



Resuscitating the Sundarbans

Customary Use of Biodiversity & Traditional Cultural Practices in Bangladesh

Dewan Muhammad Humayun Kabir
Jakir Hossain



উন্নয়ন আন্বেষণ
Unnayan Oannesha
The Innovators
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BELA
Bangladesh Environmental
Lawyers Association



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Study on customary use, related traditional cultural practices and sustainable biodiversity management of the Sundarbans for contributing to the Implementation of Article 10(c) of the Convention on Biological Diversity

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Munda (Student)
Munda (Indigenous school teacher)
Munda (Agricultural labour)
Golpata collector
Golpata collector
Golpata collector
Bawali (wood cutter)
Bawali (wood cutter)
Moual (Honey collector)
Moual (Honey collector)
Moual (Honey collector)
Jele (Fisher)
Community Organizer

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Preface and Acknowledgements

The Sundarbans is the single largest mangrove forest in the world. With its wide range of mangrove biodiversity, it is also the single largest forest in Bangladesh. It is considered a highly productive ecosystem that provides a wide range of valuable forest products. About 3.5 million people depend on its resources, which mean it is under an immense continuous pressure. UNESCO declared the Sundarbans its 798th World Heritage Site on 6 December 1999. It has also been designated a Ramsar site. In 1878 during the British regime, the Sundarbans was declared a Reserve Forest and it was placed under full state control; restrictions were imposed on access to the forest. Nearly one and a half centuries have passed since the designation of the Sundarbans as a protected forest, but this paradigm of protected area management has been unable to achieve the desired outcome – either in respect of biodiversity conservation or in respect of the livelihood security of the forest peoples. Rather, this protection regime has increased the vulnerability of the forest and the forest people. But the Bangladesh government has both national and international obligations to protect biodiversity, indigenous peoples and their rights under different international treaties including the Convention on Biological Diversity (CBD). This research initiative tries to grasp what went wrong and how it can be overcome.

The research was conducted on one indigenous group (the Munda) and 4 local communities – bawalis (woodcutters), mouals (honey collectors), golpata collectors, jele (fishers) – in the Sundarbans Impact Zone. The multiple findings, insights and perspectives presented here provide snapshots of the data collected. This process of collaboration and consultation would not have been possible without the support of Forest Peoples Programme (UK) and Nijera Kori (Bangladesh). They deserve more than thanks.

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Finally, if there are any errors, mistakes or omissions in this study, none of the aforesaid people or agencies/organizations is responsible except us. We would be happy if this report is found to be useful to all concerned.

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Jakir Hossain

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Acronyms

ABS	Access and benefit sharing
ADAB	Association of Development Agencies of Bangladesh
BELA	Bangladesh Environmental Lawyers Association
BBS	Bangladesh Bureau of Statistics
BLC	Boat Licence Certificate
BRII	Bangladesh Rice Research Institute
CBD	Convention on Biological Diversity
CBFM	Community-based fisheries management
CBMPA	Community-based management of protected areas
CDP	Coastal Development Partnership
CHT	Chittagong Hill Tracts
COP	Conference of the Parties (to the CBD)
ECA	Ecologically critical area
EIC	East India Company
FAO	UN Food and Agriculture Organization
FD	Forest Department
FPP	Forest Peoples Programme
GEF	Global Environmental Facility
GoB	Government of Bangladesh
HSC	Higher Secondary School Certificate
HYV	High yielding variety
ILO	International Labour Organisation
IP	Indigenous people
IPLC	Indigenous people and local communities
IPR	Intellectual property rights
IUCN	The World Conservation Union
MoEF	Ministry of Environment and Forest
NBSAP	National Biodiversity Strategy and Action Plan
NEMAP	National Environment Management Action Plan
NWFP	Non-wood forest produce
PRA	Participatory rural appraisal
RAB	Rapid Action Battalion
SAT	State Acquisition and Tenancy Act
SBCP	Sundarbans Biodiversity Conservation Project
SEMP	Sustainable environment management plan
SIZ	Sundarbans Impact Zone
SRF	Sundarban Reserve Forest
SSC	Secondary School Certificate
TK	Traditional knowledge
Tk.	Taka (Bangladeshi currency)

Glossary

Bada or Badabon	The Sundarbans
<i>Bahar</i>	Fleet of boats
<i>Bahardar</i>	Person heading a bahar
Banobibi	The main Goddess of the Sundarbans
<i>Bawali</i>	Woodcutter or collector
<i>Chingrhi chash</i>	Prawn farming
Coupe	The Sundarbans resource harvest area
<i>Char</i>	Strip of sandy land rising out of the bed of a river or sea above the water level
<i>Chunery</i>	Collectors of snails and oysters for lime-making
<i>Cre</i>	Local numerical unit equivalent to 10 million
<i>Da</i>	Cutting tool made of iron
<i>Dabas</i>	Log cross-member on a local boat from which <i>jhools</i> are hung
<i>Dingi</i>	Country boat (also see ' <i>Pas dingi</i> ')
<i>Fakir</i>	Saint
Gazi	Who defeated tiger; the next generations bear the family title
<i>Golfal</i>	Fruit of the nypa palm
<i>Golpata (Nypa fruticans)</i>	A stemless palm, the fronds of which are used for roof thatching
<i>Goran (Ceriops decandra)</i>	Mangrove species which grows as a small tree or shrub, highly valued for firewood
<i>Hantal (Phoenix paludosa)</i>	A slender, straight, small palm used for rafters, fences and house posts
<i>Jalmahal</i>	State-owned water bodies
<i>Jele</i>	Fisher
<i>Jhools</i>	Floating logs, hung on sides of local boats to provide stability
<i>Khal</i>	Canal or creek
<i>Majj pata</i>	Central, unopened golpata palm frond
<i>Majhi</i>	Team leader
<i>Malom</i>	False extension of country boat
<i>Mathi</i>	The bottom of the trees, which remain after cutting
<i>Mele (Cyperus javanicus)</i>	Long grass used for matting
<i>Milat</i>	A religious ritual by Muslim bawalis prior to entering the forest
<i>Mohajan</i>	Moneylender/trader
<i>Moual</i>	Honey and beeswax collector
<i>Pash pata</i>	Leaf growing next to <i>majj pata</i> (see above)
<i>Pas dingi</i>	Small support boat to the main boat
<i>Pir</i>	A Muslim saint or sufi
<i>Puthi</i>	Ballad

<i>Sana or Sardar</i>	Village leader – nowadays used as a family title
Sundarbans Impact Zone	The 2,268 villages under 221 unions (last tier of local government) of 17 <i>upazila</i> of 5 districts immediately adjacent and most dependent on the Sundarban Reserve Forest (SRF)
Sundari (<i>Heritiera fomes</i>)	A mangrove species, the most valuable timber resources in the SRF – large stems are used as electricity power poles; the sawn timber is used for structural purposes; poles are used for housing, bridges, jetties
<i>Upazila</i>	Local administrative unit of Bangladesh (subdistrict)
Van	Local transport. There are 2 kinds of van, one is engine-driven (basically this engine is a small irrigation pump. In Bangladeshi law it is illegal to use this as a motor engine) and the other is without engine.
<i>Zamindars</i>	Landlords who emerged after the enactment of the Permanent Settlement Act, 1793 and were very influential during the British regime.

Conversion Factors

100 mounds	=	4 kahons
1 kahon	=	16 pon
1 Pon	=	20 gondas
1 gonda	=	4 leaves
1 foot	=	12 inches or 30 centimetres
1 metric tonne	=	1,000 kilograms
1 inch	=	2.54 centimetres
1 acre	=	100 decimal
1 bigha	=	33 decimal

Executive Summary

This study is a collaborative action research actively participated in by community members. It explores the nature of the Sundarban Reserve Forest, and the strategies for biodiversity conservation and sustainable use as well as the qualitative perspectives of a number of communities – mouals, bawalis, golpata collectors, fishers and Munda living in the Sundarbans Impact Zone with the aim of helping the Bangladesh government to implement Article 10(c) of the Convention on Biological Diversity (CBD).

The Sundarbans is the largest single block of mangrove ecosystem existing in the world today and UNESCO's 798th World Heritage Site. It provides a resilient buffer for the lives and assets of the 3.5 million people who live in the immediate vicinity. During the British regime, in 1878, the Sundarbans was declared a Reserve Forest: it was placed under full state control and the forest peoples were ousted. Nearly one and a half centuries have passed since the declaration of the Reserve Forest, and in that time the approach of exclusive state protection has been unable to achieve the desired outcome either in respect of biodiversity conservation or in respect of people's livelihood security. Rather this approach has increased the vulnerability of the Sundarbans and its traditional resource users.

The loss of biodiversity, of the 'natural capital' of the Sundarbans is a major problem facing Bangladesh as well as humankind. To prevent biodiversity loss, initiatives are needed at all levels to conserve biological resources and ensure their sustainable use. But the solutions used over the past 3 decades have been based on modern science and technology and have ignored Traditional Knowledge (TK) and peoples' rights and roles. The ultimate result is wastage of resources and increased vulnerability of communities.

One of the major global initiatives towards biodiversity conservation is the adoption of the CBD by most countries including Bangladesh. Article 10(c) of the CBD encourages states, 'as far as possible and as appropriate: to protect and encourage **customary use of biological resources** in accordance with **traditional cultural practices** that are compatible with conservation or sustainable use requirements'. As Bangladesh is a signatory to the Convention and has ratified it, the government has obligations to abide by the convention.

One of the key targets of this study was to trace the missing link between biodiversity conservation strategies and forest peoples' livelihood security, and the study finds that the traditional practices of both indigenous and local communities lead them to harvest the resources of the Sundarbans in a manner that is fully compatible with conservation and sustainable use requirements. The communities sensibly believe that forest provides their livelihood and that it must be saved from all sorts of misuse and abuse for the sake of present and future generations. They understand this but are powerless to save it on their own. The problem lies with the Forest Department (FD) which has sole responsibility for conserving the forest and ensuring its sustainable utilization. All the local communities believe that it will only be possible to bring positive changes in the Sundarbans and the livelihoods it provides if it is freed from the grip of corrupt FD officials and politicians, dacoits, and *mohajans* (moneylenders). And the local people believe the most urgent requirement is for a change in the government's approach towards conservation and resource utilization.

It has always been wrongly believed that indigenous and local communities are responsible for forest destruction. This study vehemently argues that the indigenous and local communities are not responsible: rather the interest nexus of the FD, politicians, traders and dacoits is to be held responsible for mismanagement and over-exploitation. Sometimes overharvesting by communities does take place: out of the need to obtain sufficient produce to cover the payment of bribes and ransoms to FD officials, dacoits and the police.

To deal with the challenges, the local communities recommend community-based management of the Sundarbans and the introduction of a special law-enforcing force such as an RAB (Rapid Action Battalion) combining the Bangladesh army, Coastguards, forest officials and community representation to combat dacoit, piracy. Recognition of the right of indigenous and local communities to use the resources of the forest and coherent legal reform along with the fine tuning of local policies to meet international obligations are all highly necessary. Effective implementation of Article 10(c) of the CBD will be the right tool to improve the situation of the Sundarbans and other forests and forest peoples of Bangladesh.

Chapter 1

Introduction and Context

1.1 To begin with

In the development and conservation fields the symbiotic relationship between natural resources and indigenous peoples and local communities on which they depend has not yet been given the attention and importance that it deserves. A focus on the environment and sustainable biodiversity use is very important to traditional resource users because for them both are matters of survival. Ironically, indigenous and local people have most times been excluded from decision-making on these issues.

For indigenous people, forests are integral to their lives and livelihood. More than 1.6 billion people depend to varying degrees on the forest for their livelihoods. Approximately 60 million indigenous people are almost wholly dependent on forests. Some 350 million people who live in or adjacent to dense forests depend on them to a high degree for subsistence and income.¹ In recent years, however, a large number of these people have experienced increasing difficulties in gaining access to local forests and their products. In many countries, plans to protect forest ecosystems have failed to pay adequate attention to the needs and knowledge of the indigenous and local people living in or around the edges of forests for generations.

However in the present-day age of increasing environmental and human rights awareness, biodiversity, related traditional knowledge and indigenous peoples and local communities' rights and roles have started to receive an increased recognition and emphasis. Some articles under the Convention on Biological Diversity (CBD), particularly Article 8(j) and Article 10(c), recognize the deep relationship between indigenous peoples and local communities and biodiversity, and urge Parties to take action about it.

If we spotlight Bangladesh, we see that all the country's forests are under threat. The tree cover has been reduced by more than 50% over the past 20 years.² The government has implemented a number of development projects to try to arrest the decline in forested areas, but forest degradation has not been stopped.

The Sundarbans is the largest single block of mangrove ecosystem existing in the world today. It is a rare and endangered ecological system – a tropical deltaic mangrove wetland forest – which bridges India and Bangladesh in the southwest. The forest covers 10,000 sq. km. of which about 6,000 are in Bangladesh.³ Of the total area of the Sundarbans, 70% is land and 30% is water.⁴ The Sundarbans Reserve Forest (SRF) provides a resilient buffer for the lives and assets of the 3.5 million people who live in its immediate vicinity, as well as offering protection to infrastructure and urban populations in major towns such as Khulna and the international shipping port of Mongla. The SRF is biologically the most diverse, rich and valuable forest resource in Bangladesh. In terms of wildlife, the SRF is home to the single largest population of the Royal Bengal Tiger (*panthera tigris*) in the world.⁵

In 1997 UNESCO declared a portion of the Sundarbans to be the world's 798th World Heritage Site.⁶ This gave birth to a new hope of saving the forest. Furthermore, the

¹ World Bank (2002), *A Revised Forest Strategy for the World Bank Group* (Washington, DC: World Bank).

² ANZDEC Limited, New Zealand; Eusuf and Associates, Bangladesh (1997), *Biodiversity Conservation in the Sundarbans Reserve Forest, Draft Final Report, vol. 1: Main Report and Annexes*. Dhaka.

³ Sundarbans Tiger Project, http://www.sundarbantigerproject.info/viewpage.php?page_id=3

⁴ Ashraf-Ul-Alam Tutu (n.d), "Biodiversity Degradation in the Sundarbans: In Search of an Appropriate Outlook" (Khulna: CDP).

⁵ ANZDEC Limited, New Zealand; Eusuf and Associates, Bangladesh (1997), *Biodiversity Conservation in the Sundarbans Reserved Forest, Draft Final Report, vol. 1: Main Report and Annexes*. Dhaka.

⁶ Forest Department (2005), Ministry of Environment, Government of the People's Republic of Bangladesh, Dhaka.

Bangladesh government has signed international treaties, conventions and protocols to save fragile forest biodiversity, some of which it has a legal obligation to implement – including the CBD. Nevertheless, the ecological condition of the Sundarbans has continued to worsen.

Unfortunately the continued degradation of the environment despite government and intergovernmental efforts to stem it, appears to be a global trend and conventional state management of forests is questioned in many countries due to the subsequent reduction in biodiversity and vulnerability of forest peoples' lives and livelihood. One of the reasons for this failure is that solutions over the past 3 decades have been based on modern science and technology and have ignored traditional knowledge (TK) and peoples' rights and roles. As a result, many conservation projects have failed and lots of resources have been wasted. In response, indigenous and local community movements and support organizations have been campaigning for recognition of TK and indigenous people and local communities' (IPLC) rights and roles, and many recent studies have documented the importance of TK in resource management. The CBD, with its Articles 8(j) and 10(c), seems well poised to address these issues and stimulate government action.

1.2 Study Background

Biodiversity, the diversity of life forms – plants, animals, microbes – is the ecological basis of life. It is also the 'natural capital' of the two-thirds of humanity who depend on biodiversity as their means of production – in farming, in fisheries, in health care and in crafts. This survival base of the poor has been targeted for exploitation by extractive industries for many decades and is now being viewed as 'raw material' for new global businesses and industries.⁷ At a time when it is widely acknowledged that global biodiversity is declining and its loss is recognized as a major problem facing humankind, its sustainable use and conservation by various social sectors become of critical importance.

The Convention on Biological Diversity has picked up the challenge. It was signed in 1992 in Rio de Janeiro and has been ratified and signed by 190 parties. The Convention has 3 main goals:

- (i) the conservation of biodiversity;
- (ii) sustainable use of the components of biodiversity; and
- (iii) sharing of the benefits arising out of the utilization of genetic resources in a fair and equitable way.

The substantive provisions of the CBD are translated into binding commitments in Articles 6 to 20. These articles include key provisions on: measures for the conservation of biological diversity, both *in situ* and *ex situ*; incentives for the conservation and sustainable use of biological diversity; research and training; public awareness and education; assessing the impacts of projects upon biological diversity; regulating access to genetic resources; access to and transfer of technology; and the provision of financial resources. Under the CBD, governments undertake to conserve and sustainably use biodiversity. They are required to develop national strategies and action plans, and to integrate these into broader strategies on environment and development. Bangladesh signed the CBD in 1992 and ratified it in 1994. So, the country has an obligation to implement the CBD.

1.2.1 The CBD and Indigenous Peoples and Local Communities

Biodiversity represents vital resources for indigenous peoples and local communities and a vital part of their culture. It is greatly concentrated in indigenous lands and territories. Cultural diversity is affected by loss of biodiversity and *vice versa*. Articles 8(j) and 10(c) are two particularly important CBD articles to indigenous peoples and local communities.

⁷ V. Shiva" (n.d), 'Biodiversity, IPR and Globalization', <http://www.biodiv.org/doc/publications/addis-gdl-en.pdf>, Access on 12 November 2007

Article 8(j) of the CBD encourages each state,

as far as possible and as appropriate, and subject to its national legislation, to respect, preserve and maintain knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.

Article 10(c) of the CBD encourages states,

as far as possible and as appropriate: to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

The Fifth Conference of Parties to the CBD (COP 5)⁸ in Nairobi in May 2000, in its Decision on Article 8(j) and related provisions (which include Article 10(c)), called on Parties:

to develop appropriate mechanisms, guidelines, legislation or other initiatives to foster the effective participation of indigenous and local communities in decision-making, policy planning and development and implementation of the conservation and sustainable use of biological diversity at international, regional, sub-regional, national and local levels, including access and benefit-sharing and the designation and management of protected areas... (COP 5, Decision V.16)

These two articles are cross-cutting CBD thematic areas, meaning that they should be applied across the convention and should be taken into full consideration when implementing any of the CBD activities at all levels.

Very little work has so far been carried out to unpack the meaning and to promote the implementation of Article 10(c). However, the CBD Secretariat noted in a 1997 paper that, as used in Article 10(c), the terms 'customary use' and 'traditional cultural practices' include indigenous legal systems for the control, use and management of land and natural resources. The paper suggests that, in order to comply with this article, states must ensure that national law and policy recognize indigenous customary law and corresponding governance systems, including rights over land, water and other resources.⁹

1.2.2 Purpose of the Case Study

This case study focuses on Article 10(c) and aims to:

- Illustrate how indigenous and local communities utilize biological resources of the Sundarbans through the exercise of their customary practices and rules
- Provide the Bangladesh government with information and tools on how to implement Art. 10c
- Provide Sundarbans traditional resource users with information needed to effectively participate in national and international processes and strengthen their capacity to secure their livelihoods, rights and protect biodiversity
- Produce biodiversity management baseline data that could contribute to developing future sustainable management plans

⁸ COP is the legal authority of CBD to take decision on its implementation. All parties (member States, usually represented by Environment Minister of each

⁹ Secretariat of the CBD (1997) *Traditional Knowledge and Biological Diversity*. UNEP/CBD/TKBD/1/2 at 11 and 12, <http://www.cbd.int/doc/meetings/tk/wstkbd-01/official/wstkbd-01-02-en.pdf>

In terms of CBD process, the study is a response to the CBD Secretariat's and Parties' call for information and case studies on the experience and initiatives of indigenous peoples on the sustainable use of biological diversity and efforts to implement article 10 of the Convention (Decisions V/24 and VII/12).

Moreover, the study can contribute information to address the implementation of the CBD Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity adopted by COP7 in 2004, particularly the following provisions:

- (Principle 1) that sustainable use of biodiversity is enhanced by supportive policies, laws and institutions at all levels of governance,
- (Principle 2) indigenous and local communities should be empowered to manage biological resources and that their rights over and/or stewardship of biological resources should be recognized and reinforced.¹⁰
- (Principle 12) the needs of indigenous and local communities who live with and are affected by the use and conservation of biological diversity should be reflected in the sharing of benefits that come from the use of those resources.

The study can also contribute information to address the usefulness and effectiveness of the Ecosystem Approach, considered by the CBD to be its main implementation framework. 5 of its 12 principles are particularly relevant:

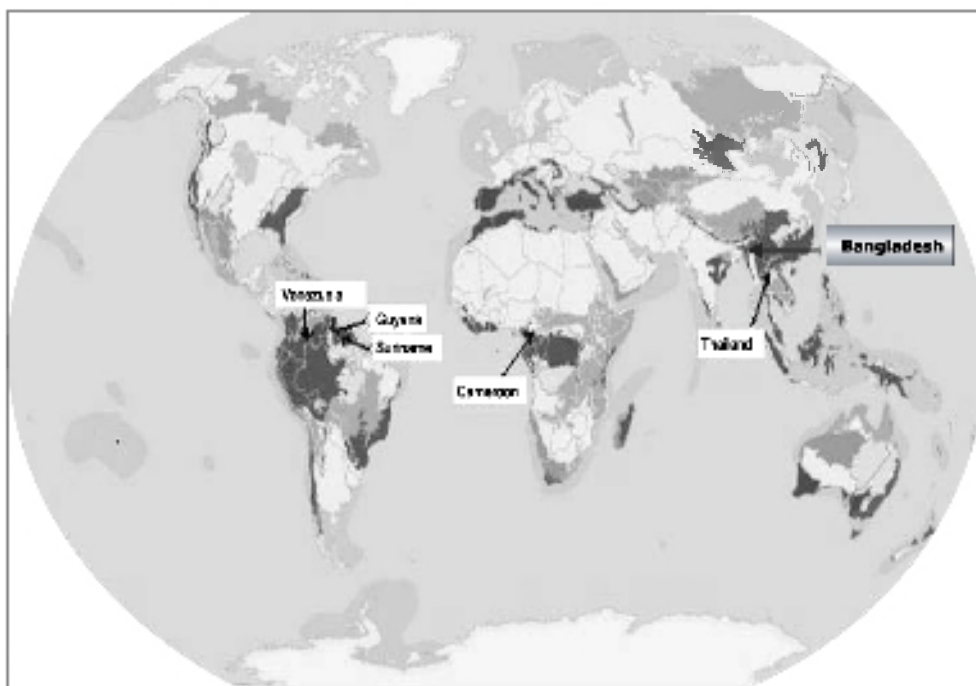
- Principle 1: The objectives of management of land, water and living resources are a matter of societal choices.
- Principle 2: Management should be decentralized to the lowest appropriate level
- Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity
- Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

1.2.3 A 10(c) case studies series

This report is part of a series of case studies on Article 10(c). Despite the increasing recognition of TK and the role of indigenous and local communities, and despite ratification of the CBD by almost all Parties to the Convention, governments have so far largely ignored the implementation of Article 10(c), so it is up to indigenous and local communities' movements and support organizations to take action for its implementation. One way of doing so is through case studies that can stimulate debate and action at the national and international level. Five studies have so far been completed in these countries with the following indigenous peoples:

- (i) Venezuela with the Sanema and Ye'kwana
- (ii) Guyana with the Wapichan
- (iii) Suriname with the Arowak and Carib
- (iv) Thailand with the Karen and Hmong
- (v) Cameroon with the Baka

¹⁰ <http://www.biodiv.org/doc/publications/addis-fdl-en.pdf>



From these 5 case studies the following main conclusions may be reached:

- Indigenous peoples have developed complex systems linking physical, social, cultural and spiritual aspects in order to use biological resources for the benefit of the present and future generations.
- Traditional practices define gender roles, peer pressure, norms for property, sharing and exchange that contribute to sustainable use.
- Egalitarian institutions ensure social equity and a shared value system deeply embedded in the natural world.
- Customary use of biodiversity is generally compatible with conservation and sustainable use. In some cases indigenous peoples realize that some resources are under increasing pressure: they discuss ways to address the problems and aim to develop integrated sustainable management plans.
- The main requirement for implementation of Article 10(c) is to secure the land and resource rights of indigenous communities and recognize the role of their social norms and institutions.
- Some countries have a legal and policy framework adequate to implement Article 10(c) but lack the political will to apply it (Venezuela) while others need legal and policy reform to effectively implement Article 10(c).

This case study in Bangladesh is the first that has been done with traditional resource users, including both indigenous peoples and local communities.

1.2.4 Global Commitment and National Onus: Case of Bangladesh

The government of Bangladesh (GoB) submitted its 3rd National Report on implementation of the CBD on 15 May 2005. The Ministry of Environment and Forest (MoEF), as the focal ministry for the CBD, was responsible for the overall coordination and oversight of the preparation of the Report. Technical support was provided to the lead agency by the World

Conservation Union (IUCN)'s Bangladesh Country Office, while the United Nations Development Programme and the Global Environmental Facility (UNDP-GEF) provided the financial support. In relation to priority setting for CBD implementation, the government claims that it gave high priority to all the articles of the CBD including articles 10(c) and 8(j).

The challenges to the government listed in the report are:

1. Lack of political will and support
2. Limited public participation and stakeholder involvement
3. Lack of mainstreaming and integration of biodiversity with other issues
4. Lack of precautionary and proactive measures
5. Inadequate capacity to act due to lack of instructional capacity
6. Lack of transfer of technology and expertise
7. Loss of traditional knowledge
8. Lack of adequate scientific research capacity to support all the objectives
9. Lack of accessible knowledge and information
10. Lack of public education and awareness at all levels
11. The fact that existing scientific and traditional knowledge is not fully utilized
12. Loss of biodiversity and the fact that the corresponding goods and services it provides are not properly understood and documented
13. Lack of financial resources
14. Lack of economic incentive measures
15. Lack of benefit sharing
16. Lack of synergies at national and international levels
17. Lack of horizontal cooperation among stakeholders
18. Lack of effective partnerships
19. Lack of engagement of scientific communities
20. Lack of appropriate policies and laws
21. Poverty
22. Pollution
23. Unsustainable consumption and production patterns
24. Population pressure
25. Lack of administrative capacity within local communities
26. Lack of knowledge and practice of ecosystem-based approaches to management
27. Weak law enforcement
28. Natural disasters and environmental challenges

Focus of implementation

Article 10(c)

In the report, the Government of Bangladesh stated that some measures have been taken to protect and encourage customary use of biological resources that is compatible with conservation or sustainable use. Under different community-driven projects, especially in wetlands and fisheries conservation, local-level institutions have been established and strengthened to facilitate communities' participation in decision-making. In a number of projects, including the Sustainable Environment Management Plan (SEMP), Community Based Fisheries Management (CBFM)-2 and MACH, participatory fish sanctuaries have been established. It is also claimed that traditional fishing practices have been encouraged. However, according to our research, these efforts have certainly not brought about any visible positive outcomes in the largest wetland forest of the country, the Sundarbans, either in biodiversity conservation or to improving community livelihoods. Compared with the nature of efforts required to redress past ecological and livelihoods damages, the measures reported so far should be considered as negligible.

Article 8(j)

The section on Article 8(j) of the 3rd national report illustrates that very little progress has been made in implementing various activities under Article 8(j). On the positive side, a Biodiversity and Community Knowledge Protection Act has been drafted with a view to protecting the biodiversity and associated traditional knowledge, but it has been pending for many years and there is no sign that it will become law. It is claimed that a number of community driven projects especially in the wetland and fisheries conservation have been started, but details of outcomes are not available. More significantly, Bangladesh ratified the CBD more than a decade ago yet the government has not supported indigenous and local communities in undertaking field studies to determine the status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities. The government has also not initiated any legal and institutional review of matters related to cultural, environmental and social impact assessment, with a view to incorporating the Akwé:Kon Guidelines into national legislation, policies, and procedures; and has not developed programmes to involve and enable smallholder farmers, indigenous and local communities, and other relevant stakeholders to participate effectively in decision-making processes related to restricting the use of genetic technologies.

In other sections of the 3rd National Report, the government has claimed to have undertaken activities to implement CBD provisions favourable to biodiversity and indigenous and local communities, including: Non-Timber Forest Products (NTFPs) projects for supporting local livelihoods; social forestry with partnership between the Forest Department and local people; co-management of Protected Area in some parts of the country; and eco-tourism projects that protect and support the culture and traditions of indigenous communities.

It can be concluded that some small steps have been taken by the government, but these still fall far short of what is required to address the continuing degradation and loss of biodiversity and the recognition of customary use and indigenous and local communities' rights and role. Zooming in on the Sundarbans, both its ecology and human livelihoods are under increasing threats. The forest has already lost many species and salinity is becoming a major threat for its principal species, the sundari tree (*Heritiera fomes*).¹¹ Indigenous and local communities' livelihoods are increasingly vulnerable. The significance of the Sundarbans is the reason for its selection both as a World Heritage Site and a Ramsar site. Against this backdrop, we hope that conducting a case study on Article 10(c) will bring some urgently needed action for the welfare of both biodiversity and people in the Sundarbans.

¹¹ Salinity is the main cause of 'top dying' disease of the sundari tree in the Sundarbans.

Chapter 2

Objectives and Methodology

2.1 Objectives

2.1.1 General Objectives

This study was an attempt to conduct a case study to be used in implementing Article 10(c) of the CBD. The technique of community participatory research was employed with the twin aims of:

- **Providing documentation:** documenting customary resource use; and indigenous laws, management systems and institutions for the conservation and sustainable use of biodiversity.
- **Making links to wider processes:** feeding the outcome to the national and international levels; strengthening information sharing through the various levels; and exchanging experience with other indigenous and local communities.

2.1.2 Specific Objectives

The core objectives of the study are to:

- support local resource users to document traditional uses of biological resources in order to obtain respect for their customary use by society and government
- help to prevent biodiversity loss
- identify the causes of livelihood vulnerabilities of Indigenous Peoples and Local Communities (IPLC) in the Sundarbans Impact Zone and find ways and means to reduce this vulnerability
- link local-level biodiversity knowledge and practices to national and international policies
- illustrate how indigenous and local communities manage and regulate access to biodiversity through the exercise of their customary law and institutions
- provide governments with information and tools on how to implement Article 10(c) of the CBD
- provide forest peoples with the information they need to participate effectively in international processes and strengthen their capacity to secure their rights and protect biodiversity
- produce biodiversity management baseline data that could be used for developing sustainable management plans
- study the country's legislation relating to indigenous and local communities, land and resource management, and cultural heritage.

2.2 Methodology

The research was conducted based on the approach of active community participation as researchers; the whole research was designed with the consensus of the IPLCs.

The questionnaire, the checklist for Participatory Rural Appraisal (PRA) and observations and the video footage were developed with the input of IPLCs in a pre-fieldwork workshop. This workshop, attended by community researchers, project coordinators, a lawyer and data investigators, was for conceptual mapping and research design. A multi-method approach combining both qualitative and quantitative data collection tools was applied.

2.2.1 Selecting the Study Area and Community

The study area of this research is the impact zone of the SRF, which comprises 1,250 villages within 154 unions (the last tier of local government) of 17 upazila in 5 districts (Khulna, Bagerhat, Satkhira, Borguna and Pirojpur). The impact zone supports a population of about 3.5 million people¹². From the impact zone we have selected Koyra and Paikgachha upazila in Khulna district covering all the communities dependent on the Sundarbans. The indigenous and local communities of the Sundarban Impact Zone (SIZ) are as follows.¹³

I Indigenous Community: Munda

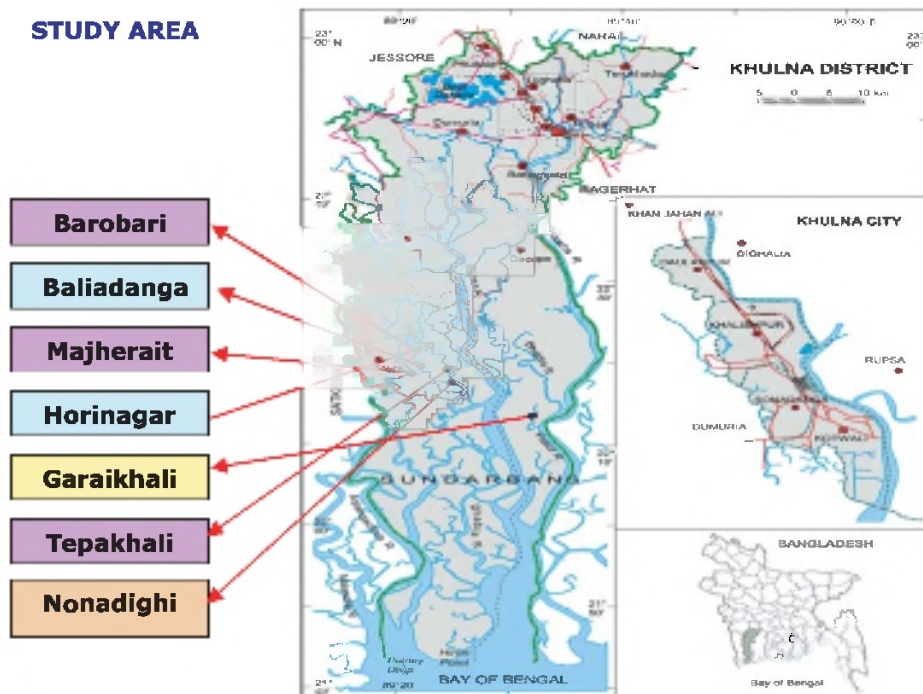
II Local Communities:

- (a) bawalis (woodcutters)
- (b) mouals (honey collectors)
- (c) golpata collectors
- (d) jele (fishers)
- (e) chunery (snail and oyster collectors).

The population of the chunery community is very small and scattered across different parts of the impact zone of the SRF. Due to funding and time constraints they were excluded from the study. The same reasons prevented us from selecting the entire impact zone as the study area. A purposive selection method has been applied to select the study area, based on secondary data support, the logistical support available, and the purposes and objectives of the study.

¹² The statistics (except for the number of villages) on the Sundarban impact zone have been taken from ActionAid, Bangladesh (n.d.). *To Enter Again the Sweet Forest: A Qualitative Perspective of People's Livelihood in the Sundarbans*. Dhaka. The number of villages has been taken from Department of Forest, Sundarbans Biodiversity Conservation Project (SBCP) and Khulna Circle Office, GoB, (2003) A Brief Report on Sundarbans and SBCP on the Occasion of the Sundarban Visit of Hon'ble Minister for Environment and Forest Mr. Shajahan Siraj, (Khulna: SBCP).

¹³ It must be noted that the demographic data on the inhabitants of the Sundarbans are very limited and the data that exist are very outdated.



III Respondents

An important aspect of the study was to obtain a representative number and gender and age balance of respondents. In individual interviews there are more male respondents than female because only men are permitted to harvest resources from the Sundarbans. However, during the harvesting time, women carry out some corresponding customs and rituals at home. Adolescents were also interviewed in order to understand the transfer of traditional knowledge and practices from one generation to another. For the Participatory Rural Appraisal (PRA), the composition of participants conformed to standard PRA practice.

Table 1 Study area and number of respondents

Community	Study Area			No. of households in the study area	No. of Respondents for Interview				
	Village	Union	Upazila		Males	Females	Youth (12-18 years)		Total
							Boys	Girls	
Munda	Nonadighi	North Betkashi	Koyra, Khulna	70	25	15	6	4	50
	Barobari								
	Tepakhali	6 No. Koyra							
	Majherait	1 No. Koyra							
	Nolpara	2 No. Koyra							
Mouals	Baliadanga	Amadi	Koyra	200	25	15	6	4	50
Bawalis	Horinagar	Amadi	Koyra	150	25	15	6	4	50
Golpata collectors	Hoddi	Amadi	Koyra	100	25	15	6	4	50
Fishers	Fakirabad	Garaikhali	Paikgachha	120	25	15	6	4	50
Total				640	125	75	30	20	250

Table 2 **Number of Participants in PRA**

Community	Participatory Rural Appraisal (PRA)									
	Social Mapping		Historical Timeline		Seasonal Calendar		Matrix Scoring		Impact Assessment	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Munda	8	-	6	-	7	6	6	8	5	-
Mouals	7	-	6	-	6	5	7	7	5	-
Bawalis	6	-	7	-	7	7	6	7	6	-
Golpata collectors	5	-	6	-	6	5	7	8	5	-
Fishers	7	-	7	-	7	6	6	5	8	-
Total	33	-	32	-	33	29	32	35	29	-
Total participants: Male: 159 and Female: 61										

2.2.2 Methods of Data Collection

I Interviews

A semi-structured Interview schedule was prepared for the different stakeholders in the forest on the basis of the key points of the study issues related to the study objectives identified during the July 2006 training workshop. The study tried to grasp the opinions and ideas from not only males, but also females and the youth. The number of respondents for interview is not gender-equivalent, however, because:

- Women are not allowed to enter the Sundarbans by the Forest Department on grounds of security and social norms.
- All the members of the indigenous and local communities believe that the Sundarbans is a sacred place and that the presence in it of women would violate its sanctity (due to menstruation). It is believed that if women were to enter the forest they would bring harm to all male forest users.

As our emphasis was on the resource users' knowledge, perceptions and attitudes, we interviewed male respondents in larger numbers.

In addition, we interviewed the youth group (12–18 years) in order to understand the mode of transmission of traditional knowledge to upcoming generations.

II Participatory Rural Appraisal (PRA)

We applied 5 PRA tools in this study in order to collect qualitative data:

- **Social Mapping:** To know the communities' settlement history, understand their culture, beliefs, values, norms, infrastructure of the locality, etc.
- **Seasonal Calendar:** To understand the working patterns of different stakeholders. The members of the communities described their activities according to the seasons, and the associated problems. They made suggestions for addressing the problems.
- **Historical Timeline:** The different stakeholders prepared a historical timeline to narrate the major changes in Sundarbans resource use patterns and their significance to the IPLCs.

- **Matrix Scoring:** To assess the different problems faced by the IPLCs in their livelihoods. They listed the problems according to their gravity and put forward recommendations as to how to solve them.
- **Impact Assessment:** To know the resource users' views about the factors affecting Sundarbans resources and their livelihood



Female researchers interviewing women

All these PRA tools were not applied for both male and female groups. The PRA tools and the interview groups were selected purposively based on data need to attain the study objectives and on practical considerations. Figure 1 gives a diagrammatic view of the research process applied in the study.

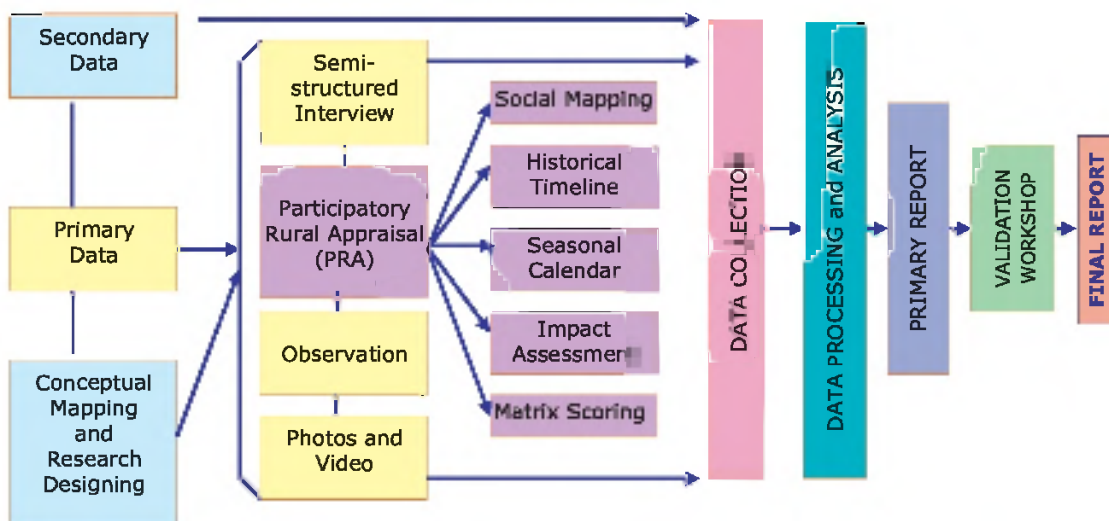


Figure 1: Research Process

2.2.3 The Study Matrix

Research component	Activities	Outcome	Period
1. Training workshop on CBD, Article 10(c) and research work	3-day orientation workshop on CBD and Article 10(c) and field research attended by resource users, research coordinators, and FPP	Developed methodology for the study with the consensus of communities' participants, research coordinators, FPP and lawyer	8–10 July 2006
2. Training indigenous researchers	3-day field work in villages inhabited by resource users and field trip assessment (Koyra and Paikgachha Upazila)	Indigenous and local community trainees trained in basic social investigation and cultural research concepts and tools	11–14 July 2006
3. Finalization of research design	2-day workshop attended by research coordinators and data investigators for finalization of research methodology, method and data collection tools	Developed interview questionnaire, checklist for the PRA, mode of data collection and interpretation	8–9 Aug 2006
4. Evaluation of Bangladesh's legal framework related to IPLC and natural resource management	Desk study by Bangladesh Environmental Lawyers Association (BELA) on existing legal regulations relating to IPLC and natural resource management	Prepared a legal status paper identifying the key issues and recommendations	July–Dec 2006
5. Participatory field research	Extensive field research by research coordinators, data investigators, community researchers, with logistical support from study partner, the NGO Nijera Kori, and local NGO Let Us Progress	Collected primary data from participatory field research and secondary data from government documents and other reliable sources	Aug–Sept 2006
6. Draft case study	Research team prepared 5 reports in local language (Bangla) on 5 communities	5 draft reports prepared	Oct 2006
7. Validation workshop	Validation workshops held with each community to discuss each draft	Necessary amendments made to the first draft	Oct 2006
8. First combined draft (English)	Research coordinators with the help of community researchers prepared the first draft in English, combining all the drafts	Initial English version of the case study report prepared	Dec 2006
9. Peer review	First English draft sent for review	Draft reviewed by panel of FPP editors and other selected individuals	May–June 2007
10. National dissemination workshop	National consultative workshop on customary use of biodiversity and traditional cultural practices in the Sundarbans held in Dhaka	The study received attention from the government, NGOs, civil society and the media. Community members highly satisfied that their voice is heard by decision-makers and civil society	31 May 2007
11. Finalization of report in English and Bangla)	Editing and correction of the drafts	English and Bangla drafts finalized	July 2007 –April 2008

2.2.4 The Research Protocol Maintained

A research protocol was developed during the initial workshop and was employed during the research project. Some of its components included:

- Participating communities were informed well in advance about the project and its objectives.
- We tried to understand the local concept of biological diversity.
- A gender-balanced research team was engaged to conduct the study.
- Before going out to collect data we reached an agreement on the protocol to be used for dealing with private information: namely that private information would be dealt with according to the communities' desires.
- We reached agreement with the participating communities on where and how valuable information would be stored. They were assured that they would have the intellectual property rights over this information.

2.3 Analytical Framework

The research team had intense discussions on the key terms of Article 10(c) and the relationship among its three main components:

- customary use of biological resources
- traditional cultural practices
- compatibility with sustainable use and conservation

Building on work on the implementation of Article 10(c) previously carried out in other countries, the team adopted a working framework aiming to meaningfully link the three components together (see Figure 2). The three components and the interlinkages among them may be summarized as follows:

Customary use: what people do, what activities they carry out, and how they use resources, according to customs developed over centuries (or millennia), in their daily interaction with the environment.

Traditional cultural practices: a set of practices organized and governed by customary law, a collection of laws established by custom covering: rights, rules, norms, responsibilities, values and beliefs, and institutions, developed by the local community over time. It includes how people organize themselves to do what they do; notions of land and property; organization of time and labour; how they conceive social structures and institutions in order to carry something out; how social rules and regulations are developed, what happens when somebody break the rules, how power is shared and exercised, and how all this relates to spiritual life and beliefs. The traditional institutional structure that results at a certain time out of the interaction among these elements guides the customary use of natural resources (shown as the line closing the loop back to 'Customary Use' in Figure 2).

Compatible with sustainable use and conservation: customary use based on traditional cultural practices is required to use resources in a way that meets the needs of present day communities while ensuring that the resources are left in a healthy and viable condition for future generations and that prevents its long term decline.

The research team kept this as a working framework during the research process while allowing for adaptations to local different conditions, situations, and data availability in the different communities.

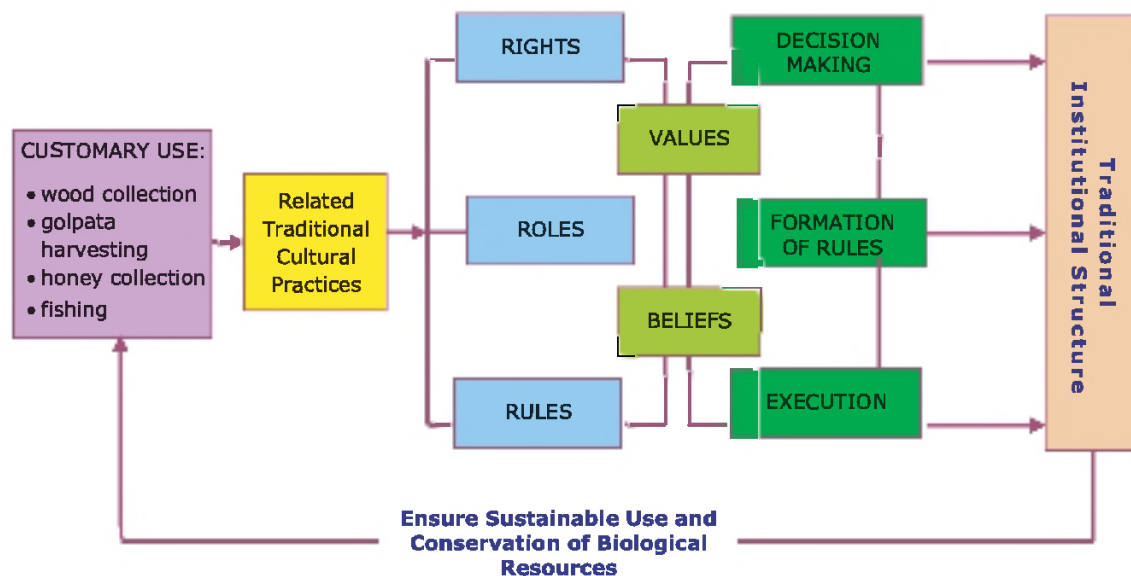


Figure 2 Analytical Framework

2.4 Limitations of the Study

During the entire research initiatives, there were constant efforts to make the project error-proof, yet this study suffers from some limitations which were beyond the control of research team. The limitations include:

- The study period was very short due to funding and time constraints. The scope of the study was somewhat narrow.
- The data was collected between August and September 2006. This is a lean period for resource gatherers other than fishers. The Forest Department issues permits to harvest resources from November to June (The fishing permit is valid throughout the year). As a result the research team was unable to see the traditional resources users in action inside the Sundarbans forest.
- During the lean period most of the communities are engaged in agricultural activities. The data collection period was the time of rice planting, during the rainy season. Most of the respondents were engaged in agricultural activities, so they had little time to respond to our queries.

Chapter 3

The Biodiversity and People of the Sundarbans

The tract of the Sundarbans is of recent origin, raised by the deposition of sediments formed as a result of soil erosion in the Himalayas. The process has been accelerated by tides from the sea interface. The substratum consists mainly of Quaternary era sediments, sand and silt mixed with marine salt deposits and clay. Geologists have detected a southeastern slope and tilting of the Bengal Basin during the Tertiary period. Because of neo-tectonic movements during the 10th–12th centuries CE, the Bengal Basin tilted eastward. Evidence from borehole studies indicates that while the western side of the Sundarbans is relatively stable, the southeastern corner is an active sedimentary area and is subsiding.¹⁴

Box 1 Sundarbans fact sheet

Total area: 6,017 sq. km. of which, land: 4,143 sq. km; water: 1,874 sq. km.

Location: situated at the southern coastal part of Khulna, Bagerhat and Satkhira districts lying between latitudes 21°39'00" and 22°30'15" North, longitudes 89°12'54" and 89°29'04" East.

There are 450 rivers, creeks, estuaries and canals in the Sundarbans.

The name Sundarban derives from the name of the principal trees: sundari (*Heritiera fomes*). However, some people believe that it derives from the word *samunder* (meaning 'sea'), becoming first *Samundarban* ('forest at the seashore') and then *Sundarban*.

In 1869, the then British government first took control over the Sundarbans's management. In 1878 it was declared a reserve forest and placed under the control of the Forest Department.

It has 2 administrative divisions (Sundarbans East and West) which are further composed of 4 ranges and 58 compartments.

Three wildlife sanctuaries were established in 1977.

The Sundarbans supports 330 species of plants, 400 species of fishes, at least 52 species of reptiles, over 270 species of birds, 8 species of amphibians and 42 species of mammals.

Common animals: tigers: 350–400; deer: 100,000–150,000; crocodiles: 150–200, monkeys: 40,000–50,000.

Dependants: about 3.5 million people (moual, bawali, chunary, Munda, fishers etc.) directly or indirectly depend on its resources.



Source: Bangladesh Forest Department;

CDP, *Fact Sheet Issue No.4, January (2004)*; **Map:** Banglapedia

¹⁴ Asiatic Society of Bangladesh (2004), *Banglapedia*, (Multimedia CD English Version) (Dhaka: ASB).

Since the forest is located on the south of the Tropic of Cancer and bounded by the northern limits of the Bay of Bengal, its vegetation is classified as tropical moist forest. The temperatures in the Sundarbans are more equable than those of the adjacent land areas. The average annual maximum and minimum temperatures vary between 30° and 21°C. High temperatures occur from mid March to mid June and low temperatures in December and January.

The mean annual relative humidity varies from 70% at Satkhira to 80% at Patuakhali. Humidity is highest in June to October and lowest in February. Annual rainfall in the Sundarbans is in the range of 1,640–2,000 mm; rainfall increases from west to east. Most rainfall occurs during the monsoon from May to October, but frequent and heavy showers occur from mid June to mid September. Often storms accompanied by tidal waves result in widespread inundation and cause damage to both vegetation and animal life.

3.1 Biodiversity

The Sundarbans is enriched with biodiversity of all forms, which are summarised below.¹⁵

3.1.1 Vegetation

The vegetation is largely of the mangrove type and encompasses a variety of plants including trees, shrubs, grasses, epiphytes and lianas. Being mostly evergreen, they possess more or less similar physiological and structural adaptations. Most trees have pneumatophores for aerial respiration. The prominent species is sundari (*Heritiera fomes*) and gewa (*Excoecaria agallocha*). Prain (1903) recorded 334 species under 245 genera.

In the Sundarbans the saltwater forest is situated in the southwestern part where gewa (*E. agallocha*), goran (*Ceriops decandra*), keora (*Sonneratia apetala*), ora (*S. caseolaris*), passur (*Xylocarpus mekongensis*), dhundul (*X. granatum*), bain (*Avicennia alba*, *A. marina*, *A. officinales*), and other rhizophores, and hantal (*Phoenix pelludosa*) dominate. These mangrove species dominate the central part of the forest. The moderate saltwater forest covers most of the southern parts of Khulna and Bagerhat districts where sundari is the dominant species. There is a thick mat of nypa palm or golpata (*Nypa fruticans*) by the side of almost all the canals. The moderately freshwater zone results from the large amount of water that flows down the Pasur, Haringhata and Burisher rivers, maintaining the surface water at a lower level of salinity. Tiger fern (*Achrostichum aureum*) (local name *hental*) mostly covers the ground, which is common in saltwater and moderately saltwater zones. Tigers use these bushes to camouflage themselves.

3.1.2 Fauna

The Sundarbans hosts a large variety of animals. It is the last stronghold of the Bengal tiger (*Panthera tigris*). Within the forest habitats there are about 50 species of mammals, about 320 species of inland and migratory birds, about 50 species of reptiles, 8 species of amphibians, and about 400 species of fish.

Besides the spectacular Bengal tiger, the other notable mammalian fauna are spotted deer (*Cervus axis*), barking deer (*Muntiacus muntjak*), rhesus macaque (*Macaca mulatta*), jungle cats (*Felis chaus*), leopard cats (*Prionailurus bengalensis*), the Indian porcupine (*Hystrix indica*), otters (*Lutra perspicillata*), and wild boar (*Sus scrofa*). Deer and wild boar constitute the main prey for the tiger. Some species, including the Bengal tiger, are endangered.

The ecological diversity of the Sundarbans supports a large variety of birds. Among the total number of species recorded, most are resident. Over 50 species are known to be migratory and are mostly waterfowl. Egrets, storks, herons, bitterns, sandpipers, curlews, and numerous other waders are seen along the muddy banks. There are many species of gulls and terns, especially along the sea coast and the larger waterways. *Accipitridae* (kites, eagles, vultures, harriers etc.) are represented by about 22 species. Nine species of kingfishers are present in the forest. The rich avifauna of the forest include species of

¹⁵ The statistics on biodiversity in this section have been taken from *Banglapedia*, Dhaka: Asiatic Society of Bangladesh, (2004) (Multimedia CD English Version) (Dhaka: ASB).

woodpeckers, barbets, owls, bee-eaters, bulbuls, shrikes, drongos, starlings, mynas, babblers, thrushes, orioles, flycatchers, and many others.

Of about 50 species of reptiles the largest member in the Sundarbans is the estuarine crocodile (*Crocodylus porosus*), some of which may attain a length of about 7 metres. Although once they were abundant in this mangrove habitat, their total number is now estimated to be around 250. Species of lizards, including monitor lizards, varanus, turtles, and snakes, are well represented. Among the snakes, the king cobra (*Ophiophagus hannah*), Russell's viper (*Vipera russellii*), rock python (*Python molurus*), banded krait (*Bungarus fasciatus*) and several species of sea snakes are notable.



Clockwise: Sundari tree, crocodile, spotted deer, Royal Bengal tiger



8 species of amphibians have been reported from the Sundarbans. The green frog (*Euphlyctis hexadactylus*) is mostly observed in the Chandpai area of the mangrove forest. The other forest amphibians include the skipper frog (*E. cyanophlyctis*), cricket frog (*Limnonectes limnocharis*), tree frog (*Polypedates maculatus*), and the common toad.

The Sundarbans supports nearly 400 species of fishes in its varied aquatic habitats; these include both pelagic and demersal fishes. Many species use these habitats as nursery grounds.

Among the invertebrates, some molluscs and crustaceans constitute important fishery resources. About 20 species of prawns, 8 species of lobsters, 7 species of crabs, several species of gastropods, and 6 species of pelecypods have been reported from the Sundarbans. Among the prawns *Penaeus monodon* and *Metapenaeus monoceros*, as well as the mud crab *Scylla serrata*, are commercially important. Insects are varied, the most important being the honeybee *Apis dorsata*.

3.2 People and Livelihoods in the Sundarban Impact Zone (SIZ)

3.2.1 Settlement

Settlement in the Sundarbans Impact Zone (SIZ) began at the beginning of the 19th century. Even at the end of the 18th century there was no settlement in the vast areas surrounding the Sundarbans. As a result, maps prepared in that period describe the area as depopulated. The Sundarbans was unpopulated forest, though some people used to go there to collect honey, beeswax and lime. The northern side of the Sundarbans has been populated for the past 10–15 generations.¹⁶

Introduction and Impact of the Zamindari System

The Permanent Settlement Act 1793, under the then British East India Company (EIC), introduced the zamindari system of land tenure. The new system brought major changes in land ownership and to the entire socio-economic profile of the Indian subcontinent as well. After 1813 the East India Company started to lease out the chars¹⁷ to new zamindars (landlords). For the sake of livelihood, the bawali (woodcutters), chunery (collectors of snails and oysters for making lime) and salt industry labourers were employed to clear the forest for agriculture as directed by the zamindars. The people of the north began to move to the south. Many indigenous people from the Santal (an indigenous group), the pargona (land revenue unit) and Ranchi joined in the queue to clear forest for zamindars.

Indigo Cultivation and Industrial Policy of the EIC

The English nilkors (indigo planters) brought some indigenous people working in the indigo factories to these places. In addition, many people from 24 Pargona (in West Bengal, India), Jessore, Khulna and Bakergonj (the present-day Barishal region) came attracted by the fertile land of the Sundarbans. One of the key factors in this population shift was the British policy on cottage industry. This new policy forced many people to leave cottage industry and to join in zamindar-led agriculture.

Anti-British Movement

Throughout the British regime many tenant movements had emerged in different places, and the rulers had tried to control the movements by coercion. Many of the oppressed people opted for the newly emerged agricultural land of the Sundarbans for their new life. After 1831, Titumir's¹⁸ followers migrated from Sarfarajpur Kushdaha pargona to the Sundarbans; the Foraji¹⁹ movement motivated many people to migrate to Khulna and the southern part of Barishal. Moreover, some social criminals and Mug pirates came to a different part of the Sundarbans for a secure haven. In a nutshell, different groups of people came to the Sundarbans from different places for different reasons. And the areas surrounding the Sundarbans became a major settlement.²⁰ Immediately after Mundas settled in the area, other communities (e.g., mouals, bawalis etc.) came here from adjacent districts.

¹⁶ Shasanka Mondal (1995), *British Rajotwea Sundarban* [An Informative Book about the Sundarbans], (Kolkata: PunShcha, 114 N, Dr Sureshchandra Banarji Road), p. 4.

¹⁷ A strip of sandy land rising out of the bed of a river or sea above the water level.

¹⁸ Titumir (1782-1831) started the movement to reform Indian society, which later became an anti-British movement. He was renowned for establishing the 'Basherkeella' (Bamboo Fort) at Barasat in India to fight the British forces.

¹⁹ The Foraji movement between 1818–1840 was led by Hazi Shariyat Ullah. Initially the movement aimed to remove all evils from the then Indian society. Later on the movement spread to protect farmers from suffering at the hands of the nilkors, zamindars and mohajan.

²⁰ Shasanka Mondal (1995), *British Rajotwea Sundarban* [An Informative Book about the Sundarbans], (Kolkata: PunShcha, 114 N, Dr Sureshchandra Banarji Road), p. 4.

Settlement

The Sundarbans is a mangrove forest as well as a protected area. No one lives or is allowed to live inside the forest. People dependent on the Sundarbans live in the SIZ. Dependence on the forest decreases with distance from the edge of the forest. The MARC Survey²¹ showed that 78% of households within 0–2 km from the forest were dependent upon the forest for income generation, while only 64% were dependent who lived 8–10 km away. Participation rates varied between resources, with strong participation in golpata collection from the 0–2 km band and virtually no participation in the 8–10 km band, while prawn fry collection participation was almost uniform.

Livelihood Provision and Changes

At present, the area provides a livelihood at certain seasons of the year for an estimated 3.5 million people, working variously as woodcutters, fishers, and gatherers of honey, golpata leaves and grass. Local people are themselves dependent on the forest and waterways for such necessities as firewood, timber for boats, poles for house posts and rafters, golpata leaf for roofing, grass (e.g., mele grass (*Cyperus javanicus*), ulu grass (*Imperata cylindrical*), nal khagra (*Eriochloa procera*) for matting, reeds for fencing, fish (mostly for their own consumption) and medicinal plants for herbal treatment. The people involved in the various resource collections from the Sundarbans have separate identities and traditional cultural practices for harvesting resources in a sustainable manner. All of them came here with a view to having a better life.

Occupational patterns have changed significantly since the time of settlement. Only a few decades back, the majority of settlers were involved in agricultural activities. Dependence on non-agricultural activities, such as the extraction of wood and non-wood forest resources and prawn cultivation, is a more recent phenomenon. Poor people living within the impact zone have been forced to extract resources from the Sundarban Reserve Forest (SRF) as wage labourers due to lack of other opportunities and the conversion of farmland to other uses (such as prawn ponds). This has produced its own set of dangers and exploitation. The Sundarbans is on the verge of complete destruction as a result of overexploitation caused by increased demand for forest resources. The number of sundari trees has declined by 76% since 1959 due to top-dying disease and overharvesting.²²

3.2.2 Traditional Resource Users

3.2.2.1 The Munda Indigenous Community

Among the 45 indigenous groups in Bangladesh, the Mundas are a very small group of aboriginal people living in different parts of the country. As counted locally, 1,163 Mundas²³ live in the scattered villages of Koyra and Dumuria upazila of Khulna and Shyamnagar, and Debhata and Tala upazila of Satkhira district – all falling within the SIZ. The ecosystem of the Sundarbans seems to suit the indigenous ways of living and the cultural traits of Mundas.

Box 2 Munda settlement in Bangladesh

Division	District
Rajshahi	Dinajpur, Rajshahi, Nawgaon, Bogra, Chapai Nawabgonj, Rangpur, Panchagarh, Natore, Takurgaon
Sylhet	Sylhet (mainly in tea estates)
Khulna	Khulna, Satkhira, Bagerhat
Dhaka	Faridpur

²¹ Multidisciplinary Action Research Centre (MARC) (1995), *Socioeconomic Studies on the Sundarbans Reserve Forest* (Dhaka: MARC).

²² ActionAid, Bangladesh (2003). *The Sundarbans: Pranbaichitro: Protibesh beboshta: Antorjatik Arthik Protishthan* [The Sundarbans: Biodiversity: Ecology: International Finance Institutes]. Dhaka

²³ There are no exact statistics regarding the true number of Munda in the study area. The number mentioned in the text is taken from Asiatic society of Bangladesh, (2005) *Banglapedia* (CD version, English). But research experience from Koyra, Khulna, suggests that the number in the Sundarbans region could be near 2,000.

The Mundas conform to the general description of Australoid people, being dark complexioned, of medium height and fairly stocky with wavy hair. In their original homelands in India, they used to be hunter-gatherers, but that occupation was closed to them when the Sundarbans was declared a reserve forest. As a result, they have to survive on wage labour.



Munda man and woman

Until recently, Mundas (and Mahatos, another tribe bearing close affinity to them) were known as *bunos* or jungle clearers. They came to Bangladesh over 200 years ago from Ranchi and Chota Nagpur in the Bihar state of India to help reclaim land for agriculture for the zamindars (landlords) and dig lakes and ponds for them. They had a deep attachment for their homes and lands back in Bihar. According to some accounts, Mundas along with other tribes akin to them came from the Rajmahal Hills of India and settled in the northern part of

Box 3 Economic and social picture of the Mundas

Religion:	Munda traditional religion	
Education:	No literacy:	60%
	Primary education:	35%
	Secondary education:	5%
Family (average):	Members:	6
	Members earning:	2
Income:	Income:	
	Tk. 1,500-3,000 =	68%
	Tk. 3,001-4,500 =	24%
	Tk. 4,501-6,000 =	6%
	Tk. 6,000-7,500 =	2%
Expenditure:	Tk. 2,600	

Rajshahi district. Some of them, like the Oraons, Mahatos and Santals, settled in this area permanently and were employed in agriculture, at indigo factories and at tea plantations. These days most Mundas and Mahatos depend mainly on agriculture. Ethnically, Mundas are described as a large Dravidian tribe of Chota Nagpur closely akin to the Hos and Santals and on linguistic grounds classified as Kolarian. The name Munda is said to be of Sanskrit origin meaning 'headman of a village'. This titular designation is used by the members of the tribe. Mundas and Oraons are also known by the general name of Kol. It is believed that the Mundas of the study area came to the region 250-300 years

back during the time of Raja (king) Protapaditya. The flow of migration continued from the mid-16th to the 17th century. During the partition of the Indian subcontinent many Mundas went back to India; some of them came back again.

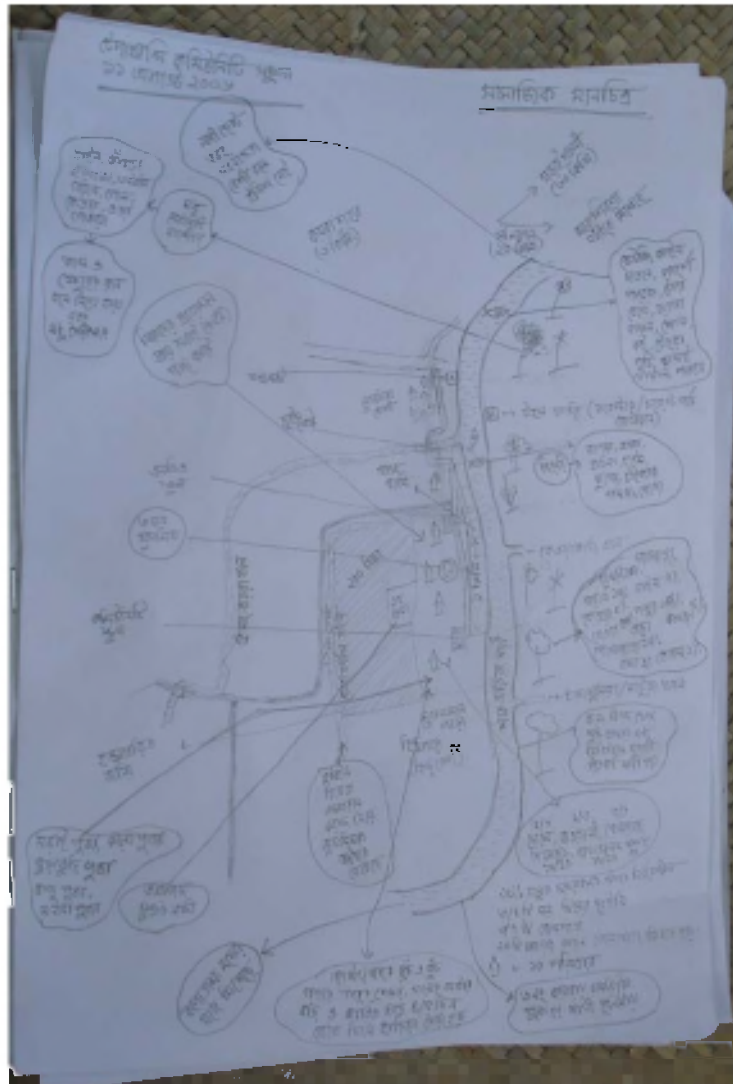
In the early period Munda families were matriarchal; later on they gradually became patriarchal. The reason may be the patriarchal nature of the local community.

As jungles and forests dwindled under pressure of population and consequent clearing and settlements, the Mundas found that their traditional occupation was no longer economically viable. To survive, they resorted to alternative occupations such as agriculture, fishing, van driving, small businesses and jobs.

Mundas experienced no major economic changes in their livelihood but changes have occurred in their food habits, culture and attitudes. Mundas used to eat rat as a popular food item. But today most of them have given up that habit, because the local communities do not like it.²⁴

They have their own language, religion, culture and beliefs. But today many of these have changed. Most Mundas speak Bengali, but with other Mundas they speak the Munda language. Their language has no written form.

Munda people live in 13 para (clusters) in the Sundarbans Impact Zone. Though they live very close to the Sundarbans, they do not fully depend on Sundarbans resources. Agriculture, earthwork (digging ponds, house foundations, protecting riverbanks, etc.), catching fish and crabs are their main occupations now. They collect fish and crabs from nearby rivers and water bodies, not from the Sundarbans canals or creeks. Mundas came here to clear the forest for agriculture for the zamindars. They were treated as cheap labour but at least they had a certain degree of job security and a homestead. After abolition of the zamindari system in the 1950s their misery worsened. Most of them lost their jobs and their opportunity to obtain land, as this was fast taken over by local Bangalees.



Social map of Tepakhali drawn by Munda respondents

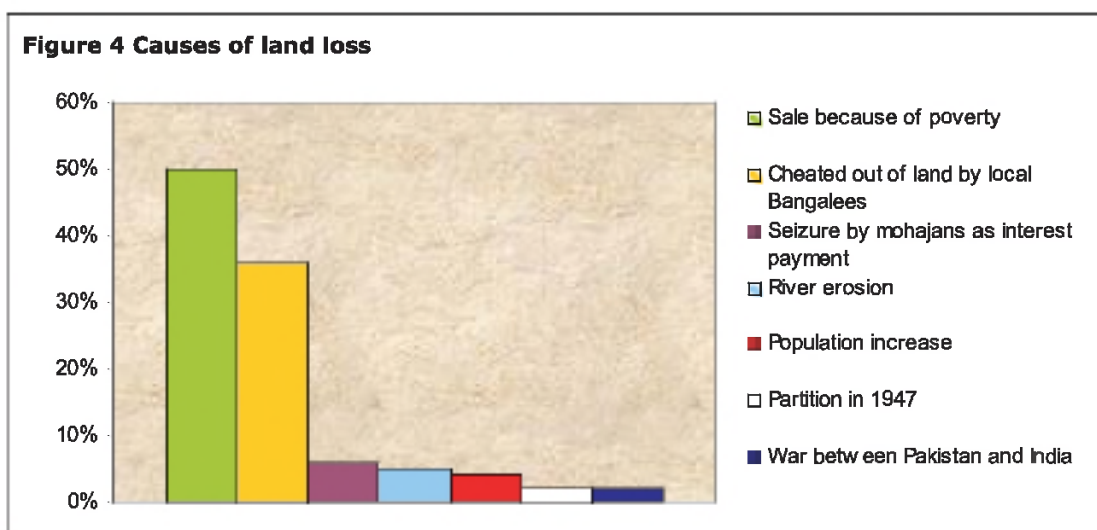
²⁴ Nowadays, only 5–6% of Mundas eat rat.

Land Ownership

90% of Mundas have only a homestead; 5% of Mundas have agricultural land and the remaining 5% are absolutely landless. According to the government definition of landlessness 95% of Mundas are landless. These landless Mundas work as day labourers. The wage for agricultural day labour is very low. A labourer gets Tk. 60 (less than \$1) for working 7 hours (6 am to 1 pm). For weed sorting they get only Tk. 40. In the case of paddy harvesting, a labourer has to do all the jobs from cutting in the field to storing in the house, and gets one-tenth of the total paddy. They do not have adequate education facilities.



Of Bangladesh's 45 indigenous groups, most live in the Chittagong Hill Tracts and have difficulty obtaining land ownership unlike those who live in the plains, such as the Munda. In the Sundarbans region most of the agricultural land was cleared by the Mundas and in return they got land ownership from the zamindars after the abolition of permanent settlement in 1950. But most Mundas subsequently lost their agricultural land through the cheating of neighbouring Bangalees.



Case Study 1

Name: Bishpoti Munda
Age: 35
Occupation: Housewife; fishing and collecting firewood
Address: Majherait, 1 No. Koyra, Khulna



Like most of the Munda, Bishpoti is illiterate. She lives in a 6-member family. They have to live on an average monthly income of Tk. 2,500. Before the SA Record (of 1947-1971) Bishpoti had 37 bigh (1 bigha = 33 decimals) of agricultural land. As they were illiterate and did not understand the complex interest pattern of the society, during the SA Record Bangalees recorded Bishpoti's land under their own name. Now she has only 17 decimals of land. This land cannot produce enough for them to survive on throughout the year. This ultimately made her take up agricultural wage labour.

Box 4 Changing the family name from Munda to Sardar and thereafter

Once all Mundas kept Munda as their surname. It was our identity. As we are simple and illiterate, we need to get permission from the deputy commissioner before selling land. The process of getting permission is lengthy and complex and in this process people have very little scope to cheat. Our situation deteriorated gradually and we had to sell our land. The local Bangalees seized these opportunities. To sell our land easily avoiding the complex permission system, they encouraged us to introduce ourselves as Sardar (both Munda and Sardar have similar meanings: 'village head'). Being Sardar we did not go through the complex procedure. So, the Bangalee buyers very easily cheated us. They told us that they would buy one bigha but on the deed they recorded one acre (1 acre = 100 decimals). Sometimes they even recorded our homestead also.

Gitadas Munda (55 years)
Majherait, Koyra, Khulna

Education

In the study area 60% of respondents (Munda) are illiterate; among the remaining 40%, 35% had primary education (levels I-V) and only 5% had received secondary level education (levels VI-X).

In the study area, the Munda community has 6 pathshala (unregistered primary education institutes). These institutes are run with the financial assistance from Father Luigi Paggi, an Italian. The students are taught mainly in the Bengali language, because the Munda language (Nagri) does not have its own alphabet. There is no bar on going to the normal primary schools. But Mundas hesitate to go to them, because they are very poor and do not have good clothes, and because they have some different cultural and eating habits.

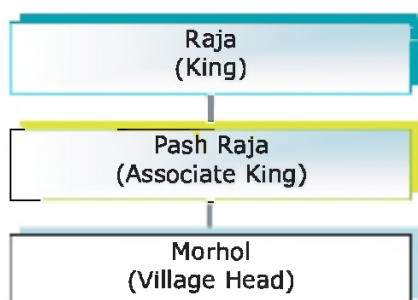
Mundas have very limited access to government health services. They fear that the hospital doctors and staff will not attend them. Besides, they will not be able to explain their problem to the doctors.

Traditional Institutions

The Munda community has retained a 3-tiered traditional institution. The Raja (King) remains at the top, as the titular head of the community. He leads social programmes and ensures the strict adherence of traditional norms, customs and the social value system. The King's jurisdiction lies in one upazila. He is assisted by the Pash Raja (Associate King) appointed for each union, and represented in every village by the Morhol (Village Head). The King's son will be the next king. In consultation with the community members the King selects the Pash Raja and Morhol from a group of respectable elders.



The present Munda King



At one time this traditional institution was very authoritative and all community members abided by the king's directives. But nowadays, the King and his deputies have lost much of their command over the community. Several factors are responsible for this, the main one being poverty. For example, the present Munda King for Koyra upazila is an agricultural wage labourer. The other factors are because of the change in the power structure in the rural areas: politicization of community members has resulted in non-recognition of traditional institutions, and of traditional laws by the country's legal system. The young, educated Munda want the king to be elected but the older age group support the present system.

In the whole of the southwest region the Munda community has just one association, named Sundarban Adibashi Munda Samiti (SAMS) (Sundarban Indigenous Munda Association) whose headquarters is in Shamnagar in Satkhira district.

Culture

The Munda rise very early in the morning and cook food. Their staple foods are rice and meat but their most popular foods are rat and shamuk (oyster). They marry early but only within their community. Mundas cannot marry with other communities: if they do, they are punished by social sanction.

The Munda prepare haria, an indigenous wine, using rice and the juice of some plants. There is no gender discrimination and all people work.

After harvest they observe a festival, Shakram, with homemade cakes and wine, singing their own songs. They practise traditional medicine and try to solve problems in their own way and to avoid formal legal procedures.

Mundas use no mechanical instrument for cultivation, and use ash to prevent pests. They practise their own religion: some of the rituals are similar to those of Hinduism. At the end of Vadro (mid September) they observe Karam Puja. In this puja they use chicken, paddy, mustard, milk, and bananas; both males and females dance together centring a place, and sing their own songs in their own language. Some songs relate to natural resources. This is one of their principal religious rituals which they observe in order to bring happiness and prosperity. They perform Sarul Puja before taking food from the new paddy in Agrohayan and Chaitra (mid November and mid March) and observe Velaya Puja before planting paddy.

They organize Burha-Burhi Puja for the welfare of the family at the time of weddings and for newborn babies. If all the people of a generation die then they observe Dawri Puja for the peace of the departed souls.

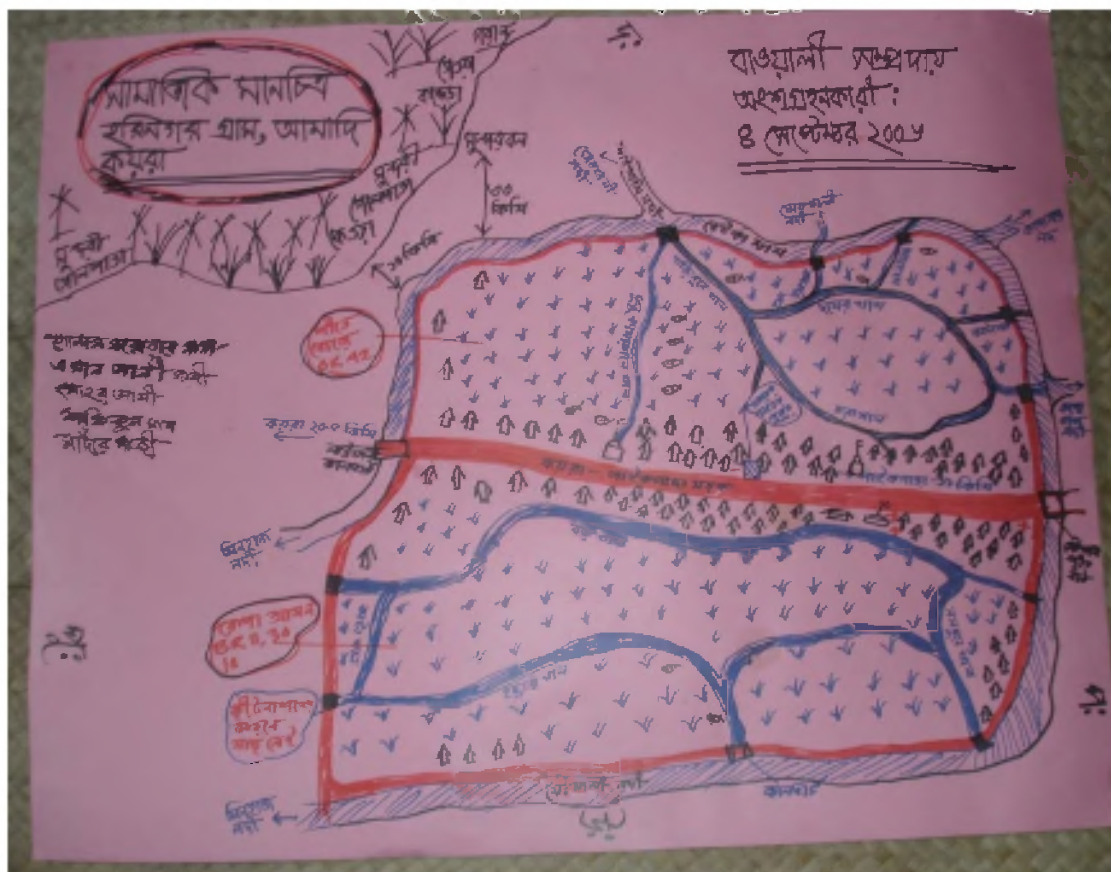
3.2.2.2 The Bawalis



Bawalis

The bawalis are the woodcutters of the Sundarbans. They are called bawalis as they invoke the help of bauls (traditional Bangalee spiritual healers) for protection against wild animals and other hazards. It is commonly believed that bauls know mantras (mystic – and esoteric – word(s) recited during worship to a supernatural power) to control tigers and that they can confine tigers within a circle or shut their jaws by reciting these magic spells. Bawalis collect gewa, garan, keora and other trees from a wide area of the Sundarbans. No one is allowed to cut sundari, dhundol and pashur trees. Yet these are cut by the timber traders with the help of corrupt forest officials.

This study was conducted in Horinagar village of Amadi union of Koyra upazila in Khulna district. Once it was part of the Sundarbans. Nowadays it is just 10 km away from the Sundarbans as the map shows. Horinagar village is surrounded by the Moikhali river to its north and south, the Vetka canal and CARE's road at the east and north. The village is 1.25 km long and 0.8 km wide. There is a government-constructed embankment at the northeast and northwest part known as Berhibandh. There are 14 khal (canals) in the village namely Katakhal, Barho khal, Nalbuniya khal, Vutu kamrano khal, Chara khal, Domer khal, Kharhibune khal, Bajbaji khal, Aarho khal, Kharhibune khal etc. Up until the 1960s they all were navigable; now most of them are no longer usable by the local people due to construction of embankments and encroachment by influential people. 20 to 25 years ago there were plenty of gewa, keora and golpata plants in the village. Today they have become rare, due to lack of saline water flow. The embankments restrict the flow of saline water.



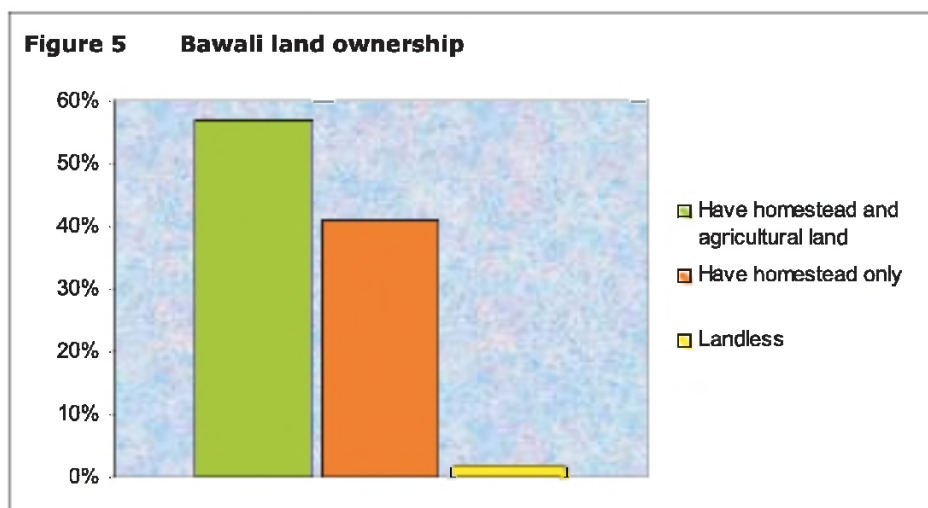
Social map drawn by Bawali respondents

Settlement

Settlement in this region began with the construction of King Protapaditya's fort and housing for followers of the pir (Muslim saint or Sufi). According to the people, settlement began more than 250 years ago. One Edu Sana along with 4 families came from Sharsh in Khulna district to settle here. Want of fertile agricultural land and the vast resources of the Sundarbans probably encouraged them to migrate here. Later, after the introduction of the zamindari system by the Permanent Settlement Act 1793 of the East India Company, zamindar Ashutosh Mukhupadya of Narail Estate brought gatidar (land managers) and land laborers from different parts of his estate and settled them here.

Socio-economic profile

Generally most of the communities in the region are poor. Likewise the bawali community in Horinagar is also poor. Its members have very limited access to education, health services and other civic facilities. 2% of people are completely landless and 41% of the people have only a homestead; the remaining 57% do have agricultural land and a homestead.



The average number of family members in each family is 5.45, whereas the average number of earning family members is only 1.47. Average monthly income is Tk. 2,790 and average monthly expenditure is Tk. 2,791. There has been an acute drinking water crisis in the locality. Only 2 families have bought a Pond Sand Filter (PSF) from a local NGO. For the remaining people, the only source of drinking water is pond- and rainwater harvesting. 30% of households harvest rainwater during the rainy season and preserve it in big mytes (containers made from mud). There are 3 hand tube-wells in the village. Tube-well water is not drinkable because of its excess salinity and iron content. 50% of households do not have any sort of sanitary latrine.

Box 5 Economic and social picture of the bawalis		
Education:	No literacy:	42%
	Primary education:	30%
	Secondary education:	22%
Family (average):	Members:	5
	Members earning:	1–2
	Income:	Tk. 2,790
	Expenditure:	Tk. 2,791

Education

The Bawali community is poor, with low levels of literacy, as presented in detail in the table below.

Table 3 Literacy Profile of Bawali Respondents

Respondents	Literacy Level				Total
	Illiterate	Up to Primary School	up to Secondary School	Completed Secondary	
Male	11	10	8	2	31
Female	10	5	3	1	19
Total	21 (42%)	15 (30%)	11 (22%)	3 (6%)	50 (100%)

Culture

Bawalis in Horinagar largely follow the Bangalee culture. But the most pathetic social evil in the village is the dowry system. In all marriages the bride's guardian must give dowry to the bridegroom based on the qualifications and status of the bridegroom. People in secure government or private jobs are in high demand in the marriage market. Rich people give a motorbike and/or at least Tk. 100,000 (\$1,500) as dowry. The middle class and poor people give a bicycle, livestock, a watch, household items and/or Tk. 2,000 (\$30) to Tk. 60,000 (\$800). The Hindu community gives more dowry than do Muslims. For dowry many parents are forced to sell their only agricultural land upon which they used to survive.

3.2.2.3 Golpata Collectors

Respondents who were golpata (Nypa palm) collectors were from the same village of Horinagar. 60–65% of the villagers are golpata collectors. 42% of golpata collector respondents are illiterate, 34% have only primary education and the remaining 24% do have secondary education. Sometimes the bawalis also cut golpata, but they need a separate permit for golpata collection. The golpata collectors get permission in Agrohayan to Chitra (mid November to mid March). Most of the golpata collectors work as laborers of mohajans. For each trip (one month long) they get Tk. 2,000. Bawalis do not collect honey.

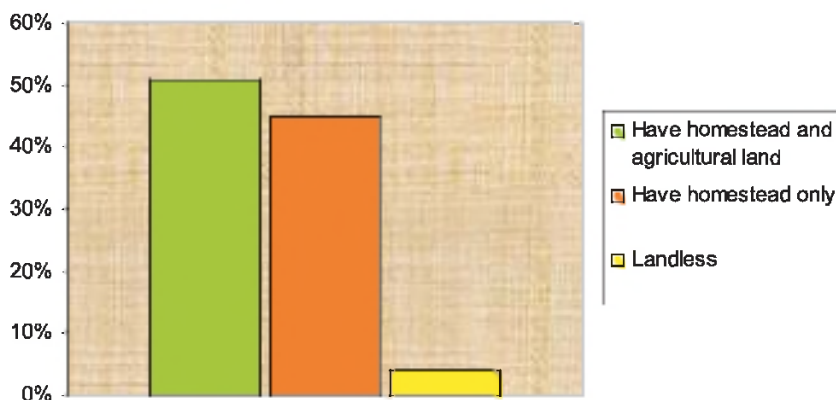
Socio-economic and cultural profile

Golpata collectors have a similar societal context and socio-economic background and follow the same culture as the bawalis. They do not have the money or boats of their own needed to collect golpata. To make a large country boat, which can carry 500 to 600 mounds of golpata, Tk. 90,000 to Tk. 100,000 are required, which is impossible for them to provide.

Of all the respondents, 4% are landless and 45% have only their homestead; the remainder have both homestead and agricultural land. Earlier all of them had land. People were forced to sell their land for many reasons:

- **Poverty:** The whole area is poverty-stricken and poverty compelled many to sell their land.
- **A false court case under the Forest Act:** The golpata collectors are not safe before the Forest Department officials. Through deals with timber traders these officials sell the timber from the Sundarbans but lodge false cases against innocent resource users. To fight the court cases families incur huge financial losses and go through untold social and mental suffering. To pay for the court cases they have to sell their land.
- **To split the land among the succeeding generations:** The population is increasing rapidly and land is divided among one's successors.
- **Cheating by the Sana Families:** Sana families settled in the study area first. They were a powerful and influential group in the locality, and they tried to exploit other families.
- **River erosion:** River erosion is one of the major problems of the locality.

Figure 6 Golpata collector land ownership



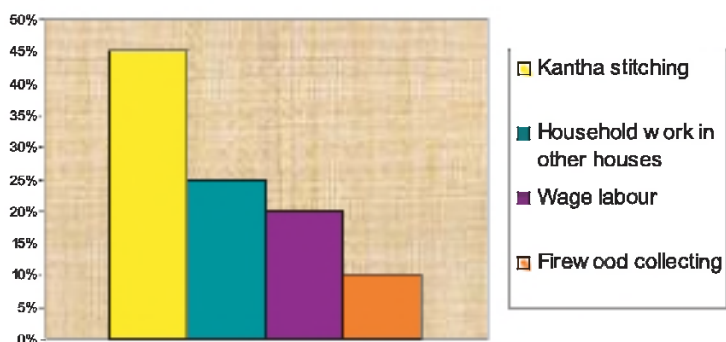
Among the respondents, the average number of family members is 5 and the average number of earning members in each family is 1.84. Average monthly income is Tk. 2,658 and average monthly expenditure is Tk. 2,768.

Box 6 Economic and social picture of the golpata collectors

Education:	No literacy:	42%
	Primary education:	34%
	Secondary education:	24%
Family (average):	Members:	5
	Members earning:	2
	Income:	Tk. 2,658
	Expenditure:	Tk. 2,768

Women in the Golpata Collector Community

Figure 7 Women’s activities in the golpata collector community



All the older women are housewives. They remain busy with household activities. Girls help their mother in household activities. The other activities women are involved in are:

- stitching kantha (thick bed covers made of patched cotton cloth)

- household wage labour
- wage labour in earthcutting and road maintenance work
- firewood collection

Sub-occupations of the Males

The sub-occupations of the male golpata collectors are:

- agricultural wage labourer
- day labourer
- van puller
- small trader
- fisher
- share-cropper.

Most of the agricultural land produces one crop a year. Farmers only get one crop because during the lean period of the year the salinity of the soil increases and they do not have irrigation. This community also suffers from the dowry problem and problems of drinking water, sanitation and poverty. The Bengali months of Vadro, Ashwin and Kartic (mid August to mid November) are the toughest period for them. In these 3 months they do not have any sort of work.

3.2.2.4 Mouals

The mouals, the traditional honey hunters, earn their livelihood through collecting honey from the forest and then selling it. The name is derived from the word *mou* (honey) which they collect from the *mouchak* (hive or honeycomb). Bengal abounded in forests and nectar-generating plants in the past and mouals were then scattered all over the country. But now their abodes are concentrated in a few places in the Sundarbans and Chittagong Hill Tracts. Generally, mouals are busy during late spring, when the weather becomes sufficiently warm to allow bees to gather pollen and when early-blooming plants and flowers are rich in nectar. Mouals in the Sundarbans Impact Zone collect honey from mid March to mid June (the Bengali months of Chaitra to Joishta).

Box 7 Economic and social picture of the mouals			
Religion:	Hindu:	52%	
	Muslim:	48%	
Education:	No literacy:	54%	
	Primary education:	32%	
	Secondary education:	14%	
Family (average):	Members:	4	
	Members earning:	2	
	Income:	Tk. 1,747	
	Expenditure:	Tk. 1,970	

Case Study 2

Name: Md. Nur Box Gazi
Age: 65 years
Religion: Islam
Address: Baliadanga, Amadi,
Koyra, Khulna



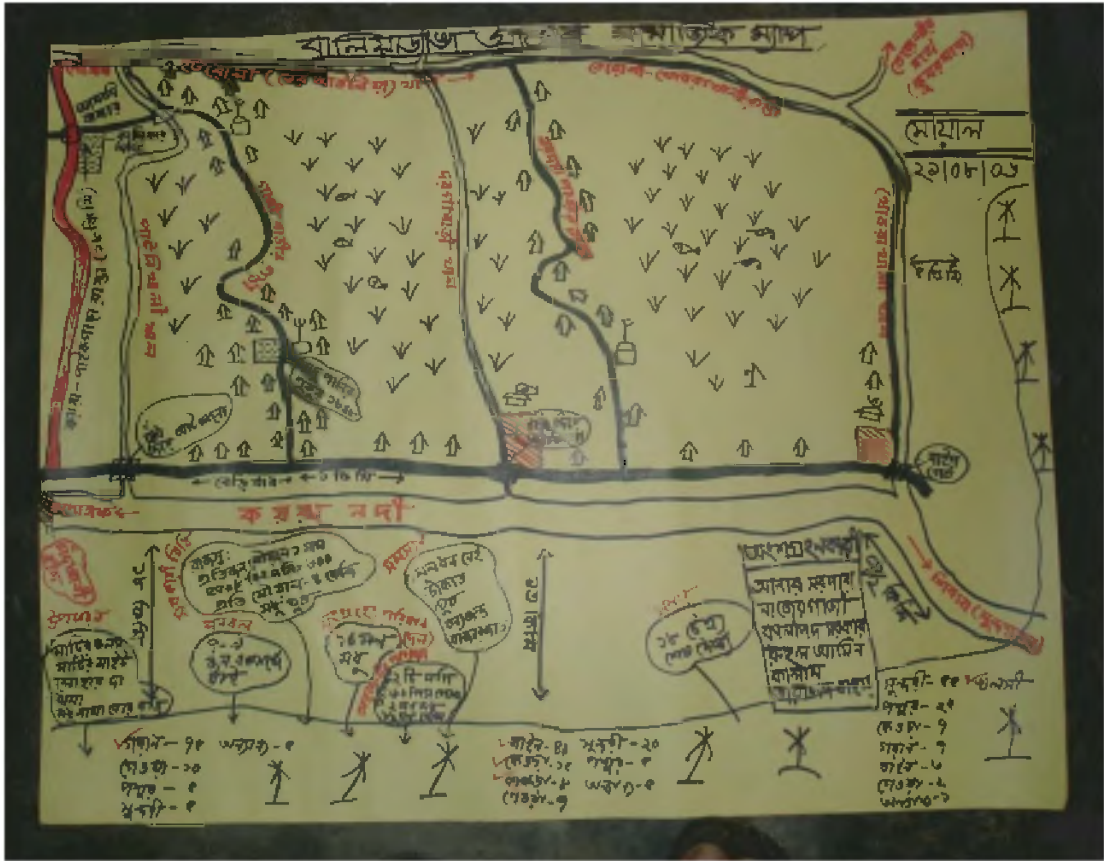
Once a moual, Nur Gazi is today known to the villagers as kabiraj (village Ayurvedic physician, non-government registered).

Born into a poor family, Nur Gazi started life as a moual like his forefathers, at an early age. Two or 3 years ago he went into the Sundarbans with about 6 other mouals to collect honey. As on previous days they were returning by country boat with honey and wax from the forest. At a turning point in the river a Bengal tiger was hidden in the forest bush. No sooner had their boat reached the turning point than the tiger attacked them. After 2 to 3 hours' fighting they narrowly escaped death. Nur Gazi could never forget this incident. He has 6 family members but he is the only earning member in his family. No one will take on the responsibility of his family if he has an accident and dies. They have no other property to enable them to survive. So he decided to leave the profession of moual permanently. To some extent he was compelled to take up his present profession of kabiraji. His earnings from being kabiraji are not enough to feed all his family members. He has no positive dream for the future.

Settlement

This study was conducted in Baliadanga village of Koyra upazila, which is situated on the Koyra river. The village is surrounded by Patnikhali khal (canal) at its western side and Ghobra khal at the east; Teroli khal is at its south and the Sundarbans is to the north of the village just across the Koyra river.

Most of the respondents do not know when settlement began here or where their forefathers came from. 20% of respondents said that their forefathers came from Rampal, in Bagerhat district, and that settlement began here approximately 300–400 years ago. In the study area there are 400–500 households. Most of the mouals live below the national poverty line and fully depend on the Sundarbans. Only 40% of people have a homestead; 24% of people have both a homestead and agricultural land, and the remaining 22% are landless.

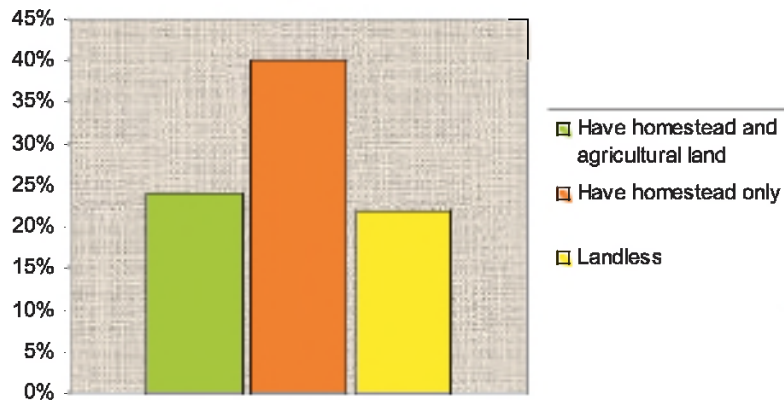


Social map drawn by moual respondents



Moual women weaving a mat

Figure 8 Moual land ownership



Agricultural land can produce one crop in a year. In the lean period mouals do agricultural work or become wage labourers or van pullers. Most of the women are housewives and engaged in agricultural work as labourers, doing matting, weaving and other handicraft making. The young children help their parents in their work in the house.

Most of the houses are constructed with mud (for the walls), hental/goran wood and golpata (for roofing).

Mouals are the group most at risk from tiger attack. In the case of any casualty a moual or his family will receive no compensation from the state or any other organizations (case study 2).

3.2.2.5 Fisher folk

Water and bodies of water are very important features of mangrove forest. In the Sundarbans, they cover just one third of the forest area. This water is the source of different varieties of fish species. It is assumed from the verses of *Charjapad*²⁵ that long ago fishers frequently visited the Sundarbans for fishing.²⁶ Even today the majority users of the Sundarbans are fishers. The number of fishers has increased due to population growth and the emergence of *bagda* (tiger prawn) farming. During the *bagda* post-larvae collection season, nearly 30,000–40,000 boats go to the Sundarbans to collect prawn fry. Over the year nearly 60,000 boats register for a Boat Licence Certificate (BLC) for different kinds of fishing. The total number of boats (legal and illegal, not having a BLC) would be 150,000. Every day 10,000–15,000 fishers fish in the Sundarbans.

Box 8 Water areas and aquatic resources of the Sundarbans

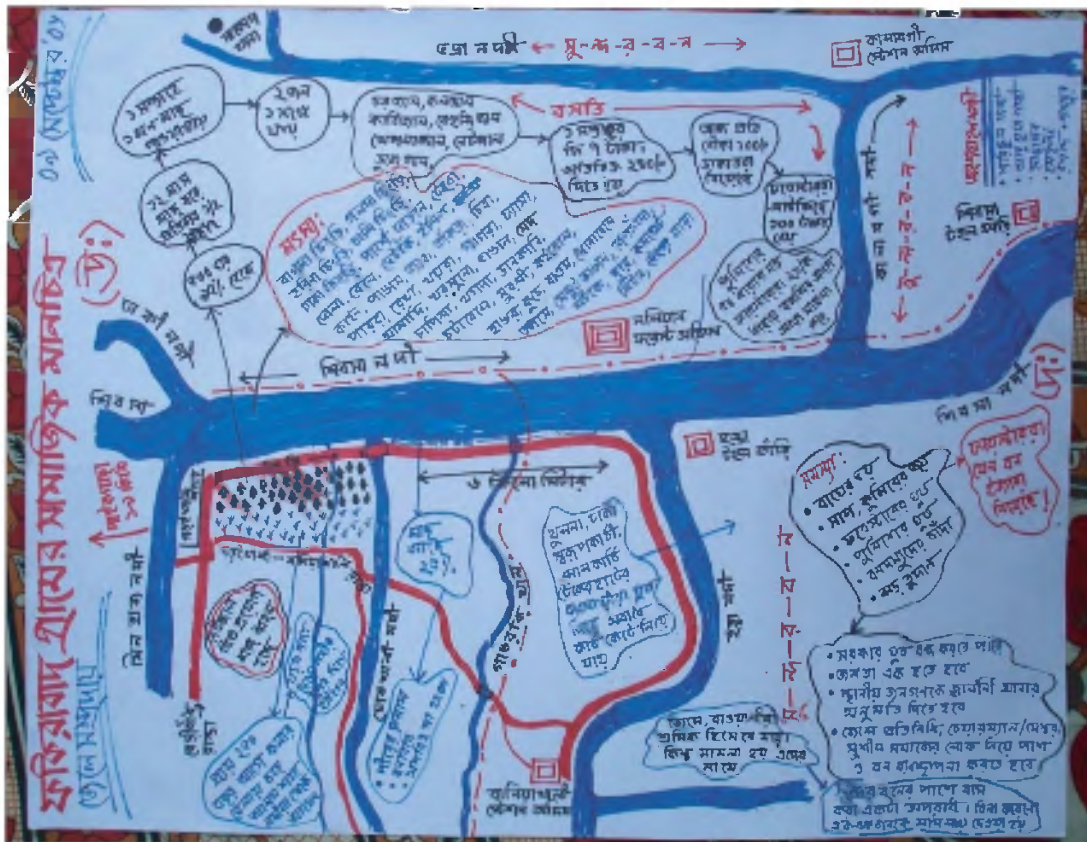
Rivers and canal areas:	1,805 sq. km.
Marine area:	1,874 sq. km.
No. of rivers and canals:	450
No. of char for seasonal fisheries:	11
No. of canals where fishing is prohibited:	18

The fishery resources of the Sundarbans consist of mainly finfish and shellfish. The annual fisheries production of the Sundarbans are:

Fish:	15,000–20,000 metric tonnes
Prawns and Crabs:	3,600 metric tonnes
Prawn fry:	111 million

²⁵ A collection of lyrical poems composed by Buddhist monks, supposed to be the earliest specimen of Bengali literature.

²⁶ Debobroto Sarkar (2004), *The Sundarbanser Pranto Simay Jonogoner Jibon Jibika* (in Bengali) [Life and Livelihood of Marginal People of the Sundarbans] Khulna: CDP.



Social map drawn by respondents

Table 4 Occupational profile of the villagers of Garaikhali

Main occupation of villagers (% of families)		Subsidiary occupation of fishers during the lean period	
Fishing	: 80.0%	Agriculture	: 53.2%
Bawalis	: 5.8%	Earth cutting	: 17.3%
Mouals	: 2.3%	Day labour	: 11.9%
Timber or fishing business	: 11.8%	Van puller	: 15.7%
		Small trade	: 7.1%
		Others	: 19.6%

What is alarming is that many species of popular local fish are nowadays rare, and some of them are totally extinct. Unsustainable overharvesting is the main cause no doubt. But who are to be blamed? Our current study in Garaikhali village (very close to the Sundarbans) in Khulna district, found that most fishers are poor and harvest for subsistence. It is the big, influential people who harvest indiscriminately. They even use poison to harvest fish in an easy way for bigger profit, increasing the vulnerability of the poor traditional poor fishers and of the forest's biodiversity (both aquatic and other).

Settlement

There is a popular belief that 250 years ago the study village was part of the Sundarbans. Alam Shah Fakir came to Garaikhali to preach Islam, boarding a bhela (a floating structure made of either a banana tree or wood or bamboo) from Nadia, India. He cleared some forest and started to live here. At that time this was part of the zamindari estate of zamindar Ashutosh Mukhopadhyaya of Narail. One day the zamindar came here to visit his estate and became seriously ill. The zamindar was cured by the blessing of Alam Shah. As a mark of respect to the fakir (saint) Alam Shah, the zamindar gifted the land to the fakir.²⁷ The settlement in this area started centring on Alam Shah.



Fishers

Socio-economic and cultural profile of fishers

Education

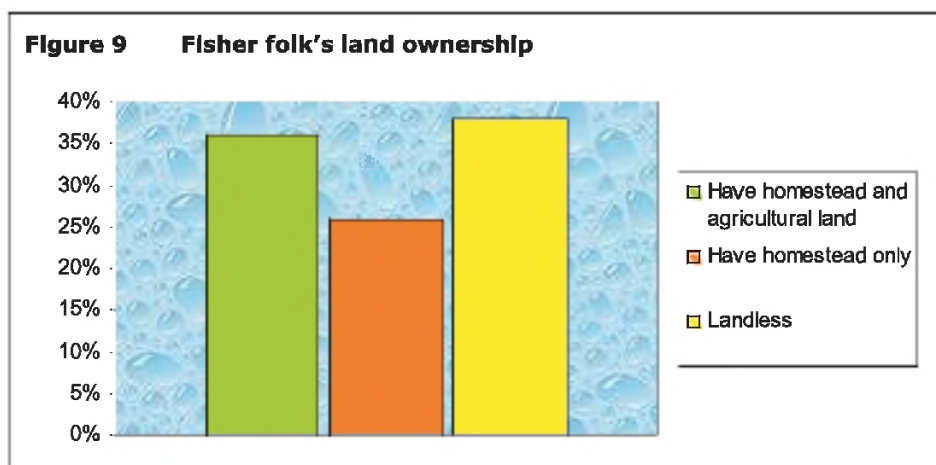
There is only one primary school in the village. The nearest secondary school is 4 km away from the village. The children have to travel by van or else go on foot so the children of the study area do not feel able to go to that school. Besides, most of the fishers cannot bear the financial expenses of their children's schooling. Box 9 shows the degree of literacy of the fisher respondents.

Religion

Most of the fishers in the village are Muslim. They have good relations with people of other religions in neighbouring villages. There is a 250-year-old mosque near the village established by Alam Shah Fakir.

Socio-economic condition

38% of villagers are completely landless, 26% have only their homestead and 36% have both a homestead and agricultural land.



²⁷ Interview with key informant, Insan Ali, Fakirabad, Garaikhali, Paikgachha, Khulna on 9 September 2006.

The average number of family members of the respondents is 4.2. Some 90% of families have only one earning member and the monthly average income is Tk. 2,855 (\$41), whereas average monthly expenditure is Tk. 2,772 (\$40). Per capita monthly income is Tk. 679.76 (\$10 – this works out at \$0.33 per day) which is below the poverty line.

Box 9 Economic and social picture of the fishers	
Religion:	Muslim
Education:	No literacy: 44%
	Primary education: 40%
	Secondary education: 10%
	Completed secondary education: 6%
Family (average):	Members: 4
	Members earning: 1
	Income: Tk. 2,855
	Expenditure: Tk. 2,772

3.2.3 Traditional Resource Users and the Lean Period

Harvesting the resources of the Sundarbans takes place during several months: from November to June. For the rest of the year the traditional resource users have to engage in other activities. Most of them engage in agriculture, specifically rice cultivation. The majority of the survey respondents work as agricultural wage labourers. In Khulna region, people generally cultivate BRRI-10, BRRI-11 and BRRI-23 rice. Before introducing High Yielding Varieties (HYVs) and Hybrid rice the local people used to cultivate salt-tolerant local rice including paknai, barhal, dhulobichi, talmugur, gulshi, gopalbhog, durgabhog, lerhasita, hazirchharhi, gerumurhi, chinikanai, vajan, bolan, jamaibabu, khajurchharhi, barbot, shelpuna, patnai, kalmi, balam, kachrha, kartik shail, kalijira, aush, benapol, etc. The modern varieties require chemical fertilizers and pesticides. The use of chemical fertilizers and pesticides has destroyed much aquatic biodiversity and has become a threat to the Sundarbans. The fertility of lands are depleting alarmingly. For the same reason the amount of fish and crabs in the rivers and canals have also tremendously reduced.

Most of the traditional resource users are poor and do not have agricultural land to cultivate. During the lean period they need an alternative livelihood. Furthermore, the population of indigenous peoples and local communities has also increased. The Sundarbans forest has limited carrying capacity which resource users cannot exceed. So it is all the more important that local people have access to appropriate alternative livelihoods during the lean period.

Chapter 4

Customary Use of the Biological Resources of the Sundarbans and Related Traditional Cultural Practices

The Sundarbans is a very useful forest resource for Bangladesh. Its non-wood forest produce (golpata, hantal, honey, grass etc.), fisheries resources (prawn fry, fin fish, crabs, shells) and herbal medicinal plants provide employment for the local people and revenue for the government. An estimated 150,000 to close to 300,000 people derive all or part of their income from collecting these products. Most of these non-wood products are harvested without reference to a managed resource plan, and the biological resources of the forest are continuously declining. However, since 1879 it has been exclusively under the strict control of the Forest Department as a protected forest. The traditional resource users always think of their future. They know they have to survive from the forest in the future, and they consider the forest and its biological resources as part of their life. They harvest the resources in a manner that would not contradict the principles of sustainability. And these principles are developed by these forest people through the experience of many generations. Bawali respondents say that woodcutting in a sustainable manner needs long experience and respect for their social principles, rules and regulations. These could be termed traditional cultural practices.

The traditional knowledge and cultural practices of the Sundarbans people are transmitted by parents to their children. Their traditional knowledge is not documented; this study is the first attempt to do so with their participation.

4.1 Wood Collection

In the SRF the fuelwood species are goran, sundari, keora, gewa, kankra, shingra, bhola, krip and jhao. A large portion of the production of fuelwood in the SRF is taken from the branches and tops of timber tree species (e.g. sundari, gewa and keora) from the sundari, gewa and keora working circle (an area identified by the FD, where the bawalis have permission to extract a certain quota of firewood). Due to the 1988 moratorium,²⁸ all the above sources of fuelwood can no longer be felled for timber. As a profession, bawalis collect firewood from the Sundarbans.



Bawalis transporting harvested wood

²⁸ An official ban on the felling of living trees was imposed all over Bangladesh in 1988.

Time of harvesting: From mid Agrohayan to Chitra (December to March) bawalis get permits from the Forest Department for cutting wood.

Mode of travel: Bawalis work in groups of 6, 8 or 10–12 under a majhi (leader) and 40–45 boats constitute a bahar (fleet) under the headship of a bahardar. Bawalis enter the forest for 30–37 days. For this period of time they must take food and water along with them.

Frequency and mode of harvesting

- A group of 6–10 bawalis in each trip (of one month's duration) collect 600–1,000 mounds of wood (24–40 MT), but their permit only allows collection of 500 mounds. They have no option but to collect more than their permit stipulates in order to afford the bribes demanded by corrupt Forest Department officials. See 'permits and bribery', below.
- They start woodcutting before sunrise and end before noon.
- The cutters leave at least one stem/shoot in each clump after cutting (which is also a requirement of the FD)
- From the harvested goran stems, stems that are 2.5 cm in diameter and above and 2.25 m in length and over are separated out as poles. The remaining stems are classed as fuelwood. A large quantity of the produce goes to different parts of Bangladesh to meet the demand of brick manufacturers.
- According to the bawalis there are 2 types of goran: one is '*bachai*' and the other is '*khadi*'. Bachai (selected straight stems) is quality goran which is used for construction as well as roof supports and fencing.
- The cut stems are stacked in piles. The piles are carried to the sides of the canals or rivers and placed in larger stacks.
- Once they have harvested wood from a compartment, in the next year they will not use this compartment for harvesting, but will harvest wood on a cyclical basis so that there will be adequate regrowth of the plants by the time of the next harvest in that area.

Tools

Bawalis use axes to cut wood. The handle of the axe is made of wood, especially branches of the amur tree (a type of tree in the Sundarbans). Sometimes they use a da (a cutting weapon made of iron). They use a pas dingi (a small support boat to the large main boat) to bring the wood from inside the forest through small canals and creeks to the main boat waiting in the river.

For a period of 3 months, from November to January, the bawalis collect golpata (*nypa* palm), which is used for making roofs and mats. During this period they live in groups on large boats as a precaution against pirates.

Traditional cultural practices related to woodcutting

Bawalis believe that the forest is a very sacred place. The Sundarbans is a tidal forest, and the bawalis believe that the Creator washes the forest twice a day and maintains its sanctity. Irrespective of religion they believe in the existence of Banobibi (the main goddess of the Sundarbans) and other gods and goddesses and pir-awlias (Muslim



Clay statuettes of Banobibi

religious saints or sufis who have supernatural power). The bawalis feel that their minds become cool when they stay in the forest. Their traditional beliefs and practices include the following:

- They enter the forest putting their right leg first and uttering the name of the Creator and Banobibi, and they come out from the forest stepping left leg first.
- Some go to the forest carrying a red handkerchief sanctified by the prayers of the pir.
- They do not enter the forest on Friday.
- Muslim bawalis offer milat (a religious ritual) before going into the forest.
- If any bawali is killed by a tiger, the clothes of that person are put on a treetop at the riverside and people do not cut trees in that place for the next year because tigers can recognize that human beings may come to this place.
- When the traditional bawalis cut wood, they are guided by their principles to maintain sustainable use of the forest. They usually cut wood where there is abundance. They do not cut the young, straight trees. They cut only those trees that have very limited possibility of growth.
- Bawalis only cut one tree from a stock of 5 or 6 trees. A stock that has only one or 2 branches must not be cut. No saw will be used for cutting.
- No young, small tree should be cut or harmed.
- Bawalis respect the decisions of the leader of their group, the majhi.
- They will not use the word 'tiger' when referring to one but rather as *barho mia* (elder brother) or *bagh mama* (maternal uncle).
- They fear tigers, crocodiles and foresters. After a heavy day's work bawalis spend the evening reciting stories of tigers and snakes from *Gazi Kalu Champavati*, *Banobibir Zahurnama* or *Manasamangal*. In the puthis (ballads) of *Gazi Kalu Champavati*, the tiger forces of Gazi fight with great valour against the crocodile forces of Kaluray. The heroes of this story, Daksin Ray and Gazi Kalu, inspire the bawalis with courage.
- All the resource users pray and make offerings to Banobibi. In doing so, they do not need any priest. There is a temple of Banobibi at Chaomatha, 5 km away from Horinagar village. Bawalis believe that Banobibi and pir-awlias will save them from tigers' attack.



Tools for cutting wood
and golpata



The wood traders who bribe the FD disrespect the traditional cultural practices above. They only consider their greed.

Women's customary practices in the bawali community

Homestead work is done by the women. When bawalis go to the forest the other family members remain engaged in agricultural activities. Their wives at home pray for their safe return. During this time, wives:

- do not wash their head with soap
- do not boil their dirty clothes (usually dirty clothes are cleaned through boiling)
- do not wash their house with mud²⁹
- do not make any furnace³⁰
- do not refuse to give alms to beggars
- do not slaughter poultry for guests inside the house
- Muslim women try to keep roja (fasting), and Hindu women also try to fast.

The problems faced by bawalis

Bawalis face multidimensional problems in harvesting resources. These are: dacoits, corruption of forest officials, lack of capital to make their own boats, natural disasters, the possibility of attack from tigers or other ferocious animals, and other factors such as false court cases, health hazards etc.

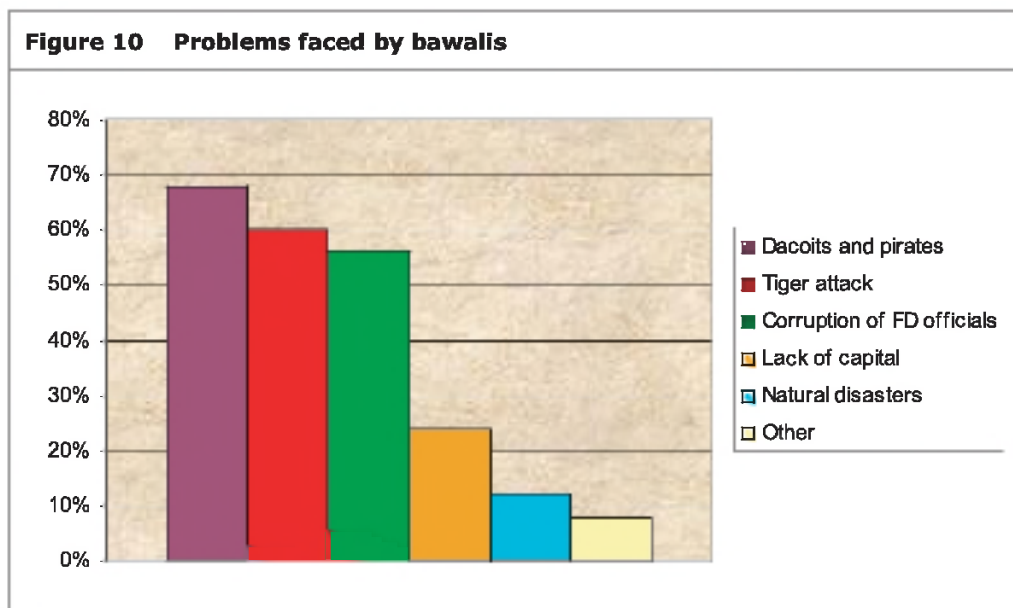
Before 1975 most bawalis had their own boats and other equipment and tools, but today they have only their labour to sell to the mohajan (trader). They have no relation with the overall profit/benefit earned by the business. At present each bawali works for a mohajan only for Tk. 2,000/month as wage labour. If any of them dies or is injured in consequence of attack by tiger or natural calamity or any other cause his family will get no compensation either from the mohajan or the FD or the State or any other organization. Every year 2–5 bawalis die from tiger attacks. They do not have any sort of insurance.

The bawalis' families may encounter economic crisis when the bawalis are away. In such cases their family members borrow money from relatives or a dadonder/mohajan (money lender).

Most bawalis are not well off enough to send their children to school. Their children of school age help in agricultural activities and take care of household work. The study found that 66.67% of bawalis' adolescent boys do not want to take up their father's profession.

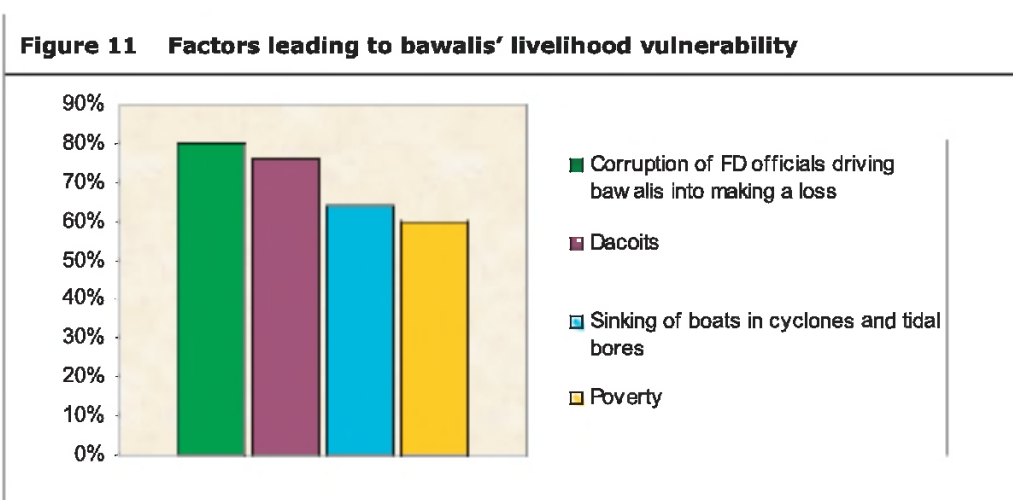
²⁹ Most bawalis live in houses whose walls and floors are made of mud. The floor is regularly washed with mud.

³⁰ They use a mud-made furnace. Usually it is made by making a hole in the kitchen.



The factors that led them to the present situation are:

- the sinking of boats in cyclones and tidal bores.
- corruption of FD officials driving them into making losses.
- dacoits.
- poverty.
- Though the permit to enter the forest is issued for each bawali individually, it is not given directly to them. The pass is given to the mohajan as the mohajan deals with the FD.
- In the event of changes to government directives, the FD does not give proper notice. They only hang a written notice in their office; but most of the bawalis are illiterate and cannot understand such a notice.
- Each bawali is allowed to collect 2.5 mounds of firewood for his family. But the mohajans take this wood from the bawalis.



Permits and bribery: The bawalis have to obtain permits to enter the forest. First of all, they have to get a Boat Loading Certificate (BLC) for their boat at a fee of Tk. 350 (US\$ 5) upfront. Next they have to get a harvesting permit. For each 100 mounds of wood the permission fee is Tk. 510, also paid upfront. It is unbelievable but true that for each 100 mounds bawalis must give Tk. 2,500 and more to FD officials as a bribe. Besides, the forest bandits also collect ransom from the bawalis at the rate of Tk. 5,000 for each boat. For these reasons bawalis exceed the cutting permit. They feel that the situation must be changed for the sake of their livelihoods and for the forest. Most bawalis work as labourers of timber traders. Bawalis consider themselves as bonded labour.



Harvesting permit (left) and Boat Loading Certificate for resource collection

4.2 Golpata Harvesting

Golpata (*Nypa fruticans*) is a versatile species of palm tree. Economically it is the most important non-wood produce of plant origin in the Sundarbans. *Nypa* is different from other palms, as its trunk does not grow above ground. The fronds, or rather the leaves, are much more durable than coconut fronds. It provides excellent thatching materials that can be used



Golpata on the bank of a canal In the Sundarbans

for roofing and fencing of the walls of a cottage. Golpata is used as thatching in the Khulna–Barishal region. Its fruits are edible. Local practitioners of herbal medicine have discovered and put to good use the medicinal qualities of the palm. Golpata occurs in tidal channels, rivers and low-salinity estuaries and in swampy localities in the interior of the forests. It grows better in the moderately saline to freshwater zone of the Sundarbans. It is widely scattered in the Sundarbans and occurs in contiguous blocks, small patches or strips along the sides of waterways. One finds groups of golpata along the banks of the rivers where there is sedimentation. Golpata often occurs where no or few tree pneumatophores are found.

Golpata fruits ripen in July–August, when higher waterlevels occur and natural dispersal take place. One kilogram of fruit contains 10–12 seeds. The leaves of the golpata can be harvested from the third year of growth onwards. In the third year one leaf can be harvested, in the 4th year 2 leaves and in the fifth year 3 leaves. An annual harvest of 3 leaves can be continued throughout the life of the plants since 3 leaves regenerate every year. Near canals with continual high and low tides, 4 leaves may be produced due to the regular inundation. In drier areas due to less availability of water only 2 leaves may be produced.

Golpata needs to be harvested every year, otherwise leaf quality as well as yield will deteriorate. According to the official statistics, annual golpata production in the Sundarbans is 113,888 metric tonnes.

In the interior forests golpata together with hantal provides a protective cover for tigers. Because of this, the interior parts remain mostly unharvested due to their danger and inaccessibility.

Time of harvesting: Golpata collection starts from the 14th day of Agrohayon and ends in Choytro (mid November to mid March).



Harvesting golpata

Mode of travel and harvesting:

Golpata collectors take a boat with a capacity of 300–400 mounds and a *pas dingi* to enter the remote forest. 5–6 men go together in one boat. 20 to 150 boats constitute one *bahar* (fleet), which is led by one *bahardar*. Each boat is led by a *majhi* (boat leader). The boats enter the forest for 24–30 days. Each permit is issued for 10 persons and the amount of harvesting would be 75–80 kahons. The validity period of the permit is 33 days. (After the date of expiry the permit must be surrendered to the FD. If the collectors fail to do this they have to pay a bribe of Tk. 100 for each day.) The men take necessary foods, medicine and water with them into the forest. Each *Nypa* leaf harvested is divided down the middle into 2 parts. Each divided part is called one leaf and 80 such leaves constitute one *Pon*. 16 pon equal 1 kahon (a local measuring unit). The men use *da* to cut golpata and to bring them for sale. They use a large boat (able to carry 350–500 mounds). A *pas dingi* is used to carry golpata from the dense forest through small canals and creeks. The equipment needed by the golpata collectors are a boat, axe and rope.

Traditional practices in golpata harvesting

While cutting golpata the collectors maintain a set of social norms and rules.

- Exploitation is not allowed in any area more than once a year and it is not allowed during the months of June, July, August and September which are the growing period.
- Only the leaves that are approximately 9 feet long are to be cut.
- The unopened frond (which is the central leaf and locally is called *maij pata*) and the leaf next to it (locally called *pash pata*) in each clump must be retained. If the collectors cut all the leaves in a clump it will permanently vanish from there, because the bush will not produce *golfa* (*nypa* fruit). Similarly, if only the *maij pata* or the *pash pata* is retained the bush will not survive. These 2 leaves are dependent on each other.
- When cutting leaves they keep 9 inches above the roots.
- All dead and dry leaves are cut at the time of cleaning up the clumps.
- Flowers and fruits should in no way be disturbed when cutting leaves.

- Young plants with only one utilizable leaf should not be cut.
- Golpata collectors have to enter the forest in high spirits, after being purified and they enter at sunrise. Before cutting leaves they do not take any fried foods or green uncooked onions and do not look at their own faces in the mirror. No one uses a comb for fear of death. Golpata collectors start their journey to the Sundarbans by eating a sweet dish prepared by boiling rice in milk with *gur* (made from the juice of dates or sugarcane).
- Like bawalis the golpata collectors also enter the forest right foot first, coming out left foot first (as when entering and leaving the mosque). When entering the forest they utter the name of the Almighty and Banobibi.
- Women do not cut golpata because people think women are not always purified. While males are in the forest cutting golpata their wives maintain some customs like the bawalis' wives. They have a cultural affinity with bawalis.

The Forest Department's Coupe Rules

- Though golpata is harvested annually all over the Sundarbans, for the purposes of management 7 coupes, named after the rivers, have been prescribed. The main work of the coupe staff is to monitor that felling rules are observed. Each purchaser is allowed a *khal* (canal) or part of it to work in and should not be allowed to move into a fresh area until the area already allotted to him is worked completely.
- Areas facing the sea should be worked over during the calm season.
- As cutting proceeds over the forest, coupe staff prepare stock maps on a 1:50,000 scale in each compartment.
- All *jhools*, masts, *dabas*, *maloms* etc. which are felled for use in golpata-carrying boats should be hammer-marked before felling and the outturn should be recorded against the outturn of the compartment from which timber is felled. Permits for felling for *jhools*, *tharias*, *dabbas* etc. should be allowed from the annual coupes as far as possible and permits for areas outside the coupes may only be allowed sparingly when the coupe is not within a reasonable distance from the working area for golpata. When such permits are allowed, felling should be by way of thinning and should be under close supervision, and the choice of species shall belong to the coupe staff.

Problems

Mohajans' greed: Mohajans provide money at high interest rates and sometimes also provide the boat. Advance payment, generally at the rate of Tk. 2,000 (\$28) per month per person, and food rations at the rate of Tk. 1,000 (\$14) per month per person are paid during the operation. The mohajan also pays other incidental costs, which are quite high, and the total amount with added interest of 50% for a 6-month period is deducted from the final load when it is delivered at the marketplace at wholesale.

Ransom to bandits: Among other problems, the golpata collectors have to make payment to bandits at the rate of Tk. 2,000 to Tk. 5,000 per boat.

High incidental costs: In order to cover their costs golpata collectors use false extensions (known as *maloms*) to their boats to allow them to carry 2–3 times the official volume. *Maloms* are generally used to protect the boats from the waves.

The rules permit the harvest of golpata leaves with a length of 9 to 10 feet. In reality, in order to increase the number of leaves per mound and, consequently, their profits, the golpata collectors harvest smaller leaves, mostly 6 to 7 feet long. They are forced to do this in order to survive. The corruption within the FD and the extreme greed of the traders and mohajans have brought the golpata collectors to the situation they find themselves in today.

4.3 Honey and Beeswax Collection

Honey is a very important non-wood forest product of insect origin. Honey collecting from bee colonies of *Apis dorsata* has been practised for centuries in the Sundarbans. The honey produced in the SRF comprises about 50% of the total honey produced in Bangladesh.³¹ Most of the honey comes from *Apis dorsata*. *Apis dorsata* build very large combs on the branches of large trees. Honey and beeswax in the SRF are collected by mouals under the supervision of the FD. The collection period begins in mid March and continues until mid June. During this season there are lots of flowers so bees can produce honey. Khulshi, goran, keora and passur are the most important honey yield plants in the Sundarbans. The other important nectar and pollen sources in SRF are baen, kankra, gewa, saila, hargoza, shingra etc. According to the mouals, khulshi honey is the best. One bee hive contains 2kg to one mound (40 kg) of honey.

Mode of travel and harvesting: Honey hunting in the Sundarbans area often takes a festive character. At the onset, mouals from different localities come in bands through the waterways, usually by boat, and then assemble in one place. The mouals hire a boat that can carry 80–100 mounds of honey. Each Moual in the boat can take 3 mud pitchers. The capacity of each pitcher is 10kg to 2 mounds (80kg). If a boat has 7 mouals then they can carry 21 pitchers. Each band has 6–7 members including a *sardar* (group leader) selected by them for overall supervision during their sojourn. Before entering the forest the mouals in each boat are divided into 2 groups. Each group then enters the forest and searches for honey. And the majhi (team leader) stays in the boat. Once a group occupies a particular site, others respect the group's claim over it. At night the mouals sleep in the boat. The forest hantal (tiger fern: *Phoenix paludosa*) is an obstacle in the search for honeycombs and sometimes compels them to crawl.

When a moual reaches a honeycomb he starts shouting in a loud voice to amass his scattered groupmates. Then a burning *kadu* (bundle made of tiger fern leaves) is applied to generate smoke to drive the bees away from the hives, leaving the mouals the opportunity to climb trees and collect the honey. For mouals there is always the danger of bee stings but many of them are used to this. Many mouals do not feel the pain, while many others use herbal oil to reduce it.

Traditional Cultural Practices in Honey Collection

As mouals enter the forest they offer prayers to the forest goddess Banobibi irrespective of their religion. Hindus offer *vog* (forest fruits and sweets made of sugar and known as *batasha*) and Muslims offer *sinni* (made of boiling rice and gur). Both Muslim and Hindu mouals pray to Banobibi for honey and for their safe return, since many of them die every year in the Sundarbans in their venture for honey hunting because of tigers. The Hindus also believe that there is a special god for honey whose name is Dakshina Roy. So they offer puja for him. As the forest is considered a holy place, they do not urinate or defecate in the forest. If they must, they use a large leaf on the soil but do not bury their waste. There are no female mouals because there is a common belief among the mouals that women are not always holy (due to menstruation).

When collecting the honey mouals produce smoke using dry leaves, but they never put fire on a beehive. During honey collection they always make sure that no young bees are killed. Beehives are squeezed by hand; the mouals never use metal tools. To collect the honey the mouals use a basket, called a *dhama*, made of cane. A dhama contains 20–30kg honey. In the house mouals preserve honey in pitchers made from mud which ensures the quality of the honey for a long time. Honey is a sacred food, and is the first food to be given to a newborn baby. Mouals are always very careful not to adulterate honey. When travelling by boat, Hindu mouals offer prayers to the Gonga goddess, while Muslims pray to Allah.

³¹ Development Design Consultants Limited (DDC) and Multidisciplinary Action Research Centre (MARC), 'Case Study on Integrated Management of Wood and Non-wood Forest Resources in the Sundarbans', Draft Final Report, FAO Project BGD/84/05.

When mouals are in the forest their wives follow certain customs. During this period the women do not eat raw onion (which is used as a salad or vegetable). They believe that if they consume raw onion, their husbands may be attacked by tigers. They also do not burn dry chilli, as if they burn it they believe a tiger will get the smell of their husband and attack him. They do not wash their clothes and hair. Mouals do not enter the forest on Fridays because they believe that on Fridays all the gods and goddesses are busy with their own prayers. So mouals feel unsafe on Fridays.

For personal security, mouals keep a handkerchief given to them by a pir. They take special measures against bee stings using cloths to cover their eyes and ears. To escape from tiger attacks they make a 'kuk' sound and also make noise by hitting their axes on a tree so that the tiger changes its path. To protect themselves from insects the mouals use the juice from the bark of the poshur tree. For stomach and related pains they use the juice of the poshur and hethalmati trees.



Honey collection

66% of our moual respondents believe that not everybody can harvest honey in the forest as it requires a lot of experience and courage. It takes one to 3 years to learn how to harvest honey from the forest.

65% of respondents opined that there is a negative change in the biological resources of the Sundarbans. This is due to not maintaining the rules of sustainability. The traditional cultural practices they follow were developed by their forefathers. These should not be changed. 56% of respondents commented that the new generation ought to be taught these natural rules.

Problems experienced by mouals

To get into the Sundarbans a moual must have a boat. But all the respondents in our survey said that they do not own a boat. Some moals work as wage labourers and some hire a boat from a mohajan. For one trip the fare for one boat is Tk. 1,500. The moals do not even have the permit fee. This money is also borrowed from mohajans. For every Tk. 1,000 borrowed, the mouals have to give 2kg honey as interest. Most mohajans are from Paikgachha and Koira.

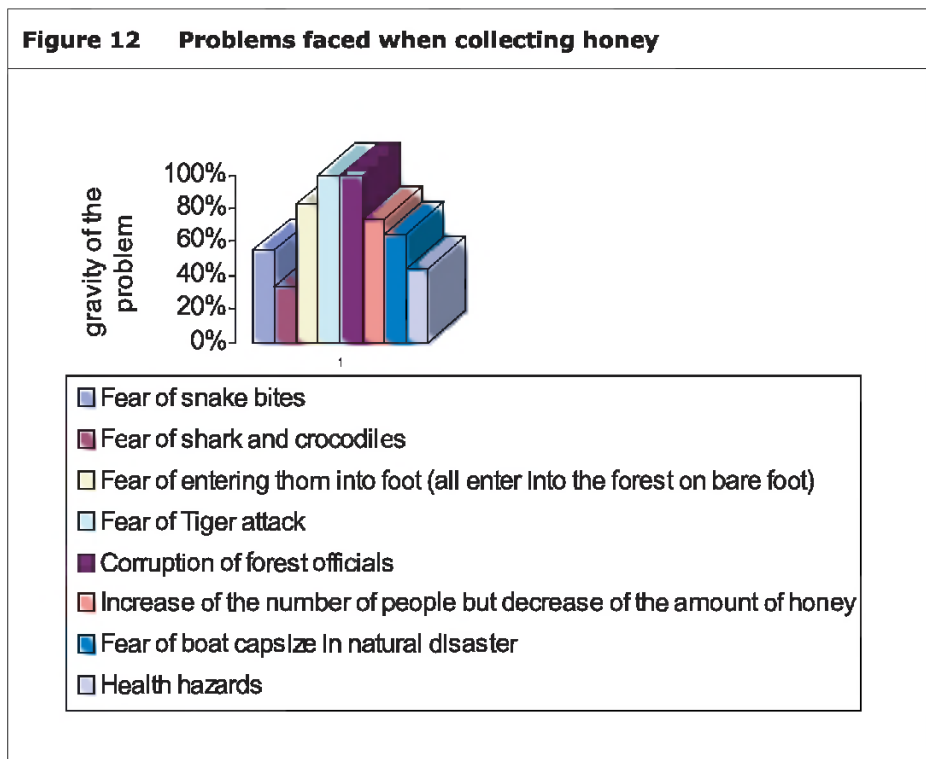
Mouals get permission for one trip of 30 days. If they overstay they are penalized at the rate of 25 paisa per Taka each day. As the permit fee is Tk. 600 for each moual, the FD calculates the penalty on this amount as Tk. 150 per day. This is impossible for an individual moual to pay.

Poverty, the foresters, and fear of dacoits make the lives of mouals miserable. They also fear tigers and the poisonous *kirpi poka* bee.

Permits and bribery within the FD: The boat they use must get a BLC (Boat Loading Certificate) from the FD. The BLC fee is Tk. 300. The permission fee to collect honey is Tk. 600 (\$9) for each individual (for a single trip comprising 30 days). Each moual is allowed to collect 2 mounds (80kg) of honey and half a mound of wax on each trip. After expiry of their permit, mouals have to surrender the pass to the FD. While surrendering the pass each moual has to give 4 kg honey or the equivalent amount of money to the forest official as a bribe.

The problems faced by the mouals are shown in Figure 12.

Figure 12 Problems faced when collecting honey

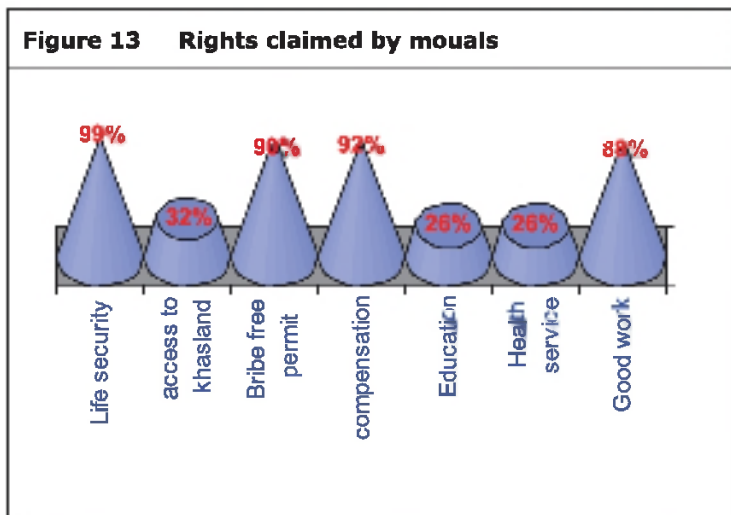


It is clear from our study that the number of mouals is increasing with time. Mouals face some basic problems in their work and livelihood. FD officials collect both honey and money from the mouals. Mouals complain that the resources of the Sundarbans have been depleted in a massive way because of illegal tree destruction. The best-quality khulshi (*Aegiceras corniculatum*) honey is also threatened because the number of khulshi trees is decreasing at an alarming rate. Mouals do not receive the competitive market price for their honey, because they do not have the right to sell their product themselves. Most of the time, the mohajan sells it. Moreover, honey collecting is seasonal work lasting 2 months of the year. For the remaining period of the year the mouals have no work and most of them do not have agricultural land to cultivate.

The major rights that mouals demand:

- Access to *khasland*
- Life security
- To be able to obtain a permit without giving a bribe
- Compensation if they die harvesting honey
- The right to education
- The right to a health service
- The right to good work.

Figure 13 Rights claimed by mouals



4.4 Fishing

Fishing zones in the Sundarbans Reserve Forest cover a broad area. 'Inshore' fishing areas refer to rivers and *khal* (creeks) within the forest, while 'offshore' fishing grounds refer to the estuaries and 20 km marine zone which is under the jurisdiction of the FD. Fishing in the offshore area is very hazardous from May to September due to severe weather conditions. The SRF, which includes a 20 km-wide contiguous marine zone, is further subdivided into a production zone where fishing and other resource extraction activities are generally permitted and 3 wildlife sanctuaries, where fishing and almost all other extractive activities are completely prohibited.³² However, there is no rigorous systematic management of the SRF fish resources; instead regulations are occasionally implemented on an ad hoc basis. Two fisheries regulations apply to the SRF:

1. Countrywide national regulations: The Conservation of Fish Act 1950
2. Regulations enacted by the FD: The Forest Act 1927 empowers the FD to manage the inshore and offshore fisheries. There are 3 main FD fisheries regulations specific to the SRF:
 - *Khal* Closure Regulation, 1989: This regulation closes 18 khals (canals) permanently for fishing to allow fish breeding
 - Collection and Export of live Crab Regulations 1995: This regulation closes the entire SRF for crab fishing from December to February to allow the crabs to breed
 - Closed Season Regulation 2000: This regulation closes fishing in the entire SRF for 5 species (pangas, khorul, khaon magur, golda chingri and kakra) for the months of May and June to allow breeding

In addition to these regulations, fishing has been permanently prohibited since 1999 in the 3 wildlife sanctuaries.

Box 10 Wildlife Sanctuaries of the Sundarbans			
Name	Compartment No.	Area (hectares)	Location
Sundarban East	4, 5, 6, 7 (part)	22,575	Katka, Kachikhali, Supati, Jamtola
Sundarban South	43, 44	36,971	Nilkomol (Hiron Point), Keorashoti Kalichar, Putni Island Sundarban
Sundarban West	53, 54, 55, 49 (part)	71,502	Mandarbaria, Notabaki

Certain other FD rules also apply to fisheries in the SRF:

- It is illegal to place a net across a *khal* and thereby completely block it
- It is illegal to string a rope transversely across a waterway.
- It is illegal to catch ilish and pangas below 9 inches (23 cm) in length during their respective closed seasons (November to April for ilish, February to June for pangas)

The Marine Fisheries Ordinance, 1983 has no jurisdiction over the SRF.

³² ARCADIS Euroconsult, The Netherlands, Winrock International, USA, Kranti Associates Ltd. Bangladesh; Nature Conservation Management Bangladesh, *Sundarban Biodiversity Conservation Project, Technical Report-TR No. 02A: Fisheries of the Sundarbans(Draft), vol.1 Main Report*, 26 July 2000. pp.5-6

Implementation of the above regulations is the responsibility of the FD. The fishers respondents said all these regulations are applied to the jele, the traditional fishers who fish for subsistence, whereas the FD is relaxed about applying them to fish traders and big fishers with access to corrupt practices.

The traditional fishers in this study go into the forest to fish every day. Usually they go out from midnight to 4 am with a small boat (dingi), each man carrying a *da* (sharp cutting weapon), and return between 10 am and 12 noon. They use various types of net (see Table 5). They catch many kinds of fish whose local names are kaine, vetki, tengra, chingri, parshe, datne, bagda, horina, bele etc. Generally they use a khepla net but sometimes use borshi (hook and line). Fish are abundant in the months of *Jostho* to *Srabon* (mid June to mid August) because in Bangladesh this is the rainy season, when the salinity of river water is decreased. During ebb tides the fishers can catch more fish. They use big-loop net for catching fish in rivers and small-loop net for fishing in canals, creeks, ponds and the shores of the rivers.



A boy catching fish with hook and line

Table 5 Different Kinds of Net used by the Fishers of the Sundarbans

Name of net	Loop size (diameter)	Target Fish	Comments
Khepla jal/ Khewla jal (canal gill net)	at top: 2 cm bottom: 0.7 cm	all kinds of fish	used in canals, ponds & rivers
Bada jal/ Behundi jal/ Behen jal	at top: 2.54 cm bottom: 0.7 cm	all kinds of fish	used in rivers
Charpata jal (shore net)	0.7 cm	all kinds of fish	used in rivers
Kol jal	0.7 cm	all kinds of fish	used in rivers, canals
Karent jal	1.25–2.54 cm	all kinds of fish	illegal but still used by big fishers with the help of the FD
Kathi jal	0.7 cm	all kinds of fish	used everywhere
Net jal	very micro size loop	any fish – even the eggs	illegal but still used by fishers and traders with the help of the FD
Jagotberhi jal	very big loop	sea fish	used by sea fishers
Chhandi jal	6 cm	hilsha fish	used in rivers and the sea
Komar jal	1.25 cm	kain, vetki, tengra	used in rivers, canals and ponds

In the study all respondents said that the number of fish in the Sundarbans has drastically declined, because of overharvesting and because the traditional cultural practices for catching fish have not been maintained.

Customary Fishing Practices

The commonly used equipment for fishing (other than prawn fry collection) in the Sundarbans regions comprises a small country boat, khepla jal (net) or behundi jal. Usually a small boat can carry 50–70 mounds (1 mound=40 kg). It is 16–20 hands long (7.5-9 m), 6–7 hands wide (2.75–3 m) and 3 hands deep (1.37 m). Fishing communities, like other communities, consider the forest to be a holy place of prayer for several reasons.

- As nobody lives there, no sinful occurrences takes place there.
- They believe gods, goddesses and pir-awlias live inside the Sundarbans.
- No woman enters there, so it remains sacred.
- It is the gift of God.
- Alam Shah Fakir's departed soul lives there.



Clockwise: Woman fishing, fisher repairing a net, sorting fish on the boat, fishing with a net

Adolescent boys also go to the forest with the elders for fishing. Nets are used for all kinds of permitted fishing. The customary practices that the traditional fishers maintain are very much compatible with sustainable harvesting. These are:

- not catching fish fry
- not using net jal (very small looped net)
- using big-looped net for rivers, and small-looped net for ponds or closed water-bodies
- not catching all species of fish, nor smaller fish
- avoiding fishing in the spawning period.



Fish of the Sundarbans

When fishers enter the forest they observe several traditional norms:

- They wear an amulet containing holy words.
- They enter the forest uttering the names of the Almighty, Alam Shah Fakir and Banobibi.
- They do not go into the forest on Fridays (on this day gods, goddesses and pir-awlias remain busy with their own prayers).
- They promise to offer a particular sacrifice to a deity on entering the forest and on their safe return home.
- They do not urinate or defecate inside the forest.
- To keep their nets free from all kinds of evil they pour water into a pot. They then put silver and gold ornaments and 7 kinds of flower into the pot. This water is kept for washing the fishing nets.
- Although people refer to tigers as tigers, the traditional resource users, including the fisher folk, do not use the word 'tiger'. Instead they refer to them as *bagh mama* (maternal uncle) or *barhomia* (elder brother).

Customs maintained by the fishers' wives

When fishers go to the forest to fish their wives at home follow a number of traditional customs:

- They pray for the safe return of their menfolk.
- They do not take off their bangles, their *nakful* (ornaments worn in the nose) or their necklaces.
- They do not use oil on their hair.
- They do not mud-wash their earthen floors.
- They do not grind rice or make cakes.
- They do not wash clothes using soap.

Threats to aquatic biodiversity

The big fish traders, pirates and dacoits do not follow the traditional cultural practices. They fish in the forest for 15–20 days at a stretch, and they catch all fish even the fry. The big fish traders even use poison to catch fish. They use *net jal* and *karent jal* which are prohibited: FD officials allow this in exchange for a bribe. Use of these fishing nets must be stopped. The respondents vehemently said that foresters, dacoits and big fish traders are destroying the holiness of the forest. The respondents also said they believe that fish fry collection is harmful for aquatic biodiversity and future generations of fish.

Prawn fry collection and prawn farming

Prawn fry collection in the Sundarbans Impact Zone is a very popular livelihood among the community. Women and men are all involved in this occupation, which is one of the major causes of aquatic destruction in the Sundarbans. It started in the early 1980s, at the commencement of neoliberal economic measures through structural adjustment. In Khulna, Bagerhat and Satkhira districts about 107 thousand hectares of land are covered by bagda³³ prawn farms: 60% of the fry in these come from the SRF. In the surrounding area, men, women and children push or pull small drag nets to collect prawn fry. The rich entrepreneurs of this region catch prawns using the impoverished traditional fishers as wage labourers in their boats and with their nets. Currently 60% of the post-larvae (PL) requirement for prawn farms is derived from fry collectors and the remaining 40% comes from hatcheries. It is estimated that nearly 45% of the landless households living in this region (not only fishers) are involved in prawn fry collection. Although prawn fry collection may contribute to the livelihood of the poor, it has long-term negative consequences. The prolonged fishing periods and use of the nets lead to a long-term negative impact on aquatic biodiversity and a reduction in fish populations. The Fish Research Institute showed in 1994 that for every prawn fry collected, 50 to 100 other prawn species, finfish species and plankton are heedlessly destroyed. A recent Sundarbans Biodiversity Conservation project (SBCP) study revealed that 10 minutes of harvesting generated a catch of 10,000 to 20,000 of other fry species for just 3 tiger prawn (*P. monodon*) fry. Moreover, 60% of tiger prawn fry die during collection, sorting, holding, transportation and stocking. This collection activity in the Sundarbans degrades the habitat of the nursery ground for prawn and other fish fry; it hampers seed generation of the mangrove species and also accelerates soil erosion. One of Bangladesh's major daily newspapers recently reported that prawn fry collection destroys the natural breeding grounds of 114 fish species and that numbers of these aquatic resources have declined alarmingly.

The short-term benefit to poor fishers of collecting prawn fry will cause their long-term misery. It brings both short-term and long-term benefits only to the prawn firm owners. This is because they will make huge profits from prawn farming and later will be able to channel

³³ There 2 varieties of prawn: Freshwater prawn is known as bagda and saltwater prawn is known as golda.

the money to other sectors. This is not possible for the poor. Thus, future livelihood insecurity will be the ultimate fate of poor prawn fry collectors. Moreover, a survey conducted jointly by the Grameen Trust and the international mother-and-child healthcare NGO Radda Barnen expressed much apprehension about the health of the children engaged in prawn fry collection. While working, these children have to spend a total of 6 hours a day (morning and evening) in water knee-deep or deeper. Such long periods of exposure to water cause infection by microbes in the water. At first the children are affected by mild bronchitis, which gradually develops into asthma and other breathing troubles. Long exposure to sun increases perspiration, resulting in dehydration and loss of sodium chloride from the body. The temperature changes during different times of the day also impact negatively on the children, weakening their immune systems. As a result, the children fall victim to diseases such as diarrhea and dysentery, to worms and other digestive troubles, and become malnourished.



Prawn fry collection and prawn farm



A study conducted by the Association of Development Associations of Bangladesh (ADAB) found that when prawn fry collectors borrow money from the mohajans to purchase nets or other gear, and/or for their survival in the lean period, they make an oral agreement to sell their catch to the moneylenders over the year. The moneylenders collect the catch from the riverbanks and canals paying 10% lower than the market rate and take 10 prawns per hundred extra. As a result the prawn fry collectors get about 20% less than the competitive market price.

Prawn fry collection to supply fry to the prawn farms is only one aspect of the damage to the environment. Another is the prawn farms themselves. Prawn farming is blamed for the permanent waterlogging of the southwest region of Bangladesh in which the Sundarbans is located. In the past, before the USAID-funded Coastal Embankment Project (CEP) of the 1960s, the natural bodies of water were abundant with fish. The infrastructure of CEP and later the Khulna-Jessore Drainage Rehabilitation Project (KJDRP) of the 1990s have altered the natural river flows and hence altered marine habitat mechanisms. Most of the large-scale prawn farmers have enclosed all the canals within the polders, thus denying access to those canals to the fishers. Enclosure of tidal flood plains has deprived the fish of their feeding and breeding grounds. Even the bodies of water to which everyone previously had free access, the *jalmahal*, have been leased off to rich prawn farm owners, and free access to them has also been denied. This has adversely affected nutrition: the percentage of malnourished people in this region is higher than the national average.

Problems faced by the fishers

Rough Weather: The fishers community is safe nowhere – not before the state and not before nature. The 22–27 September 2006 tornado and tidal bore in the Bay of Bengal caused the death of 550 fishers, most of whom were from the Sundarbans region.

False cases lodged by FD: As the SRF is a protected area the Forest Department often lodges false cases against poor fishers and Bawalis to save the bigshots from whom the forest officials get more money.

Corruption: The study found that the permit fee for each boat is Tk. 14 and the fishing permit fee is TK. 120 for one week. A poor fisher must give Tk. 100 more as a bribe. This is not the end but rather the start of the bribes the fishers must pay. When a fisher enters the forest he has to give an additional Tk. 50 to the forester on duty; the police who check the permits will get Tk.100 per boat. In addition the police station and the police outpost involved will get Tk. 100 each per month.

Ransom to Pirates: Pirates will get Tk. 100 per week from each boat. The Forest Department is supposed to safeguard fishers from pirates but it has never done so. Rather FD officials maintain good relations with the pirates and benefit financially from them.

Lack of an Association: The fishers do not have their own association and so they cannot collectively raise their voice against corruption and claim their own rights.

Lack of access to common resources: The fishers are poor and have no access to common resources such as closed *jalmahal* (State-owned water bodies). So, nowadays, many of them would like to change their occupation if there were an opportunity.

4.5 The Mundas' customary use of biological resources and traditional cultural practices

Mundas were the first people to settle in the Sundarbans. But today they do not have access to the Sundarbans and the common resources of the SIZ. They have to survive on an agricultural wage, and on catching fish and crabs in nearby rivers and canals. They do not have the money to buy a boat or a permit. They fear tigers, foresters, dacoits, sharks and crocodiles. Before the independence of Bangladesh they were to a large extent dependent on the Sundarbans. At that time they hunted wild pigs, porcupine, deer, and birds in the forest. Now there is no scope for them to do so. At present 76% of Mundas do not know the past and present forest resource harvesting rules. But 65% of respondents believe that it would not be wise to cut young trees and collect resources in a manner that could harm future harvesting.

They consider themselves as part of the forest and they feel isolated from their souls. They believe the outsiders have destroyed the whole ecological and social balance of the area, and the Mundas want to keep their own land, forest and natural resources limited to themselves. The infiltration of the outsiders has had a negative impact on their culture and other social

system. 92% of Munda respondents consider the forest as a most holy place. The other cultural practices the Mundas follow are:

paddy cultivation	Before sowing the seeds, women wearing wet clothes put some paddy and mustard seeds in a pot and give a puja in the field for better production.
rearing pigs	Pig stools are used as medicine. the Mundas do not eat pigs before they are 6 months old.
preparing <i>harya</i>	<i>Harya</i> is indigenous wine. First they make a medicine from the roots of the kuch tree and its leaves and rice flour. They keep boiled rice in a pot for 3 days until it ferments. They mix both together; the <i>harya</i> is produced to entertain guests and for festivals. Elders can drink it, but not young people.
newborn babies	They cut the umbilical cord of every newborn baby and keep it in the roof of a corridor and never touch it so that the baby can keep well.
collection of crabs	When collecting crabs they put a thorn named sejcata in a concealed place so they can obtain many crabs.
fishing	The Mundas use hooks and larvae and other insects and nets. They do not catch fish fry or use any methods that may harm present or future harvests.
firewood collection	They use axes and <i>da</i> to cut the wood.
honey collection	Very few Mundas go to collect honey. Those who do keep bananas and forest flowers on top of the boat and utter the <i>Horibol</i> to call the Creator. (The word <i>Hori</i> means 'Creator'). When entering the forest they enter right foot first, uttering the name of the forest goddess, in groups of 5–6 members.
vegetables	They use ash and cow dung as fertilizer. They plant vegetables during moonlit nights.
treatments	Roots, leaves, etc. are used for different treatments. Traditional ways of treatment are followed.
natural disasters	During earthquakes, the women ululate and give puja of flowers and rice. During heavy rain, if the youngest son of the house throws an iron rod outside the home they believe the rain will stop.
undomesticated food	During crisis periods they collect wild food from water bodies. They do not catch fish fry or young crabs.

95% of Munda respondents consider that the outsiders and the FD should be held to account for destruction of the forest and that immediate action should be taken to save the Sundarbans.

4.6 Traditional Resource Users and Health

People have very limited access to public health services. For health care they generally depend on the local herbal healer, locally known as a *kobiraj*. 65% of respondents believe that herbal medicine is more effective than modern medicine.

They use different plants of the Sundarbans as medicinal plants. Generally the bark of the pushur tree is used for dysentery. Taking the fruits of the dhundal tree can cure stomach ache. The hargoja plant leaf is good medicine to destroy the poison of kain fish. The viscid substance of the gewa is used to cure cuts. There are many other uses of the medicinal plants. All are known to the kobiraj. Scientists or doctors do not know all of them.

Box 11 Some common medicinal plants of the Sundarbans and their uses		
Local Name	Scientific Name	Medicinal use
Nonajhao	<i>Tamarix indica</i>	Bark used as a tonic and for skin
Bhola	<i>Hibiscusv tiliaceus</i>	Roots used In preparation of embrocations
Klrpa	<i>Lumnitzera racemosa</i>	Steam decoction used for herpes and itching
Hargoza	<i>Acanthus ilicifolius</i>	Used for asthma, dyspepsia, rheumatism. Leaf exudation is used for curing snakebite
Hantal	<i>Phoenix paludosa</i>	Used as a treatment for worms
Golpata	<i>Nypa fruticans</i>	Kernel is used against worms and headache
Pashur	<i>Xylocarpus moluccensis</i>	Bark used as febrifuge for dysentery/diarrhea
Mathgaran	<i>Ceriops tagal</i>	Root decoction used as substitute for quinine
Kumba		Used for asthma, cough, jaundice
Shamulata		Exudation is used for good sleep
Keora	<i>Sonneratia apetala</i>	Fruits and leaf exudation help to reduce fat from body
Jana bakal		Good sleep and diabetic cure
Karanja		Seed oil is very effective against skin disease

Chapter 5

A Brief History of Forest Policy and Management

Indigenous and local people have been nurturing the forests for centuries. But official narratives of the history of forest conservation very often skip the role of people living in or around the forest. This is true for almost every forest in the world including the Sundarbans.

5.1 The Pre-Mughal Period (before 1526)

History says that during the pre-Mughal period the Sundarbans extended from Hatiagarh, south of Diamond Harbour, on portions of the sirkars Satgaon and Khalifatabad. During the latter part of the 18th century and the beginning of the 19th century, the Sundarbans extended 170 miles eastwards along the coast from the estuary of the Hoogly to that of the Meghna, and inland to a distance of 60 to 80 miles.³⁴ At this time there were no restrictions to use of the forest and no specific management regime has been identified.

5.2 The Mughal Period (1526–1765)

During the Mughal period, incentives were given to reclaim forest areas for agriculture. The Sundarbans, as described by Abul Fazal (royal historian of the Emperor Akbar), extended further north up to northern Nadia and northern Jessore, and was full of crocodiles and tigers. The Mughal policy on the forest was one of indifference. They used the forests mostly as game reserves for the purpose of sport. They were interested in trees from the gardening point of view, and also for avenue planting. In short, they had an aesthetic and utilitarian outlook on plants, rather than any comprehensive policy concerning forests and forestry including preservation, propagation, protection or improvement.

5.3 The British Period (1765–1947)

The end of the Mughal period was followed by the beginning of the East India Company and, later, British rule. The major changes that took place during the British period are:³⁵

- | | |
|--------------------|---|
| 1765-
mid-1800s | Forests were subjected to exploitation on a gigantic scale for shipbuilding and railway sleeper production. After 1813 chars in the Sundarbans area began to be leased out to zamindars for agriculture and the indigenous Munda people were brought into the region in order to clear the forest for cultivation (See section 3.2.1.1. above). |
| 1855 | On 3 August Lord Dalhousie, Governor General of India, issued a memorandum in which for the first time a plan for forest conservancy was proclaimed for the whole of India. Prior to this Charter of Indian Forests, only scanty regulations existed regarding the felling of trees for revenue. |
| 1856 | Brandis was appointed Inspector General of Forests. |
| 1864 | On 1 November a Forest Department was established for the first time. |
| 1865 | The Indian Forest Act was passed. |
| 1869 | The Forest Service was organized. |
| 1871-1900 | A regular forest service began to exist and definite progress in forestry started. Forests were demarcated and in 1878 the Forest Act was revised (Act VII of 1878). In 1879, some 4,856 sq km (1,875 sq miles) of the Sundarbans were |

³⁴ Anwar Firoze (n.d), *The Sundarbans Mangrove Forest*, (Khulna:CDP)

³⁵ Asiatic Society of Bangladesh (2004), *Banglapedia*, (Multimedia CD English Version)

declared Protected Forest and in 1893 Heinig prepared a working plan of the Sundarbans. In 1880 its closure to shooting, hunting, and fishing was first enforced.

- 1892 The first management plan in Bengal was prepared for the Sundarbans.
- 1894 The National Forest Policy was adopted and was the first formal forest policy covering British India. It declared that state forests were to be administered for the benefit of the public at large, through regulation of the rights and privileges of the people near the forest. Forests were categorized as (a) hill forests/protection forests, (b) economically important/production forests, (c) minor forests, and (d) pastureland. Forests situated on hill slopes were to be conserved to protect the cultivated plains situated downstream; while according to the National Policy, valuable forests should be managed to yield state revenue. Land suitable for cultivation within the forest, it stated, should be made available for cultivation, provided that such conversions did not harm the forests and were permanent. Local populations should be allowed to exercise grazing rights in low-yielding forests.
- 1925-1927 Systematic inquiry into private forests was started. The Forest Act 1878 was revised and the Forest Act 1927 became effective. The Sundarbans, Chittagong Hill Tracts, Cox's Bazaar, and Dhaka-Mymensingh formed the southern circle (now part of Bangladesh).
- 1945 The Bengal Private Forest Act was passed to allow control of private forests and wastelands by the government in the interest of conservation.

5.4 The Pakistan Era (1947–1971)

- 1947 After the partition of India in 1947, the government of Pakistan (which at the time covered West Pakistan (the present Pakistan) and East Pakistan (the present Bangladesh) started to reorganize the forest sector. The 1894 National Forest policy was not relevant for the new state of Pakistan which inherited forest cover on less than 2% of its territory. The existing policy neither contemplated the increase of forest area nor emphasized sustained harvesting from existing forests. Furthermore, it excluded private forests from its ambit.
- 1949 Pakistan Forestry Conference was held to address the deficiencies of the 1894 National Forest Policy and adopted forest management guidelines.
- 1955 A new Forest Policy was announced.
- 1960 The post of Chief Conservator of Forests was created.
- 1962 The Forest Policy of 1955 was revised and a new forest policy was introduced. This policy laid emphasis on the exploitation of forest produce, particularly from East Pakistan (the present Bangladesh) and ignored the principle of sustainable forest use and rights of the forest people. Neither Forest Policy had helped the development of forestry in East Pakistan or been favourable for forests in general. Moreover, increases in the population and increased demand for food and other essentials resulted in heavy pressure on forestland, leading to ecological degradation.

5.5 The Bangladesh Regime (from 1971)

Under the Bangladesh regime 'forestry for all' became the call, and more emphasis was placed on extending tree resources beyond the 'reserve forests'.

- 1979 The first National Forest Policy was announced. This policy statement is very general and vague. Most of the crucial aspects such as functional classification and use of forest land, role of forest as the ecological foundation of sustainable biological productivity, community participation in forestry, etc did not get any

mention in the policy statement. Consequently, the government decided to amend the Forest Policy of 1979.

1987–1989 An amendment of the Forest Act 1927 was drafted in 1987 and approved in 1989 as the Forest (Amendment) Ordinance 1989.

1990–1993 A 20-year Forestry Sector Master Plan (FSMP 1993–2012) was developed, which aims to bring 20% of the country's land area under tree cover. It has 3 major investment programs: (a) forest production and management; (b) wood-based industries; and (c) participatory forestry. Of the 2 scenarios in the FSMP, the High Development Scenario envisages an investment of about US \$2 billion in the forestry sector. The Forest Act of 1927, as amended with its related rules and regulations, is still the basic law governing forests in Bangladesh. The emphasis of the Act is on the protection of reserved forest. Under the purview of the Forest Act, all rights or claims over forestlands have been settled at the time of the reservation. The Act prohibits the grant of any new rights of any kind to individuals or communities. Any activity within the forest reserves is prohibited, unless permitted by the Forest Department.

1994–95 The 1979 Forest Policy was amended in 1994 and was approved by the government on 31 May 1995. The 1994 Forest Policy viewed equitable distribution of benefits among the people, especially those whose livelihood depend on trees and forests; and people's participation in afforestation programmes and incorporation of people's opinions and suggestions in the planning and decision-making process. The people-centered objectives of the policy are: creation of rural employment opportunities and expansion of forest-based rural development sectors; and prevention of illegal occupation of forest lands and other forest offences through people's participation. The following were taken into consideration while producing the 1994 amendments: the clauses of public utility as mentioned in the constitution; the role of forests in the socio-economic development of the country, including the environment; adoption of national policy regarding agriculture, industry, cottage industry and other sectors; and the treaties, protocols and conventions related to environment and forests.

From 1990s A range of development projects for the forest sector have been undertaken with financial and technical assistance from different development partners, including the Asian Development Bank (ADB), World Bank, United Nations Development Programme (UNDP), and the UN Food and Agriculture Organization (FAO). These projects mainly emphasized joint forest management, the Forest Department's research and development, and efficiency development. The largest ever biodiversity conservation project, the Sundarbans Biodiversity Conservation Project (SBCP) was undertaken by Bangladesh with financial assistance from ADB, GEF, and the Netherlands Government. Under this project the management of the Sundarbans was divided into 2 while retaining the same old manpower. The project failed to attain its goals and objectives, and was ended prior to completion.

2000 The Forest Act was further amended and renamed as the Forest (Amendment) Act 2000. The Act now includes social forestry, through which communities are declared responsible for forest management and entitled to benefit from selling wood or other forest products.

Over the past 3 decades, forest cover declined by 2.1% annually.³⁶ The state-owned forests of Bangladesh are distributed in 3 zones: (a) hill forests in the districts of Chittagong, the Chittagong Hill Tracts (which consists of Bandarban, Rangamati and Khagrachhari districts), and Sylhet; (b) inland forests in the central and northern zones; and (c) Littoral forests in the delta and coastal regions. The present status of state-owned forest in Bangladesh is shown in Table 6.

³⁶ Asiatic Society of Bangladesh (2004), *Banglapedia*, (Multimedia CD English Version)

Table 6 Status of state-owned forest land (in hectares)

Forest type	Reserve forest	Protected forest	Vested forest	Acquired forest	BWDB and khas	Un-classed state forest	Total
Hill	594,383	32,303	2,636	11,004	--	721,344	1361,670
Inland	68,140	2,689	19,985	31,198	--	--	122,012
Littoral	656,579	--	--	6	101,526	--	758,111
Total	1,319,102	34,992	22,621	42,208	101,526	721,344	22,41,793

Source: Asiatic Society of Bangladesh (2004), *Banglapedia*, (Multimedia CD English Version)

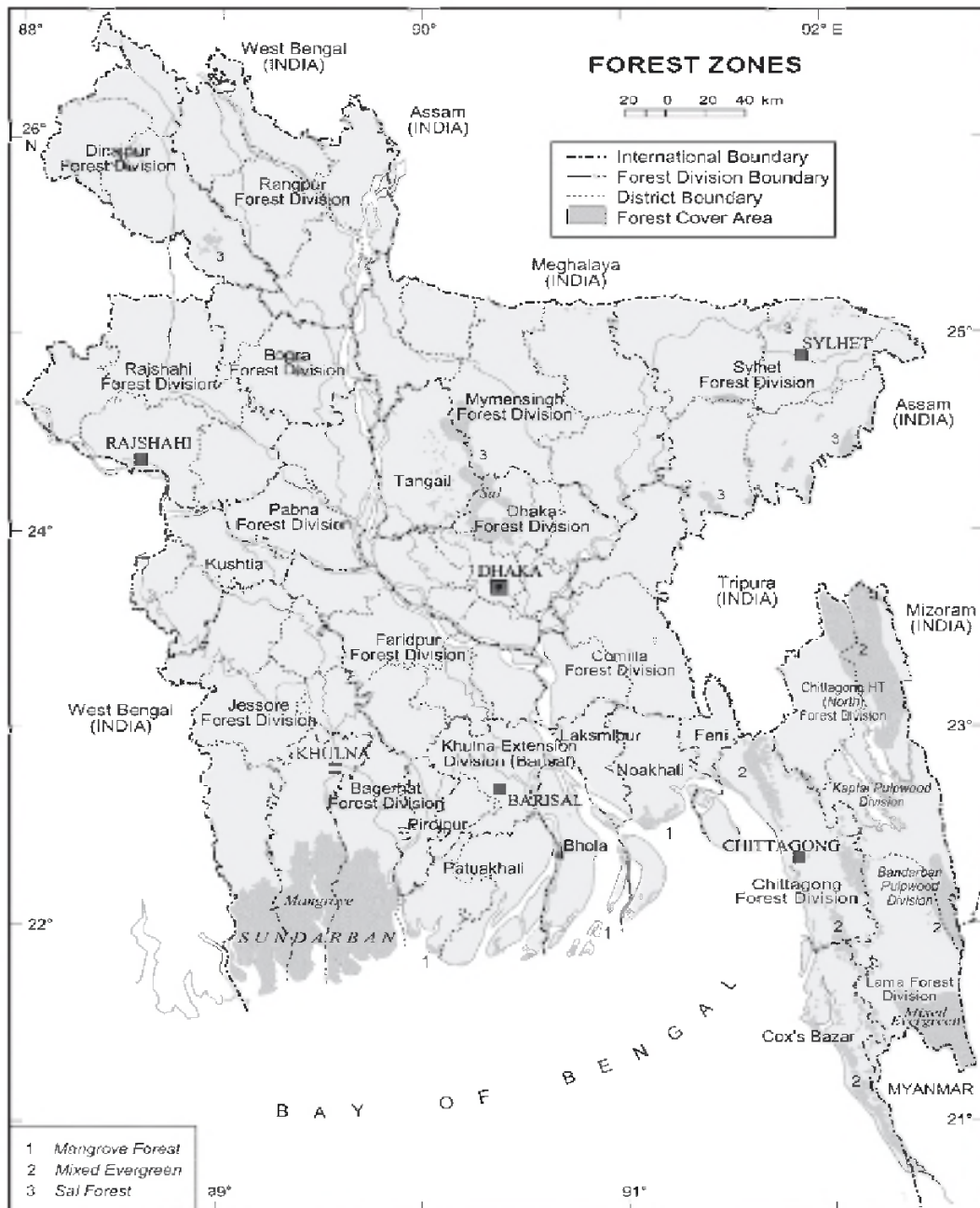
There are 2 tracts of littoral forests. The smaller one is the Chakaria Sundarbans. It lies in the delta of the Matamuhari River in Cox's Bazaar district. The Sundarbans in the delta of the Ganges and Brahmaputra stretches from the Hughly River to the Rabnabad Island, and extends inland, in places, as far as 160 km. Today the Sundarbans covers only half the area it did in the 18th century. Uncontrolled deforestation and land settlement caused this reduction in the forest's size.

In Bangladesh, at least 1,000 species of forest plants are economically important; of these about 400 are considered as tree species and about 450 as medicinally important. About 50 tree species and about 100 shrubs and herbs are viewed as commercially important.

5.6 From Commons to Global Economic Resource

The initial craze for clearing forestland for agriculture fuelled even further by government policies, died off in the late 19th century. This was due to a new interest that emerged counter to the land-hungry agriculturalists: the logger and timber industrialists as well as the state that benefited from this industry. The industrial revolution was in full swing around this time in Europe and elsewhere, and needed natural resources from the colonies. Consequently, conservation of timber production in the Sundarbans became a new-found goal of the British.³⁷ The logging industry continued to grow until the late 1980s, fuelled by imports from Japan, USA and Europe, and facilitated by international organizations such as the International Tropical Timber Organization (ITTO). More recently, another example of international involvement is oil and gas exploration. American UNICOL in collaboration with Dutch Shell has already expressed interest in conducting seismic surveys in an area of the Sundarbans. The United States is using its weapon of market access as a way to push the government to open the gas fields of Bangladesh to foreign companies.

³⁷ ActionAid, Bangladesh (n.d.), *To Enter Again the Sweet Forest: A Qualitative Perspective of People's Livelihood in the Sundarbans*. Dhaka



Source: Bangladesh Forest Department, 1999

The fundamental nature of recent policies and interventions, whether they be at the international, national or regional level, is the valuation of the Sundarbans as an economic good. What were once commons have become a global source for industrial extraction. The Forest Department has played an accommodating role in relation to foreign interests. In fact, its focus has always rested on production, not conservation. Forest management has never given adequate attention to factors needed to maintain a healthy ecosystem. Besides, the FD is beset with corruption and mismanagement. It was the colonial Forest Act of 1927 that gave excessive powers to the FD to arbitrarily arrest and file cases against anyone thought to be plundering forest property. Since then, the FD has targeted the poor resource extractors at the bottom rung of the chain for legal action and illegal rent seeking. This is despite the fact that these extractors are merely wage labourers working for middlemen who in turn represent the business community.

Chapter 6

Implementing the CBD

6.1 Compliance with the CBD

As outlined in Chapter 1, the Convention on Biological Diversity (CBD) established a new paradigm that without conservation and sustainable use of biodiversity, there is no development for future generations.³⁸ One of the most important (although least explored) articles of the CBD (in conjunction with Article 8(j)), Article 10(c) may provide a strong basis for recognizing the connection between local and indigenous communities and the conservation and use of biological resources. It could, for instance be used as the basis for integrating concerns over customary use into protected area imperatives in order to ensure that creation and management of a protected area (such as the Sundarbans) does not disenfranchise a local or indigenous community, or affect its access to resources (see Box 13).

The present study reveals, however, that the policies of the Bangladesh government have so far failed to recognize the critical link between sustainable natural resources management and the maintenance of the traditional knowledge and practices of indigenous and local communities. There is a fundamental difference in approach to use of the forest between the Forest Department and traditional resource users in the Sundarbans (see Box 12). This is despite the widespread acknowledgement worldwide that the involvement of local communities and indigenous peoples is an essential condition for the conservation of biodiversity. Indeed, several recent studies have shown that management by indigenous peoples in many cases leads to an increase in biodiversity rather than a reduction, as was often wrongly assumed. Adequate understanding and protection of traditional management methods and knowledge are therefore vital to the progress of biodiversity conservation.³⁹

Box 12 Approaches to the Sundarbans	
Traditional Users	Forest Department
Sacred place	Reserve forest
Source of livelihood	Revenue unit
Combination of culture and tradition	Combination of rules and regulations
Believe in state and community ownership	State ownership
Ecology comes first	Economics come first
Regard themselves as traditional knowledge and rights holders	Holders of scientific knowledge and resource protector

Securing biodiversity conservation through the empowerment of indigenous peoples and local communities requires a rights-based approach to ecosystem management, environmental conservation and community development. Without secure rights, full and effective participation and tangible benefits, indigenous peoples and local communities are inevitably marginalized by development and conservation policies and programmes.

³⁸ Arturo Martinez, 'The new regional planning and implementation of the convention on biological diversity' <http://www.oas.org/dsd/publications/Unit/oeao4e/ch10.htm> . Accessed on 30 December 2006.

³⁹ <http://www.biodiv.org.uy/actors/BDC/report.pdf> . Accessed on 13 January 2007

Box 13 Ten reasons to promote Article 10(c)

Improved implementation of Article 10(c) will reinforce achievement of the 3 main goals of the CBD: (i) the conservation of biological diversity, (ii) the sustainable use of the components of biodiversity, and (iii) equitable and fair sharing the benefits. Article 10(c) also provides an excellent vehicle for the practical implementation of many the multiple progressive outcomes of the Fifth World Parks Congress and decision on protected areas stemming from COPVII of the CBD held in Kuala Lumpur in February 2004. Focused efforts to implement Article 10(c) will support the new paradigm for protected areas that promotes the achievement of the Millennium Development Goals and recognition and respect for the rights of Indigenous peoples and traditional communities.

In short, the CBD secretariat, Parties, governments, other international fora and agencies dealing with natural resource issues, indigenous peoples and local communities should work to promote the practical implementation 10(c) because it:

1. Establishes an agreed framework for supporting Indigenous peoples and local communities to conserve, sustainably manage and benefit from their biological resources; Underpins many of the programme elements relating to equity, participation, traditional knowledge and benefit sharing established under the CBD's expanded work programme on forest biological diversity (e.g., Element (1), Goal 4, objective 3, among others) and its proposed work programme on protected areas (programme element on equity, governance, participation and benefit sharing);
2. Creates synergies for effective implementation of the work programme on Article 8(j) (e.g., Element 3, Task 13, among others);
3. Provides an opening under the CBD to recognize the diversity of protected area governance approaches, such as indigenous territories, community conserved areas, sacred sites and other traditional conservation areas (CBD programme of work on protected areas);
4. Is fully consistent with the promotion of the full and effective participation of Indigenous and local communities through the recognition, promotion, use and application of traditional knowledge and traditional resource management practices (CBD programme of work on protected areas);
5. Necessitates, as a precondition for its effective implementation, reviews of national legislation and policies and their reforms to account for and recognise, among others, Indigenous legal systems, corresponding systems of governance and administration, land and water rights and control over sacred and cultural sites (CBD programme of work on protected areas);
6. Promotes the sustainable use of biological resources thereby contributing to poverty alleviation and food security among indigenous peoples and local communities (UN Millennium Development Goals);
7. Could help strengthen co-ordination between the CBD and UNFF in relation to IPF/IFF Proposals for Action on traditional knowledge, participation and land tenure;
8. Has the potential to empower indigenous peoples (Chapter 26, Agenda 21) and local communities and help them secure their rights to their territories and their environment;
9. Is fundamental to the rationale of the ecosystem approach, which recognises that: '*... Indigenous peoples and other local communities living on the land are important stakeholders and their rights and interests should be recognised. Both cultural and biological diversity are central components of the ecosystem approach...*' (Principle 1)

Source: Tom Griffiths (2004), '10 Reasons to Promote and Implement Article 10(c) Effective implementation of the CBD and support for the new paradigm on protected areas', Forest Peoples Programme, Moreton-in-Marsh, UK

6.2 Some Tasks Ahead

The CBD has developed various Decisions and Recommendations concerning biodiversity and indigenous and local communities. Some of them are very relevant for improving the situation of biodiversity and forest peoples in the Sundarbans. For example:

- The Conference of the Parties, in paragraph 23 of decision VI/10 (2002), urged parties and governments to strengthen their efforts to support capacity-building aimed at the full and effective participation of indigenous and local communities, particularly women, in decision-making processes regarding the preservation, maintenance and utilization of traditional knowledge relevant for the conservation and sustainable use of biological diversity at all levels (local, national, regional and international); and, where indigenous and local communities and parties and governments deem appropriate, promote their participation in the management of biological diversity.
- The Fourth Meeting of the Ad Hoc Open-ended Inter-sessional Working Group on Article 8(j) and Related Provision of the CBD, held in Granada, 23–27 January 2006, identified some key tasks. :

***Task 1.** Parties to take measures to enhance and strengthen the capacity of indigenous and local communities to be effectively involved in decision-making related to the use of their traditional knowledge, innovations and practices relevant to the conservation and sustainable use of biological diversity subject to their prior informed approval and effective involvement.*

***Task 2.** Parties to develop appropriate mechanisms, guidelines, legislation or other initiatives to foster and promote the effective participation of indigenous and local communities in decision-making, policy planning and development and implementation of the conservation and sustainable use of biological diversity at international, regional, sub-regional, national and local levels, including access and benefit-sharing and the designation and management of protected areas, taking into account the ecosystem approach.*

Documents UNEP/CBD/WG8(j)/4/6 and UNEP/CBD/WG8(j)/4/5 address the issue of indigenous and local community participation in decision-making processes regarding the preservation, maintenance and utilization of traditional knowledge; they also explore potential sources of funding to facilitate the full and effective participation of indigenous and local communities in meetings organized within the framework of the CBD, as requested in paragraph 22 of decision VI/10.

***Task 4.** Parties to develop, as appropriate, mechanisms for promoting the full and effective participation of indigenous and local communities with specific provisions for the full, active and effective participation of women in all elements of the programme of work, taking into account the need to:*

(a) Build on the basis of their knowledge, (b) Strengthen their access to biological diversity; (c) Strengthen their capacity on matters pertaining to the conservation, maintenance and protection of biological diversity; (d) Promote the exchange of experiences and knowledge; (e) Promote culturally appropriate and gender specific ways in which to document and preserve women's knowledge of biological diversity.

Apart from various decisions taken in relation to Article 8(j) and Related Provisions, the CBD has taken important decisions also on protected areas, which are directly relevant to the Sundarbans.

The CBD Programme of Work on Protected Areas

Decision VII/28 of the CBD (adopted at COP7 in 2004) requires that 'the establishment, management and monitoring of protected areas should take place with the full and effective participation, and the full respect for the rights of, indigenous and local communities consistent with domestic law and applicable international obligations.'⁴⁰

This decision also adopted the CBD Programme of Work on Protected Areas. This contains various activities related to indigenous and local communities, particularly in its programme element 2 on Governance, Participation, Equity and Benefit Sharing which set the following goals to be carried out before COP8 in 2006 (goal and target 2.2) or before COP9 in 2008 (goal and targets 2.1):

- 2.2: To enhance and secure involvement of indigenous and local communities and relevant stakeholders. Target: Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas.
- 2.1.1. Assess the economic and socio-cultural costs, benefits and impacts arising from the establishment and maintenance of protected areas, particularly for indigenous and local communities, and adjust policies to avoid and mitigate negative impacts, and where appropriate compensate costs and equitably share benefits in accordance with the national legislation.
- 2.1.3. Establish policies and institutional mechanisms with full participation of indigenous and local communities, to facilitate the legal recognition and effective management of indigenous and local community conserved areas in a manner consistent with the goals of conserving both biodiversity and the knowledge, innovations and practices of indigenous and local communities.
- 2.1.5. Engage indigenous and local communities and relevant stakeholders in participatory planning and governance, recalling the principles of the ecosystem approach.

Activities to be carried out by Parties by 2010 under other elements of the Programme of Work include:

- 1.1.7. Encourage the establishment of protected areas that benefit indigenous and local communities, including by respecting, preserving, and maintaining their traditional knowledge in accordance with article 8(j) and related provisions.
- 3.2.2. Establish effective mechanisms to document existing knowledge and experiences on protected area management, including traditional knowledge in accordance with Article 8 (j) and Related Provisions, and identify knowledge and skills gaps.

6.3 Bangladesh Scenario

It is evident from the content of these CBD provisions and the Bangladesh situation, especially in the Sundarbans, that there is a need for major reforms of Bangladesh's biodiversity conservation strategies are plans in order to effectively implement the CBD Biodiversity has been lost at an alarming rate and forest peoples' rights have been neglected. The Mundas, for example, were the first people to come to the Sundarbans to settle but today they have been completely excluded from the forest. Though they are hunter-gatherers, young Munda boys and girls do not know the norms and values of the forest. They have been exploited by their neighbours and by the state. They are totally isolated from the forest, and have no access to the resources that are supposed to be public or common

⁴⁰ Decision VII/28 Protected Areas, at para. 22. See, also, Decision VII/28, Annex, Programme of Work on Protected Areas, Goal 2.2. In: *Decisions Adopted by the Conference of Parties to the Convention on Biological Diversity at its Seventh Meeting*. UNEP/BDP/COP/7/21, pp. 343-64.

property. They have been distanced so much from the forest that they say they would not dare to take a share in the management of the Sundarbans even if they were offered the responsibility. Poverty is gradually destroying Munda culture. Their language is already endangered: it exists only in oral form and no initiative has so far been taken to strengthen it and ensure that it is practised in the future.

CBD Parties and governments are urged to investigate legal and non-legal measures to protect, strengthen and revitalize traditional cultural practices compatible with and/or supportive of conservation and sustainable use of biodiversity, ensuring that these are transmitted to future generations. It should be borne in mind that protection of traditional cultural practices relevant for conservation and sustainable use of biodiversity is inextricably linked to local communities' enjoyment of their rights to their lands, territories and resources.

Bangladesh needs to reform its policy regime immediately in order to protect the life, livelihood and culture of indigenous and local communities and save the forest.

Chapter 7[†]

Legal Framework and National Policies

This section presents a summary of the legal framework relevant to the rights of indigenous peoples with respect to their customary use of national resources as stipulated in the CBD, particularly in Article 10(c).

7.1 CBD guidance on Article 10(c) and other relevant international documents

In addition to the CBD, various other international documents appreciate the role of indigenous communities in protecting the environment and deal separately with their rights and the special protections to be accorded to them. The United Nations' Rio Declaration on Environment and Development and its Agenda 21 also deal with indigenous communities. Agenda 21 recognizes the historical relationship that indigenous peoples and their communities have with their lands, and the holistic traditional knowledge they have developed of their lands, natural resources and environment. In view of the interrelationship between the natural environment and its sustainable development and the cultural, social, economic and physical well-being of indigenous peoples, Agenda 21 has called upon states to implement environmentally sound and sustainable development through recognizing, accommodating, promoting and strengthening the role of indigenous peoples and their communities.

The following objectives of Agenda 21 are in line with the International Labour Organization's (ILO) Indigenous and Tribal Peoples Convention (No. 169) and the United Nations Declaration on the Rights of Indigenous Peoples, recently approved by the UN General Assembly. These objectives deserve mentioning to help us to assess gaps in the national legal arena and recommend measures to be taken by the Bangladesh government.

Agenda 21 calls for establishment of a process to empower indigenous peoples and their communities through measures that include:

- (i) Adoption or strengthening of appropriate policies and/or legal instruments at the national level;
- (ii) Recognition that the lands of indigenous peoples and their communities should be protected from activities that are environmentally unsound or that the indigenous peoples concerned consider to be socially and culturally inappropriate;
- (iii) Recognition of their values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development;
- (iv) Recognition that traditional and direct dependence on renewable resources and ecosystems, including sustainable harvesting, continues to be essential to the cultural, economic and physical well-being of indigenous peoples and their communities;
- (v) Development and strengthening of national dispute-resolution arrangements in relation to settlement of land and resource-management concerns;
- (vi) Enhancement of capacity building for indigenous communities, based on the adaptation and exchange of traditional experience, knowledge and resource-management practices, to ensure their sustainable development;

[†] This chapter was written by Syeda Rizwana Hasan, Bangladesh Environmental Lawyers Association (BELA)

- (vii) Establishment of arrangements to strengthen the active participation of indigenous peoples and their communities in the national formulation of policies, laws and programs relating to resource management and other development processes that may affect them;
- (viii) Involvement of indigenous peoples and their communities at the national and local levels in resource management and conservation strategies.

Agenda 21 calls upon national governments to ensure greater control for the indigenous communities over their lands, self-management of their resources, participation in development decisions affecting them, including participation in the establishment or management of protected areas. Specifically, it proposes the following initiatives, amongst others, for the national government to undertake:

- (a) Consider the ratification and application of existing international conventions relevant to indigenous peoples and their communities and provide support for the adoption by the General Assembly of a declaration on indigenous rights;
- (b) Adopt or strengthen appropriate policies and/or legal instruments that will protect indigenous intellectual and cultural property and the right to preserve customary and administrative systems and practices;
- (c) Achieve a better understanding of indigenous peoples' knowledge and management experience related to the environment, and apply this to contemporary development challenges;
- (d) Develop or strengthen national arrangements to consult with indigenous peoples and their communities with a view to reflecting their needs and incorporating their values and traditional and other knowledge and practices in national policies and programs in the field of natural resource management and conservation and other development programs affecting them.

Bangladesh has also ratified the Ramsar Convention on Wetlands, which requires the involvement of indigenous and local groups in the management of wetlands. As part of the Sundarbans is a Ramsar site, this convention is directly relevant to biodiversity and people of the Sundarbans.

The above environment related international conventions, declarations and working plans that Bangladesh has endorsed all recognize the role of indigenous peoples to the maintenance of environment and biodiversity and require security of tenure for such people over lands and resources, and recognition and protection of their customary rights, practices and institutional arrangements that are compatible with sustainable development.

7.2 International Law Governing Indigenous Peoples

At the international level, the International Labour Organization's 1957 Convention 107 Concerning the Protection and Integration of Indigenous and other Tribal and Semi-Tribal Populations in Independent Countries has been revised by Convention 169 of 1989 Concerning Indigenous and Tribal Peoples in Independent Countries. The earlier convention, entitled the Indigenous and Tribal Populations Convention, 1957 was ratified by Bangladesh on 22 June 1972. This convention and the subsequent convention of 1989 defined the tribal and indigenous communities mostly in similar terms.

The 1957 Convention 107 deals with certain rights of tribal and indigenous communities including their right to land, employment training, social security and health, education and communication and so on. Part II of the convention deals with the land rights of populations, in Articles 11, 12 and 13 as follows:

- Article 11 The rights of ownership, collective or individual, of the members of the populations concerned over the lands which these populations traditionally occupy shall be recognized.

Article 12.1 The populations concerned shall not be removed without their free consent from their habitual territories except in accordance with national laws and regulations for reasons relating to national security, or in the interest of national economic development or of the health of the said populations.

Article 12.2 When removal of these populations is necessary, they shall be provided with lands of quality at least equal to that of the lands previously occupied by them.

Article 13 seeks to ensure transmission of rights of ownership and use of land established by the customs of the populations.

Although the 1957 Convention 107 has been revised by the 1989 Convention 169, it remains in force in its actual form and content for those members that have ratified it but have not ratified the revising convention (Article 36).

Convention 169, which Bangladesh has not yet signed, defines indigenous people as people who 'on account of their descent from populations which inhabited the country, or a geographical region to which the country belonged, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.' (Article 1 (b)).

According to Article 1(a) of Convention 169 'tribal peoples' are those whose social, cultural and economic conditions distinguish them from other sections of the national communities, and whose status is regulated wholly or partially by their own customs or traditions or by special laws and regulations.

Convention 169 regards self-identification as indigenous or tribal as a fundamental criterion for determining the groups to which the provisions of this convention apply. This convention marks a significant development in international law relevant to indigenous peoples and their land rights, including: (a) recognition of collective land rights, (b) rights of ownership and possession, (c) rights to natural resources pertaining to the lands, with provisions relating to cases where the state retains ownership of these resources, and (d) rights in connection with peoples' removal and relocation from lands.

Convention 169 requires the parties to adopt special measures for safeguarding the persons, institutions, property, labour, cultures and environment of the peoples concerned (Article 4 (1)). It declares that the people concerned shall have the right to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual well-being and the lands they occupy or otherwise use. It seeks to empower the communities to exercise control over their economic, social and cultural development and to participate in the formulation, implementation and evaluation of the plans and programs for development that affect them directly. It requires national governments to assess the social, cultural and environmental impact of development activities on the communities and to take measures to protect and preserve the environment of the territories they inhabit (Article 7). Article 8 of the convention allows the communities to retain their own customs and institutions provided they are not inconsistent with national legal systems. The same article requires states to apply national laws with due regard to the customs and customary laws of these communities.

Articles 13 and 15 of the convention emphasize the need to respect the importance for the cultures and spiritual values of the peoples concerned of their relationship with lands and territories; the articles commit the national government to safeguard the peoples' rights to the natural resources pertaining to their lands. Article 23 recognizes the subsistence economy and traditional activities of the peoples concerned, such as hunting, fishing, trapping and gathering, as important factors in the maintenance of their cultures and in their economic self-reliance and development. It requires the national government to ensure that these activities are strengthened and promoted.

The UN Declaration on the Rights of Indigenous Peoples also recognizes that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment. Various articles of this

declaration reiterate the rights of indigenous peoples to own, develop, control and use the lands and territories – including the total environment of lands, air, waters, coastal seas, sea ice, flora and fauna and other resources – that they have traditionally owned or otherwise occupied or used. Article 26 is specific in saying that such rights shall include the right to full recognition of their laws, traditions and customs, land tenure systems and institutions for the development and management of resources, and the right to effective measures by states to prevent any interference with, alienation of or encroachment upon these rights.

When the declaration was approved by UN General Assembly, Bangladesh abstained from voting on the grounds that the drafting of a final text for adoption had not followed the proper procedure and that some of the articles in the text are unclear on definitions.

Given the above scenario and the stance of Bangladesh regarding important international legal documents on the rights of the indigenous/tribal communities, assessment of the implementation status of Article 10(c) in Bangladesh with regard to the indigenous community demands analysis of the following pertinent issues from a legal viewpoint: the status of the indigenous peoples in the country, the state's commitment to conservation and sustainable use, and the protection afforded to indigenous communities in the state's legal and policy documents.

7.3 Legal Status of Indigenous Peoples in Bangladesh

The Constitution of Bangladesh contains no mention of the words 'indigenous', 'tribal' or 'ethnic' communities. Under Article 6 of the constitution all citizens of Bangladesh are known as Bangladeshis and are entitled to equal protection under the law (Article 27) although the State may make special provisions for the advancement of any backward section of citizens. The special quotas in education and employment provided by the government for the ethnic communities (notification dated 10 February 1991, memo (AD-2)-39/91-143, Ministry of Establishment) show the disadvantageous condition of the indigenous/ethnic communities, who are still striving to gain political and legal recognition of their identity as 'indigenous' communities. Except for the above-mentioned circular of the Ministry of Establishment, the communities who prefer to identify themselves as 'indigenous' are termed in various government documents as either 'aboriginals', 'ethnic' or 'tribal' communities as it is widely argued that the definition of indigenous peoples as given in Convention 169 has no relevance in the context of Bangladesh because most of the population are the descendants of the settlers prior to the occupation of modern or earlier colonizers and are the original inhabitants. It often gets difficult to establish whether the group in question is the indigenous peoples of the area they inhabit or whether they migrated to that area from somewhere else. Conversely, it is held that the definition of 'tribal' groups given in Convention 169 more closely explains the status of the ethnic communities of this country. It is distinct from the term Adivasi, meaning 'original inhabitants', because in many traditional domains the present tribal occupants may be treated not as original inhabitants but as 'first settlers' in view of the multidimensional features of the process of settlement, for example time and mode of settlement, the origin and ancestral homeland of the settlers and so on⁴¹.

Laws and various government documents mention different numbers of ethnic communities, creating confusion as to the scope and applicability of the protection given to these communities. The State Acquisition and Tenancy Act 1950 mentions a total of 21 groups of aborigines while the Census Report of 2001 mentions 29 counting more members under a separate heading called 'others'. A comparison between the named communities shows that only 10⁴² such communities have been mentioned in both documents, meaning the others have either not received legal protection or are not considered when policies refer to 'tribal' groups.

7.4 Legal Commitment to Conservation and Sustainable Use

The Constitution of Bangladesh makes no mention of the terms 'environment', 'sustainable development' or 'biodiversity'. The legal regime defines 'environment' but does not define 'biodiversity' and 'sustainable development'. The policy regime, being more recent, is more

⁴¹ Farooque, Mohiuddin (1995), *Bangladesh: Land, Forest and Forest People*, SEHD

⁴² Santal, Bhuiyas, Dalus, Garos, Hadi, Hajangs, Hos, Kochs, Munda and Oraon.

progressive and mentions these terms, but fails to define them and their preconditions and components. Bangladesh has no specific law to deal with biodiversity, but has ratified a number of international conventions relating to biodiversity that also aim to promote sustainable development. Some judicial decisions have upheld the right to environment and sustainable development, but these concepts have not been adopted in the legal area with the needed clarity.

The Environment Conservation Act 1995 sets as its objectives the conservation of the environment, the improvement of environmental standards, and control and mitigation of environmental pollution. It has provisions for declaration of certain areas as Ecologically Critical Areas (ECAs) provided the environmental condition of the areas reaches or is about to reach an alarming state. So far 9 areas have been declared ECAs, with reportedly no indigenous people living in or around them. However, in recent times, attempts by the government to implement 'development' (?) programs in some national parks (often termed as eco-parks), have been vehemently opposed by the local communities as these programs involved very little community participation and were perceived to further limit community access.

The Environment Policy of 1992 has the following objectives for the country:

- to maintain ecological balance and overall development through protection and improvement of the environment
- to ensure environmentally sound development in all sectors
- to ensure sustainable, long term and environmentally sound use of all national resources
- to actively remain associated with all International environmental initiatives to the maximum possible extent.

The major objectives of the National Biodiversity Strategy and Action Plan (NBSAP) include the following:

- to conserve and restore the biodiversity of the country for the well-being of the present and future generations
- to ensure that long-term food, water, health and nutritional securities of the people are met through conservation of biological diversity
- to maintain and improve environmental stability for local ecosystems
- to ensure preservation of the unique biological heritage of the nation for the benefit of the present and future generations.

It is thus evident that indigenous peoples have not received any special attention in the major policies of the government relating to the environment even though the policies acknowledge the uses of and reliance on natural resources for livelihood and emphasize maintaining the stability of the ecosystem. The CBD objectives and policy statements are thus not adequately reflected in the national policies of Bangladesh.

7.5 Indigenous Communities in the Regulatory Regime

The Environment Policy adopted in 1992 calls for involvement of people at all levels in the sustainable use of national resources; however, it makes no separate mention of the indigenous/tribal peoples in any of the 15 sectors it deals with. The National Environment Management Action Plan (NEMAP) which was drawn up in a participatory manner, also does not mention the indigenous/tribal communities in separate arrangements. However, in noting the policy statement on the Forestry, Wildlife and Biodiversity sector, NEMAP calls for encouragement of social and community forestry without elaborating on the groups or communities targeted for such afforestation programs.

In the Rio Declaration, the first global consensus on forests deals with the needs of people who want to protect forests for environmental and cultural reasons and with the needs of people who use trees and other forest life for economic development. The Rio Declaration (endorsed by Bangladesh) therefore emphasized that the planning and implementation of national forest policies should involve a wide variety of people, including women, forest dwellers, indigenous people, industries, workers and non-government organizations. It categorically stressed the need for the forest policies to support the identity, culture and rights of indigenous people and forest dwellers and to respect their knowledge of conservation and sustainable forest use. The declaration called upon states to offer indigenous people forms of economic activity and land tenure to encourage them in sustainable forest use and to provide them with an adequate livelihood and level of well-being.

At the national level, the Forest Policy 1994 promises both to create scope for peoples' participation in afforestation programs and to incorporate in the planning and decision-making processes, the opinion of those people whose livelihood depends on forestry and forest lands. The Forest Policy further commits the Bangladesh government to distribute the benefits of forestry sector development equitably among the people, especially those whose livelihood depends on trees and forests. In a contrasting statement, however, the Forest Policy accuses the tribal peoples living around forest zones of grabbing forest land at will and seeks to address the long-standing conflict over land tenure by imparting ownership of only a certain amount of forest land in favour of the tribal peoples through a process of permanent settlement. Such policy statements negate the commitment made by Bangladesh in ratifying the CBD.

The Land Use Policy of 2001 and the Land Management Manual of 1990 both lack any supportive guideline in this direction. The Social Forestry Rules, 2004 also makes no mention of indigenous communities. Instead, in some parts of the country, there have been protests by such communities against their systematic eviction by the Forest Department in the name of social forestry. In Dinajpur the indigenous peoples protested against being denied benefits from social forestry programs. In Tangail, in the name of social forestry, the FD introduced commercial cultivation of banana and pineapple in the unique Sal forest, virtually replacing the Sal so closely associated with the lives and livelihoods of the ethnic community living there.

The National Biodiversity Strategy and Action Plan (NBSAP) for Bangladesh lays down 16 strategies, none of which makes separate mention of the needs of indigenous/tribal communities although the list of participants mentions ethnic communities. Strategy 7 of the NBSAP calls for promotion of the use of traditional knowledge for conservation, and for the use and protection of the local communities' intellectual property rights. Recognizing the connection between the livelihood needs of different groups including the forest dwellers and their relationship with nature, Strategy 11 calls for participatory mechanisms to receive and utilize the inputs from different stakeholders about the processes leading to biodiversity conservation, and about the use and sharing of benefits. The NBSAP also emphasizes the role of education in influencing actions of major groups including indigenous people.

As stated above, Bangladesh does not recognize the concept of indigenous peoples in its domestic laws. It has also refrained from endorsing the UN Declaration on the Rights of Indigenous Peoples. Scrutiny of Bangladesh's legal documents suggests that the ratification by Bangladesh of the 1957 Convention merely shows its commitment to accord special protection to communities that it calls 'tribal' or 'aborigines', but not indigenous. For the rest of this chapter, the terms 'ethnic communities' and 'indigenous peoples' have been used to ensure conformity with the existing legal arrangements.

Scattered provisions in various laws deal with the special situation of the ethnic communities: Bangladesh has no specific law that defines the rights of the indigenous/tribal peoples to the use of natural resources. Similarly in some government policies, there are mentions of tribal communities but with no defined rights and/or protections. The land law mentions aborigines and places restrictions on their right to transfer of property. The forest law is detailed in recognizing the traditional and customary uses of forest produce by forest dwellers, and it sets procedures for addressing such claims/rights in cases where there are plans for forests are to be given protected status; the implementation of these has time and again been questioned.

The various legal documents on land use and resource management have components that recognize the existence of custom and customary use (applicable to all citizens of Bangladesh and hence the ethnic communities) – factors which are crucial in determining the rights and access of the indigenous people. In fact, customs enjoy the force of law in Bangladesh, and Article 152 of the Constitution of the People's Republic of Bangladesh in defining law includes Acts, ordinances, orders, rules, regulations, bye-laws, notifications or other legal instruments, and any custom or usage as having the force of law in Bangladesh.

Custom and customary rights have long been active factors in regulating land tenure issues, and the law has recognized them with some qualifications. The Bengal Tenancy Act 1885 required the courts to consider local custom while determining whether a tenant was a tenure holder or *raiyat* (with the right to hold land for the purposes of cultivation). Section 19 (1) of the Act provided that every *raiyat* who immediately before the commencement of the Act had, by the operation of any enactment, by custom or otherwise, a right of occupancy in any land should have occupancy in that land. If a *raiyat* died intestate, the right of occupancy had to be regulated as per custom. Section 183 of the Bengal Tenancy Act clearly stated that nothing in the Act should affect any custom, usage or customary rights not inconsistent with, or not expressly or by necessary implication modified or abolished by its provisions.

In reserving certain resources (forest, river, canals and watercourses) for public use, the land laws have in fact protected the customary or usufructuary rights of communities – which may well include the ethnic communities – over the resources.

Section 97 of the State Acquisition and Tenancy Act (SAT) 1950 has recognized a special tenurial status of land falling within the traditional domain of 'aboriginals' although the Act does not define the term. The relevant part of the section runs as follows:

97 (1) The Government may, from time to time, by notification, declare that the provisions of this section shall, in any district or local area, apply to such of the following aboriginal castes or tribes as may be specified in the notification, and that such castes or tribes shall be deemed to be aboriginals for the purposes of this section, and the publication of such notification shall be conclusive evidence that the provisions of this section have duly applied to such castes or tribes, namely:

Santals, Bhuiyas, Bhumijes, Dalus, Garos, Gonds, Hadis, Hajangs, Hos, Kharias, Kharwars, Kochs, Koras, Maghs, Mal and Sauria Paharias, Maches, Mundas, Mundais, Oraons and Turis.

(2) Except as provided in this section, no transfer by an aboriginal *raiyat* of his right in his holdings or in any portion thereof shall be valid unless it is made to another aboriginal domiciled or permanently residing in Bangladesh who is a person to whom the transfer of such holding or portion thereof can be made under section 90.

(7) Every transfer made by an aboriginal *raiyat* in contravention of the provisions of this section shall be void.

The restriction reflects a weaker recognition of individual land holding rights; it is not a recognition of common property rights. The application of the SAT has been limited to the Chittagong Hill Tracts (CHT) where a large number of tribal peoples live under a customary system headed by tribal chiefs. There the government is attempting to resolve conflicts over land tenure under the peace agreement signed on 2 December 1997 and also in line with the special laws applicable to the hill districts of CHT, the CHT Manual and the Land Commission Act 2001. Most of these documents use the term 'tribal' and not 'indigenous'. The peace agreement requires the government to ensure that all landless *tribal* families or *tribal* families having lands less than 2 acres shall, depending on the availability of land, get ownership of at least 2 acres of land. In case the land needed is not available, the government shall arrange for grove lands.

The CHT Manual recognizes, expressly or implicitly, a variety of rights over land in the form both of private and of common rights. Items 12 and 34 of the Manual recognize private

rights of individuals over clearly demarcated pieces of land, whether freehold or leasehold. The common rights are based upon customs and usages and include the rights to *jum*, to use forest resources for domestic purposes, to graze cattle on the common village pastures, to occupy non-urban lands for homesteads, and so on. Some of these rights are partially acknowledged, and regulated by the CHT Manual, but only a very few of them are clearly defined.⁴³

In reality the ethnic communities are increasingly losing rights over their lands, mainly for the following reasons:

- the government's policy of settling plainland people in the areas predominantly occupied by the ethnic people
- in some areas, lack of legal documents in favour of ownership and title
- application of the Enemy Property Act against the ethnic communities
- lack of awareness amongst the ethnic communities about their legal and customary rights
- lack of administrative relief

The rights of the ethnic communities to forests also have elements of custom. The forests of Bangladesh are legally classified as reserved, protected, village, controlled, vested, unclassified state forest (though this term does not appear in legal documents) and private forest. Prior to the first codified forests law in 1865, customary rights were exercised over all forests. It was when the forests began to be reserved as public forests that the exercise of customary rights became regulated. All subsequent laws on forests have accepted the existence of customary rights in public forests. Provisions of the Forest Act of 1927 relating to the declaration of reserved and protected forests also detail the procedures for settling claims over rights in such forest. Sections 4 to 20 of the Act require the government to appoint a Forest Settlement Officer (FSO) to judge upon claims either to forest-land or to forest produce, whether such claims have a legal basis or are the result of customary use. The FSO has to take note of claims relating to shifting cultivation along with any local rule or order under which the practice is allowed and shall forward the same to the government with his opinion as to whether the practice should be permitted or prohibited wholly or in part. The government has the discretion to allow or reject such claims. This discretionary power of the government is evidence that the Act does not ban outright ban local rules and practices.

Section 11 of the Forest Act, 1927 requires the protection of right of way, right of pasture, or rights to forest produce or to a watercourse that, if valid, shall be admitted and recorded by the FSO, or alternatively some other forest tracts in a reasonably convenient locality may be allocated for the realization of such rights. According to section 2(4) 'forest produce' includes timber, rubber, charcoal, wood oil, resin, natural varnish, bark, lac, mahua seeds, myrabolams, trees and leaves, flowers and fruits, plants not being trees, wild animals and skins, tusks, horns, bones, silk, cocoons, honey, wax, peat, surface soil, rock and so on. As per section 11, if rights to such produce have to be commuted, the government shall pay the aggrieved person a sum of money in lieu thereof or grant land. In the case of the government stopping access to any public or private way or watercourse in a reserve forest, it must provide a substitute as per Section 25. Section 10 of the Forest Act relates to shifting cultivation, which the government may or may not permit in a reserve forest. In all cases the government is empowered to control, restrict and abolish the practice of shifting cultivation. Consequently, in 1952 shifting cultivation was banned in all areas except for the CHT where, according to Clause 34 of the Peace Agreement, the Hill District Council has the power to regulate this. As a result the ethnic communities living in other areas of the country (particularly in and around the Sal Forest) have lost their right to possession of and usufructuary rights to many of their previous *jhum* (shifting cultivation) plots. However, under Section 29 of the Forest Act, with regard to protected forest, no such notification can be made unless the nature and extent of private and government rights are settled and recorded. No such action can abridge or affect any existing right of individuals.

⁴³ Roy, Raja Devasish (1995) *Bangladesh: Land, Forest and Forest People*, SEHD

The above provisions of the 1927 Act expressly stipulate the existence of private or community rights in various forms over public forest. One of the objectives of the FSO is 'to enquire and record to what extent the proprietary rights of the State are limited by legally existing adverse rights of private persons or communities.'

The 1960 Forest Manual also states, *inter alia*, that it is the 'policy of the Government to give special consideration to communities dwelling on the margin of forest tracts in matters relating to grants of timber or other forest produce free or at concessional rates'. For the normal needs of these cultivating communities, the royalties on forest produce are usually low. In ordinary circumstances there would be 'no hardship in insisting that these classes of the population pay for forest produce.' In particular, in the event of calamities, grants should be available to help an individual to overcome the damage.

Furthermore, traditional rights emerging from prescription or adverse possession are legally recognized. Long-term occupation creates rights by prescription; originally most property rights were acquired by this means. According to the Limitation Act 1908, rights that have been exercised or enjoyed uninterrupted for 20 years on private property, or 60 years in the case of government property, create a legal right. Uninterrupted access to the forest or to a right of way becomes a prescriptive right after the expiry of the specified period. However, such rights cannot be acquired once the forest has been declared as a reserve under section 20 of the 1927 Act.⁴⁴

The Bangladesh Wildlife Preservation Order 1973 has prescribed 3 different protected area systems, namely game reserves, national parks and wildlife sanctuaries. The activities prohibited in these 3 categories of protected area interfere with some customary rights of the ethnic communities recognized in Article 23 of ILO Convention 169. Prohibitions include:

- entering or residing in such an area
- cultivating land
- hunting, killing or capturing any wild animals
- fishing
- felling, tapping, removing or collecting from any plant or tree
- introducing any domestic animal or allowing any domestic animal to stray;
- clearing any land for cultivation, and so on.

Such prohibitions evidently interfere with the forest peoples' customary rights and forest use. Unlike the Forest Act 1927, there is no scope under the Wildlife Preservation Order 1973 to compensate affected forest people for the loss of their traditional rights to hunting, cultivation, etc. As a result, the declaration of wildlife protected areas has frequently created wide dissatisfaction amongst forest dwellers. Tribal unrest over the declaration of a national park in the Modhupur forest centered around these sorts of prohibitions, and the situation worsened when the government subsequently attempted to develop the same national park as an eco-park and to fence the forest area, further restricting the forest peoples' access.

To address Bangladesh's conflicting obligations under the CBD and the World Trade Organization's agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs), in 1998 the Ministry of Agriculture initiated an attempt to draft 2 pieces of legislation. These 2 drafts rely heavily on Bangladesh's commitments under the CBD and include the objective of protecting and supporting the rights, knowledge, innovations and practices of local and indigenous communities with respect to conservation, use and management of biological and genetic resources. The draft laws attempt to define community, local community and indigenous community as follows:

⁴⁴ Farooque, Mohiuddin (1995) *Bangladesh: Land, Forest and Forest People*, SEHD

- (a) a group of individuals, whether formal or informal, settled or unsettled, organized or non-organized, monolithic or reticulate, but has a common interest in the utilization, conservation and enhancement of biodiversity, biological and genetic resources and the associated knowledge, intellectual practice and culture.
- (b) a group of individuals who have settled together in any geographical area, agro-ecological zones, forests, flood plains, coastal areas or in any eco-cultural system such that their livelihood practices are part of that system.
- (c) a group of individuals settled together under a political and administrative unit of local government with jurisdiction and activities related to biological and genetic resources and cleared knowledge and culture.
- (d) a group of individuals who are engaged in a production process and have continuously inherited their production processes and the related knowledge, intellectual practice and culture.
- (e) a group of people having a long-standing social organization that binds them together.
- (f) a group of people whose cultural or religious practices have direct implications for the maintenance and enhancement of particular ecosystems, biological and genetic resources and related knowledge and practice.

The draft Act attempts to define 'indigenous community' as a 'community' where local history can be traced back at least 10 years or to a group of individuals who have distinct cultural and linguistic identities.

7.6 Access of Local People to Resources

The resource management laws of Bangladesh give limited recognition of the rights of local people to resources but fail to define 'local people', or 'local groups', or 'local communities'. Other than the forest laws, the laws on the water sector and fisheries do mention traditional and legal rights. The Ministry of Land in a Gazette notification dated 4 September 1995 abolished the leasing system for all open water fishing. The rationale, as claimed in the gazette, is to ensure access to fishing and to protect the rights of the poor fishers and thus facilitate their livelihood. Fishery laws require that the local fisher communities are given priority when leasing out wetlands for fishing purposes. Ironically the lease fees are often so high that genuine fisher community members are the least likely to be able to afford them.

The 1952 law requires the government to compensate people affected by any embankment or drainage projects for the loss not only of land but also of the right of way, access to water bodies, their traditional occupation, etc. In the absence of byelaws to assess the loss in monetary terms, the legal system has not been able to respond to peoples' demands for compensation.

7.7 The Legal Regime in a Nutshell

Constitutionally, Bangladesh does not recognize any community as indigenous. The regulatory regime, however, does recognize tribes, aborigines, adivasis and ethnic minorities.

As mentioned under section 7.4 above, the legal regime has not defined 'biodiversity' and 'sustainable development', the 2 key terms of the CBD.

Unlike the CBD, the laws of Bangladesh do not recognize the contribution of the indigenous community to the maintenance of biodiversity and the dependence of these and other local communities on biological resources to carry out their traditional lifestyles although the forest policy and other policy documents do make vague mention of this.

The legal regime gives limited recognition to custom and customary rights, but fails to effectively protect or extend this to ethnic communities with special bonds with and dependence on nature and natural resources.

The law has not solved the controversy over the exact number of ethnic groups. This means that some ethnic groups are not covered by even the minimum legal protection that now exists. There is ambiguity between the numbers of ethnic groups mentioned in the law and in the Census Report 1991.

Bangladesh is a signatory to the ILO Convention 107 of 1957 on the Indigenous and Tribal Populations, but has refused to sign ILO Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries and abstained from voting in favour of the UN Declaration on the Rights of Indigenous Peoples.

The legal protection of land and land use is inadequate. Bangladesh has failed to protect ethnic communities' land tenure. Despite legal prohibitions relating to the transfer of lands belonging to ethnic communities to non-ethnic communities, the government has failed to prevent other populations from securing the ownership or use of lands belonging to ethnic communities as envisaged in the Convention 107. More and more land claimed by ethnic groups is being registered in the name of non-ethnic settlers, sometimes at the behest of the government.

Because of the hostile institutional attitude, the provisions of the Forest Act 1927 fail to give any protection to the customary rights of ethnic communities and instead serve to harass and intimidate them.

The legal regime in Bangladesh recognizes 3 types of ownership: private, state and cooperative, but not community ownership.

The legal regime on wildlife and protected area management permits curtailment of customary rights without recourse to alternative arrangements. The related laws do not require participation.

The laws on protected area management interfere with some traditional and customary rights of the ethnic/local communities and arbitrarily bar access.

Bangladesh has failed to legally recognize the rights of the ethnic communities and local people to participate in decision-making affecting their lives and livelihoods.

There is a lack of legal identity and affirmative state policy on subjects such as registration of local users, the formation of their co-operatives and associations, training in alternative livelihood options, ensuring access to markets and so on. The laws fail to require the formation of user groups and/or their legal identity to enable them to enjoy uninterrupted access to resources.

The laws on protected areas and resource management do not require monitoring of the conservation measures and their impact on local people or groups.

7.8 The Need for Policy and Legal Change

To ensure that Bangladesh's legal regime meets its obligations under Article 10(c) of the CBD in promoting and encouraging the customary use of biological resources, and in particular by the indigenous/ethnic communities, it is recommended that:

- constitutional and legal recognition are given to the issues of special protection of the ethnic, indigenous and local communities and protection of the environment and biodiversity
- the colonial sectoral laws on resource management (land, forest, wildlife, mining) are updated to reflect the aspirations of a free nation and to adopt more progressive management notions and bring these into conformity with international laws and standards on biodiversity conservation and protection of ethnic/indigenous peoples

- the legal regime is updated to define the key terms of the CBD and ensure compliance with the Ramsar Convention
- the legal regime attempts to address the political dilemma as to the identity of the ethnic communities as indigenous community
- laws contain an exhaustive list of all ethnic and indigenous groups and bring them under special protection
- resource management and conservation laws recognize the role of indigenous peoples and local communities in protecting the environment and biodiversity and that these laws protect rather than threaten these peoples' customary rights
- laws, agreements, manuals and regulations ensure the rights of the indigenous, ethnic, and local communities over their lands based on applicable customary tenure systems, associated traditional resource management use and systems
- land allocation and use policies recognize the special needs of the indigenous, ethnic and local communities to give them adequate protection
- laws on protected areas management are changed to allow the customary practices of indigenous, ethnic and local communities to the extent possible, and not otherwise
- policies containing statements derogatory to indigenous, ethnic and local communities be revised
- developments that affect or are likely to affect the traditional rights and practices of the indigenous, and ethnic communities have a mandatory requirement for consultation of affected peoples
- ethnic and indigenous communities are included in social and environmental impact assessment studies on projects that affect them and their territories
- customary use of biological resources are promoted through the adoption of special agreements between state agencies and ethnic and indigenous communities
- the traditional institutions of the indigenous and ethnic communities are recognized
- government agencies are mobilized to change the hostile institutional attitude towards the indigenous and ethnic communities and are required to update legal and policy arrangements so as to conform with international best standards and practices
- Bangladesh fulfils its obligation under Articles 11, 12 and 13 of the 1957 Convention 107 on the Indigenous and Tribal Populations in securing land rights of the indigenous and ethnic communities
- Bangladesh signs the 1989 Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries and endorses and supports implementation of the UN Declaration on the Rights of Indigenous Peoples.

Chapter 8

Key Findings, Conclusion and Recommendations

8.1 Key Findings

8.1.1 Resource harvesting and use

We found from the study that the customary use of the Sundarbans' resources by both indigenous and local communities are fully compatible with conservation and sustainability. The traditional cultural practices documented in the study either directly contribute to sustainable use or indirectly point to avoidance of over-use of resources.

8.1.2 Beliefs and rules creating links between nature and people

The various beliefs, value systems, rules and regulations developed by each community contribute to the creation of strong links between humans and biodiversity. For example, from the very beginning of their lives, when an infant is born, his/her first hair is cut off and kept in a hole dug in the root of a large banyan tree, so that the baby's hair will become as thick as the leaves of the tree. The umbilical cord of a newborn baby is placed in a hole under the soil of the homestead, with the intention that when grown up the child, wherever they may be, will keep contact with their home and natural environment.

The traditional resource collectors (but not the bandits or traders) believe that the Sundarbans is a very sacred place and they strictly maintain the sanctity of the forest. They do not even urinate or defecate inside the forest. If necessary they do it on a large leaf. No hunting is allowed inside the forest. Traditional resource users adhere strictly to these rules and do not tolerate disobedience.

8.1.3 Institutions

The Sundarbans is a reserve forest and is exclusively controlled by the FD. Any changes in the forest rules are made by the FD. However, the traditional knowledge of traditional resource users is transmitted to the next generations by their families and the social value systems and traditional institutions still exert a great influence within their communities and to a limited extent in the management of forest resources. Traditional institutions and society as a whole act as watchdogs in relation to observance of social customs. For example, during the harvesting season the majhi (team leader) acts as supervisor to maintain social and cultural discipline. He is regarded as the institutional head by the resource users and holds command over them. In the case of the Munda community this supervision is done by their panchayet and king. But nowadays the traditional institutions have been weakened and some of the young generation have lost their love of the forest.

8.1.4 Sustainable use and conservation

Respect and maintain the forest. It gives you food and livelihood. If you destroy it your next generation will have nothing to survive. – **Samir Sana** (71 years old), Bawali, Horinagar, Koyra

All the traditional resource users truly believe that the forest provides them with their livelihood: it is the great creation of the Almighty, and for themselves and future generations the forest must be saved from all sorts of misuse and abuse. The traditional resource users consider the forest to be as holy as the mosque or temple. They believe the traditional cultural practices developed by their forefathers must be respected and the renovation of traditional institutions is an urgent need for all the communities.

The mangrove species abundantly regenerate if the natural regeneration system is not disturbed by human activities. There are some common signs of the effects of resource harvesting. If the numbers of bees diminish, then the number of trees, such as *keora*, *kankra* and *khalsi* are also reduced. Reduced availability of fish indicates that their breeding grounds have been seriously disturbed.

There is no intercommunity conflict over resource extraction from the Sundarbans. The problem lies with the illegal extractors. This problem is supposed to be solved by the state machinery but often the state officials forget their job intentionally. No government policies, laws or regulations have been adopted in consultation with the resource users. Bangladesh follows a top-down approach; this is a major problem affecting the Sundarbans and its people. As the communities have no active professional associations they cannot act on or react to any government policy effectively. Recently some non-governmental organizations and civil society organizations have been trying to work as watchdogs on behalf of the traditional users. All the traditional communities believe it would be possible to bring positive change if the forest could be freed from the corrupt FD officials, the dacoits and corrupt politicians, thereby freeing resource users from the grip of poverty and the mohajans.

The Bangladesh government has signed and ratified the CBD, so it has an obligation to recognize the customary uses of traditional resources users and their role as conservers and sustainable users of the forest.

8.1.5 Threats and problems affecting traditional resource users and biodiversity

The increasing ecological degradation of the Sundarbans' resources during the past two decades has been denounced by environmental groups and recognised by the government and international bodies. This study points out that the loss of the Sundarbans' biodiversity is rooted in problems of governance, corruption and social inequity. The main threats affecting biodiversity and traditional resource users include:

- **Overexploitation:** Nearly 3.5 million people directly or indirectly depend on the Sundarbans. Every year the pressure on this forest is increasing. The traditional resource users maintained the principle of sustainable utilization. But the traders/mohajans and influential people harvest indiscriminately with the help of the FD. Sometimes traditional resource users have been forced to exceed the permitted level of harvesting to avoid loss, because they have to pay bribes to the FD. Furthermore, the populations of the different communities are increasing. It will be suicidal to harvest beyond the carrying capacity of the forest.
- **Dacoity:** All resource users have to pay ransoms to the dacoits; otherwise they will be subject to abduction and killing. The FD and law enforcing agencies are supposed to control this. But instead they maintain good relations with the dacoits and pirates.
- **Corruption within the FD and ransom collection by police:** Corruption and ransom collection by the FD and police make life hell for the poor people, raising their expenditure to 3 to 4 times the official charges for resource harvesting. This has also lead to over harvesting to avoid loss.

- **Market orientation:** The extreme greed of traders and mohajans increases the vulnerability of the lives of the forest people and severely affects biodiversity. Most of the resource users work as bonded labourers of mohajans/traders. Mohajans order the poor resource collectors, working as wage labourers, what amount to harvest.
- **Weak governance:** Weak governance increases corruption in the FD, police and local administration. Dacoits and pirates often have a patron–client relationship with influential political leaders.
- **Poverty:** Most of the resource users are landless and do not possess their own boat or the money for a permit. They depend on mohajans for credit, and mohajans use this opportunity. For this reason the resource users do not get the appropriate price for their collected resource. A condition of the mohajans’ credit is that they have to sell to mohajans or the investors.
- **Lack of basic needs:** People do not have appropriate levels of access to basic needs such as food, sanitation, education, health services and drinking water. People severely suffer from the lack of good drinking water: their water contains excessive levels of salinity, iron and in some cases arsenic.
- **Landlessness:** Landlessness is a serious problem of the community. Poverty, population increases, and land-grabbing by the influential people are the main reasons for local landlessness.
- **Lack of system for identifying *bona fide* traditional resource users:** Resource users are not defined in any law. So, anyone can get permission to take resources by giving a bribe to the FD. Thus overharvesting takes place.
- **Lack of life and livelihood security:** In many cases the resource users come under attack from dacoits, tigers, crocodiles, sharks, snakes and natural disaster. A victim or the victim’s family get no compensation from anywhere.
- **Off-season vulnerability:** The people collect forest resources between November and March. The rest of the year they have no work, as most of them are landless. So they have to lead a very inhumane life in the lean period.
- **Loss of traditional institutions:** In the past, the traditional institutions of resource users have played a pivotal role in maintaining social values, norms, and customs and ensuring their enforcement. All the communities have voiced concern about having lost or increasingly losing their traditional institutions. Political dominance, poverty and lack of solidarity among the communities are key factors in this.
- **Lack of self-organization:** At present the traditional resource users do not have any association or organization to assist them to ensure their justified rights.
- **Lack of information:** The Forest Department does not provide any information to any body. Even if it is required to circulate the information they do it in a manner that most people do not understand or get the message. The research team tried to have some common information (which are supposed to be in the public domain) from FD. Five times the team was refused the provision of any sort of information at all level.
- **Prawn farming:** prawn farming and prawn fry collection are serious threats to the mangrove and to the livelihoods of many people. Prawn farming is one of the major reasons for the permanent waterlogging in the southwest region of Bangladesh. Prawn farm owners took most of the *khasland* (common property land and water) for farming. Earlier the poor people depended on these lands during crisis periods. Today they do not have any access to them.
- **Policy and legal issues:** The key policy issues are:
 - lack of constitutional recognition of Indigenous Peoples and Local Communities (IPLCs)

- biodiversity and sustainable development are undefined in the legal framework
- lack of clear recognition of the contribution by IPLCs to the preservation of biodiversity
- the legal regime gives limited recognition to custom and customary rights
- the law has not solved the controversy over the exact number of IPLCs
- the Bangladesh government has refused to sign ILO Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries and has abstained from voting in favour of the UN Declaration on the Rights of Indigenous People
- the transfer of indigenous peoples' land to non-indigenous people
- the hostile institutional attitude to IPLCs, and the provisions of the Forest Act 1927 which fails to give any protection to the customary rights of IPLCs
- the legal regime on wildlife and protected area management permits curtailment of customary rights without providing alternative arrangements
- laws on protected area management interfere with some traditional and customary rights of the IPLCs.

8.2 Recommendations

Bangladesh is a party to the CBD and a frontrunner in ratifying it. Protecting the customary use of biological resources by the indigenous and local communities entails that the state should recognize and respect the rights of these communities. This is not a matter purely of international obligations but of what is truly necessary: community-based bio-governance and communities' right to their traditional knowledge and resources needs to be ensured for the sake of the forest's survival. The local traditional cultural practices, customary laws and customary uses are integral not only to the implementation of Article 10(c) of the CBD but to the future of the Sundarbans. The study makes the following recommendations:

8.2.1 Governance

- **Community-based management of the Sundarbans:** The only way to protect the Sundarbans and its traditional users is to recognize the IPLCs as the true guardians of the forest. They know how best to use the forest. The forest cannot be managed effectively without involving them in decision making. The government already accepts in principle the idea of community-based natural resource management and the idea of community-based forest management has already been introduced in the Nishorgo project (project for forest sector development). Other countries can share their practical experiences of community-based forest management. In the management of the Indian portion of the Sundarbans, their *panchayat* has a great role to play.
- **Comprehensive joint management plan:** Initiatives should be taken for dialogue between communities and the government to develop a comprehensive conservation and sustainable resource use plan.
- **Guaranteed land rights:** Binding procedures, consistent with international human rights guarantees, should be established for addressing Indigenous peoples' territorial rights as part of recognizing that indigenous territories provide the material and spiritual foundation for their traditional knowledge systems and customary tenure over and use of biological resources.
- **Renovation of traditional institutions:** Indigenous and local communities' legal, political and cultural institutions and systems should be renovated, as a fundamental and inextricable prerequisite to protection and encouragement of customary use of biological

resources and the maintenance and further development of indigenous knowledge systems.

- **Right of free, prior and informed consent:** The government should ensure that the principle of free, prior and informed consent of indigenous and local communities is required for all development and conservation initiatives liable to affect them, including actions taken to implement the CBD.
- **Introduction of identity cards:** All the local communities and indigenous groups dependent on the Sundarbans should be registered and provided with identity cards. Access to forest produce should be limited to these users. All permits should be given directly to resource users not to the traders or mohajans.
- **Special security force for the Sundarbans:** The Sundarbans face 2 major challenges: corruption with the Forest Department and dacoity. To deal with the latter the communities recommend the creation of a special law-enforcing force like the RAB (Rapid Action Battalion) combining the Bangladesh Army, the Coast Guard, forest officials and community representatives.

8.2.2 Socio-economic Development

- **Job cards for the lean period:** Alternative livelihoods should be introduced through job cards for the lean period (experience may be taken from India); job design should be based on social norms and individual capability.
- **Social safety net program:** The government should introduce a social safety net program for the marginal people of the SIZ.
- **Interest- and collateral-free micro-credit:** To bring the marginal people out of the grip of mohajans (moneylenders), the government should provide marginal people with interest-free micro-credit.
- **Interest- and collateral-free micro-credit for women:** A special micro-credit program should be introduced for women to enable them to operate income-generating activities at the household level, such as livestock rearing, poultry, small businesses, producing handicrafts.
- **Establishment of cottage industry and development of appropriate marketing systems:** In the SIZ, women have a history of sewing *kantha*, *sharies* and making mats. The government can provide financial support and marketing facilities.
- **Provide state insurance facility:** The government should provide insurance to victims or the families of victims injured or killed through accidents or tiger attack during resource harvesting. (India has provision to compensate any casualty in resource harvesting.)
- **Access to basic needs:** The government should ensure access to education, health services, sanitary latrine and pure drinking water.
- **Education in mother tongue:** Education systems should be revised to imbue indigenous youth with greater respect for the people's own language, beliefs and ways of life.
- **Inclusion of the CBD and traditional knowledge in teaching curriculums:** The role of the CBD and other related international treaties, and traditional knowledge with reference to the concerned community can be incorporated in teaching curriculums at different levels. This will lead to broader understanding of and respect for traditional knowledge, different communities and their contributions.
- **Minimum wages should be established for agriculture and other wage labour:** Landowners and traders exploit the traditional resource user in many ways. One of them

is giving poor wages. A board to set minimum wages can be constituted centrally and subauthority should be provided to local administration/local government.

8.3.3 Policy, legal and institutional reforms

- **Legal reform:** Necessary amendments should be made to policies and laws to promote and support customary use of natural resources, and the related cultural practices of local and indigenous communities. The legal regime should also be updated taking into consideration key terms of the CBD.
- **Sectoral policy reforms:** Legal and policy reforms should be adjusted with sectoral reforms. The colonial sectoral laws on resource management (land, forest, wildlife, fishing, mining) should be reviewed and amended to reflect the aspirations of a free nation and adopt more progressive and participatory management notions.
- **Documentation and intellectual property rights (IPR) for TK:** Documentation of traditional knowledge on natural resources as well as IPR on that knowledge has to be allowed to the concerned community.
- **Right over genetic resources and access and benefit sharing (ABS):** The right of resource users over genetic resources should be ensure, and a community-acceptable ABS mechanism should be developed.
- **Constitutional reorganization of indigenous peoples:** The Constitution of Bangladesh should be revised to recognize the different indigenous peoples including the Munda as *adivasi* (indigenous people).
- **Indigenous commission:** An indigenous commission should be established to protect indigenous peoples' languages, culture and traditional knowledge. Other recommendations for indigenous people are as follows:
 - As the most marginal people, they should get special priority while distributing *khasland* (government property)
 - Indigenous people' should be represented at least at the union council level (the lowest level of local government). This provision would be effective only for the union in which an indigenous people live.
 - Special development schemes (always in consultation with the indigenous group) should be implemented for indigenous people.
 - In the study 99% of Munda respondents said that they do not go to the government hospital, fearing that they will not be given treatment. The government should immediately begin a motivation program among the indigenous groups, making clear that no service charge (if there is any) will be taken from them.
- **Provision of information:** Government agencies should provide information in an appropriate manner that community people can understand on forest and environment laws. The Right to Information Act should be adopted
- **Government to develop a clear policy on prawn fry collection and prawn farming:** The government should develop a clear policy with comprehensive planning support on prawn fry collection from the Sundarbans and to address the social and environmental problems caused by prawn farming.
- **Banning of mining:** Mining and oil exploration should be banned inside the Sundarbans or in any area where it could adversely affect the mangrove system.
- **Implementation of Articles 8(j) and 10(c) of the CBD:** To implement articles 8(j) and 10(c) of the CBD the Bangladesh government should recognize the indigenous and local communities' right to the Sundarbans forest. The resource harvesting rules should be reformed in consultation with experienced traditional resource users.

- **Strict legal enforcement:** Strong legal enforcement is essential against social evils such as dowry.
- **Change of institutional attitudes:** Government agencies should address the issue of the hostile institutional attitude towards the indigenous and ethnic communities and develop government policies to bring them into conformity with international best practice and standards.
- **Signing and implementing of international treaties:** For example, Bangladesh should sign the 1989 ILO Convention 169 concerning indigenous and tribal peoples in independent countries and endorse support implementation of the UN Declaration on the Rights of Indigenous People.
- **Respect for international commitments:** The government should respect its international commitments and obligations under different international legal instruments.
- **Adoption of proposed Biodiversity and Community Knowledge Protection Act:** The government should adopt this proposed Act, which has been pending since 1998.

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Resuscitating the Sundarbans

Customary Use of Biodiversity & Traditional Cultural Practices in Bangladesh

This is an output of collaborative action research actively participated by stakeholders, researchers and experts from home and abroad. It explores the nature of Sundarban Reserve Forest, customary use of its biological resources and related traditional cultural practices followed by the traditional resource users which are compatible to conservation and sustainable utilization.

During British Regime in 1878 the Sundarban was declared as Reserve Forest and placed it under full state control ousting the forest peoples. Nearly one and a half century had passed since declaration of Reserve Forest. The approach of exclusive state protection did not able to achieve the desired outcome- either in respect of biodiversity conservation or in respect of people's livelihood security. Rather this has increased the vulnerability of the Sundarbans and its traditional resource users- namely Munda (Indigenous community), Golpata (Nypa Palm) collectors, Bawalis (Honey collectors), Bawalis (Wood cutters) & Jele (Fisher folks). But under different international treaties like Convention on Biological Diversity (CBD) government has obligations to conserve biodiversity and protect indigenous people's rights. Recently the international & national civil society focus is on the complex relationships among the state, indigenous peoples and the environment in the context of market-led globalization.

The study traces out the missing link between biodiversity conservation strategies and forest people's livelihood security. The study shows that forest people best know how to protect forest and its resources. The indigenous and local communities' traditional cultural practices to resource harvesting are well tuned to conservation and sustainable utilization.