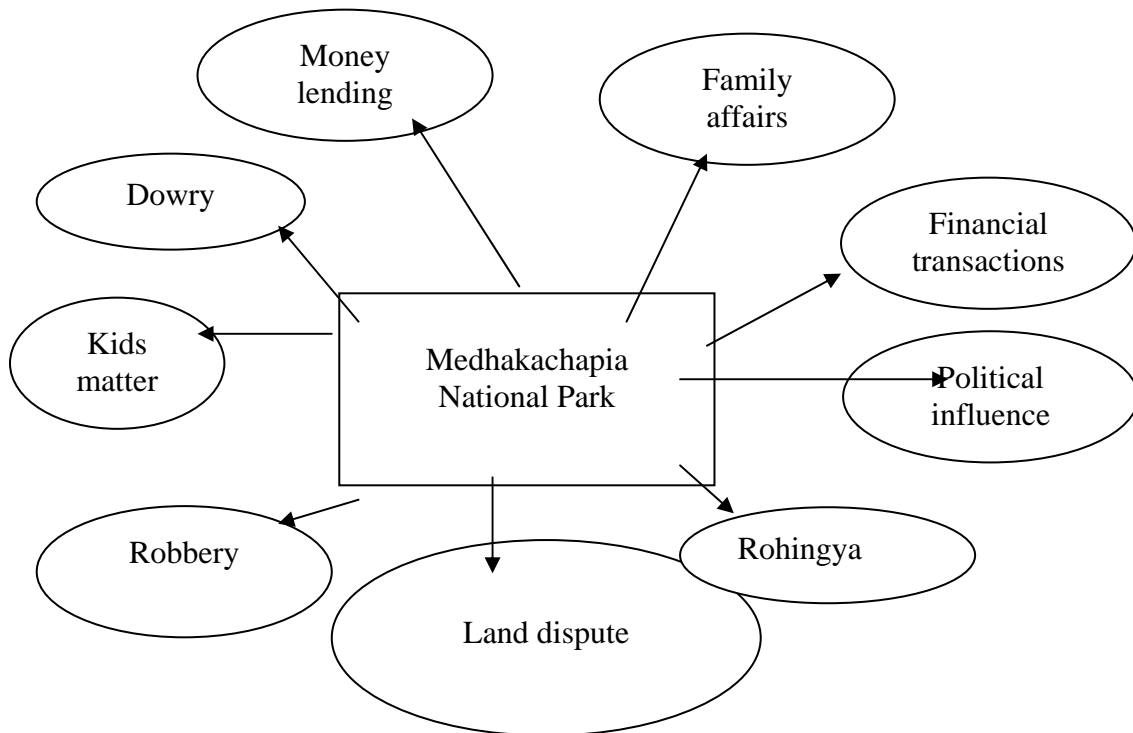


Figure 4: Venn diagram: Sources of Conflict

**Conflict with FD:** Due to encroachment and illicit felling, forest cases by FD staff, prevention in resource exploitation are the main reasons of conflict with FD by the local people.

**Conflict resolution Mechanism:** The local level conflicts at MKNP are resolved in several ways. Generally most of the conflicts are resolved by Gameen Salish with the help of age old persons/head of the communities (locally called Sarders) and elite persons. Some other conflicts are also resolved by UP members/Chairman. In case very serious conflicts like, murder people take the help of police and local MP to resolve the conflict.

If the conflicts arise due to forest land disputes, people often go to nearby forest office to resolve the conflict.

Table 16: Sources of conflict and its resolution

Sl.	Sources of conflict	Resolution mechanism
1	Land dispute	Local chairman, UP members, forest personnel and finally by the police station and court
2	Family affairs	By arranging local <i>salish</i> supervised by village elders and UP members
3	Political conflicts	Local chairman, UP members and court
4	Monetary dealings	By arranging local salish supervised by village elders and UP members
5	Kids matter	By arranging local salish supervised by village elders and UP members
6	Establishment of local influence	UP members and court
7	Forest encroachment	By local forest personnel and villagers
8	Tree felling	By local forest personnel and villagers
9	Man-elephant conflict	Villagers drive elephants away from villages

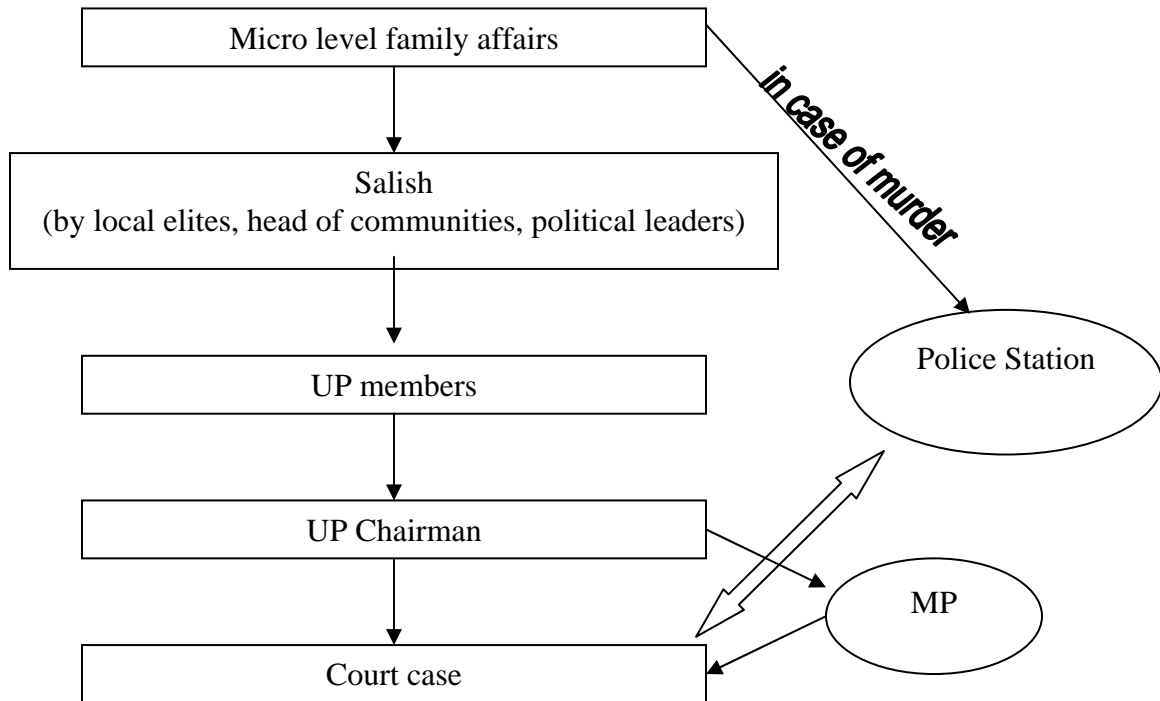


Figure 5: Different steps followed in conflict resolution.

**Social cohesion:** No significance occasions are identified during PRA/RRA except as usual occasions like, Eid-ul-Fitre, Eid-ul-Azha, Oaz Mahfil, marriage ceremony are the main festivals/reasons for social adhesion.

#### 4.6 Socio-economic setting and dynamics

##### 4.6.1 Demographic Profile

**House Holds:** Village wise total house hold numbers have been collected from the secondary information and some cases during PRA/RRA conduction. A local estimate shows that there are about 1400 HHs inside the nine villages of MKNP and the total population is around 9000. There are also around 1600 HHs in the adjacent villages where the population is around 11000. The increasing rate of population is very high here due to illiteracy and lack of awareness.

Most of the people migrated from outside area of nearby coastal belt like, Kutubdia, Moheshklhali, and Coastal part of Chakaria due to severe cyclones in 1963, 1991 when most of the people became homeless. In the very beginning of their settlements they were completely dependent on forest for their alternative livelihood. But recently as the forest

resources has decreased remarkably and can not fulfill their demand and forest department are playing strong role in forest protection they are trying to find out other alternative options for their livelihood.

**Education:** HH interview shows that around 10-15% people are illiterate, 70-80% are educated in primary schools, 15-20% in the high schools and the rest 5% are educated in colleges and above. The literacy rate of female is higher than the male. From PRA it has been also revealed that due to Govt. facility for education, non formal education of some NGOs, and other awareness raising activities of NGOs the rate of literacy is increasing. But due to poverty most of the HH can not continue the education of their children after primary education.

**Occupation:** From the HH interview it has been found that the primary occupation of local people is salt cultivation (around 45%), followed by agriculture (around 20%), Day laborer (around 20%), fuel wood collection (around 5%), small businessman (around 5%), Rickshaw puller (around 3%) and others (around 2%). But the most remarkable matter is that some occupation and percentage of occupation varies from season to season based on availability and scope of works.

**Unemployment:** From HH interview as well as PRA it has been found that around 20% people of the park area are unemployed. But in some seasons particularly in rainy season the percentage of unemployed people is more and at that time it is around 40% due to less scope and unavailability of works. On the other hand most of the people have permanent jobs. No permanent unemployment was found in very poor and illiterate groups. Around 60 % people told that they have some sort of works in the whole year and the other people told that they become workless in a few specific period of a year. The day laborers to work in salt cultivation and agricultural field get work for around 6 months but everyone do not get this opportunity in everyday. In that day those people remain workless. During that workless time they engage themselves in collection of fuel wood and some of them sell these fuel woods to nearby market.

#### **4.6.2 Livelihood analysis**

**Income Source:** Salt cultivation and agriculture are the main source of income for around 60% HHs, followed by day laborer 20%, and others 5%. Around 15% HHs have no secondary income source.

**Richness-poverty level:** Around 60% HHs are landless particularly those who are living inside the park area. From the HH inter it has been found that around 70% HHs are extreme poor and the rest 30% HHs are poor and middle class. Wealth ranking in FGD shows the following distribution: poor 75%, ultra poor 10%, middle class 13% and rich 2%.

**Land ownership:** From FGD and HH interview it has been found that around 60% HHs are landless and the rest HHs have homestead land of their own. On the other hand, 40% HHs have cultivable land and the rest HHs have no cultivable land.

**Livelihood expenses and food consumption:** What they think about their earnings is adequate to meet for managing their family expenditure. In response of it 50% informed that their earning is quite adequate for managing their family expenses whereas other told it not.

**Availability of food:** To know the status of food when they were asked in various GD, they replied that only 5-7% HHs has a surplus food, while around 45% mentioned that they have neither deficit nor surplus food. The rest 50% HHs told that they have a food deficit round the year. Food deficit are very common in very poor and lower middle class households. Food deficit varies from season to season. It depends on availability and scope of alternative source of income.

**Credit:** Around 75% HHs receive credit from different sources particularly from the NGOs. Some also take credit from some banks like, Grameen Bank, Krishi Bank, Islami bank etc. The major credit providing NGOs are BRAC, ASA, Proshika, Coast, Digonta, Islami Bank etc. The female (around 80%) take loans from the NGOs and most of the male take loans from the Banks.

**Local skill and skill development/AIGA opportunities:** During HH interview it has been found that only 35% HH people has some sorts of skills in the field of poultry, fish culture, cow patenting, bamboo and cane made handicrafts etc. But most of them do not have any skills due to lack of trainings and other facilities like, initiative (15%), lack of capital (55%) and the rest 30% do not have such interest. But in recent years some NGOs are providing skill development trainings in many areas of IGA that is not sufficient as per requirements. During RRA/PRA conduction it has been found that there is huge scope for the development of skills in some fields which are:

1. Improve Energy Saving Cooking Stoves, 2. Bamboo Cultivation and Management, 3. Nursery Development, 4. Poultry Rearing, 5. Forest Resources Management, 6. Cow Patterning, 7. Fish Culture and Management, 8. Bamboo and Cane Made Handicrafts, 9. Homestead Vegetable gardening, 10. Jujube Orchard (Apple and Bao Kul) plantation and Management, 11. Small Trading, 12. Eco-rickshaw puller training, 13. Eco-tour Guide Training, 14. Ecotourism and its importance, 15. Homestead Tree Management, 16. Homestead Plantation etc.

***N.B. It will be better to provide AIGA after conduction of trainings in the field that is mentioned above.***

#### **4.7 Uses of the forest and forest resources**

For many reasons local people use forest resources. The cause and Effect-Ranking shows that people fell timber for various reasons. Involvement of influential people is the main problem for timber felling. People collect fuel wood for HH consumption, unemployment, poverty, and alternative source of income. Due to poverty people collect fuel wood, also encroach in forest land.

Table 17: Cause and effect ranking (understanding underlying facts)

<b>Name of resources</b>	<b>Timber selling</b>	<b>Fuel wood collection</b>	<b>NTFP collection</b>	<b>Encroachme nt</b>	<b>Hunting</b>
<b>Identified problems</b>					
Poverty	000	00000	00	0000	
Unemployment	000	000	000		
Additional income	000	000	00		
Forest cases	00	0		00	

Name of resources	Timber selling	Fuel wood collection	NTFP collection	Encroachment	Hunting
Insufficient income opportunity	000	000	00		
HH consumption	0	00000	00		0
Poor forest patrol	000	0000	000	00	
Easy negotiation	000	00	0	0000	
Lack of control over forest by FD	000	000	00	0000	0
Transportation Dev.	000	000	000	00	
Traditional practice	0	000	0	00	
Involvement of influential people	00000			00000	
Sawmill	0000				

#### 4.7.1 Fuel wood collection from the National Park

A huge amount of fuel wood is collected from the NP each day. All the HHs of surrounding and inside villages of the NP is totally dependent on NP for their HHs consumption. Beside this a number of HHs is dependent on Fuel wood collection for their earning and livelihood.

All fuel wood requirements of inside HHs and at least partial demand of HHs in adjacent villages are met from the forest. Besides, fuel wood collections provide primary and secondary occupation for many HHs. Mainly children, women and poor people collect fuel wood. A huge amount of fuel wood is used in HHs consumption and substantial quantity of fuel is transported to other areas. Fuel wood collection is going on all seasons but more extensive in the dry season. Usually they cut the seedlings and saplings that poses a threat to the forest and its resources.

Many children, women as well as poor day labor, adult and some cases the old people also involved in this activity. Most of the cases they enter into forest individually for collection of fuel wood. But some time, they also go by groups.

Mainly at daytime they collect fuel wood. All of the collectors are local inhabitants of those villages that are located inside or adjacent of the NP, the following figure shows the collection and processing of fuel wood from the national park



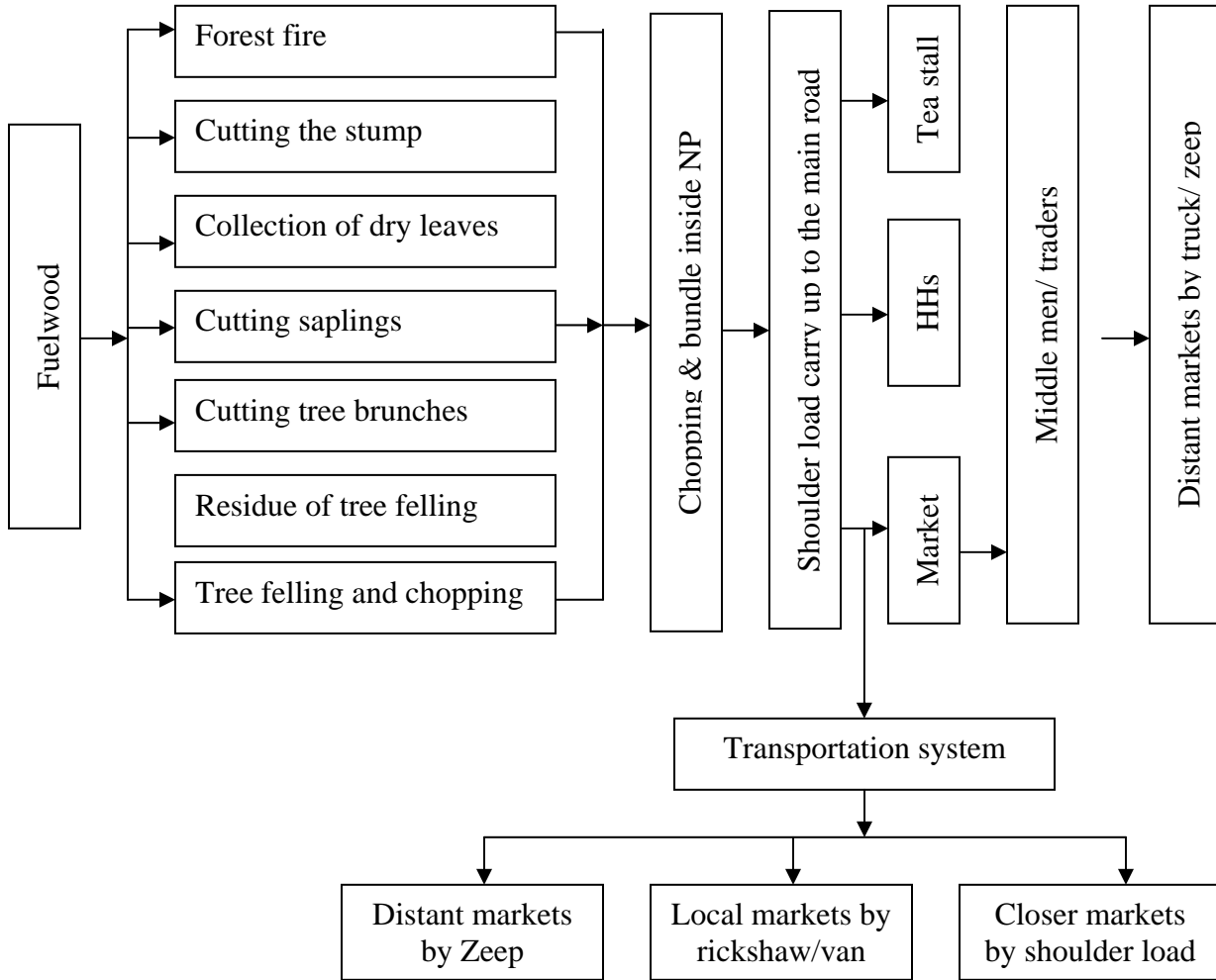


Figure 6. Flow diagram on fuel wood collection and processing

Almost all the settlements are involved some extent in fuel wood collection. This why as per request of MKNP beat officer and other FD officials, the PRA team visited this village and organized an awareness meeting with the villagers to motivate them for not cutting the saplings and valuable trees newly.

Several processes of collecting fuel wood have also been identified during PRA. Local people collect fuel wood by 6 processes like for collecting fuel wood in the dry season (Chaitra & Baishakh) they make fire into the dry leaves or dry trees. It burns all the trees and saplings of a certain area. Then they collect the unburned trees, its branches as fuel wood. Another process is cutting the stumps of trees especially Garjan, it disturbs the natural regeneration.

Another process is cutting canopies, after the illegal felling of a tree the fuel wood collector cut the canopies and chopping it then carry it .Another process is cutting the planted sapling by two process i.e. just immediate after cutting they carry it. Another is after cutting; they put it into the forest for few days. After being dry, they carry it to their house. They also cut the tree branches as fuel wood. Residues of felling trees are also collected by them as fuel wood. Sometime for the collection of fuel wood, they fell a tree and chop it into the forest and carry it like fuel wood.

The under lying cause of collecting of fuel wood also collected during PRA and RRA. It was expressed in FGD with local community and fuel wood collector that the under lying causes of fuel wood collections are: there is no alternative source of fuel for HHs consumption, most of the people of the area is very poor, so some of them finding no other alternative, has taken fuel wood collection as their source of income for their maintaining livelihood. Beside this fuel wood is also available, easy access to forest, source of extra income, having demand in the local market are main causes of collecting fuel wood.

Dependency on fuel wood collection: Maximum fuel wood collector is not fully dependent on fuel wood collection for their livelihood. But for the HHs consumption, the local are fully dependent on NP. For extra source of income maximum poor people are partially dependent. But during PRA, it was identified a number of people (15 to 20% of total people) who are fully dependent on fuel wood collection for their livelihood. Own fuel wood needs of HHs and tea stall encourage them to collect fuel wood.

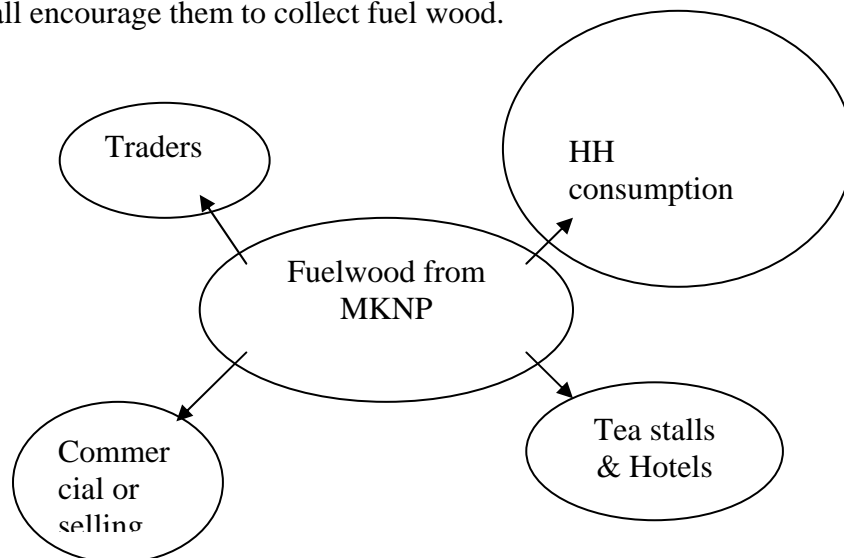


Figure 7. Venn diagram of fuel wood consumption.

There are various use of fuel wood was also found by the PRA team. HHs is the major consumer of fuel wood, consumption by tea stall, hotel. The rich men do not collect fuel wood directly from the forest, they purchase from the poor. Also they engage some labor in this activity.

The extent of collecting fuel wood is high, each day around 100-200 women, children and some young people enter into the forest for collecting fuel wood. Most of the people go once in a day, but few go twice a day. Each time women, children and old men collect one tara, however the adult male can collect two tara. Each tara cost 50-60 tk. contains 20-30 kg. Another system is kharang. Another is poza (shoulder load). There exist no opportunities of alternatives that can easily introduce. Almost each HHs owned livestock. The cow dung can be used as alternative fuel source. Also bio-gas plant can be established.

Fuel wood collection has a serious impact on forest. Though the FD staff and local people found no impact on forest but in fact for these activities, forest is decreasing, natural regeneration is not occurring, several planted sapling is damaging, and wild life is losing their food bearing trees.

If the fuel wood collecting activities is stopped immediately by the authority, then it will make risk on the stakeholders and their livelihood. Then they could not find the fuel or energy sources for domestic consumption, income may decrease of some people, a number of people may cut down all the planted trees and may make a massive destruction of the forest if this activity is stopped by the FD not creating any alternatives.

The above flow chart shows the fuel wood movement from the NP. The fuel wood from the NP collect by the villagers and carried as shoulder load to the village and nearby market. From the local small market carried to the nearby comparatively large market by van or rickshaw. Some time from the villages the stock of fuel wood is also carried by van or rickshaw. Then from the nearby local market fuel wood is carried to nearby three large markets. Dulahazra is one of the large markets, from Dulahazra fuel wood is transported by jeep or truck to Chiringa, Eidgaon and also Chitagong. In Dulhazara, a number of fuel wood traders collect and deposit fuel wood. Another large market is Khutakhali Bazar, people fuel

wood to there by their shoulder, van or rickshaw. Another big market of fuel wood is Malumghat under Dulhazra union and Moghbazar under Chiringa Union.

Non timber forest produces are another source of income and useful resources of forest for the local people. They collect NTFPs for fuel, homestead and some cases for commercial purposes that are shown in the following figure.

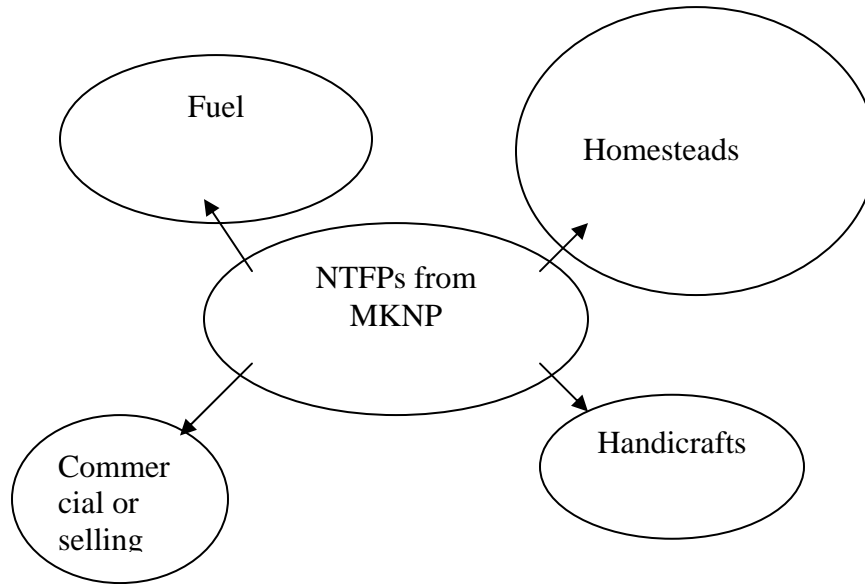


Figure 8. Venn diagram of NTFPs consumption.

**Role of fuel wood traders:** A substantial quantity fuel wood is transported everyday from this area and locally marketed. The name of the shop owners and local timber traders has been collected. Several transport such as rickshaw, van, jeep trucks of fuel wood are transported everyday from this area and majority of which come from the

**Local collector.** Some tome the fuel wood merchant engaged day labor for tree felling that is raising tension for the NP. In nearby market especially in Khutakhali, Malumghat and Dulhazara station everyday a huge amount of fuel wood is sold.

#### **4.7.2 Illegal tree felling:**

Widespread tree felling in the past contributed to the qualitative and quantitative reduction in forest and its resources. Illegal tree felling still going on. There are some armed gangs are involved in tree felling back by local elite/politicians.

Mainly adult, as well as poor day labor and some cases the old people also involved in this activity. Most of the cases the illegal feller come from out side but some local people as well as forest villager help them in this activity. Most of the cases they enter forest by groups for felling. But also at daytime some local people fell trees. Mainly at night they fell trees. Influential people, political persons and some cases FD are behind these felling activities.

This tree is mainly felling for commercial purposes. Causes for tree felling are easy, portable and FDs loose moral. The poor day labor who fell trees directly are partially dependent on this activity for their livelihood.

An astounding account of how the remnants of the natural stands in the NP vanish was given by the local people who included gang leaders involved in illegal logging. According to the local people, organized wood smugglers patronized by local elites and some dishonest forest officers and guards. Besides, illicit harvest is done at individual level also. Almost all of the illicit feller is poor and their livelihood is partially dependent on this activities. Timber merchant, local political influential persons are indirectly involved in tree felling, they usually engaged very poor villager in tree felling by daily basis. Many local HHs also collect small trees as building materials as their house building material and for making furniture. In some places, Headmen and forest villagers are involved in tree felling and have strong negotiation with the syndicate and FD. There is a big market of illegal timber selling in Chiringa and Eidgaon. Illegal timber also sold in nearby market. It also transported to Chittagong, Dhaka and other districts. According to the local people, the FD personnel in some cases had arrangement with the illegal feller. In some cases the illegal feller are more powerful bearing a gang of armed group. The process of illegal timber felling appears to occur three ways:

1. Groups of poor people from villages inside or around the forest, who collect timber without any prior negotiation with the FD.

2. Groups of poor people from villages inside or around the forest, with collect timber after prior negotiation with the FD.
3. Groups of poor people employed by middle men, after negotiation with the FD.

#### **4.7.5 Hunting and killing of wildlife:**

Widespread hunting existed in the past. Presently, the activity is very limited. However, still it is going on a very limited scale. In particular birds, jungle fowl, turtle, wild boar, wild pig etc. are hunted. Many of wildlife species including snakes, foxes etc. are killed when they encountered by local people.

#### **4.7.6 Land encroachment and transformation**

In Medhakachapia National Park (MKNP) land encroachment is a critical & challenging issue, though land is the most valuable asset of the NP encroachment going on. From the FGD with FD, it was reflected that 1/3 of total land of the NP encroachment.

There are mainly two types of land encroachment is found in the NP. One is permanent encroachment. According to FD record (2003) total encroacher 978 HHs when announced National Park.

There is no proven record was found that encroach land has been recovered. But several time issued notice to encroacher for land recovery. The NP has a population pressure immediately around the forest boundary.

Land is encroached by several groups of people, such as cyclone and flood victim. Rich, influential person, both the local and outsider and some family from Myanmar called Rohingya. But Most of the land is encroached by the cyclone and flood victim. However, the forest villagers are also encroaching land more than their allotted rehabilitation area.

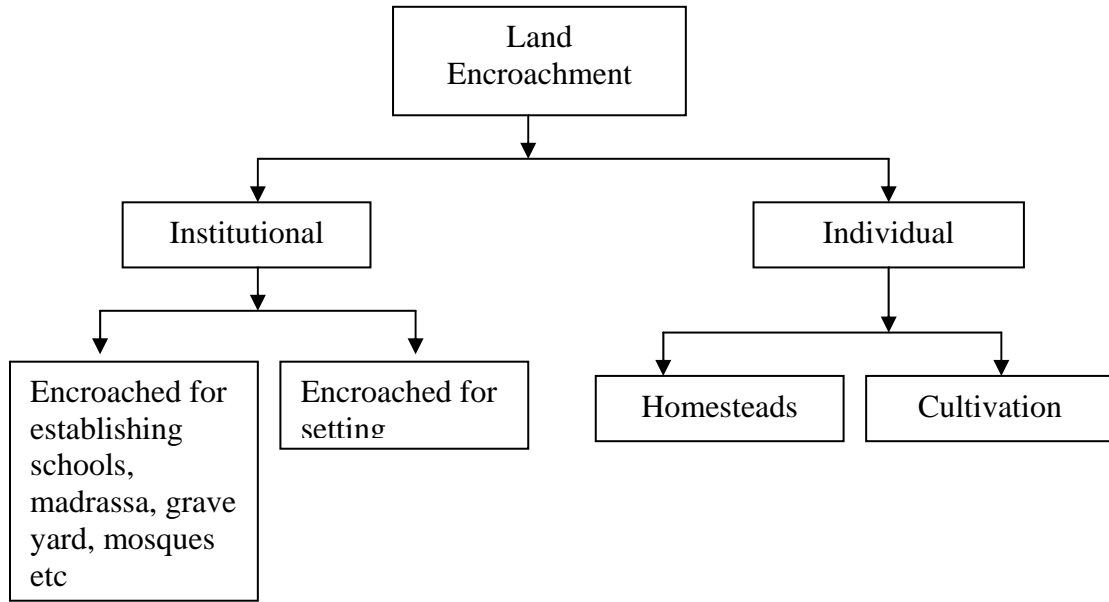


Figure 9. Types and stages in land encroachment in MKNP

**Underlying cause of land encroachment:**

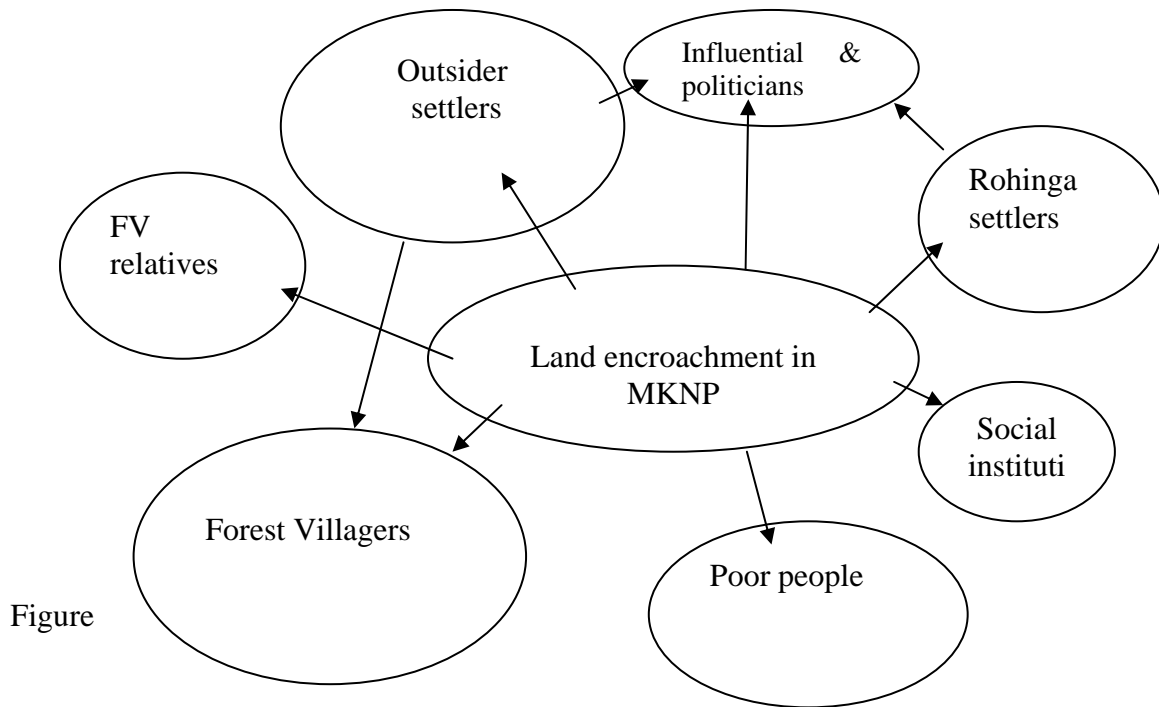
In past the number of population was limited in the western side of the Arakan road. There was huge amount of land for resident, due to severe cyclone and flood in 1963 and 1991; the western sides of Arakan road become covered with settlements.

**The historical perspective of land encroachment:** Land encroachment started at Pakistan period, but become severe from 20 years ago.

**Land grabbing by forest villagers:** Land encroachment started just after giving appointment of forest villagers. The forest villagers have encroached more land then their allotment. They have encroached land as they could to extend their land, for example Govt. allotted 2 acres of land to a villager, then he has increased his land by encroaching surrounding area by clearing the forest and leveling the low hill for own and their keen. After that, the relatives of some forest villagers have migrated and take shelter to those villagers house. After few days the villager make a negotiation with the FD, then his relative allowed o establish new homestead adjacent to his relatives land.

Though land encroachment is going on from Pakistan period, but large-scale encroachment and establishment of permanent settlement begin the recent years.

**Headman:** In some cases, the outsider people establish a relation with the headman. Providing handsome money to him and got permission to build a house. The locals blame that the forest villagers have grasped the hills and destructed the forest.



Figure

Figure 10. Types and stages in land encroachment in MKNP

**Land encroached by the cyclone & flood victim and rich influential:**

The cyclone & flood victim and rich influential person also encroached land. It was revealed from FGD that one third of total land of NP has been encroached yet. Land encroachment is in increasing day by day. Most of the influential persons, Rohingas, forest villagers and local poor people are encroaching land.

The underlying causes behind is during the cyclone of 63s, 70s and 91s huge number of people made settlement here. The main reasons behind this are natural disaster such as flood, cyclone, for increasing own homestead and cultivable land by labeling the hills, for being constructed roads and improved communication facilities and local market etc. After that Rohingas had also came here and established settlements. Beside these the local people have



also graved land to increase their cultivable land. Local people also helped some outsider to establish their settlements.

Now forest villagers become an issue for the forest conservation. In many cases they are no cooperative with FD. But FD could not take any action against them. They have encroached huge amount of than more than their allotment from FD. In many case they gave shelter and land for establishing homestead to their relatives. And also some times they misguide the FD during the patrolling inside the forest for having negotiation with illegal feller. Maximum are migrated here by making any negotiation with the forest villagers and FD or being relatives of forest villagers.

The individuals behind this activity are powerful- more powerful than the FD with connections to people in politics and government, making the likelihood of a successful forest case against them low.

### **Encroachment around Forest Villages**

Forest villages were set up the mid 1950s, by the Forest Department who leased small areas of land (2 acres) to a certain number of households with in the reserve forest area. In return, the villagers are expected to help the Forest Department on the plantations and undertake other duties such as regular patrolling. The PRA research has indicated that these villages are playing an important role in the destruction and potentially the protection of the forests.

Under the forest village agreement, families have only a limited land area per household. So, as the population increases, their demand for land increases.

### **4.8 Gender Issues (Mobility, decision making, daily work activities, etc.)**

**Gender issues:** In MKNP women are not so conservative compare to other part of Cox's Bazar area. Women have mobility outside of their home and participate in many social events. But most of the women use veils while they go outside of their house. The percentage of girls for Madrasha education is higher than that of boys. Women have access to NGO credit and this percentage is higher than that of male. In family decision making process, 60% women expressed that the family head or male counterpart consider their opinion. In

general the women from middle class are more conservative than to the poor and rich. In case of poor class women most of them are engaged in collection of fuel wood from the nearby park area for their house hold consumption as well as sell some portions of fuel wood to nearby market for extra income for their livelihood. It has been found that in case of ultra poor and poor family for household consumption fuel wood are collected by the women and their children.

**Daily work chart of men**

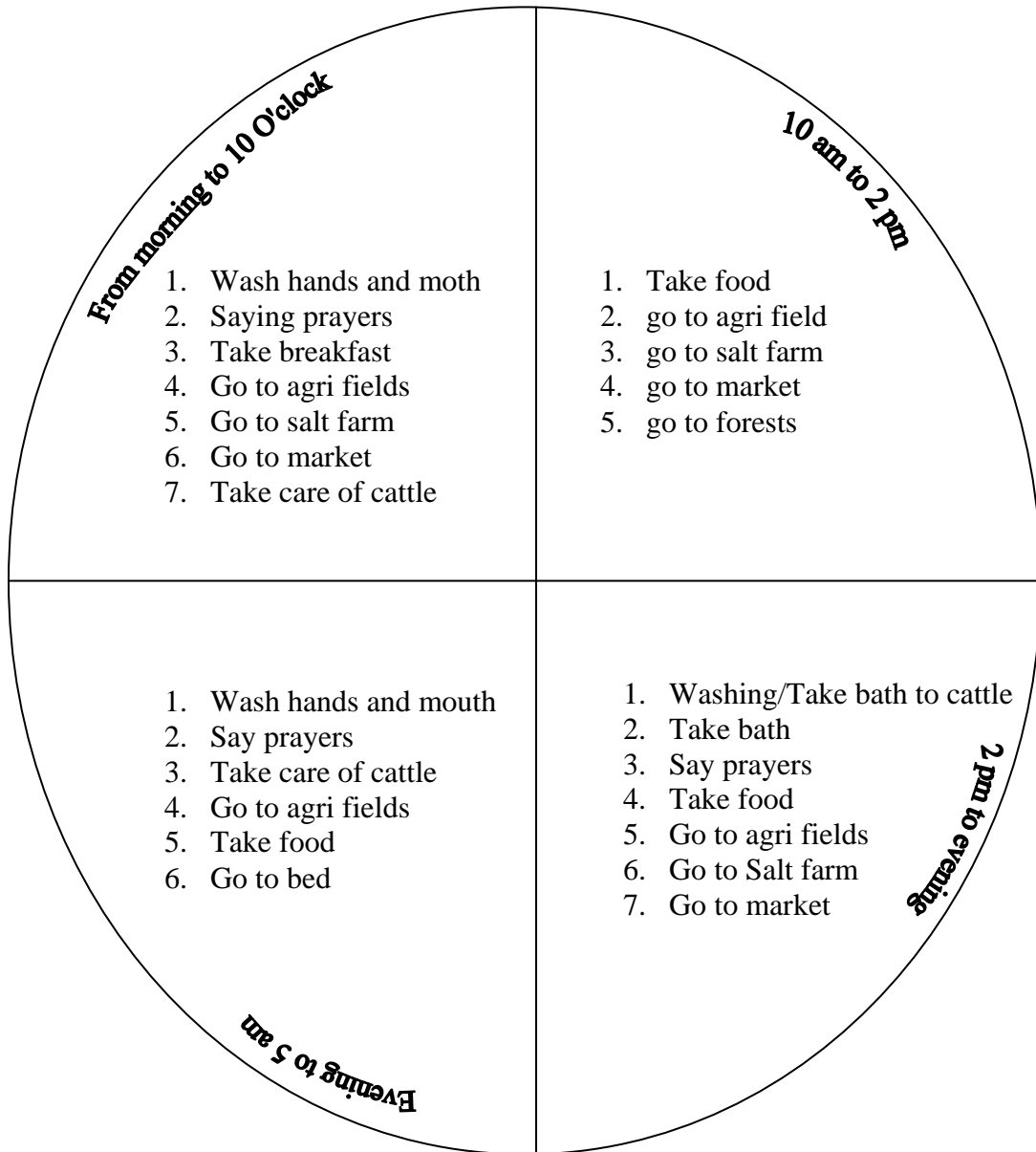


Figure 11. Daily work chart of men at MKNP

### Daily work chart of women

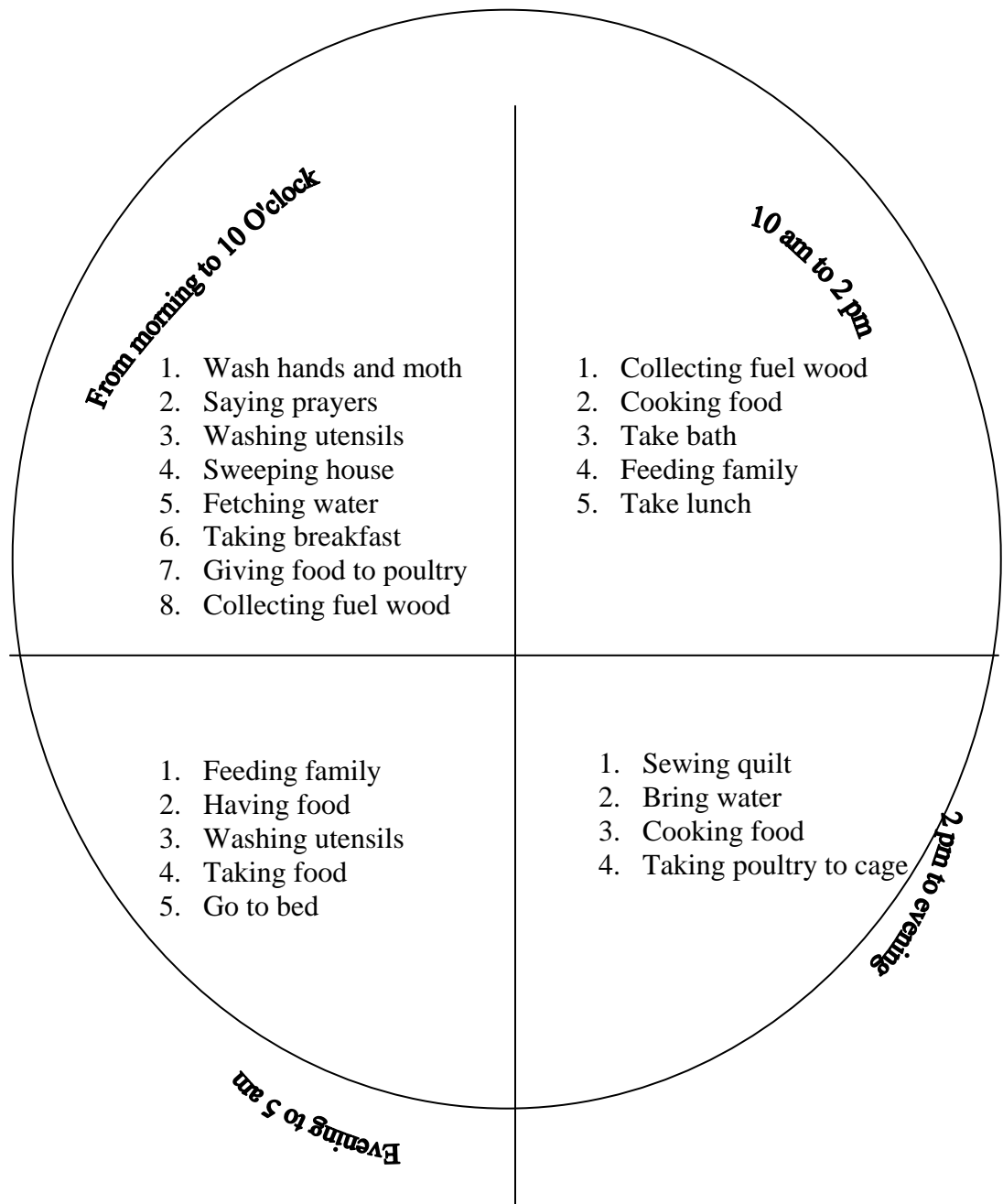


Figure 12. Daily work chart of women at MKNP

**Mobility and access:**

Table 18. Mobility and participation in social events and access to credit and IGA by male and female at MKNP

	Outdoor mobility	Participation in social events	Access to credit	Access to IGA	Education	Employment
<b>Male</b>	00000	00000	00	0000	00000	00000
<b>Female</b>	00	00	00000	00	00000	00

Table 19. Seasonal workload of male and female

Months	Baishak	Jaistha	Ashar	Shrabon	Bhadra	Ashwin	Kartik	Agrahyan	Poush	Magh	Falgun	Chaitra
Male	00	000	000	0000	000	000	00	00000	00000	0000	000	00
Female	0000	000	000	00	00	00	000	0000	000	000	00	000

**Participation in family decision making process:**

Table 20. Decision making role of male and female in the family

Decision	Husband**	Wife	Father	Mother	Elder Brother	Younger Brother	Son	Daughter
Marriage	00000	0000	00	0	00		00	
Sowing crops	00000	0000	000	0	0		00	
Loan	00000	00	000	0	0		00	
House making	00000	000	00	0	00		000	
Land	00000	00	000	0	0		000	
Land selling	00000	000	00		00	0	000	
Treatment	00000	0000	00	00	00	0	00	00
Trees	0000	0000	00	0	00	00	00	0
Cattle purchase	00000	00	00	0	00		00	
Savings	00000	00	00	0	00	0	000	
Vote casting	00000	00	00	0	00	0	000	
General expenditure	00000	00	00	0	00	0	000	0
Resource collection	00000	000	00	0	000	00	000	00

from the forest								
-----------------	--	--	--	--	--	--	--	--

\*\*Husband is the head of the family

*N.B. 5 circles indicate the highest intensities.*

The above table and the following Venn diagram shows that women has minor role in compare to male in family decision making. In the same away the daughter’s opinion does not get so much preference in family decision making compare to son in the family.

**Educational Comparison:**

During HH interview and PRA conduction it has been found that there some variation within male and female at MKNP that is shown in the below table.

Table 21. Comparison of educational status of male and female at MKNP

Overall literacy		Educational level (based on students)				
		Primary	Secondary	Colleges	Above	Informal
Male	45%	85%	35%	10%	2%	10%
Female	35%	95%	45%	15%	1%	15%

**4.9. Local level problem and expectations**

**Local Community Problem Ranking:** It has been found in PRA/RRA conduction particularly in FGD that in the local community poverty, over population, fuel wood scarcity and unemployment are the main problem at MKNP. These are the main reasons for over pressure on forest resources. The other problems that are identified are communication, robbery/thief, damage by elephants, health and sanitation, early marriage etc.

Table 22. Ranking of local problems and enquiry into its solution

Problems	Ran king	Reasons	Solution	IPAC interventions sought
Poverty	9	Lack of alternative income source, Unemployment, lack of capital to initiate business	Should create new AIGAs based on their skill and opportunities and	Skill development training on Bamboo-made products and

*Integrated Protected Area Co-management (ipac): Chakaria Site*

<b>Problems</b>	<b>Ranking</b>	<b>Reasons</b>	<b>Solution</b>	<b>IPAC interventions sought</b>
			credit without interest	handicrafts especially cap, eco-tourism etc.
Over Population	10	Lack of education, awareness and entertainment	Promote family planning, awareness, education and entertainment	Arrange social awareness campaign
Unemployment	7	Lack of opportunity, education, skill and population boom	Skill development training and education	Introduce skill development training, AIGAs, eco-tourism, linking between skill development and financial agencies
Fuel wood scarcity	7	Forest destruction, lack of bushy plants, insufficient space for homestead plantation	More plantation in the forests, restriction on unregulated fuel wood collection	Introduce ICS
Damage by elephants	9	Destruction of elephant habitat, shortage of fodder species	Habitat restoration, awareness building	Fodder plantation, development of lake for perennial water storage and awareness building
Communication	2	Easy communication facilitate illegal removal of forest resources	More patrol, enforcement of law, awareness	Ensure community patrolling around the MKNP
Robbery/ thief	9	New Rohingya settlers, unemployment, poor enforcement of law	Enforcement of law, Social movement, creation of employment opportunities	Social mobilization, community patrolling
Drinking water	7	Insufficient tube well	Setting up more tube/deep tube wells	Develop natural aquifers; storage of rainwater;

*Integrated Protected Area Co-management (ipac): Chakaria Site*

<b>Problems</b>	<b>Ran king</b>	<b>Reasons</b>	<b>Solution</b>	<b>IPAC interventions sought</b>
				Linkage with public health department and NGOs
Health and sanitation	5	Insufficient health and sanitation facilities	Establishment of community clinics and linkage with GO/NGO health services	Awareness program on health and sanitation; linkage with GO/NGO health services
Education	6	Poverty and lack of awareness	Awareness campaign and poverty reduction	Expand NGO education program and awareness campaign
Early marriage	9	Social custom, unemployment, lack of awareness, illiteracy	Enforcement of marriage law; awareness campaign and promotion of girls' education	Awareness campaign
Dowry	9	Social custom, unemployment, lack of awareness, illiteracy	Enforcement of marriage law; awareness campaign and promotion of girls' education	Awareness campaign
Polygamy	5	Social ill custom, lack of education, family tradition	Prohibition of early marriage, social awareness	Awareness campaign



## **5. Present Issues and Challenges for IPAC at MKNP**

### **5.1 Present Issues of Concern:**

The following issues that need to deal very seriously for the management and sustainable biodiversity conservation of MKNP.

1. Land Encroachment, 2. Fuel wood collection, 3. Illegal tree felling, 4. Local poverty and unemployment, 5. Sapling protection of Garjan trees, 6. Stop and removal of the Rohingya settlers, 7. Operation of Sawmill around the national park, 8. Weak law enforcement for forest protection, 9. Insufficient Forest Guards for forest protection, 10. Negative role and involvement of forest villagers in illegal activity and encroachment, 11. Mentality of Forest Department Officials on Co-management approach for forest conservation, 12. Negative attitude of some encroached community people against the establishment of national park, 13. Forest lands are being treated as waste land by the local administration and political elites, 14. Lack of awareness among local people regarding benefits of biodiversity conservation, etc.

### **5.2 Challenges:**

Considering the issues mentioned above the following challenges will have to face and dealt promptly to overcome this issues:

1. Reduction of local poverty and unemployment, 2. Stopping the collection of fuel wood and other materials, 3. Stop illicit felling, 4. Stop encroachment and evacuation of illegal settlers, 5. Changing the attitude of local people towards national park establishment, 6. Recovery of encroached land, 7. Conservation and management of natural regeneration particularly Garjan Species, 8. Control and engage the forest villagers in forest conservation, 9. Forest villagers are expanding their territories and often involved in encroachment, etc.

## **6. Suggestions and Recommendations**

- 6.1. Strengthening the capacity of Forest Department: FD field offices, particularly Beat Offices, are the potential and very important entry points for ensuring and proper functioning co-management of natural resources for biodiversity conservation. Deploying adequate manpower and logistic supports with arms/ammunitions, vehicle, communication materials and adequate budget for mobilizing field staff should be ensured. Sufficient training is essential to develop their skills on forest protection and conservation.
- 6.2. Zoning is very impotent for sustainable PA conservation and management. Zonation should be undertaken based on natural features and existing land use for present and future management and conservation. Separate management strategies should be developed for different zones.
- 6.3. Based on zonation and management strategies, appropriate, site specific and technically sound management action plan should be developed with the consultation of local as well as co-management communities. The plan should consider/include the following important issues:
  - Plan for re-generate and restoration of endangered plants and animals species;
  - Plan for habitat restoration and rehabilitation
  - Plan for protection and sustainable uses of forest biodiversity.
- 6.4. Forest resources users that are identified during PRA/RRA should bring under AIGA with provision that they give up the unsustainable use of forest resources.
- 6.5. MKNP is very potential for community based eco-tourism where large and unique Gajan trees attract the tourists. In accordance with the proximity from Cox's Bazar and potentiality of eco-tourism based on unique landscape, MKNP should be taken special care of to develop community based eco-tourism facilities.
- 6.6. FD's mandate for strict law enforcement and access is necessary. FD should be strengthening with vehicle and arms. To stop further encroachment strong liaison with FD, local elites and law enforcing agencies. Promote awareness among politicians and administrative elites regarding the conservation and environmental concerns of PAs to prevent further encroachment of PA lands.
- 6.7. Attempts should be taken to bring the local elites and politicians on board with the concept of forest protection through co-management.

- 6.8. Human-elephant conflict should be resolved or minimized. Attempts should be taken to plant fodder plants for elephant.
- 6.9. Mass awareness raising should be a continuous process about the concept and protection of forest through co-management.
- 6.10. Introduction of fuel-efficient stoves in forest surrounding villages. Promote bio-gas plants for institutions.
- 6.11. Sporadic settlements inside the park should be evicted and/or rehabilitated at the periphery of the MKNP. Some of these settlements are Rohingya migrants.
- 6.12. A strong dialogue should be made at higher level with other law enforcement authority to ensure the effective involvement of law enforcement agencies at the local level.
- 6.13. To know the status of existing flora and fauna of the park area it is needed to conduct a comprehensive survey/study by the relevant professionals. Investigation on threatened plants and animals should also be carried out and immediate actions should be taken for the protection of those species.
- 6.14. Awareness campaign and miking should be continued, especially to prevent illicit felling, awareness about forest fire, encroachment, hunting, grazing, fuel wood collection and law enforcement should be ensured.
- 6.15. Forest villagers' agreement should be reviewed and encroached lands should be enumerated with details of encroachers and trend of encroachment.

Annex I

Government order for declaration of Medhakachapia National Park

বিজ্ঞপ্তি নং ২৪৪৪  
 তারিখ: ০৮/০৮/২০০৪  
 মন্ত্রণালয়: পরিবেশ ও বন মন্ত্রণালয়  
 বাংলাদেশ সরকার

বিজ্ঞপ্তির বন কর্মকর্তার কাগজ  
 কক্সবাজার উত্তর বন বিভাগ।  
 তারিখ: ০৮/০৮/২০০৪  
 বি.স.এ.স. নং: ২৪৪৪  
 বন কর্মকর্তার স্বাক্ষর: ০৮/০৮/২০০৪

নং-পবম(শা-৩)-৩২/২০০৩/১৩ ২১১  
 তারিখ: ০৮/০৮/২০০৪।

বিজ্ঞপ্তি

বাংলাদেশ বন্যপ্রাণী (সংরক্ষণ) সংশোধন) আইন, ১৯৭৪ এর অনুচ্ছেদ ২৩(৩) এর প্রদত্ত ক্ষমতাবলে সরকার এই মর্মে ঘোষণা করিতেছে যে, কক্সবাজার জেলার চকরিয়া উপজেলাধীন মেদা কচ্ছপিয়া মৌজার জে.এল নং-৫৮ ও খুটাখালী মৌজার জে. এল নং-৬২ এর অংশ বিশেষ নিম্নের তফসীলে বর্ণিত বনভূমির ৩৫৮.৯৯ হেক্টর যথা গেজেট নোটিফিকেশন নং-৬০১ টি.এ আর. তারিখ-১৬ই জুন, ১৯৩১ ও ১৪৮৯৫ ফর, তারিখ ১৭ই ডিসেম্বর, ১৯৩০ সূত্রে সংরক্ষিত বনভূমি এবং ৩৬.৯৩ হেক্টর যথা গেজেট বিজ্ঞপ্তি নং-৪৯ টি, ফর তারিখ-১১ই জুন, ১৯৩৫ ও ৪৮ টি ফর তামি-১১ই জুন, ১৯৩৫ মূলে রক্ষিত বনভূমি হিসাবে ঘোষিত হয়েছিল তা এ বিজ্ঞপ্তি বাংলাদেশ গেজেটে প্রকাশের তারিখ হতে বৃক্ষ সম্পদ, বন্যপ্রাণী সংরক্ষণ, চিত্র বিনোদন ও পর্যটন সুবিধাদি উন্নয়নের জন্য নিম্নে তফসীলে বর্ণিত মোট ৩৯৫.৯২ হেক্টর বনভূমিকে "ন্যাশনাল পার্ক" হিসাবে ঘোষণা করা হলো।

তফসীল

জেলা	উপজেলা	মৌজা	জে.এল নং	আর.এস দাগ নং	বি.এন দাগ নং	দাগে বনভূমির পরিমাণ (হেক্টর)	মানের শ্রেণী	মন্তব্য
কক্সবাজার	চকরিয়া	মেদা কচ্ছপিয়া	৫৮	ফ ২৫৯	২৩১	১৪.৪১	সংরক্ষিত বনভূমি	গেজেট নোটিফিকেশন নং-৬০১ T.R 16th June 1931
				ফ ২৬১	৪২২	৪৬.৮৯		
				ফ ২৬২	২১৫	০.৪৩		
					২২৬, ২২৭			
				ফ ২৬৩	১৩১১	১০.০১		
				ফ ২৬৪	১৪৫৮	৭.২৩		
				ফ ২৬৫	১৫০৫	৬২.৪৫		
				ফ ২৬৬	৩৫০১/ফ	২.৭৪		
				১০২৮	৩৫০১	০.৯৬		
				১০২৯	৩৫০৪	৭৭.০৪		
				১০৩০	২২২৫, ২২২৬	০.২৫		
				১০৩১	৩৫০৫	০.৭৪		
কক্সবাজার	চকরিয়া	খুটাখালী	৬১	টাট : ২১০৬	২৬১	১৪.৫৫	সংরক্ষিত বনভূমি	গেজেট নোটিফিকেশন নং-১৪৪৯৫ For 17th December 1931
				২১০৭	২৬৪	৬.৮০		
				২১০৮	৩২৫	০.৭৭		
				২১০৯	২০০২	২৫.৪৪		
				টাট : ২১০৯		৪৭.৫৬		
কক্সবাজার	চকরিয়া	মেদা কচ্ছপিয়া	৫৮	মোট সংরক্ষিত বনভূমি :		৩৫৮.৯৯	সংরক্ষিত বনভূমি	গেজেট নোটিফিকেশন নং-৪৯ T.For 11th June 1935
				৬০/ফ ৮৯	৩১২ক	৫.৫০		
				৩০৯/ফ ৯০	৩১১ক	০.৪৮		
					৩১১	০.৩০		
				৫২৩/ফ ২০৭	১২৫৪ক	০.৫৬		
					১২৪৫	০.৯২		
				৫২৪/ফ ২১৫	১৪৫৭ক	০.৯৭		
					১৪৫৭	২.১২		
				৫১৯/ফ ২৫২	১৩১০ক	১.৮৭		
					১৩১০	২.০১		
				১০২৭/ফ ২৬৭	১৪১৩ক	২.৫০		
৫১৫	২১৯৪, ২২০১	৬.৯২						
৪৬৭	১৪১৩	১.৮১						
১০২৭	১৪১৯	০.৫৮						
মোট :		৩৪৫.৫২						

Integrated Protected Area Co-management (ipac): Chakaria Site

ক্র.সং.	উপজেলা:	মোজা	জে.এল নং	আম এলা দাগ নং	বি.এন দাগ নং	দাগে বনভূমির পরিমাণ (হেক্ট)	বনের শ্রেণী	মন্তব্য
কক্সবাজার	চকরিয়া	মেদা কচ্ছপিয়া		৩৫৪	১৪৬১,১৪৮৭ ১৪৭১,১৪৭৩	০.৫৬	সংরক্ষিত বনভূমি	গেজেট নোটিফিকেশন নং-৪৪ T.For 11th June 1935
				৪৭৬	১৪৮৬,১৪৮৭	০.৩৫		
				৮৩৪	১৪৮৬,১৪৮৭	০.৪০		
				৯১১	১৪৭৫,২২৭৩	০.৩৫		
				১০২৭ ক২৬৬	৪২৩,২২২৭	০.৫২		
				২০২৮ ক২৬৯	১৪৯০,১৪৯৩	০.১৩		
				মোট :		২.৪১		
মোট সংরক্ষিত বনভূমি :		৩৬.৯৩						

“চৌহদ্দীর বিবরণ”

- উত্তর : পাগলীর বিল ও উত্তর মেদাকচ্ছপিয়া।  
 দক্ষিণ : খুটাখালী হাই স্কুল, খুটাখালী ও নলবুনিয়া।  
 পূর্ব : জঙ্গল খুটাখালী রিজার্ভ ফরেস্ট/খুটাখালী বিট।  
 পশ্চিম : বাককুমপাড়া দক্ষিণ মেদাকচ্ছপিয়া ও .

উপ-নিয়ন্ত্রক

বাংলাদেশ সরকারী মুদ্রণালয়

তেজগাঁও, ঢাকা।

(পরবর্তী গেজেটে প্রকাশ করতঃ ৫০(পঞ্চাশ) কপি  
এ মন্ত্রণালয়ে প্রেরণের জন্য অনুরোধ করা হলো।)


নং-পবম(শা-৩)-৩২/২০০৩/ ১৩ ৫৬/৯ (৭)

রাষ্ট্রপতির আদেশক্রমে

  
(সৈয়দ তানভীর হোসেন)  
সচিব

তারিখ : ০৪/০৪/২০০৪।

- ১। সচিব, ভূমি মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।
- ২। প্রধান বন সংরক্ষক, বন অধিদপ্তর, বন ভবন, মহাখালী, ঢাকা।
- ৩। কমিশনার, চট্টগ্রাম বিভাগ, চট্টগ্রাম।
- ৪। বন সংরক্ষক, চট্টগ্রাম অঞ্চল, চট্টগ্রাম।
- ৫। জেলা প্রশাসক, কক্সবাজার।
- ৬। বিভাগীয় বন কর্মকর্তা, কক্সবাজার উত্তর বন বিভাগ, কক্সবাজার।
- ৭। মাননীয় মন্ত্রী মহোদয়ের একান্ত সচিব, পরিবেশ ও বন মন্ত্রণালয়।

  
(মাহবুব মশকুর)  
সিনিয়র সহকারী সচিব  
ফোন : ৯১৬৪৫৩৯

**Photo gallery**



**PRA activities: Interactions with local communities**

*Integrated Protected Area Co-management (ipac): Chakaria Site*



**Resource uses: often harmful for sustainability**

*Integrated Protected Area Co-management (ipac): Chakaria Site*



**Co-management of MKNP: Opportunities are well ahead**