

**PARTICIPATORY WETLAND RESOURCE GOVERNANCE IN
BANGLADESH: AN ANALYSIS OF COMMUNITY-BASED
EXPERIMENTS IN *HAKALUKI HAOR***

By

S M Munjurul Hannan Khan

A thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfillment of the requirements of the degree of

Doctor of Philosophy

Clayton H. Riddell Faculty of Environment, Earth, and Resources
Natural Resources Institute
University of Manitoba
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ABSTRACT

Jurisdictional ownership of all natural resources, including wetlands and river channels, belongs to the state in Bangladesh, and access to and control over wetland resource are determined by the existing top-down, command-and-control, bureaucratic management regimes. Grounded solely in the economic aspects of natural resources, the wetland management objective of the government focuses on rent-seeking to maximize revenues and other economic benefits. At the operational level, this approach presumes bounded and closed economic and social systems and an equilibrational environment. It does not consider the economic, social, ecological and political spheres as being open, dynamic and constantly subject to change and thus having a profound impact on the sustainability of natural resources. Present policy practice undermines the inclusion of local resource users as legitimate stakeholders in the decision-making process. Local communities, which largely depend on wetland resources, are persistently excluded from access to and control over such resources. Reinstatement of the rights of local resource users in decision-making and providing them institutional scope for participation in management system are urgently needed for sustainable resource management.

The purpose of this research was to investigate options (such as community-based, co-management and partnerships approaches) for institutionalizing participation of stakeholders in wetland (*haor*) resource management. It was intended to seek alternatives to the state-governed management approach (SMA) and find a means of governance that would encompass multi-stakeholders in the management of natural resources in general and wetlands in particular.

The specific objectives of this research were to: i) Examine the state-governed management approach and the relationship between formal and informal institutions concerned with access and control over wetland (*haor*) resources; ii) Analyze, as an alternative to SMA, the processes and structures of stakeholders' participation and deliberations in decision-making; and iii) Examine the potential for multi-stakeholder governance in wetland resource management.

Together with local communities and other relevant stakeholders of *Hakaluki haor*, this research selected three development initiatives, namely, Sustainable

Environment Management Program (SEMP), Community Based Fishery Management -2 (CBFM-2) and Coastal and Wetland Biodiversity Management Program (CWBMP), for assessment. Considering the strengths and weaknesses of participatory research approaches, a set of PRA methods, which included baseline surveys, focus group discussions, key informant interviews, semi-structured interviews, individual discussion meetings, participant observation, *addah* (informal chatting with friends and fellows during leisure time), and workshops, was used at different stages of the research to attain the objective of the study. By combining interrelated participatory research methods, techniques, approaches, and concepts into a single study design, development of robust research methods has been found effective for handling the challenges, complexities and assessing potential for participatory community research.

The research findings have revealed that the community-based organizations (CBOs) of local communities were capable of contributing effectively to the community-based or co-management approach in management of wetland resources. External facilitation by NGOs to mobilize and strengthen CBOs was found to be a critically necessary element in this process. Establishing a multi-level stakeholder governance system as an institutional structure and process is necessary to sustain CBOs' operations in decision-making regarding wetland resource management. The outcomes of examining the participation of local resource users, as an alternative to a centralized, command-and-control, and hierarchical approach to resource management, have called for a fundamental shift in wetland resource management to facilitate the participation of CBOs in decision-making. This alternative approach to natural resource management would require appropriate degree of integration of the "bottom-up" and "top-down" approaches to include all relevant stakeholders in the decision-making processes at multiple levels of social organizations. Thus, the approach could be an effective instrument to facilitate the deliberations of stakeholders and to strengthen institutional linkages (both vertical and horizontal) to engender benefits to the local resource users. The proposed recommendations for a policy shift in wetland resource management are based on the argument that multi-level stakeholder governance in the decision-making process should be the foundation of participatory wetland resource management in Bangladesh.

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This thesis is dedicated to my late father M. A. Khaleque Khan

TABLE OF CONTENTS

| | |
|---|--------------|
| Abstract..... | iii |
| Acknowledgement..... | v |
| Dedication..... | vii |
| List of Tables..... | xiv |
| List of Figures..... | xvi |
| Abbreviation and Acronyms | xviii |
| Glossary | xx |
| CHAPTER 1: INTRODUCTION: RESEARCH PROBLEMS AND ISSUES | 1 |
| 1.1 Introduction..... | 1 |
| 1.2 Purpose and Objectives of the Research | 6 |
| 1.2.1 Purpose | 6 |
| 1.2.2 Objectives | 6 |
| 1.3 Conceptual Consideration | 6 |
| 1.3.1 Institutional Arrangement in Natural Resource Management (NRM)..... | 6 |
| 1.3.1.1 Understanding of commons | 6 |
| 1.3.1.2 Institutions | 9 |
| 1.3.2 Deliberation: Stakeholders' Participation in Collective Choice and Action..... | 13 |
| 1.3.3 Deliberation and Institutional Aspects | 18 |
| 1.3.4 Effective Participation of Stakeholders in Deliberation | 19 |
| 1.3.5 Environmental Governance | 20 |
| 1.3.5.1 Multi-level environmental governance | 22 |
| 1.4 State of Wetland Resource Management in Bangladesh | 24 |
| 1.5 Research Questions | 27 |
| 1.5.1 Institutional Structure and Process in Wetland Resource Management..... | 27 |
| 1.5.2 Effectiveness of Community-Based Wetland Resource Management..... | 27 |
| 1.5.3 Partnership Approach in Wetland Resource Management | 27 |
| 1.5.4 Role of Multi-level Participatory Governance in Resource Management.... | 27 |
| 1.6 Contributions and Significance of the Research | 28 |

| | |
|--|-----------|
| 1.7 Outline of the Thesis | 29 |
| CHAPTER 2: RESEARCH AREA, APPROACHES, METHODS AND ENVIRONMENTAL SETTING | 30 |
| 2.1 Introduction | 30 |
| 2.2 Field Research Approaches and Methods..... | 33 |
| 2.2.1 Use of Participatory Research | 33 |
| 2.2.2 Conducting Research: Field Methods | 36 |
| 2.2.3 Strengthening the Participatory Research: Qualitative Methods | 40 |
| 2.2.4 Research Agenda and Specific Methods..... | 41 |
| 2.2.5 Selection of Community-Based Organization (CBO)..... | 41 |
| 2.2.6 Data Analysis and Reliability | 43 |
| 2.3 The Research Site and the Case Study: <i>Hakaluki Haor</i> | 46 |
| 2.3.1 Natural Resource and Environmental Setting of <i>Hakaluki Haor</i> | 47 |
| 2.3.1.1 <i>Beels</i> and Rivers..... | 48 |
| 2.3.1.2 Flooded Forests and Reeds | 50 |
| 2.3.1.3 Fishery Resource. | 52 |
| 2.3.1.4 Wildlife Resources..... | 53 |
| 2.3.1.5 Land Use Pattern | 53 |
| 2.3.1.6 Settlements and Villages | 55 |
| 2.3.1.7 Socio-economic Characteristics of <i>Haor</i> Community | 55 |
| 2.3.1.8 Legal Status | 57 |
| CHAPTER 3: ROLE OF PUBLIC INSTITUTIONS IN WETLAND RESOURCE MANAGEMENT..... | 59 |
| 3.1 Introduction | 59 |
| 3.2 Evolution of Wetland Management Approach in Bangladesh | 60 |
| 3.2.1 Changes in Management Regime: Whose Benefit Counts?..... | 61 |
| 3.2.1.1 British colonial regime..... | 62 |
| 3.2.1.2 Post-independent Bangladesh regime..... | 66 |
| 3.2.1.2.1 Licensing system concerning <i>jalmohals</i> | 67 |
| 3.2.1.2.2 Restricted leasing system | 69 |
| 3.2.1.2.3 The <i>Jamohals</i> (Wetlands) Management Policies, 1986-2005 | 70 |
| 3.2.1.2.4 The <i>Jamohals</i> (Wetlands) Management Policy, 2009 | 73 |
| 3.2.1.2.5 Recent Policy Development in NRM | 74 |
| 3.2.2 Institutional Constraints and Conflicts in Wetland Resource Management..... | 74 |
| 3.3 Transformation of State Property into Private Property: Marginalization Process..... | 77 |

| | |
|--|---------------|
| 3.3.1 Marginalization Process: Legal and Policy Effects..... | 78 |
| 3.3.2 Marginalization Process: Financial Burden..... | 80 |
| 3.4 Resource Rights: Access and Entitlements of the Local Community..... | 82 |
| 3.5 Discussion | 88 |
| 3.6 Conclusion | 93 |
| CHAPTER 4: COMMUNITY BASED RESOURCE PLANNING AND MANAGEMENT: AN ALTERNATIVE APPROACH IN WETLAND MANAGEMENT | 96 |
| 4.1 Introduction | 96 |
| 4.2 Community-Based Wetland Resource Management (CBWRM) in Bangladesh | 103 |
| 4.2.1 Community Based Wetland Resource Management (CBWRM) in <i>Hakaluki haor</i> | 104 |
| 4.2.2 Whose Management Matters: Community-Based Wetland Resource Management (CBWRM) | 105 |
| 4.2.3 Complex Social Power Structure and Setting in Resource Use | 109 |
| 4.2.4 Mobilization of the Communities and Participatory Action Plan Development (PAPD) | 114 |
| 4.2.5 Capacity Building Efforts for Effective Engagement of CBOs in NRM ... | 117 |
| 4.2.6 Community-Based Organization: Collective Action in Resource Management | 119 |
| 4.2.6.1 Flooded Forests restoration of <i>Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd., SEMP</i> | 121 |
| 4.2.6.2 Community-based fishery resource management (CBFRM) of <i>Shapla Samaj Vittik Bahumokhi Samobai Somity Ltd., CBFM-2</i> ... | 123 |
| 4.2.6.3 Biodiversity conservation of <i>Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd., CWBMP</i> | 125 |
| 4.2.6.4 Gender perspectives in community-based management – <i>Nunua Mohila Samity, CBFM-2</i> | 127 |
| 4.3 Lessons Learned | 129 |
| 4.4 Sustainability of CBWRM Approach: Processes-Outcome Model | 135 |
| 4.5 Discussion | 138 |
| 4.6 Conclusion | 145 |

| | |
|---|------------|
| CHAPTER 5: PARTNERSHIP APPROACH IN WETLAND RESOURCE MANAGEMENT: AN ASSESSMENT..... | 147 |
| 5.1 Introduction | 147 |
| 5.2 Conceptual Underpinning of Partnership Approach | 149 |
| 5.3 Transformation in natural resource management | 153 |
| 5.4 Partnership Framework for Wetland Resource Management | 154 |
| 5.4.1 Partnership in Sustainable Environment Management Program (SEMP) | 155 |
| 5.4.2 Partnership in Community-Based Fishery Management (CBFM -2) | 160 |
| 5.4.3 Partnership in Coastal and Wetland Biodiversity Management Program (CWBMP) | 167 |
| 5.5 Analysis of Power Sharing, Activity and Structure of Partnership in SEMP, CBFM-2 and CWBMP. | 174 |
| 5.6 Lessons Learned | 180 |
| 5.6.1 Each Partnership is Unique in Structure and Process in Performing the Management System | 180 |
| 5.6.2 Clarification of Roles and Responsibilities during Implementation of Activities is needed for all Partners | 181 |
| 5.6.3 Lack of Long-term Commitment of NGOs in Partnership Hinders Sustainability | 182 |
| 5.6.4 Lack of Communication and Networking among Partners and other Stakeholders Undermines Achievements of Project Goals and Objectives..... | 182 |
| 5.6.5 Appropriate Institutional Mechanisms Allow Marginal Poor Resource Users to Participate in Decision-making | 182 |
| 5.6.6 Lack of Linkages between CBOs and Financial Institutions could Lead to Cumulative Debt Burden | 183 |
| 5.6.7 Strong Leadership in Partnership is Critical for Success in Local Level Management | 183 |
| 5.6.8 United and Coordinated Efforts of Partners can Diffuse External Pressure | 184 |
| 5.6.9 NGOs' Support are Important and Required in Ensuring Sustainability of CBOs Operation | 184 |
| 5.7 Discussion | 185 |
| 5.8 Conclusion | 188 |

| | |
|--|------------|
| CHAPTER 6: MULTI-STAKEHOLDERS, MULTI-LEVEL, AND PARTICIPATORY GOVERNANCE FOR WETLAND RESOURCE MANAGEMENT | 190 |
| 6.1 Introduction | 190 |
| 6.2 Diverse Stakeholders in Wetland Management in <i>Hakaluki haor</i> | 196 |
| 6.3 Changes in Wetland Resource Management in Bangladesh | 198 |
| 6.4 Governance in Community-Based Management Approach | 201 |
| 6.5 Governance in Partnership Approach | 205 |
| 6.6 Performance of the CBOs in Multi-stakeholder Governance at <i>Hakaluki haor</i> ... | 209 |
| 6.7 Implementation of Bylaws Crafted by CBOs | 217 |
| 6.8 Lessons Learned | 219 |
| 6.8.1 Sharing Power from the Central to the Local Level Institutions should be Free from Rent Seeking Condition and be Accountable to Local Resource Users | 220 |
| 6.8.2 Management Reforms should Address Problem of Elite Capture | 221 |
| 6.8.3 Recognition of NGOs' Role in Multi-stakeholder Governance is Necessary..... | 222 |
| 6.8.4 Sustainability Goals Demand Assurance of Access to Resources and Incentive for Local Communities..... | 223 |
| 6.8.5 Governance Structure should become a Means of Conflict Resolution | 224 |
| 6.8.6 Compliance of Rules and Regulations at the Local Level is Important for Resource Management | 225 |
| 6.8.7 Inclusion of Gender Perspective in Collective Action is Required | 226 |
| 6.8.8 Issues of Inclusion and Exclusion of Legitimate Stakeholders in Resource Management | 228 |
| 6.9 Discussion | 229 |
| 6.10 Conclusion | 233 |
| CHAPTER 7: CONCLUSIONS | 236 |
| 7.1 Introduction..... | 236 |
| 7.2 Major Findings of the Study | 237 |
| 7.3 Implications of the Findings..... | 247 |

| | |
|--|------------|
| 7.4 Qualification of My Research | 249 |
| 7.5 Significance of Theoretical Contribution of the Research | 250 |
| 7.6 Implications of the Research for Development Policy | 253 |
| 7.7 Further Research Prospect and Scope | 254 |
| 7.8 Concluding Comments and Policy Implications | 256 |
| REFERENCES..... | 260 |
| Appendix 1: A Set of Supplementary Research Questions | 282 |
| Appendix 2: Ethics Approval Certificate from the University of Manitoba | 283 |
| Appendix 3: Guide for Focus Group Discussion | 284 |
| Appendix 4: Guide for Semi-structured Interview | 286 |
| Appendix 5: Guide for Key informant interview | 287 |
| Appendix 6: List of Workshops Organized during the Research | 290 |
| Appendix 7: Socio-Economic Survey of the CBOs formed under SEMP/CBFM - 2/CWBM Project | 291 |
| Appendix 8: The Worlds Bank's four levels of intensity in popular participation | 297 |

List of Tables

| | | |
|------------|--|-----|
| Table 1.1: | Different Types of Wetlands in Bangladesh | 4 |
| Table 2.1: | Organization of Research Over a Period of 19 Months | 36 |
| Table 2.2: | Information and Data Gathering Methods/Techniques | 37 |
| Table 2.3: | Number of Participants for Key Informant Interview..... | 39 |
| Table 2.4: | Research Issues and Specific Methods for Gathering Information and Data | 42 |
| Table 2.5: | Sizes of the <i>Beels</i> of <i>Hakaluki Haor</i> | 49 |
| Table 2.6: | Intensity of Degradation of <i>Beels</i> of <i>Hakaluki Haor</i> | 49 |
| Table 2.7: | Status of Threatened Wildlife Species of <i>Hakaluki Haor</i> | 53 |
| Table 2.8: | Ownership of Lands among the Various Categories of Households | 56 |
| Table 3.1: | Major Policy Shifts and Impacts in Wetland Resource Management in Bangladesh | 63 |
| Table 3.2: | Management of <i>Jalmohals</i> under “the Government <i>Jalmohal</i> (Wetland) Management Policy 2005”..... | 72 |
| Table 3.3: | Institutional Conflicts over Wetland Management Issues..... | 76 |
| Table 3.4: | Leasing Status of <i>Beels/Jalmohals</i> Greater than 8.10 Hectares in <i>Hakaluki Haor</i> | 85 |
| Table 4.1: | A Summary of the Characteristics of Mainstream and Emerging Views in NRM | 99 |
| Table 4.2: | Community-Based Wetland Resource Management Initiatives in <i>Hakaluki Haor</i> Area | 102 |
| Table 4.3: | Power and Interest of Stakeholders in Resource Management of <i>Hakaluki Haor</i> | 108 |
| Table 4.4: | Phases and Steps of Participatory Action Plan Development by the Local Community | 116 |

| | | |
|------------|---|-----|
| Table 4.5: | Level of Outcomes and Impacts of Wetland Resource Management of CBOs | 120 |
| Table 4.6: | Gender Distribution of CBOs of SEMP, CBFM-2 and CWBMP ... | 132 |
| Table 5.1: | Different Types, Purpose and Features of Partnerships | 152 |
| Table 6.1: | Level of Stakeholders in Decision-making in <i>Hakaluki Haor</i> Resource Management | 197 |
| Table 6.2: | Governing Role of Government Organization, International NGO, National NGO, Local NGO and CBO in Co-management Partnership in SEMP, CBFM-2 AND CWBMP..... | 207 |
| Table 6.3: | Environmental Governance Performance of CBOs at <i>Hakaluki</i> <i>Haor</i> area | 211 |

List of Figures

| | | |
|--------------|---|-----|
| Figure 2.1: | Map of <i>Hakaluki Haor</i> of Bangladesh..... | 31 |
| Figure 2.2: | Location of Selected CBOs in <i>Hakaluki Haor</i> area..... | 44 |
| Figure 2.3: | Pictorial View of Degradation and Conversion of Flooded (Swamp) Forest into Fallow, Grazing and Agricultural Land in <i>Hakaluki haor</i> | 51 |
| Figure 2.4: | Major Land Use Pattern in <i>Hakaluki Haor</i> | 54 |
| Figure 2.5: | Occupational Distribution of Households (main occupation) | 57 |
| Figure 3.1: | Percentage of Area (hectare) of <i>Beels/Jalmohals</i> under Different Leaseholders in <i>Hakaluki Haor</i> | 87 |
| Figure 4.1: | Involvement of Diverse Stakeholders in Resource Management of <i>Hakaluki Haor</i> | 106 |
| Figure 4.2: | Primary Occupation of CBO Members of SEMP, 2007 | 110 |
| Figure 4.3: | Primary Occupation of CBO Members of CBFM-2, 2007 | 110 |
| Figure 4.4: | Primary Occupation of CBO Members of CWBMP, 2007 | 111 |
| Figure 4.5: | Primary Occupation of CBO Members of Women Group (CBFM-2), 2007..... | 111 |
| Figure 4.6: | Collection of Wetland Resources by CBO Members, 2007 | 112 |
| Figure 4.7: | Resource/Social Map of <i>Nishchintapore-Shahpur</i> <i>Bahumokhi Samobai Samity Ltd.</i> | 122 |
| Figure 4.8: | Resource/Social Map of <i>Shapla Samaj Vittik Bahumokhi</i> <i>Samobai Samity Ltd.</i> | 124 |
| Figure 4.9: | Resource/Social Map of <i>Belagaon-Sonapure ECA Management</i> <i>Bahumokhi Samobai Samity Ltd.</i> | 126 |
| Figure 4.10: | Resource/Social Map of <i>Nunua Mohila Samity</i> | 129 |
| Figure 4.11: | Processes-Outcome Model for Sustainability of Community-Based Wetland Resources Management | 137 |

| | | |
|-------------|---|-----|
| Figure 5.1: | Partnership Framework of the MoEF-IUCNB-CNRS-CBOs in SEMP | 156 |
| Figure 5.2: | Partnership Framework of the DoF-WorldFish Center-CNRS-CBOs in CBFM-2 | 161 |
| Figure 5.3: | Schematic Diagram of the Four Tier Local Institutional Setting of Fishery Resources Management in <i>Hakaluki haor</i> under CBFM-2 project | 164 |
| Figure 5.4: | Partnership Framework of the DoE-CNRS-IDEA- <i>Prochesta</i> -CBOs in CWBMP | 169 |
| Figure 5.5: | Institutional Linkages at Various Levels for <i>Hakaluki Haor</i> ECA Management | 171 |
| Figure 6.1: | Linkages of Key Elements of Governance | 194 |
| Figure 6.2 | Destructive fishing methods (dewatering, poisoning, use of small – mesh net) in <i>Hakaluki Haor</i> | 203 |
| Figure 7.1: | Evolution of Natural Resources Management as a Complex Adaptive System..... | 257 |

Abbreviation and Acronyms

| | |
|--------|--|
| ASA | Association for Social Advancement |
| BBS | Bangladesh Bureau of Statistics |
| BKB | Bangladesh <i>Krishi</i> (Agriculture) Bank |
| BRAC | Bangladesh Rural Advancement Committee |
| BWDB | Bangladesh Water Development Board |
| CBFM-2 | Community Based Fishery Management-2 |
| CBNRM | Community-Based Natural Resource Management |
| CBOs | Community Based Organizations |
| CBRM | Community Based Resource Management |
| CBWRM | Community Based Wetland Resource Management |
| CIDA | Canadian International Development Agency |
| CNRS | Center for Natural Resources Studies |
| CWBMP | Coastal and Wetland Biodiversity Management Project |
| CWMC | Cluster Waterbody Management Committee |
| DAE | Department of Agriculture Extension |
| DFID | Department for International Development |
| DoE | Department of Environment |
| DoF | Department of Fisheries |
| EBSATA | The East Bengal State Acquisition and Tenancy Act |
| ECA | Ecological Critical Area |
| FAO | Food and Agriculture Organization |
| FAP | Flood Action Plan |
| FCSs | Fishermen Cooperative Societies |
| GDP | Gross Domestic Product |
| GIS | Geographic Information System |
| GO | Government Organization |
| ICLARM | International Center for Aquatic Resources Management – The WorldFish Center |
| IDEA | Institute of Development Affaires |
| IFM | Integrated Floodplain Management |
| INGO | International Non-governmental Organizations |

| | |
|--------|--|
| IUCNB | IUCN-The World Conservation Union Bangladesh |
| LNGO | Local Non-governmental Organizations |
| MDGs | Millennium Development Goals |
| MEAs | Multilateral Environment Agreements |
| MoA | Ministry of Agriculture |
| MoEF | Ministry of Environment and Forests |
| MoF | Ministry of Finance |
| MoFAR | Ministry of Fisheries and Animal Resources |
| MoL | Ministry of Land |
| MoLGRD | Ministry of Local Government and Rural Development |
| MOU | Memorandum of Understanding |
| MoWR | Ministry of Water Resources |
| MoYS | Ministry of Youth and Sports |
| NCSIP | National Conservation Strategy Implementation Project |
| NFMP | The New Fishery Management Policy |
| NGOs | Non-governmental Organizations |
| NNGO | National Non-governmental Organizations |
| NPC | National Planning Commission |
| NRC | National Research Council |
| NTFP | Non-timber Forests Product |
| PAPD | Participatory Action Plan Development |
| PRA | Participatory Rural Appraisal |
| SEMP | Sustainable Environment Management Program |
| SMA | State Management Approach |
| UNCED | United Nations Conference on Environment and Development |
| UNDP | United Nations Development Program |
| VAT | Value-added Tax |
| VDP | Village Defense Party |
| WARPO | Water Resource Planning Organization |
| WFC | The WorldFish Center |

Glossary

| | |
|---|---|
| <i>Addah</i> | Informal chatting with friends in leisure time |
| <i>Anser</i> | Semi-government law enforcement agency |
| <i>Bahumokhi</i> <i>Samobai Samity</i> | Multi-purpose Co-operative Society |
| <i>Baor</i> | Oxbow lake or dead arms of river |
| <i>Bazar</i> | Local market |
| <i>Beel</i> | Perennial water bodies. |
| <i>Gusthi</i> | Family kinship |
| <i>Haor</i> | Saucer-shaped, naturally depressed water basin or river back-swamp |
| <i>Ijarader</i> | Lessee of any government owned property |
| <i>Jalmohal</i> | Government designated fishery-estate that lease out for revenue collection |
| <i>Kandha</i> | Raised land at the edges of <i>beels</i> |
| <i>Katha</i> | Branches of swamp trees are used in <i>beels</i> and rivers to provide shelter to fish |
| <i>Khash land</i> | Government owned land |
| <i>Mattabor</i> | Local elite or leader |
| <i>Mohajon</i> | Local money lender |
| <i>Prochesta</i> | Name of a local non-governmental organization |
| <i>Salish</i> | Local level dispute-resolution system |
| <i>Samaj</i> | Societal kinship |
| <i>Union Parishad</i> | Local government elected body at the village level headed by Chairperson. |
| <i>Upazila</i> | Smallest administrative unit of the government administrative system. |
| <i>Upazila Nirbahi Officer</i> | Chief executive of <i>Upazila</i> administration appointed by the government |
| <i>Upazila Parishad</i> | <i>Upazila</i> level council headed by elected Chairperson in which all Chairpersons of <i>Union Parishad</i> and <i>Upazila</i> level government officials are included as member. |

CHAPTER 1

INTRODUCTION: RESEARCH PROBLEMS AND ISSUES

1.1 Introduction

Rural poor communities, particularly in the developing world, gain their livelihoods from wetland¹ and floodplain² resources such as fish, swamp forest, reeds, aquatic fruits and wildlife. Both wetland and floodplain thus play a vital role in the lives of millions of poor people worldwide by providing subsistence livelihoods. In most countries of Asia, wetlands and floodplains are used for rice and vegetable cultivation, cattle grazing, and duck rearing. Degradation and loss of wetland and floodplain resources are caused by increasing population pressure and a wide range of anthropogenic activities, such as the cultivation of high yielding variety of crops, the construction of dams and roads, urban sprawl, and new settlements.

Local communities, particularly in tropical Asia, have a long tradition of managing wetlands. They have managed wetland resources for centuries to secure their livelihoods, with local institutions playing a central role in resource management practices. Nonetheless, particularly after the Second World War, local communities have been systematically excluded from taking part in the management systems due to the prevalence of top-down, command-and-control, experts-driven management regimes. In national policies, economic development has been overly emphasized, which has influenced natural resource management (NRM) systems to maximize economic benefits from natural resources. NRM policy has shifted toward centralized, command-and-control, systematic science-based approaches to promote technology-dependent industrialization for economic development. Policy decision analysis that is biased to the conventional maximum-yield/minimum-regrets approaches to applying tools (such as,

¹ Wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or saltwater; they include areas of marine water with a depth at low tide that does not exceed six metres (Ramsar Convention Secretariat).

² Floodplains are low land areas adjacent to rivers and streams that are formed chiefly of river/stream sediment and are subject to recurring inundation. Floodplains are locally called *namabhumi* or *plabon bhumi*.

simulation model and cost-benefit analysis) has often misrepresented the comprehensive systems for predicting socio-economic impacts (Walker *et al.* 2002). This is largely because an inherently reductionist stream of thoughts has characterized this so-called scientific approach. Policy changes have gradually replaced the time-tested, traditional management practices and marginalized the local institutions, undermining the significance and strength of local institutions in NRM.

Bangladesh is a land of fertile soil in alluvial plains, water and wetlands that drain into a vast and complex network of river basins, made up of the *Ganges*, *Brahmaputra* and *Meghna* rivers and their network of 700-plus tributaries (Nishat *et al.* 1993). During the monsoon, almost half of the country turns into wetland consisting of rivers, streams, creeks, *namabhumi/plabonbhumi* (floodplains), marshes, *haors*, *beels* and *baors*³ (Khan 2004). These diverse and highly productive wetland ecosystems support millions of poor people in rural communities.

Over the last two centuries, the management of wetlands has focused principally on revenue earning. Prior to British rule in India, fishermen of Bangladesh enjoyed customary rights to fish in rivers, *haors*, *baors* and *beels*; the local communities had access to fish, swamp forest, reeds, wildlife, and other aquatic resources to support their livelihood. The British colonial ruler established its authority over land and natural resources by the enactment of the Permanent Settlement Act 1793. According to the Act, the customary right to hold hereditary land was subject to the regular payment of rent, but this right could not be transferred from one individual to another. In fact, this Act restricted local peoples' rights to the land and natural resources as the focus of it was upon maximizing revenue collection for the colonial state.

During the post-colonial period, after the independence of the country (as East Pakistan in 1947 and as Bangladesh in 1971), there have been nominal qualitative changes in NRM, as the country has maintained the legal regimes in its resource management approach with similar characteristics. The post-colonial management regime has been basically structured by scientific and technology-based, top-down, centralized, production and efficiency-oriented approaches. In the formal management system, the

³ *Haors* are saucer-shaped, naturally depressed water basins or river back-swamp. A *baor* is an oxbow lake. *Beels* and *jheels* are perennial water-bodies.

poor local communities have been regarded as a threat to natural resources and accused of being polluters and/or degraders of commons. Access to resources and the customary rights of the resource users have thus been gradually eroded by the policy changes. The top-down, command-and-control, and centralized management system, which is based only on the economic return of natural resources, ignores the significance of other dimensions, such as social, ecological and cultural aspects of resource management, and has no or only a limited role for local resource users in resource management. This approach can be termed as an Economic Efficiency-Focused (EEF) approach, and will be used as EEF throughout the thesis. This approach has employed “legal measures” to protect wetland resources from “degradation” and the occurrence of a supposed “tragedy of the commons” (Hardin 1968). But in practice, the science and technology-based, EEF policy regime (which is also supported by Hardin’s analysis) has created conditions that facilitate exploitation, conflicts and chaos in wetland resource management (Toufique 1997). The post-colonial and post-independence policy changes have generally ignored that Hardin’s tragedy of the commons is applicable only to “open access resources” and not to all common property resources (Bromley and Cernea 1989).

In Bangladesh, formal institutions are structured in a top-down, command-and-control, bureaucratic system of wetland resources management and follow a state-governed management approach (SMA). The SMA developed a strict control system to ensure rent collection from the resources and established the required administrative network of revenue collectors (Siddiqui 1989). In this context, the state established legal ownership on all kinds of wetlands, such as rivers, *haors*, *beels*, *baors*, canals, streams, lakes and large ponds, and it took control over their management aspects (Table 1.1).

The contribution of different types of wetlands is very significant in terms of providing economic benefits to the poor communities, as well as ecological services to natural systems in Bangladesh. Although *haors* and *beels* ecosystems occupy less area compared to the Marine-water Exclusive Economic Zone⁴ and inundable floodplains

⁴ Under the United Nations Convention on the Law of the Sea, an **exclusive economic zone (EEZ)** is a sea zone over which a state has special rights over the exploration and use of marine resources. It stretches from the seaward edge of the state's territorial sea out to 200 nautical miles from its coast. In casual usage, the term may include the territorial sea and even the continental shelf beyond the 200-mile limit.

(Table 1.1), the natural resources of these ecosystems offer significant livelihood opportunities to millions of poor people (as the area is highly productive for fish and fishery resources). They also contribute to the ecological productivity of wetland resources as the natural ecosystems. For instance, in dry season, *haors* and *beels* are used

Table 1.1: Different Types of Wetlands in Bangladesh

| Types of water-body | Area (in hectare) |
|---|---------------------|
| (a) Inland open water | |
| (1) Rivers (during dry season) | |
| Ganges | 27165 |
| Padma | 42,325 |
| Jamuna | 73666 |
| Meghna (upper) | 33592 |
| Meghna (lower) | 40407 |
| Other rivers and canals | 262580 |
| Sub-total | 479735 |
| (2) Estuarine area | 551828 |
| (3) <i>Beels</i> and <i>haors</i> | 114161 |
| (4) Kaptai lake (man-made) | 68800 |
| (5) Inundable floodplains (seasonal) | 5,486,609 |
| Sub-total | 6,221,398 |
| (b) Closed water-body | |
| (i) Ponds and tanks | 146,890 |
| (ii) <i>Baors</i> (oxbow lakes) | 108,000 |
| (iii) Brackish water farms | 260,378 |
| Sub-total | 515268 |
| (c) Marine-water Exclusive Economic Zone | 7,000,000.00 |

Source: BBS 2009

as wintering ground (mother fishery) for most of the freshwater fish species, which ensures the next year recruitment of fish species, and thus assurance of the fish productivity from these ecosystems.

Community-Based Natural Resource Management (CBNRM) has demonstrated its prospect in development projects (such as SEMP, CBFM-2 and CWBMP of Bangladesh). Several studies have argued that CBNRM is effective than other approaches (top-down, command-and-control, systematic science and technology-based management systems) in terms of decision-making, distributional implication, coping with uncertainty, learning and adaptation, and sustainability (Agrawal and Gibson 1999; Berkes 1989; Berkes 2004; Gadgil *et al.* 2003; Johannes 2002; Ostrom 1990; Ostrom *et al.* 2002). Local resource users have the potential to contribute for maintaining a well-functioning, commons by ensuring: i) minimal or absence of conflicts/disputes and maintenance of compliance, ii) capacity to cope with changes through adaptation, iii) capacity to accommodate surprise or sudden shocks, iv) shared understanding, v) fairness, vi) shared risk, and vii) minimization of transaction costs (Berkes *et al.* 2005; Gibbs and Bromley 1989). Despite its advantages in effectiveness and in access of the local resource users, the CBNRM approach has been adopted only in experimental development projects and has not yet been mainstreamed as a formal management approach in NRM.

Stakeholder engagement lays the ground for the effective management of natural resources; however, there is still a lack of empirical knowledge on how to institutionalize stakeholders' participation in the formal institutional structures of NRM. Establishing the legal basis for stakeholders' participation in NRM is essential to ensure their access, use and control over resources within complex rural power structures. However, the empowerment of resource users and strengthening of their organizational capacities are also necessary elements to ensure entitlement (Johnson 2004; Leach *et al.* 1999).

In order to address the issues relating to the stakeholders' participation in formal management systems, it is important to analyze the institutional setting, including policy regime and state-governed management approach in NRM, that is governing access, use, and control over the resources, structure and processes of deliberations, alternative management approaches (community-based, co-management, and partnerships) and multi-level governance. This would assist us to understand the critical aspects of processes and structures that are needed across the institutions to establish the effective participation of stakeholders in a collective decision-making system for sustainable wetland resource management. This study is grounded on these issues to provide an

empirical analysis of existing wetland resource management to establish an effective management regime with the integration of economic, social, ecological and political aspects of NRM.

1.2 Purpose and Objectives of the Research

1.2.1 Purpose

The purpose of the research was to investigate options (such as community-based, co-management and partnerships approaches) for institutionalizing participation of stakeholders in wetland (*haor*) resource management as alternatives to SMA, and for encompassing multi-stakeholder governance of resource management.

1.2.2 Objectives

The specific objectives of this research were to:

- Examine the state-governed management approach and the relationship between formal and informal institutions concerned with access and control over wetland (*haor*) resources (chapter 3);
- Analyze, as an alternative to SMA, the processes and structures of stakeholders' participation and deliberations in decision-making (chapter 4 and 5); and
- Examine the potential for multi-stakeholder governance in wetland resource management (chapter 6).

1.3 Conceptual Consideration

1.3.1 Institutional Arrangement in Natural Resources Management (NRM)

1.3.1.1 Understanding of commons

A distinction has been made in the literature on commons concerning four broad types of property regimes⁵: i) open access, ii) private/individual property, iii) communal/common/group property, and iv) state/government property (Berkes and

⁵ For a detailed discussion on categories of property regimes see Berkes 1989; Feeny *et al.* 1990; McCay and Acheson 1987; Bromley *et al.* 1992; Ostrom 1990; Ostrom *et al.* 1999.

Farvar 1989; Feeny *et al.* 1990; Ostrom *et al.* 1999). Open access refers to the absence of well-defined property rights, where access to the resource is open to everyone. Private property provides individual rights to exclude others, regulates the use of the resource and offers an individual the opportunity to buy or sell a share of a resource. State property involves ownership by a national, regional, or local public agency, which decides on access to, and levels of, exploitation of the resource. It may also prohibit use by individuals. Communal/group/common property is held by an identifiable community of interdependent users who exclude outsiders while regulating use by members of the local community (Berkes 1989; Bromley *et al.* 1992; Feeny *et al.* 1990; McCay and Acheson 1987; Ostrom 1990; Ostrom *et al.* 1999).

It is important to understand resource systems and property rights to address commons problems. Irrespective of resource types, the rules of exclusion, inclusion and subtraction are considered as critical elements of commons management. The legitimacy of resource users is related to the rules of exclusion and inclusion, whereas subtraction deals with the rules of resource distribution and allocation among the users. Based on this view, two characteristics of commons dilemmas are documented in the literature, which include, i) *excludability* - exclusion of beneficiaries through physical and institutional means is difficult, and ii) *subtractability* – exploitation by one user reduces resources availability/welfare of all other users (Feeny *et al.* 1990; Ostrom *et al.* 1999).

These two characteristics – difficulty of exclusion and subtractability - create potential commons dilemmas in achieving successful regimes of commons management. Without effective rules limiting access and defining the rights and duties of resource users, overuse of resources may result and have negative effects on others as well as on the maintenance and improvement of the commons itself (Ostrom *et al.* 1999). Some scholars have argued that such a process is often ridden with conflicts. Two critical elements are significant for solving commons problems, i.e. restricting access and creating incentives for resource users to invest in the resource as an alternative to overexploitation. Both changes are needed. Nonetheless, restricting or limiting access can fail if the resource users compete for shares, and the resource can become depleted unless incentives or regulations prevent overexploitation (Ostrom *et al.* 1999).

From users' perspective, it is also critical to distinguish *de jure* from *de facto* regimes to understand access and rights to resources (Schlager and Ostrom 1992). In many cases, *de facto* open access is practiced by the local resource users to sustain livelihoods under the *de jure* state property regime. River channels, for example, are state property in which local fishers are allowed to catch fish (Thompson *et al.* 1999). This is attributed either to the lack of enforcement capacity or the deliberate intent of the state not to restrict local resource users from harvesting the resources. In both cases, the result is more likely to provide an open access to resources within a state property regime (Feeny *et al.* 1996). This may, in turn, result in the overexploitation and degradation of resources.

The economic efficiency-focused approach describes the commons as an inherently inefficient system and advocates for the strong role of formal institutions in the commons management to avoid the “tragedy of the commons” (Hardin 1968). A group of scholars began to challenge this view almost three decades ago, and advocated for the systems of decentralized collective management of commons by local resource users (Berkes 1989; Feeny *et al.* 1990; Ostrom 1990; Ostrom *et al.* 1999; Ostrom *et al.* 2002). Local institutions potentially have mechanisms to overcome problems associated with mobilization for collective action and could be more effective in commons management (Ostrom 1990; Ostrom *et al.* 2002). Resource users often possess the capabilities of self-organization and self-regulation to solve the exclusion and subtractability problems of the commons (Berkes 2006).

Critics argue that the “tragedy of the commons” often results from institutional failure to control access to resources and enforce decisions to collective use. This is related to “open access” rather than common property resources (Bromley and Carnea 1989). Institutional failure could be due to internal reasons, i.e. the inability of resource users to manage themselves, or it could be due to external reasons, such as exploitation by outsiders (Berkes and Folke 1998). While there are different views and debates on the efficiency of management in commons, it is generally agreed that involving local institution has the potential to improve management. Stakeholders play a vital role for the successful long-term social, ecological and economical sustainability of the commons (Agrawal 2002; Berkes 2004; Borrini-Feyerabend *et al.* 2004; Ostrom *et al.* 2002).

However, formal institutions have paid limited or no attention to institutionalizing stakeholders' participation in the decision-making process. It is, therefore, difficult for local resource users to establish enforceable rules in commons management unless formal recognition by larger regimes, including central authority, is in place (Ostrom *et al.* 1999). Also, such a situation can hinder the local self-organization of resource users by defending rights by formal authority, which can lead to overuse of resources and discourage users to invest in improving resources. Ostrom *et al.* (1999) argued that solving the dilemmas of sustainable use is neither easy nor error-free even for local resources. However, there is a promising scholarly consensus regarding the conditions most likely to stimulate successful self-organized processes for commons management (Baland and Platteau 1996; Wade 1994).

Considering the problems of commons management, it is critical to analyze how property and the position of the local resource users may vary both under the policy as well as the actual implementation of government policies, plans and programs. In this context, my research has highlighted issues of commons management such as: What are the property rights available under the current policy? What are the missing property rights and what are the implications of these missing rights for the full realization of the existing property rights as well as for the overall resource management? How are local resource users marginalized under the present property right regimes?

1.3.1.2 Institutions

Institutional arrangements can facilitate or hinder the process of participation of stakeholders in the decision-making process. Therefore, such arrangements are very critical for defining the relationship of members to resources, which has a bearing in commons management. For this research, it is important to conceptualize the following argument made by Gibbs and Bromley (1989:22) “[i]nstitutional arrangements which here refer to the conventions that societies establish to define their members’ relationships to resources, translate interests in resources into claims, and claims into property rights.”

Institutional structure is a fundamental aspect of NRM which governs the whole decision-making process. There are two predominant schools of thought in the debate on

natural resource management: i) the New Institutionalism approach, and ii) the Collective Action approach. New Institutionalism emphasizes “rules-in-use” (North 1990; Ostrom 1990), and focuses on the economic and political aspects of natural resource management. According to this approach, “institutions” are considered to be “the rules of the game,” whereas individuals and organizations act as the players (North 1990). Transaction costs are the main concern of institutions; thus, institutions must act with the purpose of minimizing the costs of constantly monitoring and responding to individually motivated behaviours and interactions.

The Collective Action approach highlights the principles and “rules” that institutions shape for the purpose of sustainable management within the commons (Agrawal 2002; Berkes 1989; Ostrom 1990; Ostrom *et al.* 1994). In the management and development of the commons, this approach not only highlights rules, but also focuses on culture, conventions and norms or informal codes of behaviour. This approach pays considerable attention to establishing new institutions as management systems, and ‘rules’ are crafted and implemented (Ostrom 1990). This approach is thought to be based on three key assumptions: i) social outcomes depend on the calculations that individuals make about the perceived costs and benefits of future actions (methodological individualism), ii) individuals are ‘rule-governed’ in this process, and iii) a substantive re-conceptualization of the commons challenges Hardin’s thesis and enables a new empiricism in common property research (Johnson 2004).

Both formal and informal institutions play key roles in natural resource management by facilitating or constraining resource users or stakeholders’ access to, use and control over resources. Formal institutions are externally crafted and enforced by state organizations, whereas informal institutions evolve as a result of internal factors and this development is enforced by mutual agreement among the social actors. The process of interaction among stakeholders for resource use, whether through formal or informal institutions, is dynamic and intensely associated with the social, ecological, economic and political settings (Berkes 2006; Berkes *et al.* 2003; Ostrom 2005). The existing NRM regime is influenced by all these conditions, and it is governed by the adaptation strategy of resource users. The concept of institutions is associated with controlling the behaviours of individuals or groups that influence the outcomes of NRM. Therefore, a

detailed understanding of institutions is considered central in designing and implementation of successful management policies in NRM (Mehta *et al.* 1999) and also in sustaining the natural resources.

New intuitionism emphasizes the performance of institutions with its pre-defined responsibility and structures, which can be influenced by an undefined set of institutions. This notion, however, is criticized by Leach *et al.* (1999), who consider “institutions not as the rules themselves, but as regularized pattern of behavior that emerge from underlying structures or sets of ‘rules-in-use’” (p:237). This approach considers institutions in functionalist and static terms, and their embeddedness in the specifics of local history and sociality is ignored (Cleaver 1999; Mehta *et al.* 1999). This approach presumes bounded and closed economic and social systems and an equilibril environment; it does not consider the economic, social and ecological worlds as being open, dynamic and constantly subject to change (Mehta *et al.* 1999). It also fails to understand commons management as the management of a complex adaptive system; it should address critical issues of scale or level, uncertainty and change (Berkes 2006; Berkes *et al.* 2003; Gunderson and Holling 2002). In the emerging complex system perspective, institutions are not only based on rules, but also include the common discourse, informal understanding, and day-to-day routine activities of resource users (Young 2002).

The importance of institutions in NRM can be categorized as purposive (e.g. land tenure rule) and non-purposive (e.g. market) (Mehta *et al.* 1999). The socially “embedded” nature of informal institutions or the multiplicity of institutional relations in which resource users participate to promote mutual assurance, cooperation and collective action are critical to manage commons. Formal institutions operate to control human behaviour and interaction that refutes the multiplicity of institutional relations (Leach *et al.* 1999), which create barriers to cross-scales linkages of institutions and to the participation of stakeholders in NRM. The formal acceptance of stakeholder participation in decision-making processes and their involvement in implementation has not yet been considered in the main realm of NRM, though they are vital for sustaining collective action.

It is important to recognize the reality of natural resource use in which informal systems are continuously contested and individually interpreted. This situation of commons dilemma cannot be overcome only through bureaucratic or adversarial forms of control without collective understanding among the various actors involved in resource use. In addition, linkages of formal and informal institutions are extremely vital for sustainable resource management, as they view natural resource management through different lenses, and commons management is also related to nested social-ecological system (Berkes *et al.* 2003). From these perspectives, collective actions in NRM need to be supported by legitimate stakeholders' deliberation in decision-making processes, which will create an appropriate space for stakeholders to be productive in formal institutions by bringing their concerns and feedback into the systems. The legal basis of the stakeholders' participation will be facilitated and this will allow them to pursue their agenda at various scales by contesting formal institutional management systems.

The new institutionalism approach emphasizes the issues of transaction costs and the collective action schools emphasize crafting "rules" for NRM. Both approaches have paid little attention to the impact of pre-existing institutions on new institutions for NRM. Pre-existing institutions have a direct bearing on new institutions and the success of new "rules" in many ways depends on the integration of these two institutions. Both the new institutionalism and the collective action approaches have overlooked issues of linkages, where different institutional domains overlap and are beset by ambiguity as a result of the non-interactive divide between formal and informal institutions (Mehta *et al.* 1999; Young 2002). From complex adaptive system perspectives, local level institutions have inherent capacities to learn, adapt and self-organize under uncertainties and changes in social-ecological systems (Berkes 2006).

Pre-existing institutions have a unique mechanism for local level conflict resolution. For example, in Bangladesh, *gusthi* (family kinship), *samaj* (societal kinship), *mattabor* (local elite or leader), and *salish* (local level dispute-resolution system) systems are village or community level institutions that have been successfully dealing with local conflict resolution, sustainable resource management, and risk and crisis management (Bertocci 1996; Bode 2002; Haque 1991). These institutions, in fact, provide appropriate coping strategies and strengthen social capital in the context of the local condition.

Building rules into pre-existing institutions by utilizing democratic norms is more viable in local conditions than crafting new rules for commons management (Ostrom 1990). This approach to building local institutions for NRM may help to develop a socially acceptable institutional mechanism through which an effective resource management approach can be achieved.

The dynamic nature of institutions should be recognized during the crafting of new rules for NRM. The day-to-day practices of resource users are continuously shaping and reshaping existing “rules” for effective management of natural resources, in particular, to sustain their livelihoods. The application of such a dynamic approach in NRM is often restricted by formal institutions and the formal system, which pay limited or no attention to the time-tested, local level institutional structures that are more effective in the local context. Resource users have a wealth of experience, possess knowledge and effective management capacities in relation to natural resources, and are capable of sharing feedback with formal institutions. However, sharing feedback essentially depends on appropriate institutional structure and functions.

1.3.2 Deliberation: Stakeholders’ Participation in Collective Choice and Action

Deliberations refer to debates on emerging public policy and planning issues, strategies, and action and implementation plans. Such forums therefore provide people with opportunities to confer, ponder, exchange views, consider evidence, reflect on matters of mutual interest, negotiate, and attempt to persuade each other (NRC 1996). Debates on policy choice, in fact, facilitate stakeholders to express their concerns, interests, and views on the interpretation of incomplete, uncertain, or disputed knowledge for policy judgment, which eventually leads to shared understanding and collective choice in decision-making processes (Stern 2005). In turn, deliberations transform and generate new insights in collective action on the basis of reasoned debate, public justification, and political equality. Meadowcroft (2004:184) has added that “*deliberative interaction allows the democratic constituency to construct a collective path forward.*”

It can be argued that reasoned discussion creates opportunities for collective choices as opposed to the blind acceptance of the views of centralized management authorities. As participants deliberate and advance arguments and counterarguments, it is

important for them to evaluate alternatives and make judgments. During deliberations, the public justification of proposals and outcomes implies what is right and good for them. Substantive political equality is vital in deliberations to ensure access to the process and equal opportunity for each participant to contribute with ideas, and to take part in debating or contesting the ideas of others and in improving the quality of decisions. Deliberations create situations for integrating formal and informal knowledge in decision-making and linkages can be developed between managers and local resource users. Deliberations also facilitate the flow of information on local ecosystem conditions, local concerns and management options, which can be shared through cross-scale linkages both horizontally (across geographic space) and vertically (across level of organization) (Berkes *et al.* 2005, Gadgil *et al.* 2003, Ostrom *et al.* 2002). This process would speed up communication and increase the ability of a society to buffer changes, organize itself, and enhance its capacity for learning and adaptation (Berkes 2002; Berkes *et al.* 2005).

Dialogue and debate among stakeholders would create a space for all kinds of knowledge, new information, improved understanding, shared decision-making, and collective action toward societal development. A thorough understanding of the processes and structures of deliberations to promote and strengthen local institutions can assist effective participation of stakeholders in NRM. Deliberation provides meaningful public dialogue and debate on common concerns, and it reflects their understanding and achieves collective choice in resource management. Appropriate deliberation facilitates understanding between individuals, groups, users, and managers to formulate consensus-based decisions rather than achieve success based on predefined goals presented by individuals (Parkins and Mitchell 2005). Group-based approaches to participation (Meadowcroft 2004), which emphasize the role of stakeholders, are more effective than approaches that depend on individual citizens, as the participation of individuals is often prone to conflicts and bias to individual interests.

In recent years, there has been renewed scholarly and applied interest in “people’s participation”, “stakeholders’ participation” or “community engagement” in natural resource management (Parkins & Mitchell 2005; Pimbert 2004). The key concept of these approaches is to involve resource users effectively in decision-making processes and implementation. A participatory approach is also recognized as a central concept in

the sustainability debate (Pimbert 2004). The participation of stakeholders is also often seen as a key in mediating conflicts and relationships between government agencies, civil societies and the private sector. The engagement of relevant stakeholders in decision-making leads to collectively and socially desirable outcomes, as stakeholders share risk and responsibility in NRM. Many subsistence societies generate favourable conditions for the evolution of effective self-governing resource institutions due to their intense interaction with resources, which allows the community to provide better options in the management of commons (Dietz *et al.* 2003; Ostrom 1990).

Recent experiments have provided adequate evidence that the participation of stakeholders in decision-making processes and in the management of natural resources can be effective in considering local conditions, equitable resource allocation, self-organization, the capability of learning and adaptation (Berkes 2004; Walker *et al.* 2002), and the collective capacity of actors to influence resilience (Walker *et al.* 2004). Stakeholders' participation is important, as "social-ecological sustainability is fundamentally dependent on the active, positive involvement of all relevant stakeholders" (Walker *et al.* 2002:14). The participation of all relevant stakeholders is essential to achieve collective and desirable outcomes in NRM. However, traditional forms of participation can enhance the individual gains of local elites due to complex power structures (Kumer and Corebridge 2002). Appropriate processes and structures of deliberations must therefore be utilized at various scales of decision-making processes by involving all relevant stakeholders to overcome problems of individual gain from such participation.

There is a basic difference between conventional participation and democratic deliberation. Deliberation allows communities to judge decisions in accordance with the consistency of evidence, and they can offer more robust criticism to ensure the decisions are more acceptable to a wider audience. In this process, the communities' wisdom prevails over individuals' opinions in decision-making processes (Stern 2005). Participation has been conventionally seen as a means toward project implementation rather than for the empowerment of the community (Hickey and Mohan 2004) or as compliance with donors (Thompson 1995). Moreover, deliberations include both analysis and deliberation (NRC 1996); the process of analysis confers the use of systematic,

rigorous, and replicable methods to formulate and evaluate knowledge claims, whereas deliberation facilitates any formal or informal method of communication and collective reflection on issues (Webler and Tuler 1999). This intertwined framework of deliberations can ensure desirable outcomes from the effective participation of stakeholders in NRM.

The collective action approach was developed in response to Hardin's (1968) gloomy prediction of the "tragedy of the commons," it elaborated on the potential of traditional or community-based NRM from empirical research observations (Berkes 1989; Berkes 2004; 2006; Ostrom *et al.* 2002), and it established the importance of local institutions and their role in NRM. In a true commons situation, local institutions can be as efficient as the private property regime in terms of commons management (Bromley and Cernea 1989). This approach is qualitatively different from "open access" situations in the sense that the rules regulate the ways in which individuals obtain access to a 'natural' flow of benefits (Bromley *et al.* 1992; Ostrom 1990). By considering the size, mobility and complexity of the resource system, it is possible to prevent individuals from using the resources where their use could deplete the number and quality of benefits that could be provided (Ostrom *et al.* 1994).

The main concept and the purpose of the collective action approach is to highlight the importance of local institutions and to develop new institutions by crafting "rules" for use and facilitating the conditions for their implementation (Agrawal 2002; Ostrom 1990; Ostrom *et al.* 1994). The "design principles" indicated by Ostrom (1990) for long-enduring commons institutions can be considered as central to this approach.

Several scholars have criticized the concept of the institution derived from the collective action approach for having a functionalist perspective focus on "institutional crafting" and "getting the institutions right" for resource management (Cleaver 2000; Mehta *et al.* 1999). In response to these criticisms, it is important to recognize that institutions can be considered a "process" rather than a "product", since institutions emerge from social interactions, negotiations, and the contestation of heterogeneous actors with diverse goals. Institutional flexibility in participatory decision-making processes and learning from a plurality of perspectives should be conceptualized in NRM. This calls for further examination on issues of property rights, legal systems, and

governance. Collective action models assume that specific choices stand alone and are not embedded in a large social environment, which makes them self-contained in terms of their relationships (Young 2002). To overcome this limitation, Young (2002) suggests the use of “social-practice models” in commons management. This approach has to consider the source of external and exogenous constraints on the behaviour of those engaged in interactive decision-making with regards to a particular regime. This approach thus effectively offers a larger setting for managing environmental problems in a decision-making system.

Numerous scholars emphasize understanding commons management as the management of a complex adaptive system (Berkes 2006; Berkes *et al.* 2003; Holling 2001; Gunderson and Holling 2002). They stress that the systems are made distinct by a set of attributes that are not found in simple systems, such as nonlinearity, uncertainty, self-organization, scale, and the emergence of resilience, which they address in the theory of commons management. Complex management systems are characterized by dynamics that are influenced by a wide range of relationships and interactions both within each system and across scales. Therefore they provide a strong conceptual base to analyze the complexities involved in the management of commons as social-ecological systems rather than as a simple system. Based on this consideration, it is essential to move from the static analysis of cross-scale linkages to the study of institutional dynamics (Berkes 2002; Carlson and Berkes 2005; Marin and Berkes 2010).

Ostrom (2005) emphasizes that the economic, social, ecological and political settings are always changing over time; no specific set of rules will produce the same flow of benefits and cost over time. This perspective has merit because, to understand institutions, it is critical to relate from the diversity of situations in commons management, as commons are complex systems that need a consistent, nested set of concepts to be used in institutional analysis and policy development. She re-emphasizes that the “design principles” of commons management to develop a robust system must consider the potential disturbances that occur over time. The importance of polycentric systems in commons management has rightly been forwarded by Ostrom (2005), with the user of each common-pool resource having some authority in the decision-making processes. This system would provide the advantage of utilizing local knowledge as well

as scope to learn from others (Folke *et al.* 1998). Further, local concerns can be communicated through cross-scales linkages at a higher level in order to protect the rights of disadvantaged groups or to provide oversight of appropriate exercises of authority within smaller units (Berkes 2006; Ostrom 2005).

1.3.3 Deliberation and Institutional Aspects

Institutional arrangements are vital to deliberations concerning natural resource management in general and wetland resource management in particular. It is essential for existing institutional arrangements to provide appropriate processes and structures in deliberations that shape the outcomes of decision-making. The institutional regime of wetland resource management must *fit* with the nature of the resources and the characteristics of the social structure and culture in order to maintain the sustainability of the resources (Young 2002). The economic, social and ecological characteristics of the resources and how these are interlinked with the institutional arrangements designed for managing human activities are especially critical for establishing institutional linkages (Berkes and Folke 1998). The institutional *fit* is also vital to provide mechanisms in the decision-making processes and structures of governance in NRM, as institutional *fit* facilitates overcoming mismatches between ecosystem properties and human activities in NRM. Natural resource management is linked with various scales that signify the importance of horizontal and vertical interactions. Horizontal *interplay* occurs at the same level of social organizations, whereas vertical *interplay* takes place at a different level of social organization (Young 2002; Young *et al.* 2008). Therefore, the issue of *scale* is important in deliberations, as institutional arrangements are not the same at different scales (i.e. local, regional, national scale) and they interact differently at different scales.

Institutional trust is vital to sharing information with others; the participation processes and decision-making methods are important for building trust (Lachapelle *et al.* 2003). Democratic deliberations can overcome the problem of variations in social power structures and politics at different scales by facilitating the legitimate participation of stakeholders at various scales of decision-making. However, existing institutional structures and processes need to be re-examined to enable stakeholders to participate in decision-making, as top-down, command-and-control, formal institutions restrain the

participation of multiple stakeholders and are unlikely to consider their opinions and concerns in decision-making.

1.3.4 Effective Participation of Stakeholders in Deliberation

Efficiency and empowerment are two important elements in deliberations to facilitate the effective engagement of stakeholders, particularly weak and vulnerable sections of the society, in decision-making. The efficiency arguments highlights participation as a tool for better outcomes and the empowerment argument emphasizes participation as a process that enhances the capacity of participants to improve their own lives and facilitates social change to the advantage of the disadvantaged (Cleaver 1999). However, incorporating these into projects offers intrinsic difficulties since a project is a set of activities with a fixed time-line and budgets, and it involves seeking to accomplish practical needs rather than strategic instrumentality of empowerment. Therefore, within a project framework, there is a limitation on the participants' influence over the wider structural factors, and difficulties are encountered in the application of empowerment approaches (Cleaver 1999).

It is essential to develop social capital for structural change and collective action that involves the intentional move away from narrow project approaches. This rationale supports the proposition of institutionalization of stakeholder participation in the main realm of management to facilitate continued efforts toward empowerment. However, a broader understanding of participatory processes is inevitably needed to analyze the linkages between intervention, participation and empowerment, in which relevant stakeholders play a vital role.

Issues of power relations are certainly crucial in deliberations to maintain equality in participation. The limited capabilities of the powerless and disadvantaged resource users to participate in environmental decision-making processes are challenging, as they are socially deprived and exploited, and psychologically dependent on more organized and powerful groups. Therefore, serious effort on the capacity building of vulnerable and disadvantaged groups is critical for engaging them in effective participation. My research highlights the processes and structures in deliberations, in which the participation of weaker and disadvantaged groups can be effectively performed in decision-making.

1.3.5 Environmental Governance

Historically, state involvement in natural resources management has been growing at a rapid pace all over the world, especially since the Second World War. Natural resource management has been brought under the control of state agencies, with state employees taking the main responsibility of management. They have thought that, by “controlling” natural systems, the “predictability” and “reliability” of the systems could be achieved (Ludwig 2001).

Bearing the legacy of British colonial period, the formal management system of natural resources in Bangladesh is based on the Economic Efficiency Focused (EEF) approaches for the immediate exploitation of resources for economic purpose. This EEF approach is ideally based on the objective of providing wellbeing (such as, education, health, security, etc.) to the society. Maximization of revenue collection from the natural resources enhances the rate of exploitation, which is used to cover the administrative cost of management, but is not allocated for providing the well-being of society. However, from the British period up till now, there has been very limited indication of improved well-being of the population in the *haor* areas of the country, though the underlying intention of the EEF approach was to do so. Such purposive exploitation of wetland resources becomes a serious governance issue in resource management system, as local communities are being marginalized from access to and control over resources to ensure their well-being.

Power relations within social, economic, legal, political and institutional spheres are fundamental to governance in NRM. The involvement of the state through bureaucratic institutions is clearly visible in natural resources management. The perspective of NRM in the developing world is partly linked with the colonial legacy and economic development based on economism, scientism, and technocracy (Ludwig 2001). The state has extended its control over territories, as well as over resources, such as the land, water, forests and minerals on which local people depend for their livelihoods. There are resulting complexities in the power relations between the state and local communities that have generated conflicts and mistrust, detachment, isolation, the displacement of local institutions, and the loss of resource users’ access to and control over natural resources.

The present policy and institutional structures do not favour the sharing of power with local communities for collective choice and action. Instead, they emphasize on the EEF approach in resource management. As a result, natural resource abundance in a complex social-ecological system does not necessarily ensure poor communities' access to and control over the resource unless they have resource entitlement. Here, entitlement should be seen as an outcome of formal legal measures (Sen 1981; 1984), as well as the customary and usufruct rights of resource users (Johnson 2004; Leach *et al.* 1999) in which environmental governance can play a significant role to ensure the entitlement of poor communities. The lack of incentives for local level resource users restrains them to act in collective action. The entitlement of local resource users ensures their stake in existing resources to secure their livelihoods. Such conditions facilitate the effective participation of stakeholders in decision-making for collective choice and action on which the sustainability of natural resources depends.

Environmental governance⁶ signifies a new process that implies the sharing of power through institutional processes and structures for equitable decision-making in natural resource management. It facilitates a process of empowerment of stakeholders to ensure their rights in relation to resources as they are involved in decision-making. Community-Based Resource Management (CBRM) approaches and adaptive co-management are alternatives to centralized management approaches for the sharing of power and responsibility between the state and resource users (Berkes 2004; Ostrom *et al.* 2002). However, the effectiveness of community-based resource management and adaptive co-management depends on institutional governance that builds on trust, accountability, responsiveness, and fairness between the state and community.

In order to face these new challenges, participatory governance in the management system has been seen as a key factor in the development of relationships between state administration, civil society and the private sector (Bavinck 2009; Kjaer 2004; Kooiman *et al.* 2005; Pimbert 2004; UNDP 1997). Governance is a quite complex and multifaceted sphere, which involves many phases of action on the ground. Kjaer

⁶ Environmental governance encompasses the values, rules, institutions, and processes through which people and organizations attempt to work towards common objectives, make decisions, generate authority and legitimacy, and exercise power (CIDA 2006).

(2004) mentions that, traditionally, governance was related only to the government and the exercise of power by political leaders; the concept was widely used in the post-Second World War period. The concept of governance re-emerged during the 1980s with a new, broader meaning beyond just government since government agencies failed to ensure social well-being through top-down, centralized management approaches. Many policies failed to generate the expected results because: i) they were scientific, technology-based and expert-driven, ii) they lacked citizens' participation, iii) they failed to recognize multiple interests and power on the ground.

From a practical point of view, the Canadian International Development Agency (CIDA 2006) has emphasized the interaction of government, civil society, and the private sector by looking into: i) how the government functions, ii) who is involved in the policy process, and iii) where the effects (both positive and negative) of political activity are distributed in a society. *Governance* signifies a new process that is eventually concerned with creating the conditions for ordered rule and collective action (Stoker 1998), which facilitate the effective participation of stakeholders in NRM. It is, however, critical to consider the views of CIDA (2006) in advancing management systems aimed at ensuring participatory governance in NRM in general and wetland resource management in particular.

1.3.5.1 Multi-level environmental governance

Natural resource management is linked with various scales, which signifies that governance must be ensured at different levels (i.e. local, regional, national, etc.), as the community is just one such level (Berkes 2007). Two basic characteristics of multi-level governance have been identified by scholars, which include: i) vertical and horizontal dimensions or interdependence across governance levels, and ii) interaction among different actors (Bache and Flinders 2004; Seixas and Berkes 2010). Natural resources related to various scales of management require cross-scale linkages of institutions to establish multi-level governance in NRM. Multi-level environmental governance can increase networking across public and private sectors, which allows the shifting of responsibilities from the public to the private sector, regardless of formal hierarchies (Eckerberg and Joas 2004; Seixas and Berkes 2010). Cross-scale linkages of institutions

are essential elements for learning and communication in order to improve the capability of a society to change, accelerate self-organization, and enhance its ability for learning and adaptability (Berkes *et al.* 2005).

Main purpose of multi-level governance is to empower stakeholders to perform at various scales within a given power structure. The attributes of the multi-level governance approach can provide scope for learning and can generate knowledge to cope with change in order to build resilience in environmental management (Berkes *et al.* 2005; Folke *et al.* 2002). Without multi-level governance in NRM, mutual learning, conflict resolution and the shifting of responsibility from centralized authority to local level management cannot be sustained for long (Folke *et al.* 2002, Kristofferson and Berkes 2005).

Learning across institutions is a key issue in which the institutional framework plays an important role to identify conflicts and resolutions, and to establish greater tolerance for risk and contribute to modifications of the dominant management worldview (Diduck *et al.* 2005). The importance of knowledge in multi-level environmental governance is recognized in NRM literature, which emphasizes that knowledge should be shared among stakeholders for consensus building in decision-making. Information and knowledge contribute to the development of a common understanding of the problem and provide alternatives in collective action (Karlsson 2001). Generally, social and institutional learning is important in respect to adaptation to change (Armitage *et al.* 2007). Key individuals and leaders, called knowledge brokers or policy entrepreneurs, play critical roles in facilitating some social learning (Beem 2007; Seixas and Berkes 2010). Much of the learning occurs through the work of the boundary organizations (Cash and Moser 2000) or bridging organizations (Olsson *et al.* 2004a; Olsson *et al.* 2007), as these organizations act at multiple levels, straddling and bridging two or more levels of organization (Seixas and Berkes 2010). Also, joint governance takes place in this process by translating or communicating findings or messages from one level of organization to another (Berkes 2009).

Cross-scale institutional linkages, both horizontal and vertical, can create opportunities for multi-level environmental governance in NRM with equitable decision-making processes. There is the potential to transmit local concerns across multiple levels

of political organization (Berkes *et al.* 2005). Berkes (2006; 2007) emphasized the importance of cross-scale linkages for the likelihood of successful natural resources management that depends on involving multiple levels of governance. In Berkes's words, "governance begins at the community level...attention to the community level alone is never likely to be sufficient to provide for effective management" (2006:48). Therefore, institutional interplay at various levels is critical for providing interactions among organizations (Young 2002; Young *et al.* 2008).

Considering the complexities of social-ecological systems, multi-level governance can provide scope for learning and adaptation to cope with change in order to build resilience in environmental management (Berkes *et al.* 2005; Folke *et al.* 2002). It facilitates cross-scale linkages and provides opportunities to empower local institutions for self-organization, mutual learning and adaptive management capabilities. Stakeholder participation plays an important role in identifying conflicts and their resolution so as to enhance greater tolerance for risk and influence modifications of the dominant management worldview (Diduck *et al.* 2005). Understanding what type of institutional framework would be required to establish wetland resource governance aimed at sharing power between the state and stakeholders for long term sustainability in resource management is critical. The diversity of linkages and partnerships is critical for attaining multiple functions in the development and success of a development initiative. Bavinck (2009) stressed about the limitation of governance at a single level and its possible failure in resource management. Like many other parts of the developing world, in Bangladesh a large number of supporting organizations or institutions work with communities to raise funds, enhance business networking, provide legal support, training, technical support and research, facilitate knowledge transfer, and build institutional capacity (Berkes 2007; Seixas and Berkes 2010; Seixas and Davy 2008).

1.4 State of Wetland Resource Management in Bangladesh

Wetlands have high socio-cultural value and enormous economic functions for the people, including commercial and non-commercial uses of resources. People revere and cherish the wetlands and floodplains that shape, influence and mould their existence and

their quintessential philosophy of life (Haque *et al.* 2004; Tsai and Ali 1997). These ecosystems support the livelihoods of the rural poor communities by providing various goods and services. In Bangladesh, more than 100 million people depend on wetland ecosystems for their livelihoods (Nishat *et al.* 1993).

Among many other resources, fish and fisheries are important components of wetland ecosystems, and since time immemorial, they have played a significant role in the nutrition and economy of the country. The fisheries sector alone provides nearly 60% of the rural communities' dietary protein requirements and accounts for more than 4.57 % of the national Gross Domestic Product (GDP) (BBS 2009). This sector offers full-time employment to over 1.2 million people and indirect support to another 11 million people from fisheries-related activities, which provide 9% of the employment in the country (Department of Fisheries 2003). About 76% of the rural households in *haor* areas and 57% of households in the central region of the country engage in subsistence fishing (FAP 6 1993). However, these resources have suffered massive depletion due to the impacts of a burgeoning human population and its constantly growing needs for settlement and food, which cause alterations of the wetlands (Haque *et al.* 2004; Nishat *et al.* 1993; Tsai and Ali 1997).

The post-colonial experience of formal institutions has not been better than under the colonial regime, as the local poor have continued to face deprivation from their rights and exploitation by the state agencies. Existing formal institutions in NRM are structured by colonial administrative legacies and emphasis is placed on economic development. The primary focus of formal institutions is on productivity, and the costs of management are covered by revenue generated from the natural resources. The policies of the formal institutions are characteristically scientific and technology-based, and expert-driven. They ignore the diverse interests of multiple stakeholders, their traditional forms of institution, and cultural norms, all of which are important in considering of resource management. Such policies fail to ensure the well-being of the local poor as social actors have varied and often conflicting interests, and many of them aim to maximize gains through institutional formations.

Like many developing countries, in Bangladesh, the government applies strictly top-down, centralized and sectoral approaches of development in wetland resource

management. A number of government agencies, such as the Ministry of Land (MoL), Ministry of Fisheries and Animal Resources (MoFAR), Ministry of Agriculture (MoA), Ministry of Water Resources (MoWR), Ministry of Environment and Forest (MoEF), and their subordinate offices, are directly involved in resource management. They implement sectoral plans and policies that often ignore multiple and overlapping functions, the values of these ecosystems, and the presence of diverse stakeholders. The absence of coordination between and among the institutions and various actors involved in wetland resources management undermines integrated resource management as well as equitable decision-making processes. Stakeholders have limited or no role to play in the management system, and hence, many traditional practices and local institutions have been marginalized and become ineffective in managing wetland resources.

Wetlands are considered as a means of revenue earning in the formal systems. For example, the Ministry of Land leased out segments of rivers, *haors*, *baors* and *beels* that had potential as a *Jalmohal*⁷ (fishery estate) through an open bidding system that favoured the highest bidder. In such an arrangement, the customary rights of the local communities were denied and moneylenders could take advantage of the highest-bid leasing system. In most of the cases, politically powerful leaders and/or their agents or locally rich people happened to be the leaseholders of *Jalmohal*. Usually wetlands are leased out for a three to five-year period under an arrangement in which property rights are changed from communal property to private property. Local communities are not allowed to establish their customary rights on *Jalmohal* after leasing. The leasing system *de jure* gives preference to local fishermen to participate in the bidding system, but *de facto* they cannot participate in the bidding system because of their lack of financial capacities to pay the lease money upfront. As a result, most of the rural fishermen migrate to cities or anywhere else in search of farming or non-farming jobs to cope up with the situation. The leasing out of open water bodies has been detrimental to the well-being of poor fishermen and has created conflicts and chaos, and reinforced the power hierarchy in the society (NCSIP 2000; Toufique 1997); these, in turn, have undermined the local institutions. Existing EEF formal institutional arrangements could be

⁷ *Jalmohal* - Government designated fishery-estate that lease out for revenue collection

characterized as counterproductive to sustainable wetland resource management since they facilitate exploitation, deprivation, and livelihood insecurity of local communities.

1.5 Research Questions

Considering the purpose and objectives of the study, the following major questions were addressed in this research:

1.5.1 Institutional Structure and Process in Wetland Resource Management

- 1. What are the various societal institutional arrangements that administer the access, use and control over wetland resources?*
- 2. How inclusive are the public institutions in terms of decision-making process?*
- 3. What are the drivers of marginalization of local resource users from their traditional usufruct rights to resources?*

1.5.2 Effectiveness of Community-Based Wetland Resource Management

- 1. How and why community-based resource management approach is more effective in resource planning and management than the traditional approaches?*
- 2. What are the key factors that constitute community to mobilize and engage in the management system?*

1.5.3 Partnership Approach in Wetland Resource Management

- 1. What are the key elements and approaches in successfully developing partnerships between community-based organizations and other government, international and non-governmental organizations?*
- 2. How and why partnerships among multi-level institutions are critical for wetland resource management?*

1.5.4 Role of Multi-level Participatory Governance in Resource Management

- 1. How a governance approach can assist multi-level institutional engagement in decision-making process for sustaining wetland resources?*
- 2. What are the key factors to develop multi-level participatory governance in wetland resource management?*

However, a set of supplementary research questions were also developed in light of the purpose and objectives of the study (Appendix 1).

1.6 Contributions and Significance of the Research

Haor ecosystems are endowed with natural resources and they provide support to the local communities for their livelihoods. The local communities have been managing their resources since time immemorial and have developed a flexible mechanism to cope with adverse situations. Centralized command-and-control management approaches in wetland resources management in Bangladesh deny the legitimacy of the traditional practices of local resource users and ignore the importance of relevant stakeholders' participation in an equitable decision-making process (Toufique 1997).

This research will contribute new knowledge on how to improve sustainability aspects of the commons management, in general, and wetland resource management in Bangladesh, in particular. My research attempts to critically analyze wetland resource management by focusing on shifts in management regimes away from those that imposed limits to access to and control over resources by local resource users, as well as adversely impacted their entitlements and livelihoods. The processes concerning how the marginalization of local resource users was encouraged by the state policy regimes and intensified the elite's capture of resources are analyzed in this research; these aspects are expected to contribute to identifying weaknesses and loopholes of management policy, and to further improvement of NRM policy.

My research will highlight the community-based and co-management approach to natural resource management to reveal the legitimacy and importance of stakeholder participation in the decision-making process and the significance of strengthening local institutions to share power with local resource users. This research is also expected to provide an analysis of development structures and processes of institutional framework for multi-level participatory governance of wetland resource management.

My study attempts to offer recommendations for the improvement of policy options, development of strategic planning and programs to engage local resource users

in management decisions, and recognition of local resource users as legitimate stakeholders in the multi-level decision-making process of NRM.

1.7 Outline of the Thesis

The thesis is organized in seven chapters. Chapter One discusses aspects of the historical and policy context, the background, theoretical framework, research problems and issues, objectives, pertinent research questions, research methods, and the significance of the research. Chapter Two describes the environmental setting of the research sites, research approaches, and methods for gathering data and information, and presents a schedule of the conducted research activities in *Hakaluki haor* area. Chapter Three to Six present the findings of the study, in which Chapter Three corresponds to objective one, Chapters Four and Five correspond to objective two and Chapter Six corresponds to objective three. Each of these chapters contains a critical analysis of the relevant theory and conceptual framework, and presents the findings of the research and data analysis. Chapter Three examines the impacts of state-governed management approaches, including the impacts of colonial and post-colonial policies on natural resource management. This chapter also highlights the marginalization process of local communities from their traditional resource rights and the capture of resources by the elites. Chapter Four examines the effectiveness of community-based resource management within the scope of development initiatives and highlights the significance of the participation and deliberations of local community as legitimate stakeholders in the decision-making process. Chapter Five considers partnership among institutions at different scales and how they are involved in the decision-making process aimed at engendering expected outputs toward the sustainability of wetland resource management. Thus Chapters Four and Five emphasize on the participation and deliberations of diverse stakeholders in collective actions. Chapter Six provides an in-depth analysis of multi-level governance of wetland resource management by examining different stakeholders in wetland resource management. Finally, Chapter Seven provides a synthesis of key findings of the earlier chapters along with the overall conclusion and policy options for further improvement in wetland resource management.

CHAPTER 2

RESEARCH AREA, APPROACHES, METHODS AND ENVIRONMENTAL SETTING

2.1 Introduction

This chapter provides an analysis of the research approach along with the overall structure, organization and flow of the research. A summary on research agenda and research issues is also provided to lay the background of the study. Specific research methods that were used in this study are elaborated in this chapter. The chapter discusses approaches to analysis of data and information, and validation of results of the research. A brief overview of the context as well as social and environmental setting of the case study is also presented.

The management of wetland and floodplain resources is very complex in Bangladesh due to the involvement of a number of government agencies at different scales and the uses of resources by diverse stakeholders with varied interests. Management perspective includes social, economic, ecological and political dimensions, encompassing conflicts among various interest groups, aspects of unequal distribution effects, unsustainable yields of resources and marginalization of the poor.

This research focuses on place-based case studies of a wetland (*Haor*) in Bangladesh, named *Hakaluki haor* (Fig. 2.1), which has been subject to diverse management approaches that range from top-down, command-and-control to co-management/community-based management. An analysis of various management approaches in the context of *Hakaluki haor* enables one to comprehend the critical issues related to changes in property rights, marginalization and exploitation of local community, access and entitlement issues, problems of wetland governance, the role of formal and informal institutions in resource management, success and failure of community-based management, and the role of the communities in collective decision-making. As a major case study, *Hakaluki haor* has been examined with multiple units of analysis.

The present restrictive, inequitable and unsustainable management system of wetland resources and the pressing need to adopt a sustainable resource management strategy by exploring options for the institutionalization⁸ of stakeholders' participation in collective action need to be examined. The provisions for sharing of power with the community, particularly with the poor, for wetland resource management are critical, and therefore, the study has emphasized on this particular aspect in its exploration and analysis.

My research focuses on the institutional structures, state-governed management approaches, community-based and/or co-management system, partnerships and multi-level governance to provide an insightful analysis of the sustainable management of natural resources in general and wetland resource management in particular. Stakeholder analysis has also been carried out to address pertinent research questions and to capture the diverse interests of different groups that are involved in the *Hakaluki haor* management system.

Stakeholder selection criteria included: 1) dependency on *haor* and floodplain resources, 2) diversity of the resource users, i.e. fishermen, farmers, small traders, women and socially excluded occupational group (sub-culture -*Mimol* - traditional Muslim fishing community and the *Jaladas*- traditional lower caste Hindu fishing community), 3) resource users practicing traditional management approaches, 4) resource users involved in associations and networks, 5) most impacted resource users, 6) policy makers, 7) resource managers (at various levels), and 8) local elites, NGOs and civil society.

This chapter describes research approaches and methods applied in this study to address the objectives of the research in the *Hakaluki haor* area. It attempts to illustrate the significance and usefulness of various research approaches and methods in order to justify the application of the methodology for collecting the data and information required for the research. This chapter also describes the environmental and social setting of the research area, i.e. *Hakaluki haor*, to understand the economic, social and ecological importance of the area in terms of contribution of the environmental goods and

⁸ Institutionalize refers to mainstreaming of participation of stakeholders/communities in the decision-making process to effectively involve collective action to sustain community-based management of wetland resources.

services to the *haor* ecosystem, as well as the nature of resource use by diverse stakeholders and value of conservation.

The research was conducted through applying participatory research methods, specifically participatory rural appraisal, and involved key informant interviews, semi-structured interviews, focus group discussions, and list a few more.

2.2 Field Research Approaches and Methods

A participatory research approach was applied in conducting the research. For gathering information and data to investigate the research questions, a number of participatory rural appraisal (PRA)⁹ tools were used. The following section contains an explanation of the importance of adopting a participatory research approach, particularly the use of Participatory Rural Appraisal tools, and of analyzing its strengths and weaknesses as well as the critical role of the researcher as a facilitator in the process. As the outcomes of PRA particularly depend on the ability of the researcher to facilitate the PRA process with the community and other participants, I have been careful to ensure the application of my efforts in the PRA process.

2.2.1 Use of Participatory Research

In participatory research, it is important to understand the culture, values, and socio-political conditions of the local communities to develop a strong relationship with the community and to gain familiarity with the area or place. In this context, the history of the past could be an effective way to understand the human-nature relationship, which is vital for understanding and analyzing the current trends and issues in natural resource management. The social-historical perspective of natural resource management allows us to comprehend the power relationship, the institutional diversity and involvement, the impact of policy change on the livelihood of the community, and their present role in resource management.

Participatory research methods facilitate analysis of the vital issues of natural resource management (Chambers 1997); they have been found to be more effective than

⁹ For a detail review of how PRA has evolved, see Chambers 2004.

other approaches to gather information and data from social settings characterized by complex and asymmetrical social power structure. Participatory research approaches build up a movement for social justice in the development arena, a reaction to the classical top-down and expert-oriented, single tract, dominant view. Chambers (1994a) emphasized that the approach helps development initiatives to succeed by providing scope for reversal modes of analyzing and interaction, feedback on professional values, and learning. This approach is uniquely designed with a 'bundle of tools' (a number of information-gathering methods) that facilitates researchers and participants to apply diverse methods to encompass local values, perceptions and complexities (Deshler and Selner 1991; Chambers 2004) in conducting research or implementing the project.

Participatory Rural Appraisal, as defined by Chambers (2004:7), *"is a family of continuously evolving approaches, methods, values and behaviours which has turned much that is conventional on its head. It seeks to enable local and marginalised people to share, enhance and analyse their knowledge of life and conditions, and to plan, act, monitor and evaluate."* From this perspective, PRA emerges as a democratic and deliberative decision-making process in which the researcher gets opportunities to interact directly with the communities to obtain knowledge and information, cross-checking and planning for actions, which is also educative and a process of empowering the community (Chambers 2004). PRA, having a 'bundle of tools', is considered an effective tool in participatory research; as local people are enabled to express and analyze the reality of their lives and conditions, they can plan for themselves to take action, and develop the ability to monitor and evaluate the results (Chambers 1994a; 1994b; 1994c; Chambers and Blackburn 1996). PRA is a 'people-centred' development model that focuses on *"processes whereby individuals and societies build their capacity to meet their own needs and improve the quality of their own lives"* (Grenier 1998:42). Local people possess high capabilities for appraisal, analysis and planning, which eventually involve them in action (Chambers 1997).

It is essential to recognize the potential weakness of participatory research to avoid any misconception of using PRA tools, which include, but are not limited to, complex social power structure, heterogeneity and class, gender, disadvantaged groups, ethnicity, religion, the dominant role of elites, and political manoeuvring, which might

cause an adverse impact on the ultimate objective of the research or development initiatives (Grenier 1998). However, the effectiveness of participatory research critically depends on trust-building and the confidence the researcher has with the community. This requires a personal commitment and cannot be achieved without putting reasonable time in the community (Chambers 2004).

The participatory research approach also emphasizes qualitative research that provides details and an in-depth understanding of the experiences, perspectives and histories of the community within the context of their own background, circumstances and social milieu. It refers to the meanings, concepts, definitions, symbols and descriptions of issues (Berg 2004), whereas quantitative research focuses on measurement and numbers. Qualitative research is more focused on the *what, how, why, where* and *when* of things, with a spontaneous inquiry, while the quantitative approach tends to be confined to the amount of things investigated. The qualitative approach focuses more on the processes than on outcomes; it is inductive in nature; it elaborates on the meaning of the complex issues of life; research is conducted within the natural setting of local people; information collection is carried out by the researcher; and an interactive style of data collection is employed (Creswell 1994). In addition, by using a variety of approaches and techniques, triangulation and the cross-checking of the information and data obtained through the application of individual methods can ensure quality output (White 2002).

Although PRA has been widely accepted as an effective method in participatory research, it is not a panacea to local research. PRA takes place within a very complex rural power structure, with social relations, culture, and values that have a direct bearing on the outputs of many group exercises. Researchers therefore need to be aware of such social complexities and real-life problems to overcome these critical issues during their research. However, I was in a better situation than any new researcher in conducting research in *Hakaluki haor* area, as I had been working in the *haor* basin for more than a decade¹⁰. Due to my extensive visits of the entire *haor* basin and long involvement with

¹⁰ Though I am not coming from the study area, but I am very much familiar with the *Hakaluki haor* area, as I was working in the north-east *Haor* basin area since 1995. It gave me ample opportunities to develop working relationship with local communities, government, non-governmental organizations, local leaders and elites. I am also very much aware of the social complexities, power struggles, access and rights on natural resources, issues of conflicts and marginalization of poor communities from the *haor* resources.

the management of wetland resources, many critical issues, particularly access and rights, the entitlements of local communities, exploitation, equity and wetland governance, were known to me, and such experiential learning has given me the scope and opportunities to look into greater details of these research issues.

2.2.2 Conducting Research: Field Methods

It was a 19-month long participatory field-based research in the *Hakaluki haor* area from February 2007 to August 2008 that provided the necessary data for this study. The research began with ethical clearance given by the University of Manitoba (Appendix 2). By following the ethical provisions, informed consent of the participants was ensured by the researcher. The research activities were conducted in phases that included: i) field research planning phase, ii) information and data gathering phase, iii) analysis phase, and iv) validation and feedback phase (Table 2.1).

Considering the strengths and weaknesses of participatory research approach, a set of the following PRA methods (Table 2.2) was used at different points of the research to facilitate the study. The research activities and meetings with members of CBOs were scheduled, together with local staff of the host NGO named the Center for Natural Resource Studies (CNRS). Suitable time for the community to participate in the research was sought. The research activities were facilitated and administered by the present researcher throughout all phases of field investigation.

Table 2.1: Organization of Research Over a Period of 19 Months

| Research Activities | Research Period 2007 | | | | | | | | | | | Research Period 2008 | | | | | | | |
|--------------------------------------|----------------------|---|---|---|---|---|---|---|---|---|---|----------------------|---|---|---|---|---|---|---|
| | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A |
| Field Research Planning Phase | | | | | | | | | | | | | | | | | | | |
| Information and Data Gathering Phase | | | | | | | | | | | | | | | | | | | |
| Analysis Phase | | | | | | | | | | | | | | | | | | | |
| Validation and Feedback Phase | | | | | | | | | | | | | | | | | | | |

a) Focus Group Discussion is a widely used method in participatory research to get an in-depth understanding of the broad community context and social complexities. A group of people, preferably 4-6 participants, were selected for their knowledge relevant to the objectives. The target group generates useful information in an interactive manner; the researcher strives to learn about conscious, semiconscious, and unconscious psychology and the socio-cultural characteristics and processes among the various groups (Berg 2004). FGD can be influenced by power relations; group composition and psychological state; and economic, social, ecological and cultural factors (Grenier 1998). However, the scope of error or bias is comparatively less, and as a group view, the information is more reflective and accurate for the whole target group. A number of FGDs (Table 2.2) were organized at different stages of the research to involve stakeholders in the research processes and to get their critical views on the research issues (Appendix 3). Focus group discussions were focused on gathering and validating information and data on institutional aspects, formation of community based organizations, participatory action plan development methods, the process and structure of participation, partnerships among government, non-government and community-based organizations, access and entitlement of resources, the role of elites in development initiatives, wetland governance, and the sustainability of collective actions.

Table 2.2: Information and Data Gathering Methods/Techniques

| Method/Technique | Number |
|-----------------------------|-----------------|
| Focus Group Discussion | 45 events |
| Semi-structured Interview | 36 participants |
| Key Informant Interview | 57 participants |
| Workshop | 14 events |
| Baseline survey | 167 households |
| Resource and Social Mapping | 8 events |
| Addah | 36 events |

b) Semi-structured Interview: Semi-structured interviewing and listening have become increasingly well-established as a widely acceptable method in participatory research. This technique helps to explore the *what, why, when, how* and *where* of certain

facts of the study (Grenier 1998). The semi-structured interview method was very effective as a follow-up to focus groups using predetermined questions and topics (Appendix 4). This method also allows new topics to be pursued as the interview develops. Semi-structured interviews with 36 participants from the community members, associations, networks, local elites, civil organization, government officials, local authorities and NGOs were conducted in an informal, flexible and conversational way to get specific information in greater detail on the research agenda (Table 2.2).

c) Key informant interview: This technique allows the researcher to select a number of individuals who have knowledge and experience on issues and problems of the area in regards to the research agenda. Participants were identified from diverse stakeholder groups, which ranged from small traders to local elites, professionals, lessees, local governmental officials, national and international NGOs and policy makers. Key informant interviews were effective to obtain detailed information and critical views on the research issues, as they have long experience and knowledge on the area. I organized a number of key informant interviews with these diverse ranges of participants to encapsulate their knowledge, experiences and perceptions on the research issues (Appendix 5). Fifty-seven key informants representing various groups of stakeholders were interviewed during the study (Table 2.3). On many occasions, while conducting interviews with key informants to obtain information from them, the cross-checking of gathered information and data was also done to confirm the authenticity of the information.

d) Participant observation: The personal observation of researchers is an emerging technique in participatory research based on the assumption that the researcher may understand people's motives, values, beliefs, and interests by studying them in their natural environment. What is necessary in participant observation is that researchers should have a very inquisitive mind setting and the ability to observe all relevant phenomena from a neutral perspective. Long-term participant observation can yield an understanding of social change which may not be possible through any other technique (Bernard 1988; Grenier 1998).

Because of my long association with the communities in the research area, I have experienced their interaction with and among different sections of the communities and

outsiders. Different groups, such as fishers, farmers, *reed* and swamp forest collectors, wildlife trappers, small business entrepreneurs, women's groups, and ethnic minority groups have their own way of communicating with each other and their own style of organizing and operating day-to-day activities. Participant observation, particularly during my 19-month field research period, provided me the opportunities to develop an intuitive understanding of the details of local culture, social complexities, access, rights and entitlement issues on the *haor* resources, and the meaning of certain things from the community's perspective. It also enabled me to make logical statements about the facts.

Table 2.3: Number of Participants for Key Informant Interview

| Institutions | Number N=57 |
|--|------------------------|
| Ministry of Environment and Forest | 3 |
| Ministry of Land | 2 |
| Department of Environment | 7 |
| Department of Forest | 2 |
| Department of Fisheries | 4 |
| District and <i>Upazila</i> Administration | 5 |
| International, National and Local NGOs | 10 |
| Members of CBOs and professionals | 24 |

NGOs– Non-governmental Organizations, CBOs– Community-based Organizations

e) Workshops: Organizing workshops with concerned stakeholders has been found to be effective for gathering authentic and accurate information and data. This is also an effective way for cross-checking the information and data. During discussions, participants generally challenge any wrong or incomplete information and do their best to complete and correct it. This technique facilitates open discussion and debate on issues of conflict and helps to arrive at collective decisions on conflicting issues. It can also act create a forum for sharing new information, concerns, changes, and feedback to improve the understanding of the outcomes of research. Fourteen workshop sessions were organized with stakeholders during this research for information and data gathering, cross-checking, validation and feedback (Table 2.2 and Appendix 6).

*f) Addah*¹¹ (*Bangla term for an informal discussion meeting*): Informal discussion among friends and others at leisure time preferably in tea-stalls or any other convenient place is popularly known as *addah*. It is a kind of everyday entertainment or recreational event for local communities, as they have limited or no access to entertainment or recreational opportunities. *Addah* is the best way to generate open discussions on any social, economic, political or conflicting issues, as everybody joins the on-going discussion spontaneously and provides their opinions and information. It is a way out for any conflicting situation. During my research, I found it to be a very effective way to develop relationships with the local community and to become their friends and seen as a trustworthy person, which is very important for any researcher to get authentic and reliable information on critical issues. *Addah* with local community immensely helped me to get authentic story/information on access and entitlement issues, relationships among classes and ethnic groups, the role of local government representatives and elites, (mis)use of power and illegal (corrupt) practices of government officials involved in wetland resource management. Another important benefit of *addah* is that poor and disadvantaged groups express their views or opinions without any fear or hesitation because of the situational advantage. I have attended numerous *addah* during the research period to collect information and data on the research issues.

There are limitations of *addah* in the sense that the researcher usually does not get an opportunity to write any notes on the discussion. The researcher is required to remember all critical issues and points that have been discussed during *addah* to capture these in the findings of the research. She/he must maintain a diary to recapitulate critical points that could be used later. Also, the researcher needs to control the discussion in a diplomatic way to obtain the facts, crucial information, critical views, points of conflict and alternatives on debating issues.

2.2.3 Strengthening the Participatory Research: Quantitative Methods

Combining qualitative research methods with quantitative methods generally strengthens participatory research approaches. During the study, quantitative household

¹¹ Addah can be defined as an informal meeting of a small group of friends and fellows at leisure time, particularly in a tea-stall or other common places. It is a kind of chitchat among friends and fellows of same societal background.

surveys helped to get information that complemented participatory research. Particularly, detailed household level information facilitated understanding of socio-economic status, diversity of stakeholders, dependency on natural resources and the livelihood diversity of the community. During the research, a total of 167 household surveys, particularly from selected CBOs, were conducted (Appendix 7). Combining qualitative with quantitative methods in participatory research is appreciated in the literature on development methods (Ellis and Freeman 2004). During the research, both of these two methods were used to ensure a thorough and meaningful analysis of the data and information.

2.2.4 Research Agenda and Specific Methods

The research was largely exploratory rather than hypothetical deductive; hence the process of ongoing analysis was vital to understand the emerging issues pertaining to the research. To strengthen my research inferences, I shared the findings of the research with the relevant stakeholders in the validation phase to receive their reactions, comments, criticisms and suggestions.

Some specific participatory research techniques are more effective than others for information gathering in the research. A summary of the research area, research issues and participatory methods that were applied in the research is presented in Table 2.4.

2.2.5 Selection of Community-Based Organization (CBO)

Three major development initiatives have been implemented in *Hakaluki haor* area for the sustainable management of wetland resources, focusing on community-based management. These are i) Sustainable Environment Management Program (SEMP) of the Ministry of Environment and Forest, ii) Community Based Fishery Management-2 (CBFM-2) of the Department of Fisheries, and iii) Coastal and Wetland Biodiversity Management Program (CWBMP) of the Department of Environment. In my study, seven community-based organizations (CBOs) were selected from three different development initiatives for an in-depth study of the local level institution building, participation, partnership, deliberation, participatory action plan development, access and entitlement, social actors in community-based management, the role of external mediators, communication, cross-scale linkages, participatory governance and the sustainability of community based management.

Table 2.4: Research Issues and Specific Methods for Gathering Information and Data

| Research Agenda | Research Issues | Specific Methods and Reference |
|--|--|---|
| Institutions, property rights and access to resources | Formal and informal institutional arrangements; networks; kinship; historical changes in resource access of local resource users; equity and distribution; marginalization and exploitation ; entitlement; communications; vertical and horizontal linkages of institutions; role of NGOs and others. | Focus Group Discussion (FGD), Key informant interview (KI), semi-structured interview (SI), participant observation (PO) and <i>addah</i> Institutional analysis (Ostrom 1990, Agrawal 2002); stakeholder analysis (Borrini-Feyerabend 1997; Chevalier 2001; Ramirez 1999; and Young 2002) |
| Community, complexities and community-based management | Demographic structure; key stakeholders and players in wetland resource use; hierarchical social structure; social conflicts; crafting role: level of participation in CBOs; role of women in resource management; communication and networking; community mobilization and drivers; leadership and role of elites; and partnership. | Focus Group Discussion, Key informant interview, semi-structured interview, participant observation and <i>addah</i> Community-based management (Agrawal and Gibson 1999; Berkes 2004; 2006; Borrini-Feyerabend <i>et al.</i> 2004; Dietz <i>et al.</i> 2003; Ostrom <i>et al.</i> 2002). Stakeholder analysis (Borrini-Feyerabend 1997; Chevalier 2001; Ramirez 1999 and Thompson 2006). |
| Participation and deliberation | Processes and structures of deliberation; legitimacy of participants; inclusion of diverse interests; role of disadvantaged and weak groups; participatory action plan development; collective decision-making process; inclusion and exclusion; capacity and empowerment; space for disadvantaged and weak groups in the higher level of decision making process. | Focus Group Discussion, Key informant interview, semi-structured interview, participant observation and <i>addah</i> (Hickey and Mohan 2004; Parkins and Mitchell 2005; Stern 2005; Young 2002) |
| Wetland governance | Multilevel governance approaches; interconnectedness and participatory governance focusing on accountability, transparency, equity and fairness; communication and cross-scales linkages; social-ecological impact and sustainability. | Focus Group Discussion, Key informant interview, semi-structured interview, Narratives and analysis (Narayan <i>et al.</i> 2000) (Bavinck <i>et al.</i> 2005 ; Berkes 2006; Folke <i>et al.</i> 2002, Berkes <i>et al.</i> 2005; Graham <i>et al.</i> 2003; Kooiman <i>et al.</i> 2005) |

The following CBOs were selected for this study (see Fig. 2.2):

1. From SEMP:

- a. Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.*
- b. Gobindhapore Juba Samobai Samity Ltd.*

2. From CBFM-2:

- a. Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*
- b. Madha Morshidabadkura Samaj Vittik Bahumokhi Samobai Samity;*
- c. Nunua Mohila Samity (women CBO)*

3. From CWBMP:

- a. Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.*
- b. Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.;*

The selection of CBOs was performed through a detailed discussion with the community, staff of CNRS and other local NGOs involved in the development initiatives and staff of the above-mentioned development projects. While selecting CBOs, emphasis was given to level of dependency of CBOs on the *haor* resources as well as how representative they are compare to other CBOs in the *haor* area. In addition, I also sought the opinion of my supervisor on the selection of CBOs, as he had visited the research area during planning phase of the study. CBOs were selected on the basis of their performance in community-based management, and in consideration of why some CBOs are performing better than others. To analyze the critical role of women in wetland resource management, one women's CBO was also selected for this study.

2.2.6 Data Analysis and Reliability

Within the scope of the research, voluminous amounts of data and information were generated, as the field research was carried out at multiple scales that included household, community and institutional levels. I benefited from a great deal of support from my research assistant and local staff of CNRS. I allocated enough time to organize field notes, interview notes, the outcomes of the focus group discussions, information from key informants, semi-structured interviews, individual interviews, and the outcomes of workshops. Resource and social maps drawn by the communities were digitized with the help of the GIS Unit of CNRS. Household survey data were computerized with the

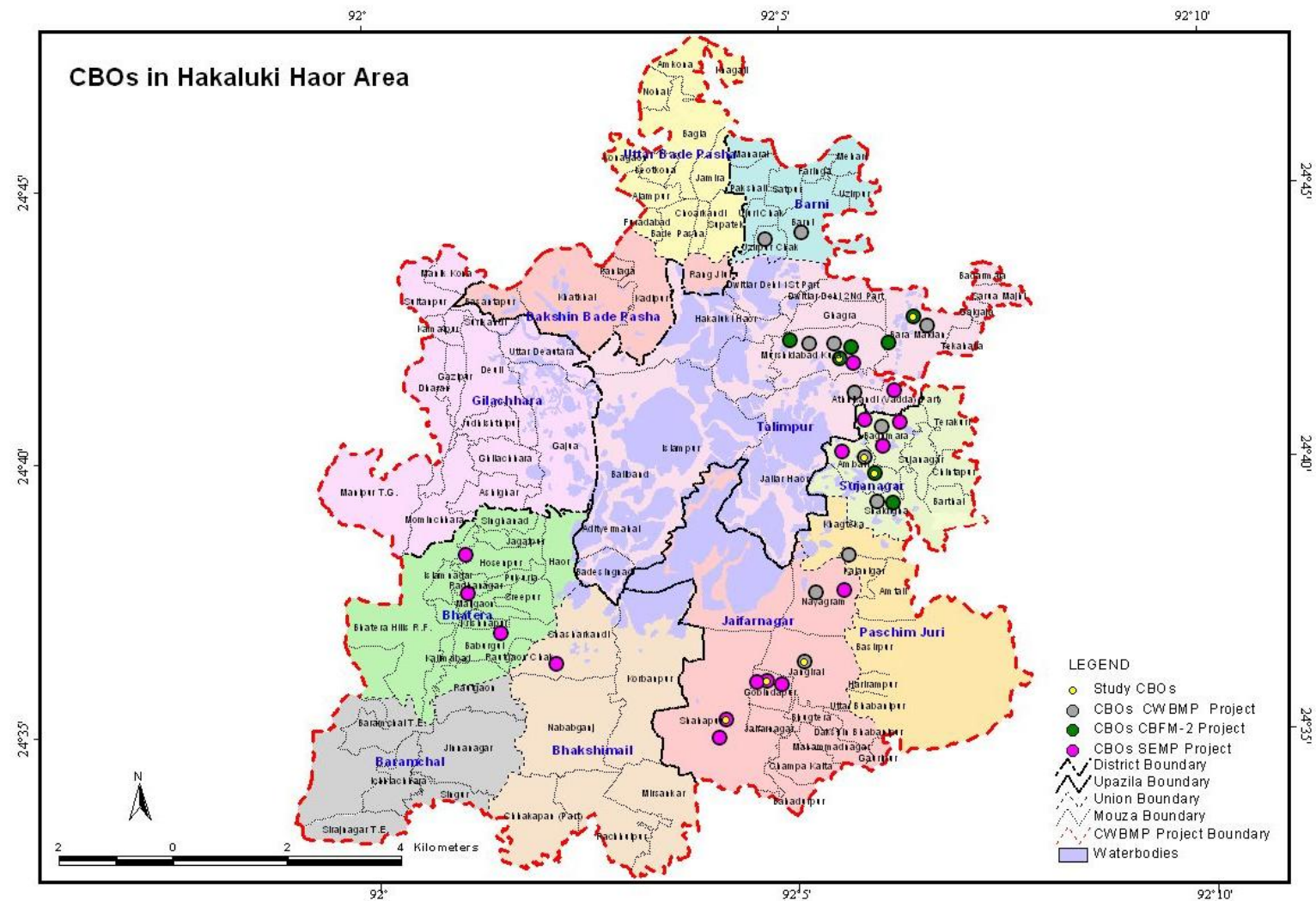


Figure 2.2: Location of Selected CBOs in *Hakaluki haor* area

help of the computer unit of CNRS and original survey sheets were kept with the researcher. Digital photographs were taken during the events and saved for reproduction. Interviews were also electronically recorded with a recorder, and for sensitivity permission was sought from the interviewee. For validation and feedback on the research, all information and data were shared with the stakeholders. I was particularly sincere to maintain anonymity and confidentiality whenever deemed necessary and appropriate. However, I used quotes (exact translation) of the community members and others in the thesis; whenever appropriate the name of the person and his/her identity are mentioned after the quotes.

The validity and reliability of information obtain through PRA approaches and methods have usually been very high. According to Chambers (1997:130), *“[e]xplanations include the reversal and shifts inherent in PRA: from closed to open, and from etic to emic; from measuring to comparing; from individual to group; from verbal to visual; from higher to lower; from reserve to rapport.”* In this research, information and data were obtained directly from the communities and concerned stakeholders that have been validated by them. These in turn have established the reliability of the data and information.

As mentioned before, building trust and confidence with the community is critical for participatory research. Without a strong relationship with the community, it is impossible for a researcher to get authentic and reliable information of any critical issues. It is also important to recruit community members as team members of the research and they should psychologically be involved in the research. I started my discussion on less conflicting and successful issues of the community and later discussed the more complex issues as they became part of the research. Having fluency in the local dialect, I had no difficulty to communicate with the community, and within a very short time they considered me as an insider.

Though I already had a long association with the *haor* communities, initially I faced challenges to meet with women of the area, as the area is comparatively conservative compared to other parts of the country. However, with follow-up informal discussions with them in subsequent time periods, I was able to include them in the

research. Eventually, they accepted me as one of their family friends and often invited me to their family events.

Following a discussion of the methods of the field research, it is also necessary to introduce the research site and its economic, social, ecological settings to highlight the importance of the study area as a *haor* ecosystem. These aspects of the research site are of great importance for my study and its context, which are presented in the following section. In my research, the *Hakaluki haor* area of the Moulvibazar and Sylhet districts of Bangladesh were selected as study areas in consideration of the objectives of the research. The study site of *Hakaluki haor* provided the scope for i) examining the role of formal institutions in wetland resource management focusing on the EEF approach, ii) analyzing the experience and learning of CBNRM, which were tested through three major development projects, i.e. SEMP, CBFM 2 and CWBMP, and iii) determining the significance of multi-level governance in wetland resource management for ensuring sustainable management.

2.3 The Research Site and the Case Study: *Hakaluki haor*

The research focuses on place-based case studies of a *haor* in Bangladesh called *Hakaluki haor*. This *haor* is the largest freshwater wetland ecosystem in Bangladesh. It is located in the north-eastern part of the country, lying between latitude 24°35'N to 24°45'N and longitude 92°00'E to 92°08'E (Fig. 2.1 and Fig. 2.2). Administratively, *Hakaluki haor* falls under the jurisdiction of two districts (Moulvibazar and Sylhet) and five *Upazilas* (Sub-districts - Kulaura, Barlekha, Fenchugonj, Juri, and Golapgonj). The total area of the *Hakaluki haor* is 41613.83 ha (CWBMP-DOE-CNRS consortium 2005) comprised mainly of wetland and the surrounding hillocks; reserve forest; planted forests; tea states and rubber plantations. The *Hakaluki haor* is a shallow basin nested between the Patharia and Madhab Hills in the East and the Bhatara Hills to the West. It is bounded by the Kushyara River as well as by part of the Sonai-Bordol River to the north and by the Kulaura-Sylhet Railway to the south. It has more than 238 small, medium and large interconnecting *beels*, some of which are perennial and others seasonal; canals; rivers; *kandhas* (raised land at the edge of *beels*); and croplands. During the dry season, the total

area of *beels* becomes approximately 4600 ha, but in the monsoon season the entire area transforms into one water body of approximately 18000 ha, and remains underwater for up to five to six months, depending on the seasonal weather pattern. A local population of approximately 200,000 depends on the *haor* resources for their livelihoods. *Hakaluki haor* is also categorized as *Jalmohal* (fishery estate) and is under a leasing system of management, administered by the Ministry of Land. District and *Upazila* administrations, on behalf of the Ministry of Land, have the executive authorities for collecting revenue from leasing out of *jalmohals*.

Hakaluki haor is under the active consideration of the Ramsar Secretariat for listing as a Ramsar Site of “Wetlands of International Importance,”¹² which would signify the importance of *Hakaluki haor* as a globally important habitat for biodiversity conservation in addition to its economic contributions.

2.3.1 Natural Resource and Environmental Setting of *Hakaluki haor*

An environmental overview of *Hakaluki haor* area is necessary to comprehend the state of natural resources, the connectedness of local communities with the resources, and the importance of sustainable wetland resource management to maintain its environmental goods and services. It has been estimated that a local population of approximately 200,000 depends on the *haor* resources for their livelihoods. The *haor* ecosystems provide a wide range of economic and non-economic benefits to the local people as well as to the people of Bangladesh and the world at large. These include benefits in terms of fish production, rice production, cattle rearing, duck rearing, the collection of reeds, grasses and swamp forests, and the collection of medicinal plants and other aquatic plants. Also, the *haor* protects the lower floodplains from flash floods occurring in the months of April-May, recharges the water tables, and provides habitat for migratory and resident birds. Analysis of the status of natural resources and their use pattern in *Hakaluki haor* are presented in the following chapter (i.e. Chapter 3).

¹² Wetlands that provide wintering ground for migratory waterfowls to maintain their biological lifecycle are usually declared as a Ramsar Site by the Ramsar Convention.

The *Convention on Wetlands* is an intergovernmental treaty adopted on 2 February 1971 in the Iranian city of Ramsar, on the southern shore of the Caspian Sea. Thus, though nowadays the name of the Convention is usually written “Convention on Wetlands (Ramsar, Iran, 1971)”, it has come to be known popularly as the “Ramsar Convention”.

2.3.1.1 *Beels and Rivers*

The *Hakaluki haor* has more than 238 small, medium and large *beels*, some of which are perennial and others are seasonal. These *beels* basically act as economic units; they are designated as *jalmohals* and leased out to the highest bidder for rent collection. During winter season *beels* remain isolated from one another and become contiguous due to inundation of the *kandhas* by monsoon water. More than fifty percent of large *beels* are in Talimpur Union of Barlekha *Upazila* under the Moulvibzar district. *Beels* in *Hakaluki haor* are important for fisheries.

There are nine major rivers of the *Hakaluki haor*, which include the *Kushiara*, *Sonai/Bordol*—with two big distributaries: (i) *Mora Sonai*, and ii) *Satpur Khal—Juri*, *Kontinala*, *Kuiyacherra*, *Pabijuri*, *Fanai*, and *Dhamai Rivers*. These rivers are considered as the life line of the *haor* ecosystem. The production of natural resources in the *haor* ecosystems are influenced by these rivers and water flow during monsoon and dry seasons.

The *beels*, rivers and canals of the *haor* areas have varied importance in respect to environmental goods, along with other hydrological and navigation benefits. *Beels* are interconnected by rivers and canals and function as fish migratory route network within the *haor* system as well as with the adjacent rivers. They also act as dry season refuge of many freshwater fish species, as broods/parents of some fish species take shelter in the “*Kums/Dor/Doha*” (naturally created deep scour in the River/Canal bed) of the rivers and canals. In the late dry season or early rainy season, the broods/parents migrate upstream and laterally to the inundated floodplains adjacent to the river channel in order to spawn in the quiet sheltered and nutrient-rich waters. The fries of these fish species are transported passively by the floodwater into the floodplain area, where they feed on the developed plankton. At the end of the rainy season, the adults and young of the year escape to the main rivers, canals and the deeper *beels* to avoid the harsh conditions of the floodplain during dry season. Consequently, protection of these fisheries not only benefits local people, but also all the people in the lower floodplains.

The Ministry of Land (MoL), government of Bangladesh, is responsible for the management of all *beels* except nine *beels* that are privately owned. These government-owned *beels* are leased out as *jalmohals* for revenue generation. One *beel* or a group of

beels/complex (a complex might also include *kandas* and interconnecting canals within it) might comprise a *jalmohal* (Table 2.5). Generally, the size of the *beels* is the indicator of the economic value of each *beel* on which the lease fee is determined by the government; usually larger *beels* have a higher lease fee than smaller ones.

Table 2.5: Sizes of the *Beels* of *Hakaluki Haor*

| Category | Size classes (in hectare) | Number of <i>beels</i> | Area of <i>beels</i> (in hectare) |
|---------------------|---------------------------|------------------------|-----------------------------------|
| Small <i>beels</i> | Up to 1.21 | 63 | 41.71 |
| Medium <i>beels</i> | 1.21-8.10 | 100 | 315.50 |
| Large <i>beels</i> | Above 8.10 | 75 | 4639.50 |
| Total | | 238 | 4996.71 |

Source: CWBMP-DOE-CNRS consortium, 2005

Due to sedimentation (silt carried by mainly the Juri/Kontinala and Sonai/Bordal Rivers from the surrounding hills/watershed area), many of the *beels* have been degrading at various levels. Compared to conditions in 1980, the proportion of degraded *beels* has increased from 10% of the total *beel* areas to more than 75% (Table 2.6), which has caused a steady decline in fisheries resources. All these *beels* are harbours of fishes and other aquatic flora and fauna that create suitable habitats for the production of fisheries resources. The degradation of *beels* has not only caused a decline in the fish production, but also adversely impacted the livelihoods of local communities. Also, anthropogenic activities, such as agriculture, irrigation, and local dam construction, are affecting the ecological process, which, in turn, is hampering the production of resources as well as reducing the economic value of each *beel*.

Table 2.6: Intensity of Degradation of *Beels* of *Hakaluki Haor*

| Degradation rate | No. of <i>beel</i> | Area (in hectare) |
|------------------|--------------------|--------------------|
| 0-10% | 87 | 2388.96 |
| 11-25% | 34 | 712.04 |
| 26-50% | 70 | 1268.13 |
| 51-75% | 25 | 538.24 |
| Above 75% | 22 | 89.34 |
| Total | 238 | 4996.71 |

Source: CNRS, 2002 and interview with CBOs in 2007

As a result of degradation, many *beels* have already been de-listed from the leasing of the MoL. In fact, out of 75 large *beels* (more than 8.10 ha in size) only 36 *beels* or *jalmohals* are currently in the leasing list of the government.

2.3.1.2 Flooded Forests and Reeds

Hakaluki haor is one of the most important habitats of flooded forests (“swamp forests”) among wetlands in Bangladesh. Over the years, most of habitats of flooded forests have been converted into scrub forest, grazing land and agricultural land. However, *Hakaluki haor* contained very dense forests in the past, and now there are some sporadic patches of degraded flooded forests of about 1000 ha, which exist in *Chatla beel* and near the village of Kalikrishnapur of *Hakaluki haor* area.

The flooded forests of *Hakaluki haor* provide numerous tangible and intangible benefits to the local people and to the ecosystem. Local communities depend on the forest for fuel wood, fodder and house-building materials. Flooded forests are also protecting villages and homesteads from wave erosion during the monsoon. These forests are the sources of many life supporting medicinal plants such as *Shotomuli*, *Onontomul*, *Amrul* for local communities. Particularly, poor community members of the *haor* area are highly dependent on these natural sources of medicinal plants for their treatment.

The flooded forests are excellent habitat for fish and wildlife for food and shelter. Their existence around the *beels* can serve as a shelter belt to reduce siltation, early flash floods and soil erosion by retarding and obstructing the strong water current. The branches of *Hijol* (*Barringtonia acutangula*) are used in *beels* and rivers to provide shelter to fish locally known as “*Katha*”. The degradation of flooded forests negatively affects fish and other aquatic resource production; villagers become more vulnerable to wave erosion and the source of livelihoods decreases (Khan 2004). Figure 2.3 provides a snapshot of flooded forest degradation in *Hakaluki haor* area; without immediate attention for conservation of the flooded forests, the ecosystem of the *haor* area will face serious threats of further degradation.

Ecologically, flooded forests are highly resilient. Despite the severe disturbances and stresses, they possess highly self-regenerating potential. For example, the existence of degraded scrub swamp forest with numerous seedlings and coppices from the

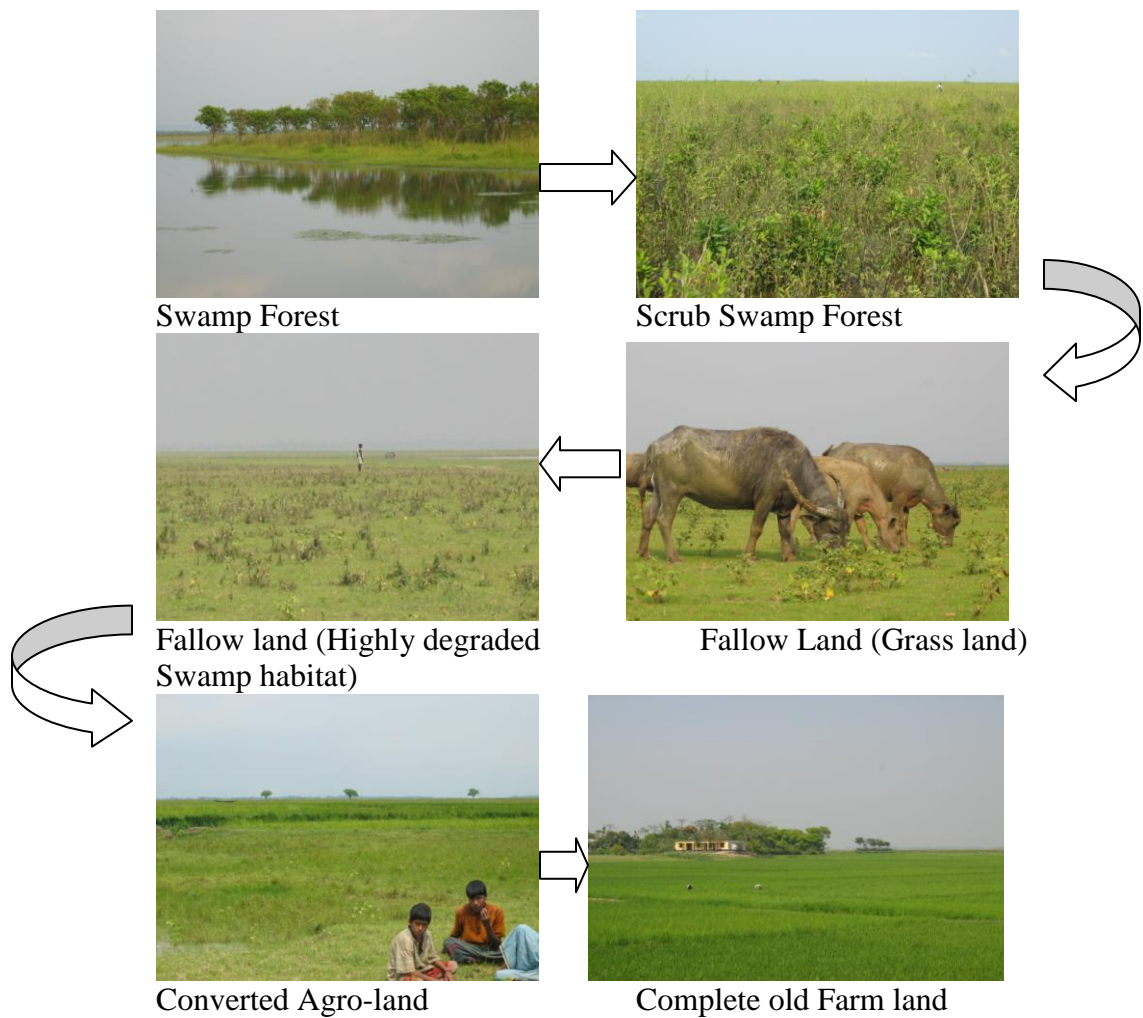


Figure 2.3: Pictorial View of Degradation and Conversion of Flooded (Swamp) Forest into Fallow, Grazing and Agricultural Land in *Hakaluki Haor* (photo by: MH Khan)

remaining stumps of trees clearly indicates the potential for natural restoration. The main tree species of flooded forests are *Hijol* (*Barringtonia acutangula*), *Koroch* (*Pongamia pinnata*), and *Barun* (*Crataeva nurvala*), which have a high potential to regenerate from seedlings and coppices. In the reed land, *Nol* (*Phragmites karka*) is also capable of regeneration from vegetative reproduction under minimum protection from grazing activities.

2.3.1.3 Fishery Resource

Diverse aquatic habitats, i.e. *beels*, rivers, canals, and streams, with a seasonal fluctuation of water regime and connectivity of the *haor* with Kushyara River system, make the *haor* suitable for high fish production and, hence, the *haor* is very rich in fisheries resources. The free flow of water at the early monsoon from Kushyara River to the *haor* facilitates the immigration of fish from the river to the *haor*. Varied depth classes of the *haor* basin provide habitats for young fish to grow larger, adults to grow in maturity and the brood fish to spawn at various suitable habitats. As the country's largest inland freshwater wetland, *Hakaluki haor* is a critical habitat and breeding ground for fish and other aquatic species and is considered as one of only four major "mother fisheries" in Bangladesh (CWBMP-DoE-CNRS Consortium 2005).

A total of 107 fish species have been found in the *Hakaluki haor* area (CNRS, 2002; CWBMP-DoE-CNRS Consortium 2005); among them 32 species are nationally threatened, of which 12 are vulnerable, 16 are endangered and 4 are critically endangered (IUCN Bangladesh 2000). If the present rate of habitat degradation continues, it would accelerate the process of species extinction and the still rich fisheries of the *haor* would collapse in the near future. Four critically endangered fish species belong to the catfish group which requires special ecological conditions, i.e. both the rivers and flooded basins for spawning, nursing and feeding. Thus management issues of *Hakaluki Haor* become so critical for sustaining fishery resources in the *haor* as well as in the lower floodplains.

Most of the villagers in the *haor* area are involved in fishing activities, either for income or food. However, there are two groups, the *mimol* (traditional Muslim fishing community) and the *jaladas* (traditional lower caste Hindu fishing community) of the *haor* area, which are mainly involved as commercial fishers. They also become involved in fish trading activities during post-monsoon to dry season, when lessees establish a strong embargo to fishing in the *jalmohal* territory. They often sell their labour to the lessee at a minimum price to sustain their livelihoods, as they do not have any other employment opportunities during the recession period.

2.3.1.4 Wildlife Resources

Hakaluki haor is one of the globally significant wetland habitats for migratory as well as local waterbirds. A recent survey conducted by the Coastal Wetland Biodiversity Management Project (CWBMP) recorded 558 species of wildlife in *Hakaluki haor* area. These include 12 amphibians, 70 reptiles, 417 birds and 59 mammals. Migratory wildlife includes only 112 species of migratory birds (a detailed report of the survey is available with CWBMP). These wildlife species are facing different levels of threat, as per the “Red List of Threatened Animals of Bangladesh” (IUCN Bangladesh 2000). In *Hakaluki haor*, a total of 99 species of wildlife are threatened, with 26 critically endangered, 40 endangered, and 33 vulnerable (Table 2.7).

Generally, the indirect benefits of wildlife are neither understood nor appreciated by the local communities. Hunting of wildlife, especially waterfowls, is very common in *Hakaluki haor* area. In winter months hunters from various parts of the country often engage themselves in hunting in *Hakaluki haor* area with the help of lessees and local elites. Many poor villagers make their livelihood from hunting of waterfowls. Hunting or killing of wildlife is illegal and a punishable act, however, enforcement of legal measures is not strong enough to stop such illegal activities.

Table 2.7: Status of Threatened Wildlife Species of *Hakaluki Haor*

| Class | Total species | Total threatened | Vulnerable category | Endangered Category | Critically Endangered category |
|-------------------|---------------|------------------|---------------------|---------------------|--------------------------------|
| Amphibians | 12 | 7 | 5 | 2 | - |
| Reptilians | 70 | 43 | 20 | 19 | 4 |
| Aves | 417 | 26 | 2 | 10 | 14 |
| Mammalians | 59 | 23 | 6 | 9 | 8 |
| Total | 558 | 99 | 33 | 40 | 26 |

Source: CWBMP wildlife survey report 2006

2.3.1.5 Land Use Pattern

Broadly, five categories of land use patterns (Fig. 2.4) have been observed in *Hakaluki haor* area, which include waterbodies (15%), flooded/swamp forests (7%), agriculture (48%), fallow land (16%), and settlement (14%). Almost half of the total land area of the *haor* is being used for agricultural purposes, which cause a number of

anthropogenic threats to the *haor* ecosystem. Extensive cultivation of HYV of rice in the *haor* areas demands intensive use of agricultural inputs such as chemical fertilizer, pesticides and irrigation. Intensive use of agro-chemicals is detrimental to the natural ecological production process, especially to fish and other aquatic resources production. Along with irrigation for rice production, ecosystems of the *haor* become vulnerable to maintaining the ecological process. Although flooded forests are considered to be the most significant ecological features for providing food, shelters and suitable habitats for the entire natural production system, they cover only 7% of the total land area of the *haor* and are characterized mainly by scrub swamp forests.

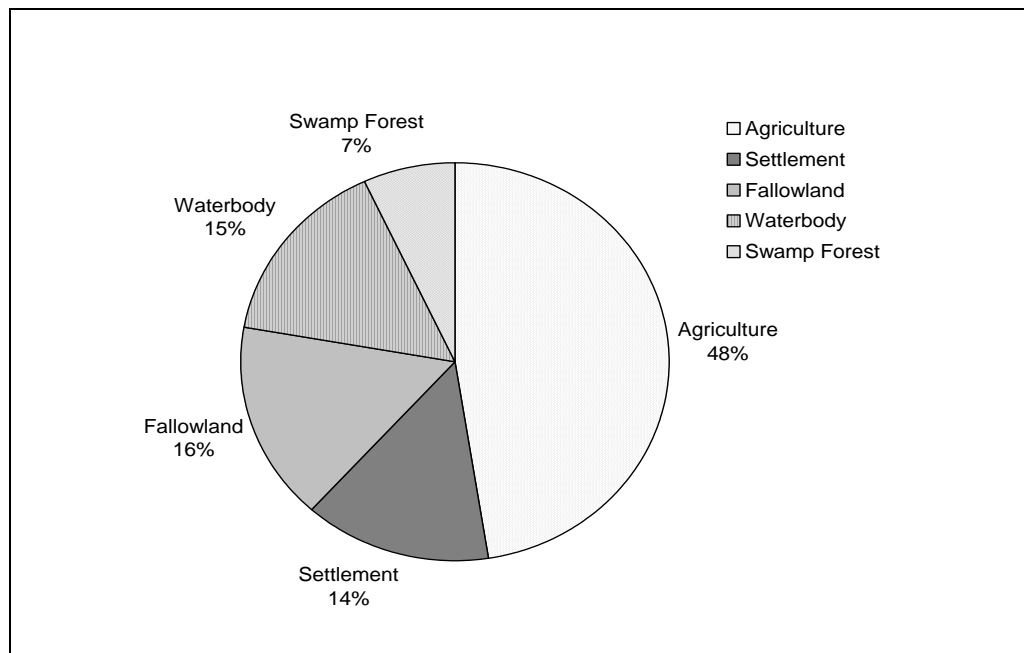


Figure 2.4: Major Land Use Pattern in *Hakaluki Haor* (Source: CWBMP-DOE-CNRS 2005)

Fallow lands are dominated by long grass land; nonetheless, there are sporadic patches of highly degraded swamp forest habitats, where seedling and coppice height rarely reaches knee height of a person. The fringes of the settlement area also have swamp habitats where tall swamp trees are found in association with other homestead vegetation.

2.3.1.6 Settlements and Villages

Like any other parts of the country, the settlements in *Hakaluki haor* exist since time immemorial. There are 253 villages in the *Hakaluki haor* area. Villages surround the *Hakaluki haor* on all sides. The villages have evolved on the banks of rivers and canals and also on hills of the *Hakaluki haor* area.

In the northern parts of the *haor*, the settlements have developed on the banks of the *Kushiara* and *Bordol* Rivers and small canals flowing to the *haor* from the above two rivers. In other parts of the *haor*, settlements have grown up on hills or on foothills in the western side; on banks and around canals and by the sides of roads in the southern side; and on the hills, on banks of canals and on the road or embankments in the eastern side. However, the settlements on the banks of canals and rivers (*Kontinala*, *Juri*, *Rathkhal*, *Bordol*, *Satpur*, and canals towards the *haor* from *Kushiara*) are growing and expanding towards the *haor*.

Some 200,000 people live in the area surrounding *Hakaluki haor* (CWBMP-DoE-CNRS Consortium 2005). Settlements are clustered along its slightly raised fringes to save them from annual flooding in the *Haor* area. *Haor* communities are diverse in their religious faith that include Muslim (76.79%), Hindu (21.86%), Buddhist (1.0%), Christian (0.0021%), Tribal (0.26%) and others (1.0%)¹³. Fisheries and agriculture are the two main livelihoods for local people who live in and around the *haor*. Other livelihood practices supported by *Hakaluki haor* include cattle grazing, non-timber forest product (NTFP) collection, duck rearing, and sand mining.

2.3.1.7 Socio-economic Characteristics of Haor Community

a) *Land holding*: The ownership pattern of land is skewed among the population of the *haor* area. Most of the cultivable land is owned by a small number of rich farming families. Land not owned privately belongs to the government and is located in the more central areas of the *haor* that are prone to flooding. Households surveys conducted in the *haor* area (in which my study villages were also included) in 2002 by CNRS found that 57.8% of the households were landless (landless-1 and landless-2), owning only 4.7% of the lands while 15.1% of households, rich families (medium and large farm categories),

¹³ Calculation based on data from three Upazilla of *Hakaluki haor* area i.e. Barlekha, Juri and Kulaura

own 70.6% of the land in the area (Table 2.8). This highly skewed distribution pattern is representing the significant inequalities in village land ownership.

The average land holding per household varied by category of households except landless-1, as they did not have any cultivable land of their own. The survey showed that on an average, 0.12 ha of lands were owned by landless-2 households, 0.42 ha by a marginal farmer, 0.81 ha by a small farm household, 1.44 ha by the medium farmers and the highest of 3.98 ha by the large farm families in the *haor* area. This disparity of land ownership and distribution is a major cause of the social vulnerability of the poor, as they largely suffer from food insecurity and face hardship in maintaining their livelihood. Ahmed *et al.* (2008) pointed out that ownership positions on the *haor* resources vary amongst villagers in the common property setting which have implications for involving them in management system.

Table 2.8: Ownership of Lands among the Various Categories of Households

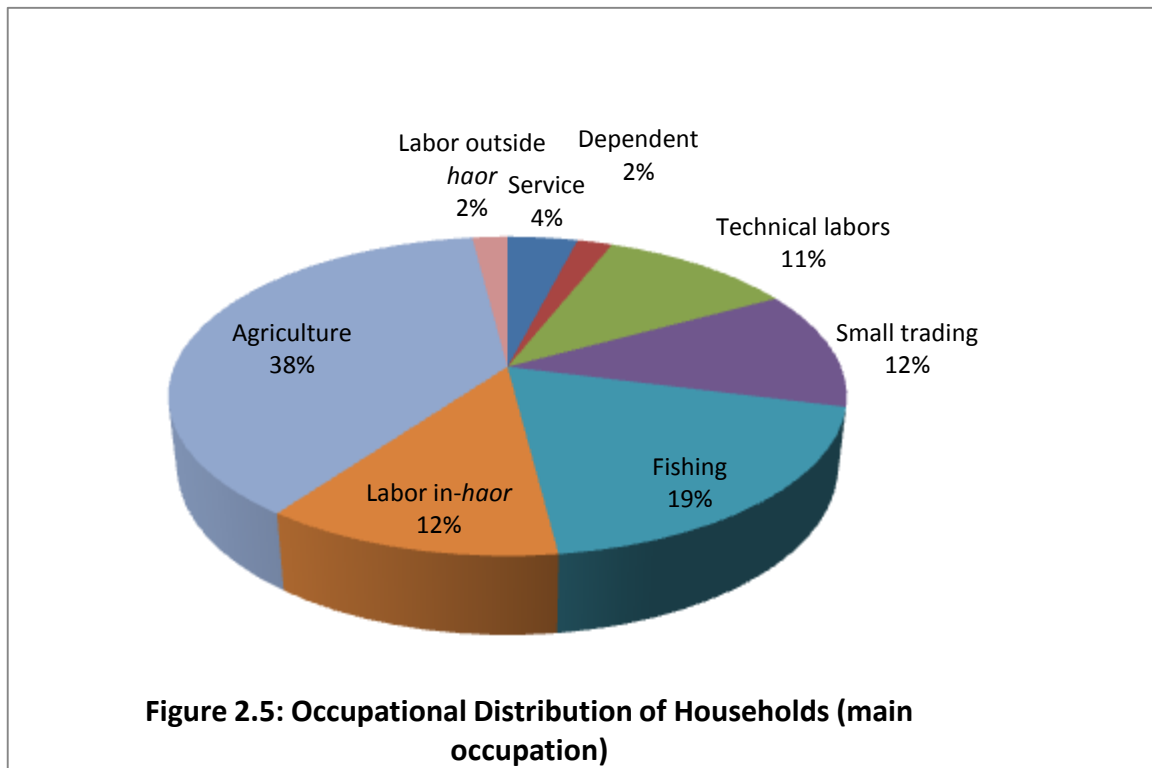
| Types of Households | % of households | Owner of total land (%) |
|---------------------|-----------------|-------------------------|
| Landless (1 and 2) | 57.8 | 4.7 |
| Marginal farmers | 17.8 | 12.0 |
| Small farmers | 9.3 | 12.7 |
| Medium farmers | 5.4 | 11.6 |
| Large farmers | 9.7 | 59.0 |
| Total | 100 | 100 |

Source: CNRS Households Survey Report 2002

Landless-1- meaning they do not have any cultivable land of their own,
 Landless-2 - households having cultivable land of their own up to 0.20 ha,
 Marginal farmers - having land between .021-0.60 ha,
 Small farmers - households having lands between 0.61-1.01 ha,
 Medium farmers – households having lands between 1.02-2.02 ha,
 Large farmers – households having lands above 2.02 ha of land.

b) *Income and occupation:* Analysis of occupation by land ownership shows that the highest percentage of Landless-I is fishermen (37%) followed by laborers (22%), with small business accounting for 17% and farming and other occupations both accounting for approximately 10%. Of Landless-II, fishing and laboring account for 28% and 22% of primary occupations respectively, whilst farming also accounts for 22%. It is also of interest that the Landless categories account for 65% of all fishermen in the area, whilst

they account for nearly 90% of all laborers. Diverse nature of occupational distribution of households of *Hakaluki haor* is shown in Figure 2.5.



2.3.1.8 Legal Status

The Ministry of Land has the sole responsibility for wetland resource management of *Hakaluki haor*, mainly for collecting revenue from *jalmohals* leasing. However, under the *Bangladesh Environment Conservation Act, 1995*, *Hakaluki haor* was declared as an Ecologically Critical Area (ECA) by Ministry of Environment and Forests in 1999. The government prohibits all or any of the following activities therein:

- Harvesting natural forest and tree felling; and mutilating, defacing or destroying objects of natural beauty or objects of interest to cultural communities (of scenic value); and wildlife or game killing, hunting, destroying, disturbing or mere possession of any plants or animals or products derived there from catching or collection of corals, bivalves, turtles and other wildlife destruction or alteration of habitats for flora and fauna
- Conversion of land and any activities that cause the destruction of the natural characteristics of land and water; and any activity that might harm fish and

other aquatic lives; and altering, removing, destroying or defacing boundary marks or signs

- Establishment of industries that might pollute the land, water, air and make noise pollution; dumping any waste products detrimental to the ECAs, or to the plants or animals or inhabitants therein; and leaving in exposed or unsanitary conditions refuse or debris, or depositing them in the ground or in bodies of water; and constructing or maintaining any kind of structure, fences or enclosures, conducting any business enterprise

Provision of penalties: Violation of sub-section (2) of the Act by continuing activities or processes or by initiating activities or processes, prohibited under sub-section (1) of Section 5 in an area declared as an ecologically critical area is liable to “Imprisonment not exceeding 10 years or fine not exceeding 10 lac taka [US\$ 14,400] or both.” The Director General of the Department of Environment is authorized for initiating/taking legal measures against offences in the ECA.

However, declaration of *Hakaluki haor* as an ECA does not necessarily transfer its management authority from the Ministry of Land to the Ministry of Environment and Forests. Leasing of *jalmohals* is being carried out by the Ministry of Land under the Government *Jalmohals* Management Policy-2005. Thus, management of *Hakaluki haor* creates conflict among the concerned ministries and departments in establishing their authority.

I have carried out my research in *Hakaluki haor* area by applying the above stated research methods to address the research goals and objectives. The discussion on the environmental settings of the research site provided an overall status of the *haor* ecosystems and their contributions to the livelihood of the local communities. The analysis of social profile and the distribution of land holdings (Table 2.8 and 2.9) among locals portrayed prevailing asymmetrically distributed socio- economic conditions of the local people. They reveal an overwhelming dependency of poor communities on wetland resources. Both environmental and socio-economic profiles of *Hakaluki haor* area provided the needed background to conduct my field research, and analyze the findings of the study that are presented in the following chapters 3, 4, 5, and 6.

CHAPTER 3

ROLE OF PUBLIC INSTITUTIONS IN WETLAND RESOURCE MANAGEMENT ¹⁴

3.1 Introduction

This chapter focuses on analyzing the characteristics of institutions and their role in wetland resource management, with particular emphasis on historical changes of policy regimes and impacts on traditional resource users. An analysis of the existing management system is provided to offer a critique of the application of the EEF approach to wetland resource management. This chapter also highlights how local resource users have been excluded from their resource use rights within the current policy regime and institutional structures. How the state-governed management approach (SMA) aggravates the marginalization processes and encourages privatization of commons, which often lead to overexploitation and degradation of wetland resources, is also examined. The following discussions further analyze power structures, conflicts and interests amongst the formal institutions at different scales. They also provide an in-depth analysis of the *jalmohals* leasing system, which is an account of the property rights regime and management systems, access to and control over resources, conflicts and the interests of diverse stakeholders.

“After taking big jalmohals from us - we were surviving on the small jalmohals. We have been introduced with fishing there for food and income – we don’t have any more access to these jalmohals. Now these are given to youth society – though they are not fishermen. We are paying money to youth groups for fishing in these jalmohals, we don’t have any choice. Is this a good policy?”

Jatindra Kumar Das, a fisherman from *Hakaluki haor*.

Formal institutions in wetland resource management are structured within the objective of the EEF approaches that constitute the management system of the commons in Bangladesh. The current institutional structure, which was built on colonial objectives, emphasizes solely on maximizing revenue collection from natural resources. The SMA

¹⁴ A version of this chapter was published as ‘Wetland resource management in Bangladesh: Implications for marginalization and vulnerability of local harvesters’. *Environmental Hazards* 9(2010):54-73.

often views the commons as a disorganized system with undefined property rights, and advocates state control to avoid the “tragedy of the commons” (Hardin 1968). This notion created a ground for excluding local resource users from their customary rights. The analysis of the “tragedy of the commons” oversimplifies its argument for justifying government control or rationalizing privatization of the commons (Dietz *et al.* 2003, Feeny *et al.* 1996; Ostrom *et al.* 1999).

Understanding of different types of commons, such as open access, state property, private property and communal property, is important to apply the appropriate management approach (Steins and Edwards 1999). Addressing issues of excludability and subtractability of the commons through privatization or government control fails to capture the importance of involving local resource users in the decision-making process. These systems neither protect the well-being of local resource users nor can they ensure sustainability in resource management. At the operational level, economic efficiency-based SMA presumes bounded and closed economic and social systems and an equilibril environment. It does not consider the economic, social and ecological worlds as being open, dynamic and constantly subject to change (Mehta *et al.* 1999). It also fails to understand commons management as the management of a complex adaptive system that must address critical issues of scale or level, uncertainty and change (Berkes 2006; Berkes *et al.* 2003; Gunderson and Holling 2002).

However, both formal and informal institutions are critical and play key roles in natural resource management by facilitating or constraining resource users’ access to and control over resources and the allocation of benefits. The ability of the local communities to create and to enforce rules in resource management makes it necessary to engage local resource users for effective governance, and may facilitate institutional arrangements to address issues related to the marginalization of local resource users (Agrawal 2001; Agrawal 2002; Berkes 2006; Folke *et al.* 2003; Ostrom *et al.* 2002).

3.2 Evolution of Wetland Management Approach in Bangladesh

Bangladesh is endowed with many diverse and complex wetland ecosystems which are rich and possess global significance. The importance of wetlands, considering

their environmental goods and services, is enormous in terms of their contribution to GDP. The fisheries sector alone provides 60 per cent of the requirements of dietary protein of the rural communities, which account for more than 4.57 per cent of the national Gross Domestic Product (GDP) (BBS 2009). In terms of the creation of employment opportunities, this sector directly employs more than 1.2 million people and indirectly supports another 11 million people in fisheries-related activities, which is 9 per cent of employment in the country (Department of Fisheries 2003). Several state agencies are involved in wetland resource management with various policy objectives and compete with each other to establish their own domain and authority. Each institution is designed to manage a single resource, which ignores the importance of complex social-ecological systems and interconnectivity of resources and resource users, and profoundly affects the sustainability of resources as well as social-ecological resilience. The main responsibility of the formal institutions is to control access to resources and ensure payment of rent by the potential resource users to the state. In this regard, the state agencies do not necessarily pay much attention to the impacts of commercialization of *jalmohals* on local resource users as well as on the health of ecosystems.

3.2.1 Changes in Management Regime: Whose Benefit Counts?

The natural resource management approaches in the territory now constituting Bangladesh have undergone some significant transformations from the pre-British Era until recent times. Generally, a change in the political regime renews interest in the relationships between redistribution, growth, and welfare in which natural resources have become part. The formulation of any new public policy or change of any existing policy imposes varying amounts of costs and benefits on different sections of a society. For instance, the introduction of land reform policy¹⁵ in the developing countries like Bangladesh is often aimed at facilitating and improving the access to land by the local poor communities. However, their effectiveness has often been hindered by policy constraints on implementation and failed to achieve the objectives of the policy. It is therefore critical to analyze the nature and characteristics of wetland management policy

¹⁵ The land management policy includes all natural resources including land. The main objective of land management policy is to maximize revenue collection from land as well as other natural resources. Wetland management is an integral part of land reform policy as the former is a part of natural resource management in Bangladesh.

regimes, particularly in light of the implications for the sustainable livelihoods of the citizens, their vulnerability, and the sustainability of local ecosystems.

3.2.1.1 British colonial regime

Since the Mughol period, land and other natural resources have been used as sources of revenue collection for the government. British rule in India introduced a permanent land revenue system which, over time, became widely known as the *Zamindari*¹⁶ system (the Permanent Settlement Act 1793). According to the Act, the customary right to hold hereditary land was subject to the regular payment of rent, but this right could not be transferred in any form. This Act thus restricted the local people's access rights relating to the land and natural resources (Table 3.1). The colonial rulers created a local elite group called *Zamindars*, who were merely possessors of proprietary right in the collection of rent from land and water within their estates until the introduction of the permanent settlement in 1793. *Zamindars* acted as intermediaries between the rulers and the cultivators (peasants) for transferring revenue from resource users to the exchequer of the government.

The *Zamindari* system was initiated by the far-flung Subah (province) of Bengal under the Todarmal Settlement in 1582, which continued till 1658. In the mid-17th century some vigour was put into it by the revenue settlement of Subahdar Shah Shuja, followed by the Subahdar Murshid Quli's mal-zamini (land revenue) system in 1722. To ensure timely revenue collection, Murshid Quli divided the Bengal Subah (province) into 13 *Chaklas* (administrative divisions) and positioned *zamindars* to maximize revenue for the government (Gadhwali and Lal 2008). The process of change from revenue managers to landlords was complete by the middle of the 18th century.

The *Zamindari* system was thus first introduced by the Mughal regime to ensure proper tax collection from peasants as well as to conduct certain state functions within their jurisdictions. The Mughal rulers established the *zamindari* system with different kinds of landholdings, rights and responsibilities, ranging from the autonomous or

¹⁶ The term is derived from the Persian word 'zamin' or land, and 'dar', which is an inflexion of the verb 'dashtan,' denoting to have, hold or possess.

Table 3.1 Major Policy Shifts and Impacts in Wetland Resource Management in Bangladesh

| Management regime | Management initiatives | Objective | Outcome | Impacts |
|---|--|---|---|---|
| Pre-colonial period (before 1757) | No specific management measures | Resource exploitation through customary rights | <ul style="list-style-type: none"> No report of resource degradation No scarcity of resources | Informal institutions were active through the customary system for resource management |
| Colonial period (1757-1947) | The Permanent Settlement Act 1793 | Controlling natural resources through <i>Zaminders</i> (feudal lords) for revenue collection | <ul style="list-style-type: none"> Ensure rent from natural resources Long-term lease agreement | <ul style="list-style-type: none"> Rent seeking No initiatives for resource conservation No equitable distribution of resources |
| Pre-independence period (1947-1971) | The East Bengal State Acquisition and Tenancy Act (EBSATA), 1950 | <ul style="list-style-type: none"> Abolition of <i>Zamindari</i> system Ensure state ownership of natural resources | <ul style="list-style-type: none"> The MoL emerged as the authorized agency for wetland resources Revenue generation from natural resources | <ul style="list-style-type: none"> Change in the property rights <i>Zaminders</i> replaced by the MoL |
| | The Fish Conservation Act, 1950 | Conservation of fish species and their habitats | <ul style="list-style-type: none"> Ban on using certain fishing gears Restriction on catching brood fish and juveniles from natural sources | <ul style="list-style-type: none"> Periodic leasing with increased lease fee Weak capacity of the DoF to enforce the Act. No visible impact on conservation |
| Post-Independence period (1971- to present day) | Continuation of The East Bengal State Acquisition and Tenancy Act (EBSATA), 1950 | Exercise state power on the ownership of natural resources | The MoL holds absolute power to collect revenue from wetland resources | <ul style="list-style-type: none"> No tangible change in the management of wetland resources Continuation of old leasing system for revenue collection |
| | Licensing system of <i>Jalmohals</i> management in 1973 | Lease out of <i>Jalmohals</i> through annual license system to registered FCS | Management lies with district and sub-divisional administration on behalf of the MoL | <ul style="list-style-type: none"> It initially appeared as pro-fishermen system, however, through corrupt practice it became a system dominated by vested groups. Poor and unregistered genuine fishers excluded by the license system |
| | The Local Government | Involvement of locally elected | Transfer of the management of | <ul style="list-style-type: none"> No specific guideline for management |

| Management regime | Management initiatives | Objective | Outcome | Impacts |
|-------------------|--|---|---|---|
| | (<i>Union Parishad</i>) Ordinance, 1983 | representative in development initiatives | small waterbodies (less than 0.81 ha in size) to <i>Union Parishad</i> | <ul style="list-style-type: none"> Collection of lease fee through <i>Union Parishad</i> |
| | Transfer of <i>Jalmohals</i> to <i>Upazila Parishad</i> (Sub-district) in 1984 | Decentralization /sharing of central authority with local government | Management of <i>Jalmohals</i> with areas between 1.21 and 8.10 ha in size transferred to <i>Upazila Parishad</i> | <ul style="list-style-type: none"> Collection of lease fee continues Restricted leasing among registered FCS Creation of vested groups among fishers and middlemen |
| | The New Fisheries Management Policy (NFMP), 1986 | Sharing of Management of <i>jalmohals</i> between the MoL and the DoF | <ul style="list-style-type: none"> License system for genuine fishers Involve fishers' association in selection process Recognition of resource rights of fishermen | <ul style="list-style-type: none"> Transfer of insignificant number of <i>jalmohals</i> to the DoF Annual increase of lease fee Weak institutional capacity of the DoF failed to bring any success to this system |
| | National Fisheries Policy (NFP) 1998 | Enhanced fish production; poverty alleviation of fishers; supplement national economic growth from fishery resource | <ul style="list-style-type: none"> Enhanced production More commercialization of <i>jalmohals</i> Limited measures of resource conservation | <ul style="list-style-type: none"> Failed to establish ownership on <i>jalmohals</i> by the DoF Increased privatization of <i>jalmohals</i> Over exploitation of resources to supplement national revenue |
| | The Government <i>Jalmohals</i> Management Policy, 2005 | Sharing of management responsibility with a number of government agencies | <ul style="list-style-type: none"> Transfer of <i>jalmohals</i> (up to 8.10 ha in size) to the Ministry of Youth and Sports (MoYS) Transfer of limited number of <i>Jalmohals</i> to the DoF and the MoEF for implementing development projects | <ul style="list-style-type: none"> Shifting of benefits from poor fishers to political agents Community-based wetland management approach practiced and lessons learnt Scope for CBO formation Partnership with non-governmental organizations Sign of conservation commitment by the government |
| | The Government <i>Jalmohals</i> Management Policy, 2009 | To ensure leasing of <i>jalmohals</i> to FCS of genuine fishers | <ul style="list-style-type: none"> Returning of 8.10 ha size <i>jalmohals</i> from the MoYS under the MoL Inclusion of two | <ul style="list-style-type: none"> Willingness of the government for providing benefits to genuine fishers Selection of members from genuine fishers |

| Management regime | Management initiatives | Objective | Outcome | Impacts |
|-------------------|------------------------|-----------|--|---|
| | | | members from registered FCS in District <i>Jalmohal</i> (Wetland) Management Committee and <i>Upazila Jalmohal</i> (Wetland) Management Committee <ul style="list-style-type: none"> All members of FCSs must be from genuine fishers community to be eligible in the leasing process | for the management committees lies with bureaucratic decisions <ul style="list-style-type: none"> Certification of FCS comprising of genuine fishers and its effective operation lies with bureaucratic decision Problem of allocation of resource-rich and resource-poor <i>jalmohals</i> Existing communication methods for bidding process would fail to reach target stakeholders Returning of 8.10 ha size <i>jalmohals</i> from MoYS to the MoL would emphasis revenue collection of the government, not well-being of the poor fishers |

semi-autonomous chieftains to the peasant-proprietors. *Zaminders* were responsible to perform certain law and order, and military duties, in addition to their tax collection tasks. *Zaminders*, as a part of the Mughal Empire, were authorized to establish *Zamindari Adalat* (court) to conduct local judicial activities within their estates. In fact, the judicial power which essentially made them the lords of their domains helped them to serve the Mughals, specifically to maximize revenue collection.

By the *Zamindari* system all lands were brought under their control and a system was implemented for collecting taxes from the peasants for the British rulers (keeping a portion for themselves). Under this system of land settlement, those who agreed to pay a fixed sum of land revenue regularly to the British rulers were made the owners of demarcated lands. *Zamindars* were authorized to determine the tax on land and payment system without taking any consideration of the economic ability of peasants. *Zamindars*, as beneficiaries of the British rulers, created one of the worst exploitative land revenue collective systems in India (in which Bengal was a part as an Indian province), which

cemented the feudal socio-economic system further. *Zamindars* became staunch supporters of British rule in India, as they were the greatest beneficiaries of the British rulers (Gadhwali and Lal 2008).

However, abolition of *Zamindari* systems was one of the popular demands of the general masses during the independence movement of India (pre-1947) in order to establish the access of local people and their rights on land. In response, the Congress Party¹⁷ declared the abolition of the *Zamindari* system as one of their promises of the Indian independence movement. After independence, the colonial *Zamindari* system was abolished with the enactment of the East Bengal State Acquisition and Tenancy Act (EBSATA), 1950.

3.2.1.2 Post-independent Bangladesh regime

There have been no significant tangible changes in the natural resource management approach since the independence of the country (as East Pakistan in 1947 and as Bangladesh in 1971). The country has maintained a similar kind of legal regime in its natural resource management approach to facilitate revenue-oriented state policy. After the independence of Bangladesh in 1971, by separating from Pakistan, a number of initiatives have been taken by the government to find an appropriate management approach for wetland resources without compromising the objective of maximizing revenue (Table 3.1). A provision was made for the Ministry of Land (MoL), as the authorized governmental agency, to lease out all *jalmohals* to the highest bidders.

The present management system follows a so-called “open highest bidding” system to ensure the highest rent from *jalmohals* (fishery estates), which provides opportunities to financially capable locals or outsiders, non-fishers, to take control over *jalmohals* by paying the highest lease fee to the government. This system precludes local communities, specifically poor fishermen, from their access and rights to fishing.

My field investigation determined many issues and problems associated with such an open bidding system which adversely affects the access rights of local resource users. These include, but are not limited to the following: i) Generally, leaseholders are non-

¹⁷ The Congress Party led the Indian independence movement and mobilized general masses against the British rulers.

locals and they usually sub-lease the *jalmohals* to richer groups of the fishing community. This system thus creates several layers of intermediaries that force genuine fishers to pay a higher rent in order to get access to fishing in the *jalmohals*. ii) The short-term leasing period (1 to 3 years) compels leaseholders to maximize their profit within the leasing period by using all kinds of destructive fishing methods. iii) The high lease fee eliminates genuine fishers from accessing *jalmohals* and compels them to get involved in other occupations. iv) A considerable number of litigations centered on *jalmohals* management have taken place due to conflicts among leaseholders and fishers. v) The jurisdictional empowerment of the MoL by the EBSATA, 1950 challenges the local authorities and undermines the capacity of other government agencies, particularly the Ministry of Fisheries and Animal Resources (MoFAR), the Ministry of Environment and Forests (MoEF), and the Ministry of Water Resources (MoWR) and functions as a hindrance against implementing the mandate of other government agencies in natural resource management (Table 3.1).

3.2.1.2.1 Licensing system concerning jalmohals

The licensing system was first introduced in 1973 to ensure fishing rights to genuine fishermen whose livelihood depended mainly on fishing. Licensing was also restricted only to registered fishermen cooperative societies (FCSs), which left non-registered poor fishers out of the system. Licensing procedures required meeting certain conditions to lease out *jalmohals* to genuine fishers' cooperatives. These included:

- Consultation with FCSs before leasing and priority had to be given to the primary societies;
- A one-year leasing period for open fisheries and three-year leasing period for closed fisheries. An extension of the leasing period might be allowed to closed fisheries, if they undertook development work for the *jalmohals*.
- Two government committees (one at the district level and one at the sub-division level) administered the procedure in which two representatives of fishermen and two representatives of farmers should be included. The Sub-Divisional Committee was responsible for identifying genuine fishermen and leasing out the *jalmohals* to them, while the District Committee was responsible for, a) hearing of appeals, if any, against

decisions made by the Sub-Divisional Committee on leasing of *jalmohals*,
b) leasing out of *jalmohals* in those areas covering more than one sub-division.

- Lease fee should not be more than 10% above the last three years' average income from a *jalmohal* or the last year's income (whichever was higher).
- License should be given to the highest bidder in the absence of genuine FCSs.

Strengths and Shortcomings of Licensing System:

The licensing system was found to be very effective for engaging genuine fishers in *jalmohals* management initially and became quite popular among the fisher communities (Naqi 1989). However, with the passage of time, there were serious complaints against the practice of licensing that undermined the overall licensing system. The FCSs were dominated by the rich fishermen, non-fishermen traders, investors, local elites, *jotdars* (local moneyed men), and political touts. The leasing committees were unable to perform their duty to select genuine fishermen cooperatives due to high political interference. The management of *jalmohals* varied according to the size of *jalmohals* to achieve specific objectives of resource management. *Jalmohals* less than 1.21 ha were under *Union Parishad* (local government body) to lease out among poor fishers of the concerned area. But, in reality, supporters of the Chairmen of the concerned *Union Parishad* were usually chosen by the authority. *Jalmohals* up to 8.10 ha in size and under the Ministry of Youth and Sports were restricted to leasing to the local registered youth association. Youth associations, those directly involved with the political party of the present government, got preference in the selection process. *Jalmohals* larger than 8.10 ha and under the Ministry of Land were subject to the lease process administered by the District *Jalmohals* Management Committee, in which financially and politically powerful groups and/or individuals influenced management decisions to capture *jalmohals*. Also, leasing authorities were involved in financial malpractices and sabotaged the licensing system to bring back the 'open bidding leasing system' for *jalmohals* management (Siddiqui 1989). Generally, license fees were determined on the basis of each type of gear and it was expected that fishers would use that particular gear on which they had been issued a license. But in practice once a fisherman obtained a

license he was at liberty to use any kind of gear in any place of the *jalmohal*. Illegal fishing by outsider powerful groups significantly decreased the income of licensed fishermen, which also created serious conflicts among the fishers and local elites (Naqi 1989; Rahman 1989; Siddiqui 1989).

Due to the shortage of human resources, the DoF could not monitor illegal fishing and this incapacity provided scope for outsiders to fish in fishery estates. For example, during 1986-1988, in the *Padma-Jamuna* fishery at least 15 fixed engines with nets (*thoga jals*) were operating during the dry season by outsiders without any license (Naqi 1989). In *Narisha-Padma* fishery, many unlicensed fishermen operated their fishing activities, which affected licensed fishermen in carrying out their fishing activities. In contrast, in some areas such as *Kanglar haor* licensed fishermen were able to organize themselves to protect their fishery from fishing by unlicensed fishermen as they placed their own guards on the fishing ground and organized schedules for fishing activities. They also established a system for subsistence fishing by local poor fishermen at the periphery of the *jalmohal* in order to minimize conflicts with unlicensed fishermen (Naqi 1989). The DoF was involved in this process of organizing licensed fishermen to protect *Kanglar haor* from fishing by unlicensed fishermen and to provide limited scope for fishing to poor unlicensed fishermen. Considering the present strength of the DoF, it is not possible for them to implement an effective monitoring system and to protect large water-bodies without the direct involvement of local fishermen.

The practice followed by the MoL has been to pursue a competitive leasing system to maximize the collection of revenue. Huda (2003) registered that shortly after Independence in 1971 there were attempts to make provisions for fishing, but the only change then was in 1974, when leasing was directed to registered fisher cooperatives. Such a licensing system continued until 1976, when ‘restricted leasing’¹⁸ was introduced in *jalmohals* management (Table 3.1).

3.2.1.2.2 Restricted leasing system

The authority to manage *jalmohals* was transferred from the Ministry of Land (MoL) to the Ministry of Fisheries and Animal Resources (MoFAR) in 1980. The MoFAR practiced two systems of *Jalmohals* leasing: i) restricted leasing among the

¹⁸ Restricted leasing – leasing to the highest bidder among the registered fishermen cooperatives.

registered FCSs, and ii) direct negotiation with organizations and/or individuals. Under the restricted leasing system, bidding for *jalmohlas* was open only to the registered FCSs. As a consequence, most of the poor fishermen who were less organized and failed to form and register as FCSs were excluded from the leasing process. In direct negotiation, only elites and powerful organizations benefited from the system, as they had easy access to and successfully made alliance with the government agencies or the high government officials.

The restricted leasing system continued until 1983, when the management authority of *jalmohals* was transferred back to the MoL. After the creation of the *Upazila* system¹⁹, the management of *jalmohals*, ranging from 1.21 to 8.10 ha, was transferred to *Upazila Parishads* (sub-district council) in 1984, with the condition that *Upazila Parishads* had to follow the restricted lease system. *Upazila Parishads* also failed to overcome the influence of vested interest groups in leasing out *jalmohals* to genuine fishermen. Lack of monitoring from the central authority failed to ascertain the effect of the restricted leasing system on genuine²⁰ fishermen.

3.2.1.2.3 The *Jalmohals* (Wetlands) Management Policies, 1986 - 2005

The New Fishery Management Policy (NFMP), 1986 and the National Fisheries Policy, 1998 were formulated with goals to facilitate and ensure benefits to the genuine fishers (Huda 2003). They failed largely due to the Department of Fishery's (DoF) limited legal entitlement, institutional incapacity and lack of resources. In the process, non-local elite groups took advantage of the new policies. With the objective of decentralizing the system, the *Jalmohals* Management Policy was introduced in 2005 and was thought to be a major breakthrough in wetland resource management. The policy attempted to widen the scope of diverse institutions involved legally in wetland resource management. The decentralization of the management authority from the MoL facilitated the engagement of different institutions in resource management. As a result, the range of institutions involved in the management system included *Union Parishad* (local

¹⁹ The whole country was administratively divided into 460 *Upazila* to decentralize power and development activities from the central government to local government. Each *Upazila* was headed by an elected public representative and was authorized to take certain administrative decisions on development activities.

²⁰ The "Government *Jalmohals* Management Policy 2009" define that genuine fisherman are those whose livelihood mainly depend on fishing from natural sources.

government), *Upazila* (sub-district), District & Divisional Administration, departments and ministries.

The MoL transferred *jalmohals* less than 8.10 ha in size to the Ministry of Youths and Sports (MoYS) in 1977 to engage local youths and provide them employment opportunities. Since 2000, under the framework of the Memorandum of Understanding (MOU) between the two ministries to work together for a period of 10 years, a limited number of *jalmohals* were transferred to the DoF to manage under development initiatives through the co-management/community-based approach. One large *jalmohal*, i.e. *Tanguar Haor*, which is also a Ramsar site, was transferred to the MoEF for biodiversity conservation by involving the local community. However, the MOU did not provide a waiver on the lease fee, and responsible institutions had to ensure payment of the lease fee to the MoL.

Under the policy, the district administration was solely responsible for leasing out all *jalmohals* of more than 8.10 ha in size (Table 3.2). The *jalmohals* should be leased out to the highest bidder among the registered FCSs for a period of three years. In order to determine the minimum lease fee for the bidding process, the lease fee increased by 15 per cent over the previous lease value. If the fishermen cooperatives failed to fulfill these financial conditions, a fresh bidding process was supposed to be open for all to participate in the auction of *jalmohals*. Successful lessees had to pay the first-year lease fee in full within 7 days to the government account. Any failure in depositing the lease fee was considered as a punishable act and the total application fee (5 per cent of the bid amount), which was submitted along with the bid, was forfeited. Sub-leasing of *jalmohals* by any lessees was strictly prohibited and a punishable act that could lead to cancellation of the lease.

However, changes in wetland resource management policy under various regimes mainly followed SMA and pursued EEF objectives that ignored the aspects of equity and social well-being of the poor and disadvantaged members of the communities (Table 3.1). Also, the practices in wetland administration to collect revenues have not encouraged long-term sustainable returns to the national economy.

Table 3.2: Management of *Jalmohals* under “the Government *Jalmohal* (Wetland) Management Policy 2005”

| Size of <i>Jalmohal/Beel</i> (in hectare) | Management Authority | Potential Lessee | Leasing System | Management objective | Observation |
|---|--|---|--|--|---|
| Less than 1.21 | <i>Jalmohals</i> transferred to <i>Union Parishad</i> | Local poor fishers group | Selection of groups by <i>Union Parishad</i> | Livelihood support to poor fishers | -Small <i>jalmohals</i> were generally degraded and less resources available -No significant impact on livelihood |
| Up to 8.10 | <i>Jalmohals</i> transferred to the Ministry of Youths and Sports. <i>Jalmohals</i> management lies with <i>Upazila Jalmohal</i> (Wetland) Management Committee, under <i>Upazila Administration</i> | Local registered youth association | Restricted leasing system among local youth associations | Employment generation for local youths | -Political activists benefited -Total exclusion of local poor fishers from small <i>jalmohals</i> -Sub-lease of <i>jalmohals</i> -Serious impact on poor local fishers |
| More than 8.10 | District <i>Jalmohal</i> (Wetland) Management Committee under District Administration | -Fishermen cooperatives /association -Open to any body (if the first round bidding process unable to select fishermen cooperative) | Open bidding system | Maximization of revenue earning | -High exploitation by lessee to ensure profit -No conservation measures -No access to resources by local communities -Annual increase of lease fee -Sub-lease of <i>jalmohals</i> |

Since 1996, a shift in the state policies of Bangladesh on wetland and fisheries allowed the carrying out of experiments with the community-based management approach by means of NGOs. The details of two such experimental projects on wetland management were illustrated by Sultana and Thompson (2010); it was helpful to compare my findings with theirs on wetland management. With support from the DoF and the WorldFish Centre, and funding from the Ford Foundation and the UK Department of International Development, Community Based Fisheries Management (CBFM) ideas were the subject of an experiment during 1996-2007 in 18 sites of Bangladesh. The goals included the improvement of fishery management through community organization and conservation measures, complemented by micro-credit for alternative livelihoods. Later

(2003-2005), the scope was enlarged by linking these projects with an integrated floodplain management (IFM) approach. An important finding of the CBFM and IFM projects is that in similar scale resource areas, where the involvement of public funds is nominal, domination by elites and other vested interests is limited (Sultana and Thompson 2010). Also, the complementary micro-credit program and the introduction of new knowledge and training concerning innovative agronomical options brought about direct benefits to members of the new CBOs.

Apart from the development initiatives of CBNRM, the existing formal management regimes have shown very limited effectiveness in governing resource access by poor fishermen and in improving their livelihood. Overall, access to and control over resources are still being influenced by the powerful elites, middlemen, and investors. However, considering the complexities in wetland management and paucity in institutional capacity, under various development project initiatives, the DoF progressively supports and facilitates co-management and community-based management approaches as means of sustainable management of wetland resources. Cumulatively gathered experience and lessons learned from community-based management in *Hakaluki haor* are critically reviewed and analyzed in the following chapter (Chapter 4) by assessing three different projects, namely i) Sustainable Environment Management Program (SEMP), ii) Community Based Fishery Management (CBFM), and iii) Coastal Wetland Biodiversity Management Program (CWBMP).

3.2.1.2.4 The Jalmohals (Wetlands) Management Policy, 2009

There was a shift in *jalmohals* management policy when the present government came into power in 2009. The *Jalmohals* (Wetland) Management Policy was enacted in 2009 with an intention to ensure leasing of *jalmohals* to FCSs of genuine fishers. Provisions had been made for the inclusion of two members from registered FCSs in the *Upazila* as well as District *Jalmohal* Management Committees to represent poor fisher communities in the leasing process. Also, the policy indicated that FCSs must be formed by genuine fishers to be eligible in the leasing process.

However, there were limitations of the policy, which included the following: i) as the selection of representatives of genuine fishers in the *Upazila* and District *Jalmohals* Management Committees will be carried out by bureaucratic decision, not by fishers'

community, there could be bias and/or manipulation in the implementation of this article, and ii) as many poor fishers are not organized as registered FCS, they would be excluded from the leasing process. The policy shift, thus, did not actually change the revenue aspects of the leasing system as it kept the same structure of lease fee and collection methods that were stipulated in the *jalmohals* management policy-2005. Without significant changes in lease fee and collection methods, it would not ease the financial burden of local poor fishers to engage in the leasing process (i.e. application fee, 20% of quoted lease fee with application and upfront payment of the lease fee as successful lessee), particularly in resource-rich *jalmohals* where the lease fee is high. The 2009 policy did not emphasize the involvement of the DoF in the management of *jalmohals*, as all *jalmohals* up to 8.10 ha were returned back to the MoL from the MoYS.

3.2.1.2.5 Recent Policy Development in NRM

In June 2011, the Bangladesh parliament has passed the 15th amendment to the constitution in which it brings access and rights of local resource users on the commons. It is a significant development in natural resource management in the history of the country, as access and rights of local users has been recognized in the supreme statutory document. Implementation of this policy in NRM, however is a real challenge for traditionally structured top-down, centralized, command and control state-governed management approach in which local resource users are not seen as legitimate stakeholders. Thus, transformation in the present natural resource management structure is critical to ground this policy at the operational level by which local resource users can be assured of their access and rights on the commons.

3.2.2 Institutional Constraints and Conflicts in Wetland Resource Management

The active presence of diverse institutions in wetlands has made the management process of natural resources complicated and generated multifaceted conflicts among resource users and managers (Table 3.3). It was observed that from national level to field level government institutions, the same set of management systems following the EEF approaches is being pursued. Government institutions operating in wetland resource management are using the same types of tools: i) national level policy formulation, and ii) field level implementation.

Policy objectives are generally framed in the National Development Plan (i.e. Five Year Plan, Poverty Reduction Strategy Papers, and Perspective Plan) at the national level and are channelized and implemented through regional and field level government institutions. National level institutions (ministries, departments and directorates) frame policy objectives within their highly structured ‘allocation of business’²¹, having nominal or no communication and/or feedback from the implementing agencies working at the field level. The planning processes for developing policy objectives and development initiatives do not consider field level needs and demands to establish effective linkages among stakeholders to address critical issues at the field level. In contrast, field level institutions maintain routine communications with higher levels as part of their official obligation, and to draw attention from national level institutions to local issues.

As noted above, the involvement of diverse institutions, without having any coordination among them, often creates complexities and conflicts in the management system. During focus group discussions, key informant interviews, discussion meetings and workshops, multidimensional conflicts, lack of an integrated approach, jurisdictional overlapping and inconsistencies in management decisions, and institutional disagreements were identified (Table 3.3). These features are not confined only to the field level organizations; rather, ‘tug of war’ among institutions was even more visible at the higher levels.

According to ‘the allocation of business’ of the government, the DoF is exclusively responsible for the management of fishery resources to achieve national objectives within the set of rules and regulations, though the management authority of land resources, including *jalmohals*, is with the MoL. Likewise, the Department of Environment is solely responsible for the management of other natural resources, having no authority over land resources. Several other government agencies, such as the Ministry of Agriculture and Department of Agriculture Extension, the Ministry of Water Resources and Water Development Board, the Ministry of Local Government and Rural Development, and the Ministry of Youths and Sports, are involved in wetland resources

²¹ The allocation of Business- the government has very specific job distributions among government agencies. By law all government institutions are assigned to perform their duties and responsibilities as per with the allocation of business, unless directives are given to the institution by the government.

Table 3.3: Institutional Conflicts over Wetland Management Issues

| Institution | Conflicts in resource management |
|---|--|
| Ministry of Land; District and <i>Upazila</i> Administration (revenue section) | <ul style="list-style-type: none"> -Sharing and decentralization of management authority with formal and informal institutions -High interest in supporting powerful lessees rather than fishermen groups through corrupt practice -Lack of accountability and transparency in management decision-making process |
| Ministry of Fisheries and Animal Resources; Department of Fisheries | <ul style="list-style-type: none"> -Ownership of <i>jalmohals/beels</i> attached to the MoL -Rent seeking objective of the MoL undermines conservation and facilitates overexploitation of resources -Insignificant involvement of DoF in decision-making process of <i>jalmohals</i> lease -Priority of sustainability of fishery resources discounted by rent seeking -Fail to emphasize the importance of community involvement in <i>jalmohals</i> management at the policy level -Weak institutional capacity to influence policy objective at national level |
| Ministry of Youth and Sports | <ul style="list-style-type: none"> -Used by political activists to divert benefit from wetland resources -Lack of institutional capacity to monitor impact on employment generation among youth groups -Fail to stop sub-leasing of <i>jalmohals/beels</i> under their management -Faulty and corrupt registration process of youth association fail to identify genuine potential youth groups |
| Ministry of Agriculture; Department of Agriculture Extension | <ul style="list-style-type: none"> -Conversion of wetland habitat for crop production -Cultivation of High Yielding Variety intensify use of pesticides and chemical fertilizer that leads to pollution of wetlands -Incentives for agriculture production mainly through allotment of government land to farmers -More emphasis on crop production than fishery in national policy |
| Ministry of Environment and Forest; Department of Environment; Department of Forest | <ul style="list-style-type: none"> -Weak institutional capacity to enforce environmental rules and regulations -Less priority on environmental issues in national planning process -Not included in decision-making process of wetland resource management at any level -Limited compliance of international commitment toward environmental conservation |
| Ministry of Water Resources; Water Development Board | <ul style="list-style-type: none"> -Diverting water for irrigation that leads to fish habitat destruction -Flood control measures lead to impact on ecological process of wetland ecosystem -Blockage in fish migration route lead to depletion in fish stock |

management and are actively involved in the implementation of development initiatives without having any authority over land resource per se.

Institutional multiplicity in the wetland management arena thus has created inter-agencies constraints, confusion, and conflicts that have severely impacted the objectives of sustainable management and of ensuring the welfare of the poor members of the rural communities (Table 3.3). For instance, fishery resource management strategies have been

implemented at three administrative levels: i) larger *jalmohals* (more than 8.10 ha) are leased out for commercial exploitation by district administration with a delegated power from the MoL, ii) *Jalmohals* between 1.21 to 8.10 ha fall under the Ministry of Youths and Sports and are leased out to registered youth associations by the *Upazila* administration and iii) less than 1.21 ha *jalmohals* are with the *Union Parishad*.

This approach of fishery resources management often excludes the DoF from playing an effective role in fishery resource management. In practice, the DoF has very limited scope to ascertain its institutional responsibility, as many other actors are involved in the management of wetlands. Institutional arrangement in wetland resource management created enormous complexities for the DoF to be able to implement any development initiatives by taking over control of *jalmohals* from the MoL. Lengthy bureaucratic processes of transferring the management authority of *jalmohals* from the MoL to the DoF generate unnecessary delays to implementing development projects. Such delays also result from a failure to achieve any commendable results by the DoF.

Inter-institutional conflicts and constraints have severely impacted sustainability aspects of resource management, as multiple institutions are actively pursuing diverse interests in wetland management. Tangible economic benefits, like lease fee, have overly been emphasized by the state rather than the intangible benefits of environmental goods and services from wetland ecosystems. In fact, institutions that are particularly responsible for NRM, such as DoF and DoE, have limited influence on policy objectives toward sustainable management practice

3.3 Transformation of State Property into Private Property: Marginalization Process

The present leasing system of *jalmohals* makes shifts in the property rights of wetlands from public to private property. This system encourages the transfer of authority from the state to individuals on an ad-hoc basis for the exploitation of resources by paying rent on *jalmohals*. The privatization of *jalmohals* generates economic incentives for individual investors to maximize profit, but without the necessary consideration for the conservation of resources. This study found out that leases of the *Hakaluki haor* area

are using all sorts of fishing gears that are legally banned so as to sustain fish production. They also adopt the dewatering method of fishing in the *haor* area. Leases also impose restrictions on the access to resources by local poor communities, which severely limits their livelihoods activities and hence makes them more vulnerable to extreme poverty, health and natural hazards, such as floods and droughts. Because policy makers have preferred the leasing system to increase government revenue and favoured the 'economic efficiency' focused management system, the aspects of social loss from transferring property rights and the consequences of denying the customary users rights of local communities have been systematically ignored in the formal management system. My investigation of the *Hakaluki haor* area substantiates the assertion that the marginalization²² and increased vulnerability of local communities, particularly the actual producers, are linked with SMA and its associated legal, financial and policy instruments.

3.3.1 Marginalization Process: Legal and Policy Effects

While the present wetland management policy, enacted in 2005, places priority on fishermen's cooperative societies in the leasing process to provide genuine fishers with access to resources, it nonetheless continues the practice of manipulation and malpractice, passing on the access rights of fishermen societies to non-fishermen. The latter group works through dummy cooperatives that are generally created and nurtured by them (Khan 1989). In order to obtain access to a *jalmohal*, fishermen cooperatives must agree to pay ever higher lease fees in each new term of leasing, application fees and upfront payments for bidding. These factors exclude fishermen cooperative societies from participating in the leasing process. Apart from these, poor fishers are often incapable of protecting their *jalmohals* from 'gang fishing'²³ (force fishing) by powerful outsiders, which increases the transaction cost of *jalmohals* management.

Genuine fishermen usually do not have cash in hand to meet all the financial obligations that are attached to the bidding system. In order to participate in the bidding process, poor fishers are required to borrow money from local moneylenders at a very

²² The process of marginalization significantly deteriorates the physical environment and leads to increased vulnerability to disaster (Susman *et al.* 1983).

²³ Socially powerful individuals organize fishing in *jalmohals*, which are generally leased out to the local fishers' community. This type of 'gang fishing' is common in resource-rich water-bodies in *haor* basins and affects local poor fishermen trying to protect their *jalmohals* from organized looting.

high interest rate. Fishermen Cooperative Societies (FCSs) are reluctant to participate in the bidding process mainly for two reasons. First, they remain unsure about their return on investment, as the future production of fish and the catch are unpredictable. Uncertainty in the natural resource production system may lead to a sharp decline in the fish production. It generally impacts their income to pay back loans and sustain their livelihoods. Second, higher lease fees (based on a 15 per cent increase from the previous lease value) put a higher burden on them to mobilize financial resources from moneylenders at higher interest rates. The limited ability of fishers to control access compared with elites has been further elaborated by Toufique (1997; 2000).

Generally, poor fishermen abhor any increase in the lease value of *jalmohals*, since the anticipated income from the particular *jalmohals* might not be enough to compensate the higher lease fee. Once the fishermen cooperative society withdraws from the leasing process, the management authority starts a new bidding process which becomes open to all. It is important to note that the new bidding process invites fresh offers from investors and the obligation to increase the lease fee is no longer valid. It is not uncommon that the new bidding process selects a new lessee with a lower lease value than the previous lease value, as the decision of the leasing authority is based on available offers through the open highest bidding system.

The wetland management system offers ample scope for investors to maximize and earn hefty profits from their investment, as investors are able to mobilize finances to participate in the leasing process. As a result, *jalmohals* become potential sources of higher profit-making ventures and secure higher returns, which they do not reinvest locally. In the case of *Hakaluki haor*, more than 75 per cent of the *jalmohals* are taken by non-local non-fishermen investors (Table 3.4), which reflects the underlying profit-making perspective from investing in the *jalmohals* leasing business. Under the present management policy, genuine fishermen are marginalized from their traditional customary user rights to resources, as *jalmohals* are leased out to investors and the entire economic surplus is taken away from the local communities.

There are fundamental differences in harvesting approach of *jalmohals* resources between non-local, non-fisher investors and insider fishermen. Outsider non-fishermen investors do not take any measures for fisheries development in *jalmohals* area of their

control; rather they intend to maximize their profit within the stipulated leasing period by using destructive types of fishing gears and methods (e.g. fishing net with very small mesh size, dewatering, poisoning). In addition, lessees also exploit other natural resources such as flooded forests, reeds, wildlife to increase profit, though they are not legally authorized to harvest any other natural resources than fish. Lessees are often involved in corrupt practices to manage the leasing authority to continue their illegal exploitation processes of natural resources. It has been reported by the locals that lessees allow professional bird-hunters to hunt migratory as well as resident water birds from the *haor* area by taking a certain amount of fees from hunters. Local and national newspapers also have regularly published news features on organized wildlife killing in *Hakaluki haor* area that support the information given by the locals on bird hunting.

3.3.2 Marginalization Process: Financial Burden

The financial requirements and procedural complexities are significant impediments to local poor communities interested in becoming involved in the *jalmohals* leasing process. In order to participate in the bidding process, interested FCSs must follow the usual auction process that includes buying the tender schedule and depositing 5 per cent of the quoted bid amount as an application fee and 100 per cent payment of the first year lease value within seven days of selection as lessee. In addition, selected lessees are also subject to paying a general tax and value-added tax (VAT) on the lease value of the *jalmohal*. Renewal of existing *jalmohals* that are under FCSs are subject to an increase of 15 per cent on the previous year lease value of *jalmohals*. Without such an increase of the lease fee, FCSs would not be considered for a renewal.

In either leasing a new *jalmohal* or renewing an old one, local fishermen are required to mobilize finances from their own sources before taking part in the leasing process. The present leasing system does not provide any special consideration for poor fishermen to pay lease fees, taxes and VAT on instalments, and mobilizing such financial capital is a major challenge for them. Shortage of capital to meet these financial obligations generally forces them to withdraw from participation in the leasing process.

Considering the socio-economic condition of the *Hakaluki haor* area, local fishermen represent the poorest section of the rural classes. They do not have personal savings or capital to meet financial requirements to bid for leasing in *jalmohals*. Informal

creditors or local moneylenders, popularly known as *mohajan*, take advantage of such conditions of poor fishers and play a central role in financing fishing activities. Fishermen borrow money from *mohajan* for leasing in *jalmohals* as well as for maintaining the operational cost of fishing. In many instances, *mohajans* turn into lessees and disburse credit in the form of sub-leases to fishermen. The sub-lease fee is considered as their principal and a share of the fish catch represents their interest. Local fishermen mentioned that the interest rate is very high, ranging from 10 and 20% per month, which compounded, amounts to 300-340% per annum. Apart from the high interest rate of lending, local fishers are also bound to sell their catch to *mohajons* at a much lower rate than the usual market price. Local fishers thus not only pay a high interest rate but also lose a share of their income by selling the catch to *mahajons* at a lower price.

Borrowing money by the poor fishers from non-governmental financial institutions, such as Grameen Bank, Association for Social Advancement (ASA) and BRAC, still is not an option, as these non-governmental financial institutions do not provide loans to the fisheries sector, particularly for leasing of *jalmohals*. These NGOs are operating micro-credit programs with their specific credit groups for small trading business. Local fishermen of *Hakaluki haor* area have very limited access to NGOs credit facilities, as NGOs credit operations in *Hakaluki haor* area are restricted to specific activities with specific groups that do not include fishing activities and/or leasing of *jalmohals*.

Formal financial institutional credit operations are geared more towards capital investment projects such as the establishment of hatcheries, aquaculture/fish farming, fish processing and trawl fishing. Generally, financial institutions do not support local poor fishermen for leasing of *jalmohals* and fishing operation. However, Bangladesh *Krishi* (agricultural) Bank (BKB), a government-owned institution, has limited opportunities for genuine fishermen to access credit. In order to access such credit, fishermen need to mortgage their fixed assets with the Bank. In most of the cases, poor fishermen are unable to receive this credit, as they do not have property or fixed assets to use as collateral against the loan. Application procedures are also very complicated and receptivity is poor for local fishers. Also, this credit window of BKB is not generally known to fishermen. Even if local fishers comply with the conditions of the bank, the

amount of loan is so insufficient that they cannot meet their financial requirements to cover the total lease fee of *jalmohals* and operational costs of fishing activities. Loan facility from formal institutions is of little or no use for fishermen to meet their total financial demand and hence fishermen can only obtain limited benefits out of the formal credit system.

3.4 Resource Rights: Access and Entitlements of the Local Community

Local communities of *Hakaluki haor* area have been enjoying their traditional usufruct rights on the resources from pre-British period. The British colonial regime, by The Permanent Settlement of 1793, included Sylhet District (that time Moulvibazar was a Sub-Division of Sylhet District) in the revenue collection system on the cultivable land (Hunter 1881). In the *Imperial Gazetteer of India*, Hunter recorded that:

“[t] he plains portion of his territory, extending from the foot of the hills to the Surma river, was annexed to Sylhet District, while the remainder now constitutes The only troubles of the administration have arisen from the confusion in which the land settlement is involved. The Permanent Settlement of 1793 was in name extended to Sylhet, and But only about one-third of the total area of the District was then under cultivation, and the remaining two-thirds were expressly excluded from the settlement” (1881:495). This historical record evidently shows that local resource users had access to the natural resources located in common properties even without paying any rent to the formal authority.

Since the mid-1990s, local resource users of the *haor* area have been facing great difficulties to access the resources under the prevailing leasing system. According to lease conditions, lessees are not authorized to impose any restrictions on subsistence fishing by local poor fishers during the monsoon season outside of *jalmohals*. Legally, *jalmohals* leasing applies only to the period of the year when *jalmohals/beels* are demarcated by land, which signifies that lessees have the rights only to enjoy the demarcated area of *jalmohals*, not the entire wetland area. During monsoon season, when the entire *Hakaluki haor* is virtually converted into a single continuous run off of water, demarcation of the *jalmohal* system is *de facto* cancelled out because of the non-

existence of the geographical boundaries. In the *haor*, the ecological system monsoonal floods practically eliminate physical boundaries of the *jalmohals* and this leads to a high transaction cost to enforce community access to the resources by lessees. In fact, monsoonal floods helped the local communities to access resources and support their livelihoods. However, in recent years, *de facto* access of communities has generated serious conflicts between local communities and lessees on the traditional use of resources.

The revenue-seeking characteristic of the leasing system created a scope for outsider investors to occupy *jalmohals/beels* by replacing genuine fishermen from their resource access, which not only impacted the livelihoods of poor fishers' communities, but also severely impacted the sustainability of resources. Over the period of time, outsider investors have taken over almost all *jalmohals* of *Hakaluki haor* by paying higher lease fees through the open bidding leasing system, which has engendered heavy pressure on the investors to protect resources from the use of local communities. At the same time, lessees want to ensure the highest level of exploitation of resources in order to maximize their profit from *jalmohals*. As a result, lessees employ private security guards to ensure no fishing or harvesting of natural resources from the entire inundated wetland area, including their *jalmohals*, any time of the year. Restrictions imposed by lessees on monsoonal fishing are serious threats to the local poor fishers on their subsistence. This illegal practice of investors is causing the exclusion of the local poor fishers from their traditional access and rights to wetland resources and is generating enormous conflicts between local fishers and lessees in several areas. These include conflicts over the boundaries of common properties, access and use rights on subsistence fishing, harvesting of other natural resources, grazing, fodder collection and uses of water for irrigation on which they have *de facto* traditional user rights.

Hakaluki haor has 238 *beels* with different sizes (Table 2.5 of chapter 2), but all of them are not necessarily equally resource-rich²⁴ and attractive for investors. Generally, larger *jalmohals/beels* are more resource-rich than smaller one and investors are not interested in the latter, as most of the small *jalmohals/beels* have become degraded over

²⁴ The availability of natural resource such as, fish, flooded forests, aquatic vegetables, and medicinal plants is higher compared to other *beels*.

time. Still, investors opt for taking leases of small *beels/jalmohals* under their control, so that they can limit the access of local poor fishermen in their *jalmohals* area.

How the present leasing system of *beels/jalmohals* is replacing local genuine fishermen from their access to and control over wetland resources can easily be comprehended from *Hakaluki haor* (Table 3.4). A good number of the resource-rich *beels/jalmohals* of *Hakaluki haor* have either been leased directly by outsider investors or indirectly by using the name of local FCSs. Out of the most 36 resource-rich *beels/ jalmohals* (which cover 3559.15 ha), 19 *beels/jalmohals* (which cover 2331.00 ha, which is 65.49 % of the total area) are controlled by an outsider investor, Mr. Nazrul Islam²⁵, or his agent. In order to avoid conflicts with local fishermen, Mr. Nazrul Islam uses the name of local fishermen cooperatives societies (FCSs) for taking lease of *jalmohals*. For using their name, Mr. Islam pays money to the Chairman and/or Secretary of these FCSs. During the bidding process, the leader of these FCSs becomes the representative of Mr. Islam and on behalf of him they participate in the auction process. Likewise, another 6 resourceful *beels/jalmohals* have also been taken by other investors. There is an embargo on the leasing of 3 *beels/jalmohals* by the Supreme Court due to a dispute on the leasing system. Only 7 *beels/jalmohals* are under genuine FCSs and 2 *beels/jalmohals* have been transferred to the DoF for community-based management under development projects, which are less productive, compared to other *beels/jalmohals* in the *Hakaluki haor* area.

Almost 75 per cent of the total resource-rich *jalmohals* have been leased out to non-fishermen investors. Only 16 per cent is under the control of genuine FCSs and 0.70 per cent is under community-based management in which local poor communities are involved (Fig. 3.1). Arguably, this statistic indicates the failure of the government to protect benefits to poor communities in the *Hakaluki haor* area, as the open bidding system of leasing facilitates opportunities for non-fishermen investors to take advantage of the leasing of *jalmohals* of the *haor*.

The MoL has shown unwillingness to transfer the management authority of wetlands to the DoF or the DoE for community-based management in which local poor

²⁵ Mr. Nazrul Islam is a non-fisherman and outsider investor. He was a former *Upazila* chairman of Fenchugonj *Upazila* of Sylhet district. He is politically well connected and financially capable to manage the leasing authority. Generally, Mr. Islam is using his political connection and/or bribing the concerned officials to capture all resourceful *jalmohals* of the *Hakaluki haor* area.

Table 3.4: Leasing Status of *Beels/Jalmohals* Greater than 8.10 Hectares in *Hakaluki Haor*

| Name of <i>Beel/Jalmohal</i> | Total area (in hectare) | Lease fee (in US \$) | Name of Lessee | Comments |
|--|--------------------------------|-----------------------------|--|--|
| 1. Gour Kuri <i>Beel</i> | 29.14 | - | - | Lease suspended by the Supreme Court |
| 2. Toral <i>Beel</i> * | 59.61 | 3,768.38 | Pubali Fisheries Cooperative Society (FCS) Ltd. Barlekha | This FCS is an agent of Mr. Nazrul Islam |
| 3. Chatla <i>Beel</i> Group Fisheries | 209.63 | 25,490.91 | Individual lessee, Juri | Outsider investor from non-fishermen community |
| 4. Bhitor Ghavi <i>Beel</i> | 24.59 | 772.06 | Individual lessee, Kulaura | Outsider investor from non-fishermen community |
| 5. Agdar <i>Beel</i> * | 8.98 | 4,928.46 | Kushiara FCS Ltd., Juri | This FCS is an agent of Mr. Nazrul Islam |
| 6. Nagua Dhalia Group Fisheries | 244.83 | 8,544.12 | --- | Lease suspended by the Supreme Court |
| 7. Chakia <i>Beel</i> * | 371.50 | 20,252.43 | Atishahapur FCS Ltd., Juri | This FCS is an agent of Mr. Nazrul Islam |
| 8. Mychlar <i>Dak</i> * | 25.68 | 757.35 | Kushiara FCS Ltd., Juri | This FCS is an agent of Mr. Nazrul Islam |
| 9. Mychlar <i>Beel</i> Group Fisheries* | 84.54 | 3,186.03 | Sonali FCS Ltd., Kulaura | This FCS is an agent of Mr. Nazrul Islam |
| 10. Pinglardubi | 17.20 | 955.88 | Individual lessee, Fenchugonj | Outsider investor from non-fishermen community |
| 11. Meda <i>Beel</i> * | 29.87 | 735.29 | Chatrish FCS Ltd., Fenchugonj | This FCS is an agent of Mr. Nazrul Islam |
| 12. Gotaura <i>Haor</i> * <i>Khal</i> | 569.35 | 20,911.76 | Uzan Gangapur FCS Ltd., Fenchugonj | This FCS is an agent of Mr. Nazrul Islam |
| 13. Koiar Kona | 30.43 | -- | -- | Lease suspended by the MoL |
| 14. Baiya <i>Beel</i> | 62.91 | 2,134.06 | Pragati FCS Ltd., Barlekha | Genuine FCS |
| 15. Kala pani <i>Beel</i> * | 115.77 | 2,481.25 | Kushiara FCS Ltd., Juri | This FCS is an agent of Mr. Nazrul Islam |
| 16. Padma <i>Beel</i> | 15.98 | -- | CBFM-2 project, DoF, MoFL | Under community based management |
| 17. Uttar Gajua-Dakshin Gajua* | 45.63 | 1,661.76 | Juri Veli FCS Ltd, Juri | This FCS is an agent of Mr. Nazrul Islam |
| 18. Polo Bhanga, Mora Sonai, Chikon Vati Group Fisheries | 160.15 | 3,617.64 | Purba Hakaluki FCS Ltd., Barlekha | Genuine FCS |
| 19. Chinaura Group Fisheries* | 47.87 | 4,926.47 | Juri Veli FCS Ltd, Juri | This FCS is an agent of Mr. Nazrul Islam |
| 20. Haramdiga* | 20.30 | 898.54 | Ghilachara FCS Ltd., Fenchugonj | This FCS is an agent of Mr. Nazrul Islam |
| 21. Myiyajuri <i>Beel</i> * | 11.41 | 367.65 | Individual lessee, Kulaura | Agent of Mr. Nazrul Islam |
| 22. Jallah, Farjallah, Bhuter Kona Group Fisheries* | 450.05 | 14,899.82 | Juri Veli FCS Ltd, Juri | This FCS is an agent of Mr. Nazrul Islam |
| 23. Balikuri <i>Beel</i> | 40.98 | 457.35 | Individual lessee, Barlekha | Local investor |
| 24. Pinglarkona | 220.98 | 7,444.85 | Sonali FCS Ltd., Kulaura | This FCS is an agent of |

| Name of Beel/Jalmohal | Total area (in hectare) | Lease fee (in US \$) | Name of Lessee | Comments |
|---------------------------------|-------------------------|----------------------|---|--|
| Chepti Group Fisheries* | | | | Mr. Nazrul Islam |
| 25. Katua Kukur Dubi | 110.45 | 3,275.74 | Dhashkhin Chukarpunji FCS Ltd., Barlekha | Genuine FCS |
| 26. Chander Beel-Chander Chepti | 9.07 | -- | Handed over by the MoL to the CBFM-2, DoF, MoFL | Under community based management |
| 27. Diga Beel | 34.67 | 777.21 | Individual lessee, Barlekha | Local investor |
| 28. Mochna Beel | 47.25 | 757.35 | Dhashkhin Chukarpunji FCS Ltd., Barlekha | Genuine FCS |
| 29. Malam Beel | 173.58 | 6,045.74 | Dhashkhin Chukarpunji FCS Ltd., Barlekha | Genuine FCS |
| 30. Ranchi Beel* | 90.65 | 2,500.00 | Kushiara FCS Ltd., Juri | This FCS is an agent of Mr. Nazrul Islam |
| 31. Takuni Beel Koirermora* | 32.57 | 3,102.94 | Pubali FCS Ltd., Kulaura | This FCS is an agent of Mr. Nazrul Islam |
| 32. Nagua Lariby* | 91.73 | 3,846.32 | Individual lessee, Kulaura | An agent of Mr. Nazrul Islam |
| 33. Stabila Beel | 8.90 | 207.35 | Dhashkhin Chukarpunji FCS Ltd., Barlekha | Genuine FCS |
| 34. Shiuridiga Beel | 8.41 | 433.82 | Individual lessee, Barlekha | Local investor |
| 35. Tolar Beel* | 26.56 | 448.53 | Individual lessee, Kulaura | An agent of Mr. Nazrul Islam |
| 36. Dudhai Beel* | 27.93 | 3,088.24 | Pubali FCS Ltd., Kulaura | An agent of Mr. Nazrul Islam |
| Total = | 3559.15 | 153,675.33 | | |

Source: Revenue section of Moulvibazar District administration. US\$ 1 = 68.00 Taka

* Lease taken either by Mr. Nazrul Islam or his agent.

Almost 75 per cent resource-rich beels/jalmohals leased out to investors, 16 per cent to genuine FCSs and less than 1 per cent under community-based management system.

communities can play an active role in holding the access to and control over the resources. The leasing authority is favouring outsider investors to get lease by taking personal benefits from them through corrupt practices. Although the objective of leasing system is to facilitate well-being to the communities, the present management practices of *Hakaluki haor* show that the poor fishermen/communities are deprived of their rights and are exploited through the leasing system. These practices are creating challenges for sustaining the livelihoods of the poor fishers.

As per article 11 of the Wetland Management Policy, 2005, sub-lease of part or whole of *jalmohals* would be considered a punishable act. Under such circumstances the lease of *jalmohals* would immediately be cancelled and the deposited security money along with the lease fee would also be forfeited. Article 12 has the same provision for

similar punishment for using fake or dummy FCSs names or for providing any wrong information during the bidding process. However, there is no recent evidence that the leasing authority has ever exercised such clauses against any lessee for committing the above-mentioned crimes during and after taking lease of *jalmohals*. These types of malpractices and crimes are very common in *Hakaluki haor*. For instance, outsider investors are often involved in using fake or dummy FCSs for obtaining *jalmohals* and sub-leasing their *jalmohals* to maximize profits (Table 3.4).

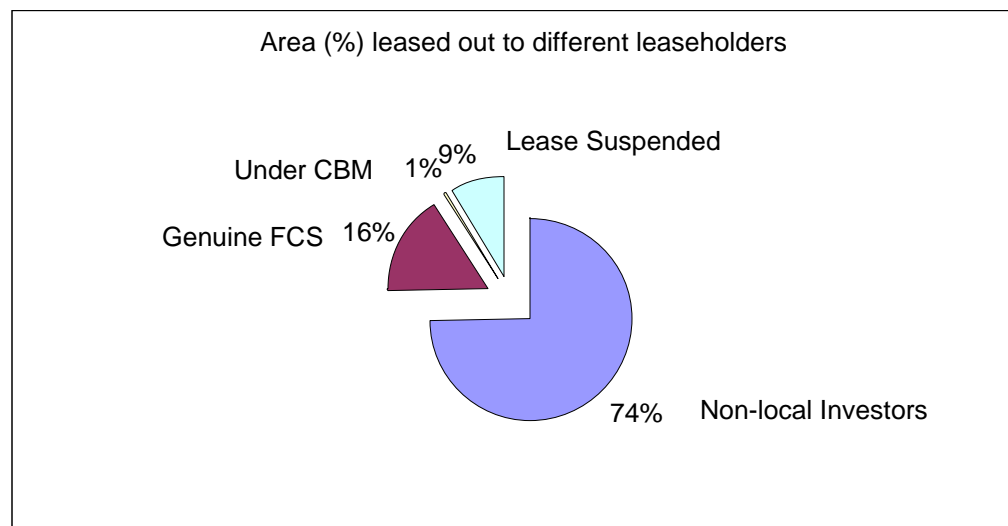


Figure 3.1: Percentage of Area (in hectare) of *Beels* /*Jalmohals* under Different Leaseholders in *Hakaluki haor*, 2008-09

Lack of monitoring by the leasing authority, particularly by the district and *Upazila* administrations, on *jalmohals* have provided scope for lessees to establish their empire in the entire wetland area and to enjoy absolute power over natural resource exploitation. On behalf of the MoL, district and *Upazila* administrations collect revenues from leasing out *jalmohals*. These government bodies remain heavily preoccupied with other priority activities, as instructed by their higher authority, which practically limit their monitoring ability of leasing practices. Usually, leasing authorities intend to be certain on revenue collection through the leasing process of *jalmohals* and avoid taking any other responsibilities. In addition, the DoF, as a responsible agency for fishery resource management, is unable to enforce fishery rules and regulations in *jalmohals*

areas. Leasing rules and regulations have been limiting the jurisdictional authority of the DoF in *jalmohals* under the leasing system. The DoF has limited access to *jalmohals* only for conducting research and collecting data and information on aquatic habitat, fish species and other environmental issues. As an authorized state agency of fishery resource management, the DoF is neither involved in monitoring nor management activities in *jalmohals* that are under the leasing system. The Government Wetlands (*Jalmohals*) Management Policy, 2005, does not have any such provision for the DoF to take on fishery management and development initiatives in leased out *jalmohals*.

The research findings revealed that the ‘open highest bidding system of leasing’ of *jalmohals* in Hakaluki *haor* not only transfer property rights from public to private investors, but also empower them (investors) to set and implement their own rules and regulations to exclude local poor fishers from access to natural resources. In the process of *jalmohals* leasing in the *haor* area, poor fisher communities practically have no access to wetland resources to sustain their livelihoods. The process of marginalization is so intense that many fishers of local communities are forced to migrate from the *haor* area.

The leasing system in *Hakaluki haor* created a situation by which almost all resource-rich *jalmohals* of the *haor* are now in the hands of non-fishermen investors. Local communities are too weak in terms of financial ability and political networking to establish themselves as professional pressure groups to protect their interests within the present leasing system. The revenue-oriented management system has provided power and authority to non-fishermen outsider investors to eliminate local communities from access to the resources of the *haor*. Hence, the communities neither hold *de facto* rights nor ascertain *de jure* management authority on *jalmohals* to be able to ensure their entitlements to the resources to sustain their livelihoods.

3.5 Discussion

The formal institutional setting and management approaches play an important role in enabling the participation of local resource users in the management system. Changing property rights (through leasing systems) without taking into consideration the complex social, economic, ecological, and political system could cause unsustainable

management practices. Literature on these issues highlights the critical role of local resources users in resource management to address commons as a complex adaptive system as well as to ensure sustainability in management approaches (Agrawal 2002; Armitage 2008; Berkes 2006; 2007; Berkes *et al.* 2003; Gunderson and Holling 2002; Ostrom *et al.* 1994).

Conceptually, the intention of the state is usually to bring tangible changes in wetland resource management to ensure the well-being of the poor communities, whose livelihood is directly linked with wetland resources. Following the independence of the country in 1971, the Government of Bangladesh expressed its intention to change the leasing system by introducing a licensing system that would include genuine fishermen in managing *jalmohals*. It appeared to be a pro-fishermen management approach, along with making provisions for generating more revenues for public institutions. However, because it could not generate more revenues, the government had to change the licensing system to a leasing system (Naqi 1989; Siddiqui 1989). As a result, the leasing system remained in place as the best option for wetland resource management by the MoL. This has caused the deprivation, exploitation and exclusion of poor communities from accessing resources (Hossain *et al.* 2006; Rahman 1989; Siddiqui 1989; Thompson *et al.* 1999; Toufique 1997). Although the leasing policy has provisions for giving priority to the Fishermen Cooperative Societies (FCSs) to ensure the participation of poor fishermen in the bidding system, most of the FCSs are unable to compete in the bidding process against politically and financially powerful non-local investors. The FCSs often are disorganized in the absence of strong leadership and lack financial resources. Siddiqui (1989) observed that so-called registered cooperatives of fishermen had degenerated into closed clubs of “water lords”, touts and big traders that eventually turned into vested groups in *jalmohals* management by systematically excluding genuine fishermen in the process. Non-local investors have also been taking advantage of using these degenerated FCSs in their own favour to capture *beels/jalmohals* through the leasing system.

The competitive leasing system is acting as a vehicle for privatizing the ‘commons’ and diverting the benefits from poor communities to the richer section of the population. The leasing system based on the EEF approach essentially ignores the social and ecological aspects of the natural resource system and facilitates the capture of

resources by powerful individuals or groups (Siddiqui 1989; Toufique 1997). Such a system makes poor local communities more vulnerable to extreme poverty and, in many cases, forces them to migrate to semi-urban or urban areas to access sustainable livelihoods. As a result of changes in property rights from public to private status, the efficiency gains in the leasing system are quite insignificant relative to the social loss and misery associated with restrictions on fishing and resource harvesting (Hossain *et al.* 2006; Toufique 2000).

Overexploitation of resources, together with restrictions on access by lessees, not only expedite and accumulate social loss but also severely impact on the sustainability of resources, which is a major concern for the *Hakaluki haor* area. Focus Group Discussions and Key Informant interviews revealed degradation of the *haor* resources over the years. At least 10 species of freshwater fish have locally become extinct and catch per effort has been reduced significantly.

The New Fisheries Management Policy (NFMP)-1986 was a major initiative in terms of recognizing the access rights of local communities on a limited scale, i.e. through the reintroduction of the license system to genuine fishermen whose livelihood was governed by access to resources. Nonetheless, this policy instrument has failed to fully embrace the economic, social and ecological complexities of the natural resource management, including the role of both formal and informal institutions.

Stemming from the reluctance of MoL to give up ownership of *jalmohals* to the DoF, conflict arose between MoL and the DoF as regards to implementation of NFMP-1986. Even in the licensing system under NFMP-1986, the MoL retained ownership of *jalmohals* and temporarily handed over management authority of *jalmohals* to the DoF. Such ownerships were returned back to the MoL just after the expiry of the agreement period. There are two main reasons why MoL wants to hold absolute authority on *beels/jalmohals* management: i) to ensure easy income from *beels/jalmohals* leasing for the government exchequer by which MoL can claim to be a profitable government institution compare to others. The leasing of *beels/jalmohals* entails no or very little cost as it is organized through the public auctioning and tendering system by district and *upazila* administration, and ii) the process of leasing of *jalmohals* allows various types of malpractice and manipulation (Huq and Huq 1985; Khan 1989; Toufique 1997) .

These include: a) *jalmohals* are leased out to non-local investors after the third round of bidding at a lower lease value. During the process, concerned officials get involved in corrupt practices that deliberately create a failure up to the third round of bidding, so that they can accept any lease fee for leasing out of *jalmohals*; b) *jalmohals* which are not leased out due to procedural or other reasons are placed under the ‘*khas collection*’²⁶ system of revenue generation at any rate of lease fee for that particular year; c) undeclared or unrecorded *jalmohals* which are property of the MoL are leased out to any individual without following the formal leasing process; d) publicity of the *jalmohals* leasing tender notice in national newspapers means they are not easily accessible by local community and hence no bidding takes place from the local FCS; e) changing the status of *jalmohals* from recorded for lease to derelict (not in good standing for lease) by which *jalmohals* are taken out from the formal leasing process and leased out at the discretion of government officials without deposition of the lease fee to government exchequer.

There are controversies between short-term versus long-term lease periods. Often a short-term leasing period, i.e. 1 to 3 years, offers no incentive for leaseholders to take any conservation measures by establishing a fish sanctuary or flooded forest restoration for habitat improvement. In fact, leaseholders want to ensure maximum harvesting of wetland resources within their leasing period, as they are not sure of renewal of the lease for the next tenure. A long-term leasing period allows the same leaseholders to exploit resources for a long time, and there is no guarantee that leaseholders would take initiative for wetland resource development. The present management system of the MoL has no institutional capacity to ensure an effective monitoring mechanism to check the aspects of the sustainability of the *jalmohals* ecosystems (Aguero *et al.* 1989; Thomson *et al.* 1999).

The failure of *jalmohals* management in protecting the access rights and entitlements of local communities during the implementation of various policy regimes has not been appropriately addressed in the Government Wetlands (*Jalmohals*) Management Policy, 2005. This policy has equally failed to bring justice and equity into *jalmohals* management; rather it has facilitated the marginalization of poor communities

²⁶ *Khas collection* refers to a system of revenue collection from *jalmohals* that are not leased out through the usual leasing system for unavoidable circumstances. Generally, the official responsible for the leasing system fixes a minimum amount of lease fee on his own to ensure revenue from that *jalmohal* and can leased out to any individual for a year.

from wetland resources. In the *Hakaluki haor* area, more than 74 per cent of the resource-rich *jalmohals* (Table 3.4) have been leased out to the non-local, non-fishermen investors using the loopholes of the policy and the organized corruption of the concerned management authority.

Khan observed that “[a]lthough in principle the fisherman cooperatives are entitled to participate in the auction, it is found that through manipulations and malpractices, fishing rights in many cases are passed on to nonfisherman capitalists who work through dummy cooperatives which are their creation and are financed by them” (1989:96). Also, corruptions and malpractices of the concerned government officials involved in *jalmohals* leasing are highlighted by Huq and Huq (1985). Moreover, under the influence of SMA, public institutions are not recognizing the importance of hearing the voices of local communities in the decision-making process, as advocated by the community-based wetland resource management (CBWRM) approach. In the case of *Hakaluki haor*, a very negligible area, that is, less than 1 per cent (0.70 per cent of the total) of the area has been transferred from the MoL to the DoF using the CBWRM approach.

The leasing system in *Hakaluki haor* has created a situation in which almost all resource-rich *jalmohals* of the *haor* are now in the hands of non-fishermen outsider investors. Local community members are very weak in terms of financial ability and political links, and they are constrained from forming professional pressure groups to protect their interests within the present leasing system. Hence, the communities neither hold *de facto* rights nor ascertain *de jure* management authority on *jalmohals* to ensure entitlements to the resources in order to sustain their livelihoods.

The marginalization process has diverse implications on vulnerability. The marginalization process has weakened local institutional and social strengths to ascertain the boundaries of the commons, access and use rights on *jalmohals* fishing and to cope with social vulnerability. Many FCS are working as agents of Mr. Nazrul Islam rather than helping their own community (Table 3.4). Political, legal and financial processes are main factors in the marginalization processes in *Hakaluki haor* by which the poorest local fisher groups continue to suffer most losses (Alexander 2000; Tierney 2006; Wisner 1993). The exploitation process has led to increased disasters as socio-economic

conditions and the physical environment have deteriorated in *Hakaluki haor* due to economic efficiency-based SMA (Susman *et al.* 1983).

3.6 Conclusion

The traditional view of natural resources management is solely based on the economic aspects and fails to address the social, ecological and political dimensions of the resource distribution within which poor communities suffer from exclusion, deprivation, injustice and inequality. Such an approach severely limits the participation of local communities in the decision-making process to protect their rights to the resources. The short-term economic goal of the SMA undermines the sustainability of wetland resources by encouraging lessees to maximize profit by overharvesting of resources as well as limiting the scope for long-term contributions of wetland resources to the society (Bennett *et al.* 2001).

In Bangladesh, over the years, the leasing system of *jalmohals* management has not only impacted local institutions in terms of management effectiveness, but also raised conflicts and mistrust among stakeholders, which has eventually led to the degeneration of local institutions in engendering collective actions for resources management. The study has revealed that neither the licensing nor the leasing system can properly deal with inequality in resource distribution, the process of marginalization of local resource users, protection of the entitlements of local communities, and the long-term sustainability of wetland resources.

A critical view of such mismanagement in the present policy regime has laid the ground for the emergence of the community-based management approach and to encounter the marginalization of the actual producers and address the vulnerability of the local communities (Agrawal 2002; Berkes 2003; 2007; Ostrom 1990; Ostrom *et al.* 2002). There are encouraging experiences of the community-based management approach in Bangladesh (Thompson *et al.* 2003), Cambodia (Marschke and Sinclair 2009) and India (Thomson and Gray 2009), demonstrating enhanced livelihood security of the harvesters.

The privatization of the commons through the establishment of the *jalmohal* system is undermining community property rights and well-being. Together with the complex social power structure, such privatization is severely affecting local institutions' ability to protect the interests of local resource users in the management system. A strong participation of local resource users in the decision-making process, which is critical to address issues of a complex adaptive system of resource management, is vital to bring tangible changes in the management approach. Pursuing the economic efficiency approach through formal institutions to maximize public revenue would continue to aggravate poverty and inequality in resource distribution as well as to cause further degradation of wetland resources. Concerned state agencies and their adopted management approaches are aggravating the marginalization of local resource users by exposing them to further social vulnerability.

Involving local resource users in resource management is necessary for addressing conflicts, establishing a code of conduct in resource use, sharing of costs and risks, and identifying legitimate stakeholders (Berkes 1989; Ostrom 1990). Moving away from the economic efficiency-based traditional management approach is needed to address the economic, social, ecological and political aspects of natural resource management as a complex adaptive system. In Bangladesh, without local community participation, wetland resources have degraded very rapidly during the last century. The experimental fisheries and NRM projects, that is, CBFM 1 and 2, SEMP and CWBMP, have demonstrated strong evidence of wetland restoration and increase in productivity, and lessons from them now need to be adopted widely.

Analysis of the performance of the existing SMA to wetland resources of Bangladesh, focusing on *Hakaluki haor* area, has revealed that a community-based or co-management approach would be a more effective and efficient option for minimizing the marginalization and vulnerability of local resource users. For the effective implementation of a community-based or co-management approach in the main realm of the management system, it would be necessary to include all legitimate stakeholders in the decision-making process. Such an approach will lead to a strong and flexible institutional arrangement within formal and informal sectors, with the establishment of a clear mandate of management responsibilities, property rights, shared consensus and

understanding of collective actions. This would likely eliminate inequalities and injustice towards the sustainable management of resources. The following chapter presents a critical analysis of the community-based and/or co-management system as an alternative approach in wetland resource management for identifying an effective role of the local community in the decision-making process as legitimate stakeholders.

CHAPTER 4

COMMUNITY BASED RESOURCE PLANNING AND MANAGEMENT: AN ALTERNATIVE APPROACH IN WETLAND MANAGEMENT

4.1 Introduction

This chapter examines the alternatives to the state-governed management approach in wetland resource management, particularly to explore the ways and means to enhance the effective participation of local resource users in the decision-making process. The discussion begins to clarify the mainstream views and emerging views in natural resource management to understand various issues related to the management system that are critical for sustainability. How diverse stakeholders are involved in power struggles and in influencing management decision is highlighted. Community mobilization and the effectiveness of participation in collective action such as community-based organizations, within the scope of development initiatives, i.e. SEMP, CBFM-2 and CWBMP, are analyzed in this chapter. Lessons learned from the community-based management approach are determined, and a critical path for sustaining community-based wetland resource management is suggested.

Questions concerning the sustainability of humankind have become more vigorous after the Rio Earth Summit 1992 as it instigated further debates on how to conserve natural resources to sustain the required goods and services for human well-being. Common property turns out to be among the major critical issues for discussion under the notion of sustainable development, as these resources are providing livelihood support to millions, particularly in the developing world. In this context, Hardin's (1968) seminal article "tragedy of the commons" elaborated on the process of overexploitation and the resulting ruins of the commons as an outcome of individual user's logical behaviour of maximizing personal gain. However, neither privatization nor government control of commons management, as advocated by Hardin (1968), seems to be a solution to address the tragedy (Dietz *et al.* 2003; Ostrom *et al.* 1999).

In contrast, it is possible to mobilize individual resource users for collective action in resource management away from their irrational and selfish behaviours. Individual resource users have potential to craft governance rules in commons management and effective in contributing to alter the set of institutional arrangements to develop new forms of management to deal with NRM problems (Agrawal 2002; Feeny *et al.* 1996; Ostrom 1990; Pinkerton 1989; Steins and Edwards 1999).

Community Based Resource Management (CBRM) case studies around the world support the idea of the collective action approach and provide insights on its analytical framework and critical factors of NRM. This approach, however, has received some criticisms from the perspective of local realities, social and power relations, and politics. In many cases, *de facto* outcomes become more visible in NRM. Some scholars see key problems and weaknesses of the collective action approach in its apparent reliance on the notion of “community” as a homogenous and bounded entity (Mehta *et al.* 1999) or community as a small spatial unit, as a homogenous social structure, and as a set of shared norms (Agrawal and Gibson 1999). These notions of community have been criticized for ignoring the impact of complex power structures, conflicts, external influences, and the interests of diverse social actors. In fact, many communities do not manage local resources well. The notion of community as a homogenous social structure has also been challenged by the fact that within the same group multiple partnerships could exist to pursue diverse goals. There are examples of the sustainable use of local resources by highly diverse communities. Norms cannot be considered as static factors as they develop in relation to a particular context. Communities change the norms on the basis of their needs, especially when they rely on resources for their livelihoods (Agrawal and Gibson 1999).

In the context of community-based natural resource management (CBNRM), it is more practical to acknowledge heterogeneity, with multiple and conflicting interests, complex power relations, and the politics of diverse social actors in NRM. In order to avoid the existing debate on “community”, it will be more realistic to consider the stakeholders’ concepts for collective decision-making and collective management, which are the main goals of CBNRM. The success of CBNRM largely depends on the effective engagement of stakeholders in decision-making processes as well as in the

implementation (Berkes 2004; Campbell and Thompson 2002; Ostrom *et al.* 2002). Arguably, who will be involved in making the rules and what will be the content of such rules are the most pertinent issues in this regard. In order to address such critical issues, it is necessary to understand the mainstream and emerging views of NRM.

Local institutions, embedded in social relations, emerge historically and have potential to manage natural resource on a sustainable basis. Resource users are continuously adjusting “rules-in-use” to shape and reshape environmental outcomes. These dynamic processes require an understanding of emerging and mainstream views to sustain the CBNRM approach. A number of key elements are critical to analyze within the new and mainstream views. These are summarized in Table 4.1.

For sustainability in the management approach, it is crucial to improve the management system by incorporating diversity of knowledge, a greater ability to understand problems and risk, learning and adaptation, accounting for distributional implications, and coping with uncertainty (Agrawal and Gibson 1999; Berkes 2004; Johannes 2002; Marschke and Berkes 2005; Ostrom *et al.* 2002; Wilkinson and Cary 2002). According to the United Nations Conference on Environment and Development (UNCED), a sustainable development approach requires the integration of three principles, i.e. i) economic growth, ii) environmental protection, and iii) social equity, into all public policy, including natural resource management, which is critical for developing worlds to support the livelihoods of millions. In practice all these principles are neither integrated nor achieved only through the EEF approach of NRM. It is important to understand that natural resources management should not be the sole responsibility of the government agencies or of the community (Pomeroy and Berkes 1997), rather a combination of both is more desirable to achieve the UNCED objectives and Millennium Development Goals (MDGs).

Achieving short-term economic efficiency in management approach from the taxation of natural resources has created conditions for the overexploitation of resources, which would undermine the sustainability of these resources. The present intrusive leasing system of *jalmohals* management in Bangladesh, which is based chiefly on the EEF objective, can be considered as one of the main reasons for the degradation and unsustainable management of wetland resources. The SMA encourages maximization of

Table 4.1: A Summary of the Characteristics of Mainstream and Emerging Views in NRM

| Issue | Mainstream views | Emerging views |
|----------------|--|---|
| Institutions | Formal, static, functionalist, politically hierarchical, legal regime, sectoral approach | Socially embedded, social process and interaction, social-ecological hierarchy, customs, traditions, knowledge and power relation, coordinated approach |
| Commons regime | Common Property Resources as a set of rules based on collective action outcomes; rules crafted by managers | Practice, not rule, determined; strategic; overlapping rights and responsibility; ambiguity, flexibility; rules crafted by users, emphasis on “commons” not on “property” |
| Resources | Direct use value, material, economic, sectoral, reductionist supply-demand dimension | In addition, symbolic, locally and historically embedded, and socially constructed, ecosystem values i.e. goods and services, focusing on Millennium Assessment |
| Resource user | Community as a small spatial unit, homogenous, shared norms, bounded | Multiple users, heterogeneous, diverse, multiple social identity; concept of stakeholders |
| Livelihoods | Links between single resource and use (e.g., fisheries, forests, rangeland); absence of alternatives | Complex and diverse livelihood systems; multiple interests and alternative options |
| Knowledge | Science and technology based, expert oriented, linear transfer | Multiple sources, plural and partial knowledge, shared and negotiated understanding, Traditional Ecological Knowledge |
| Legal systems | Formal legislation; top-down, command and control; authoritative managerial perspective | Law in practice; customs, traditions; different systems coexist; users’ perspective |
| Governance | Separated levels – local, regional, national and international | Multilevel governance approaches; interconnected; participatory governance focusing on accountability, transparency, equity and fairness; cross-scales linkages |

Source: Adapted from Mehta *et al.* (1999) and inputs taken from Agrawal and Gibson (1999); Berkes 2006; Berkes *et al.* (2005); and Ostrom *et al.* (2002).

revenues by which local resource users are excluded, deprived, exploited and withdrawn from access and entitlements to natural resources; instead, the state-controlled management approach facilitates the privatization of property rights; hence, individual

gain prevails on the resources and social benefits are diverted to a certain powerful section of the society (details are in chapter 3). However, as opposed to SMA, community-based management and co-management develop with the empowering of local communities to effectively engage them into the decision-making process of management. It is expected to engender more security on access and control over resources, equity and fairness, reduced conflicts and minimized disputes, shared understanding and risk, enhanced capacity to absorb surprise and sudden shocks, exchange of knowledge and information, and voluntary compliances that eventually maintain a well-functioning common property regime (Berkes 1989; Berkes and Folke 1998; Berkes *et al.* 2005; Gibbs and Bromley 1989; Ostrom 1990; Pomeroy and Rivera-Guieb 2006).

Wetland resources in the *Hakaluki haor* area, as described in chapter 3, are critical for the local communities, as their livelihood is governed by the resources and the management approach. The present management approach, perhaps logically follows Hardin's (1968) thesis of state control and privatization of the commons to stop commons tragedy, but in reality such a management approach fails to ensure social well-being and the sustainability of resources. This management approach is structurally weak for realizing management practices and the knowledge of local communities, which relate to many issues of sustainability (Berkes *et al.* 2005; Gibbs and Bromley 1989). The burgeoning population in tropical Asia, more specifically in Bangladesh, not only increases demand for natural resources but also brings new threats to the sustainability of natural resources; such a demographic factor needs to be addressed through effective changes in population policy and in the resource management approach.

A focus only upon the EEF approach encourages the overexploitation of natural resources (Khan and Haque 2010). The term "sustainable development", which emerged from the 1987 report of the UN's World Commission on Environment and Development (also known as the Brundtland Commission), implies the use of natural resources "*to meet the needs of the present without compromising the ability of future generations to meet their own needs*" (Brundtland Commission report, 1987). Sustainable development should therefore be grounded on local level solutions, drawn from community initiatives (Ghai 1994; Ghai and Vivian 1992; Leach *et al.* 1999). In this regard, the involvement of

local resource users in the management system is critical to ensure sustainability in NRM, as they are effectively capable of determining management problems and bringing knowledge and appropriate local management practices that are conducive to sustainable development. Understanding economic, social, ecological and political aspects of resource management is very vital to design the management approach for sustainability in resource management. Local communities are placed at the centre of design principles of community-based natural resources management or adaptive co-management to remove the impediments to sustainable development by involving them in the decision-making process through the local level institutional arrangement (Agrawal 2001; 2002; Agrawal and Gibson 1999; Berkes *et al.* 2005; Ostrom 1990). It is asserted that community-based management and/or co-management contribute several good attributes of management, such as transparency, accountability and a self-governing management system; a democratic and participatory way of decision-making; low transaction cost; minimum acceptability among diverse stakeholders; effective enforcement measures; and better communication among resource users (Pomeroy and Ahmed 2006).

In light of the above, this chapter attempts to make a critique of community-based management, including many of its components, such as community mobilization, institutional arrangements, empowerment, decision-making processes, and participation. It examines the performance of community based organizations (CBOs) in the *Hakaluki haor* area under three different development initiatives, namely, Sustainable Environment Management Program (SEMP) 1998-2005, Community Based Fishery Management-2 (CBFM-2) 2001-2007, and Coastal Wetland Biodiversity Management Program (CWBMP) 2001-ongoing. Some basic information about these developments initiatives is presented in Table 4.2 to illustrate their profiles and fundamental characteristics.

In this investigation, an analysis of seven selected Community-Based Organizations (CBOs)—of which two are from SEMP, three including one women's CBO are from CBFM-2, and the remaining two are from CWBMP—is attempted to assess their performance and lessons learned and to examine their policy implications. However, the CBOs were selected on the basis of the dependency and connectedness of resource users on the *haor* resources, group dynamics and diversity of stakeholders, suggestions from CNRS staff and other local community. In the analysis, the focus is placed on their

mobilization process, institutional development, ability to develop and implement a participatory action plan, and the legitimacy to unfold their performance toward the sustainable management approach at higher levels of the decision-making process.

Table 4.2: Community-Based Wetland Resource Management Initiatives in Hakaluki Haor Area

| Name of Development Initiative | SEMP | CBFM-2 | CWBMP | Observations |
|--------------------------------|--|--|--|---|
| Implementing Agency | MoEF, IUCNB and CNRS | DoF, WorldFish Center, CNRS | DoE, CNRS, IDEA and <i>Prochesta</i> | GO, INGO, NNGO and LNGO involved in wetland resource management |
| Funding agency | United Nations Development Programme (UNDP) | Department for International Development (DFID) | Global Environment Facility (GEF) | Donor-supported development projects |
| Project period | 1998-2005 | 2001-2007 | 2003-2010 | SEMP and CBFM-2 completed and CWBMP on going |
| Objectives | <ul style="list-style-type: none"> -to prevent and reverse the present trends of wetland degradation -to enhance sustainable use of wetland resources -to promote community level sustainable development -to ensure community participation in formulation and implementation of sustainable management plans | <ul style="list-style-type: none"> -developing and testing community-based fisheries management approaches and assessing impacts, sustainability and scope for expansion of these approaches - identifying, testing and assessing mechanisms to coordinate and link local community management within larger fishery and wetland systems - informing and influencing all fisheries policy stakeholders about improved management approaches | <ul style="list-style-type: none"> -to ensure the conservation and sustainable use of globally significant wetland biodiversity at <i>Hakaluki haor</i> through its management as an ECA -to ensure the conservation and sustainable use of globally significant wetland biodiversity at the Cox's Bazar sites through their management as ECAs - to support efforts by DOE to institutionalize the concept of ECA management using the experience gained through the above demonstration sites | In all three development initiatives main focus is to develop a sustainable community-based wetland resource management in <i>Hakaluki haor</i> |

GO-Government Organizations, **INGO**-International Non-governmental Organizations, **NNGO**-National Non-governmental Organization and **LNGO**-Local Non-governmental Organization

4.2 Community-Based Wetland Resource Management (CBWRM) in Bangladesh

Until now, the main purpose of the government's strategy for wetland resource management has been to maximize revenues from natural resources by periodically renting out of *jalmohals* to the private sector (see chapter 3). An initiative was undertaken following the independence of Bangladesh in 1971 that continued till 1973 to change the leasing system of *jalmohals* into a licensing system for registered fishermen cooperatives. In 1986, after the pronouncement of the New Fishery Management Policy, *jalmohals* were leased out to individual fishermen under a pilot scheme through the DoF (about 300 *jalmohals* were transferred from MoL to DoF for management under the license system).

In fact, this attempt had negligible impacts on the poor members of communities, as fishers cooperatives tended to be under the patronage of *mohajons* (money lenders) for borrowing money from them to pay the license fee. Individual fishermen are also dependent on money lenders to pay the license fee, and in return, most of the benefits are captured by money lenders instead of the expected genuine fishermen (Ahmed *et al.* 1997; Thompson *et al.* 2003). Because of their weak institutional capacity, as well as organized mobilization against this system by financially and politically powerful vested groups (which had previously benefited from the leasing system), this effort could not be sustained by the DoF. Eventually the pilot scheme of the license-based fishing system for genuine fishermen was abandoned and the government returned back to the old leasing system (details are in Chapter 3).

As the positive impacts of CBNRM are documented in the literature, growing international interest in sustainable development (such as UNCED) and as a donor priority together built up pressure on the state agencies to change from the EEF approach to the people-oriented, community-based approach to natural resources management (Adams and McShane 1992; Berkes 2004; Berkes *et al.* 2005; Borrini-Feyerabend 1996; Johannes 1998; 2002; Ostrom *et al.* 2002). The CBWRM initiative can be seen as an outcome of long negotiation processes that included the international environmental movement, i.e. UNCED, Johannesburg Summit (Holmberg *et al.* 1993), conditional funding support from donor agencies, and pressures from civil society organizations. In terms of legislative and administrative moves, there has been a shift of wetland resource

management in the country since the 1980s that has emphasized stakeholders' participation and empowerment, which has enabled them to take part in the decision-making process of resource management. However, implementation of the community-based management approach was limited only to a handful of development projects in which *Hakaluki haor* was also included. The above-mentioned three development initiatives have been implemented as part of CBWRM.

4.2.1 Community-Based Wetland Resource Management (CBWRM) in *Hakaluki haor*

Understanding the state of property rights is needed for assessing CBWRM in the *Hakaluki haor* area as these have a significant bearing on the access, control and entitlement of local poor communities. Also, they have implications for the level of harvest of resources and thus for the overexploitation of natural resources, which raises concern about sustainability issues. From the legal point of view, a *haor* is a government-owned water body that contains one or more *Jalmohal* (fishery estate), and they are managed by the Ministry of Land (MoL), specifically for revenue earning. The leasing system not only provides temporary periodic property rights to lessees, which allows the overexploitation of resources, but also undermines the access to resources by the local communities from their customary user's rights. Once *jalmohals* are leased out, local resource users can have limited and/or no access to *haor* resources. This creates immense burden on them to secure livelihood supports. Generally, politically and financially powerful individuals or groups take advantage of capturing *Jalmohals* through a so-called 'open tender bidding system'; the system allows unchecked resource harvesting to maximize economic returns by lessees (Siddique 1989; Toufique 1997).

Pursued primarily by donors, the renewed emphasis on improved governance, the need for decentralization power, and strategic financial supports have motivated the Government of Bangladesh to consider the community-based management or co-management approach in NRM (Thompson *et al.* 2003). Recognizing the reality that the local communities are the key stakeholders for effective management of the wetland resources, in the pilot projects, their participation has been considered critical for the sustainable management of the wetland resources. In CBWRM, community participation

has been made mandatory in all stages of planning as well as in the implementation of the development projects in *Hakaluki haor*.

As mentioned before, three development initiatives, i) SEMP, ii) CBFM-2, and iii) CWBMP, have been implemented under the CBWRM approach from 1998 to 2010 in the *Hakaluki haor* area (Table 4.2). The primary objective of these development projects was to involve the local community in the decision-making of NRM within some new institutional arrangements. These included the decentralization of the authorities of concerned government agencies, devolution to local communities of the management responsibilities, and facilitation of the access and rights of the locals to wetland resources.

4.2.2 Whose Management Matters: Community-Based Wetland Resource Management (CBWRM)

What is the state of institutional arrangements to manage the wetland resources in *Hakaluki haor*? What is the role of the local community in the decision-making process? Why and how have the local communities been involved or excluded from the wetland resource management? All these issues are important to determine the potentiality of collective action in *Hakaluki haor* resource management under CBWRM. Multiple actors with diverse interests are involved in resource management in the *haor*, impacting the resource use and sustainability significantly (see Figure 4.1). Formal sectors are involved in a ‘tug-of-war’ to establish their authority on the *haor* to justify their existence and importance as a management entity. Sectoral institutions are basically designed to concentrate only on their sector without recognizing their connectivity with other sectors. In contrast, communities view the *haor* as a large single unit in which all resources, such as land, water, forest, fish, and wildlife, are interconnected and interdependent, which signifies an integrated view of management. Variation in lenses obviously has an immense impact on the management approach. The single resource management approach oversimplifies the management issues as it fails to recognize the interconnectedness of natural resources and the existing complexity in the ecosystem to maintain its ecological functions.

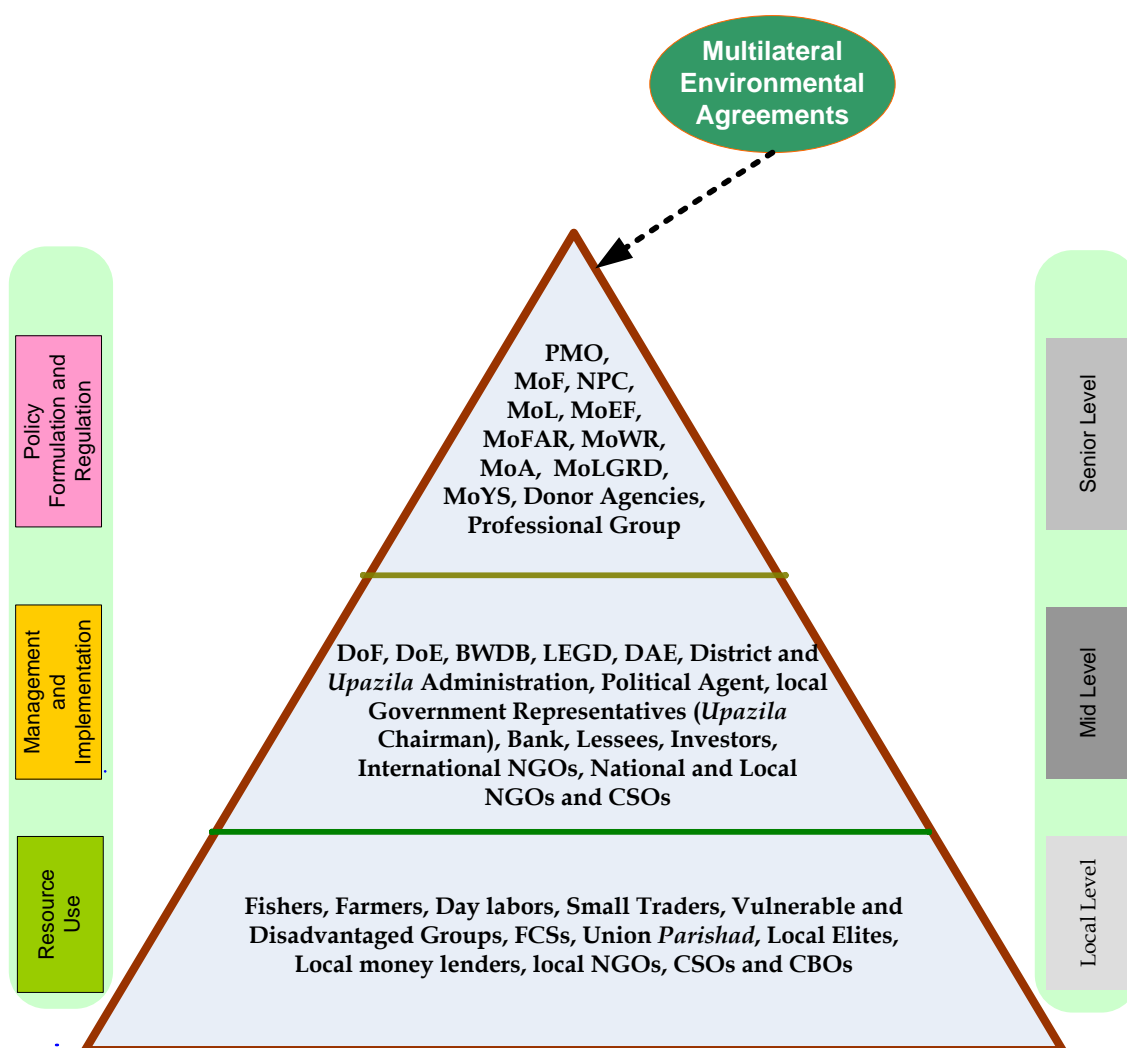


Figure 4.1: Involvement of Diverse Stakeholders in Resource Management of Hakaluki Haor

Diverse stakeholders are involved in the *haor* resource management with the complex power structure and interests. It is documented that the most powerful stakeholders do not take into account the aspects of sustainable wetland resources management in their practice. For example, MoL possesses the most authoritative position to manage *Hakaluki haor* (so as to other *jalmohals* of the country) and it has little or no interest in the sustainable development of *jalmohals*. The local communities are the most important and interested stakeholder in the sustainable *haor* resource

management, but have little or no power to take part in the decision-making process as well as in ensuring their access and rights to the resources (Table 4.3).

It was also found that the traditional usufruct rights of the local communities in the *Hakaluki haor* area have continuously been denied by the current lessees. Local communities pointed out that power and authority are not necessarily related with interest in managing the *haor* in a sustainable way; rather these have been used to exploit the *haor* resources for personal gains of some powerful individuals. Outsider non-fishermen lessees are the real beneficiaries of the present management system.

Under such a state, many stakeholders hold the most power to influence the management decision and are able to change management practices in wetland resource management. For instance, the Ministry of Finance (MoF), though it has no direct connection with the *haor* resource management, it does have the power to change the financial policy of the wetland taxing, which has a considerable impact on the management approach.

The complex power structure in the rural community very often dictates resource use in the *haor* area, which undermines the access and rights of traditional resource users. Local elites, public representatives, and political agents are notable ones who are enjoying some level of autocracy within the society without being challenged by local communities. The poor members are patronized by these powerful groups by taking advantage of their vulnerability during their difficult periods. The local power structures are very important elements for higher (regional and national) political levels, as they are needed to mobilize supporters in the election process.

The existence of the sectoral management approach in *haor* resource management often creates serious antagonism between public agencies in pursuing their objectives and their desire to hold authority over the resources without considering the genuine and legitimate importance of other sectors. This type of institutional conflict undermines the long-term sustainability of resources. Basically, the MoL is responsible for collecting revenue from *jalmohals* leasing, and this has a serious impact on the access, rights and entitlements of local communities. The present management approach of renting *Hakaluki haor* has been impacting the economical, social and ecological aspects of the *haor*, ultimately causing serious impediments to sustainable development. These aspects

Table 4.3: Power²⁷ and Interest²⁸ of Stakeholders in Resource Management of *Hakaluki haor*

| Name of Actor | High power-high interest | High power-less interest | Low power-high interest | Low power-less interest | Focus Area |
|---|--------------------------|--------------------------|-------------------------|-------------------------|--|
| MoL District and <i>Upazila</i> Administration | √ | | | | Land management and revenue collection |
| MoFAR DoF | | | √ | | Fishery resource management |
| MoEF DoE | | | √ | | Natural resources management |
| MoWR BWDB | | | | √ | Water resources management and Flood control |
| MoA DAE | | | √ | | Agriculture development |
| MoF | | √ | | | Revenue earning |
| NPC | | √ | | | National planning |
| MLGRD | | √ | | | Rural development |
| LGED | | | | √ | Rural communication development |
| MoYS | | | | √ | Youth groups and sports development |
| Local elites | | | √ | | Control over resources and/or working for vested group |
| Local Communities | | | √ | | Access, rights and entitlement of natural resources |
| Professional Groups | | | √ | | Access to and control over natural resources |
| Trader | | | √ | | Profit making from NR |
| Elected Representative | √ | | | | Working for vested group |
| Political agents | √ | | | | Working for vested group |
| NGOs | | | √ | | Management of NR with communities |
| Civil Society | | | √ | | Advocate for CBWRM |
| Bank | | | | √ | Credit and loan |
| Lessees / Private investors | | | √ | | Profit maximization from resource harvesting |
| Money lenders | | | √ | | Profit making from high interest |
| Donor agency | | | √ | | Resource management through CBNRM |
| MEAs | | | | √ | Sustainable development in NRM |

Source: Summarized from FGD and Key informant interviews conducted in 2007 and 2008

²⁷ Power – in terms of authority to take decision on *haor* management

²⁸ Interest – in terms of sustainable *haor* resource management

aspects are being ignored by the MoL. The involvement of multiple government agencies in the *haor* management has created chaos, confusion and complexities in the management approach.

As to offer an alternative approach, the issues and problems of NRM have been successfully addressed in the CBWRM by involving communities through participatory action plan development (PAPD). The process has specifically focused on consensus-building among the stakeholders and the concerned communities.

4.2.3 Complex Social Power Structure and Settings in Resource Use

The diversity of stakeholders not only refers to the heterogeneity of communities, but also signifies diverse resource use patterns, production activities, and livelihood strategies that are interlinked with one another. The findings of my investigation of seven selected CBOs confirm the presence of a diverse nature of communities in the *Hakaluki haor* area (see Figure 4.2-4.5), which are involved in multiple uses of wetland resources within a socially complex power structure. There are conflicts of interest among resource users. These heterogeneous communities (i.e. by professions and ethnicities) hold the ability to minimize conflicts. For instance, during PAPD processes (details are in section 4.3.4) all stakeholders are involved in planning and developing action plans, in which they raise their issues and concerns, and ensure their interests are addressed in the implementation of the plans. Stakeholders are able to minimize conflicts between farmers and fishers on water use during the dry season and drainage of water during early floods, identify areas for plantations and the establishment of fish sanctuaries, identify community conserved areas, and able to craft their rule of conduct in resource use and conservation. The community mobilization process, in fact, empowered the CBO members to reach a consensus on conflicting issues and to take part in decision-making concerning the implementation of the development initiatives in the *Hakaluki haor* area.

All members of the studied CBOs are dependent on, to varying extent, the *haor* resources to maintain their livelihoods. In terms of resource use and profession, they are diverse in nature and include farmers (both land holders and landless), fishermen (fulltime and part time), landless labourers, traders, and service holders. These seven CBOs, consisting of diverse stakeholders, have varying views and interests about

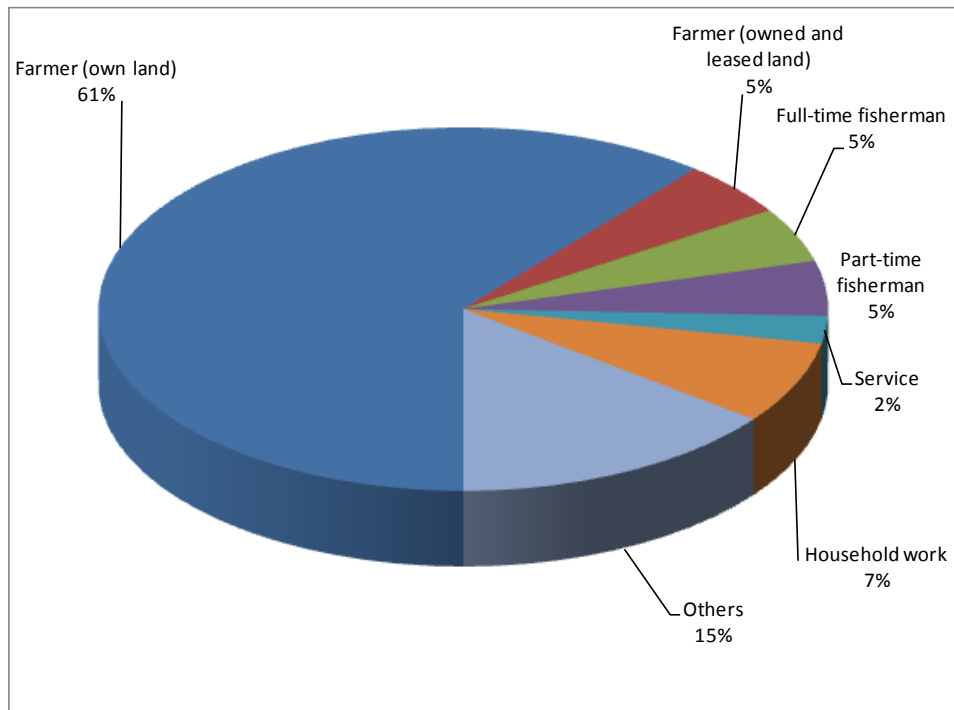


Figure 4.2: Primary Occupation of CBO Members of SEMP, 2007

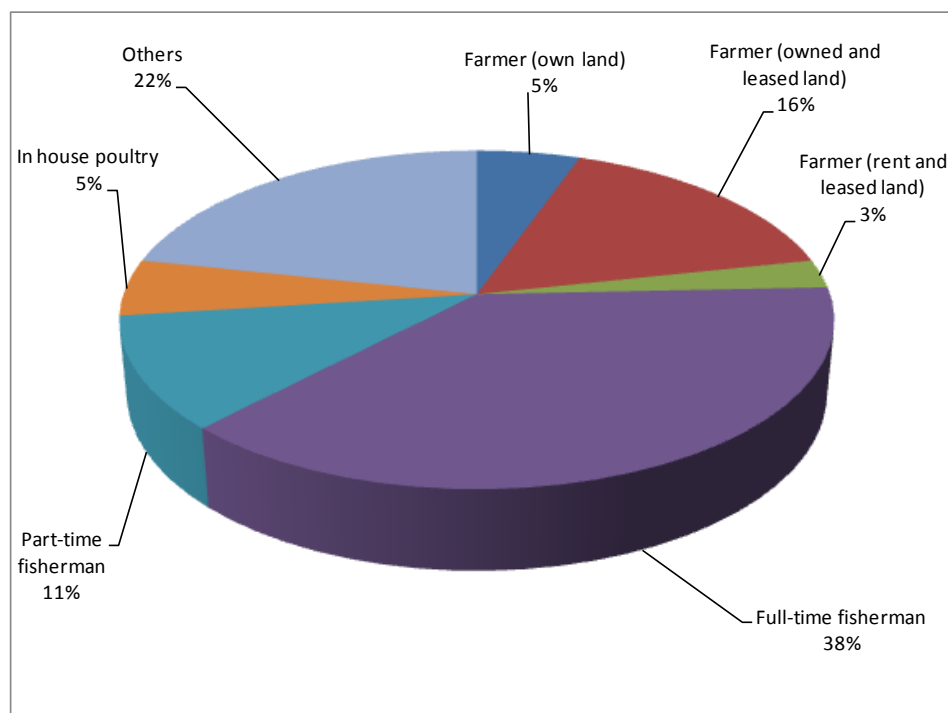


Figure 4.3: Primary Occupation of CBO Members of CBFM-2, 2007

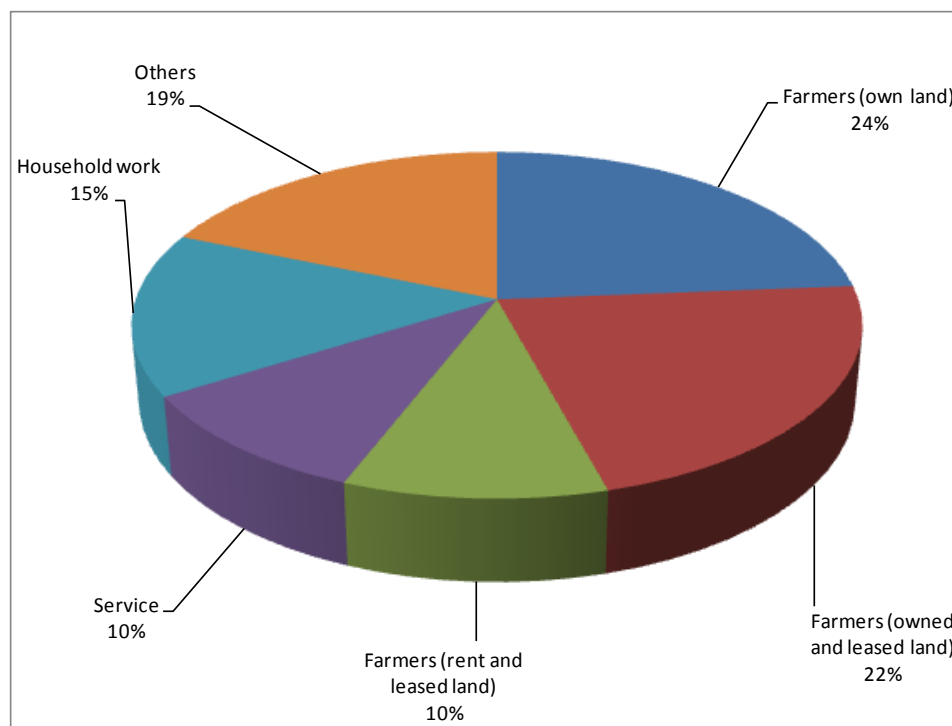


Figure 4.4: Primary Occupation of CBO Members of CWBMP, 2007

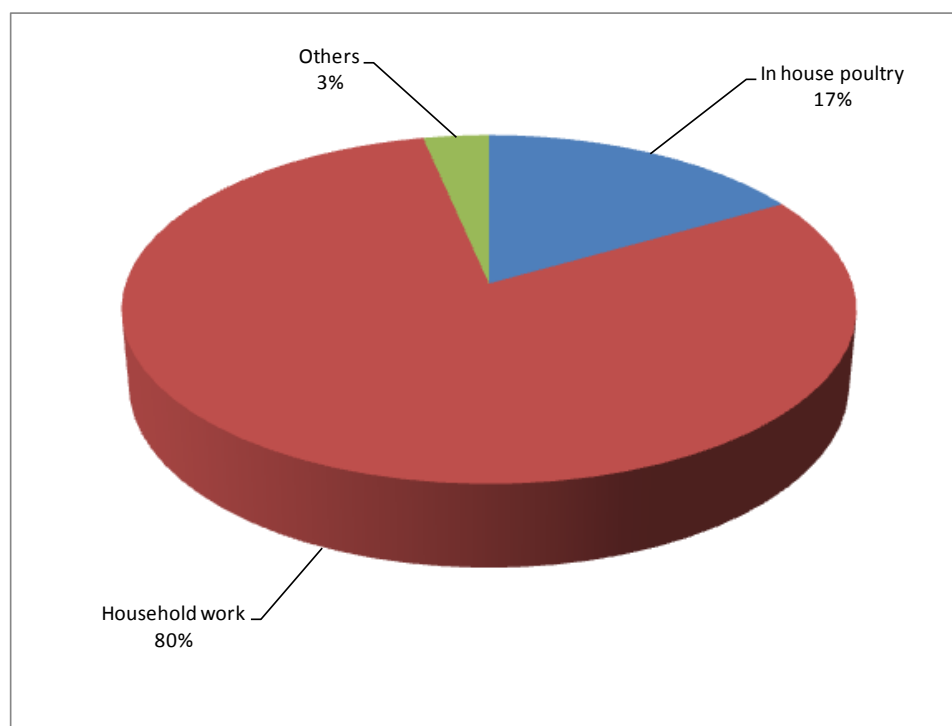


Figure 4.5: Primary Occupation of CBO Members of Women Group, CBFM-2, 2007

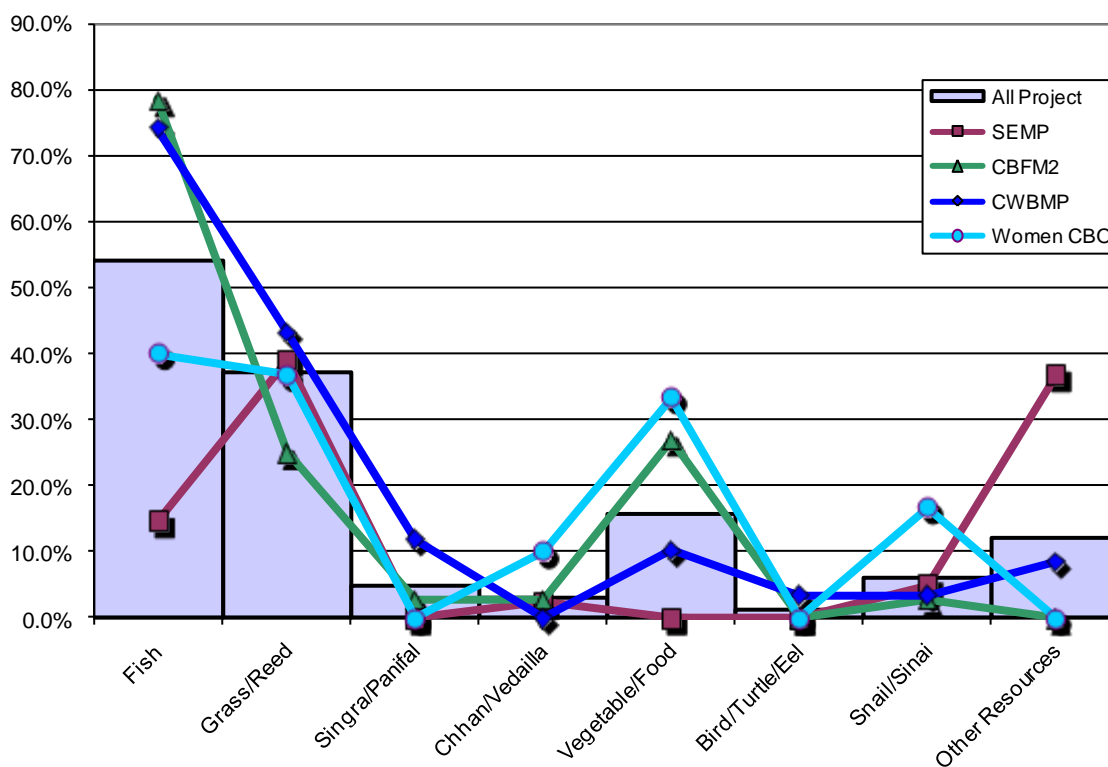


Figure 4.6: Collection of Wetland Resources by CBO Members, 2007

management approach. The CBOs of SEMP and CWBMP are more dominated by farmers and/or agriculture labourers than the CBOs of CBFM-2, which are dominated by fishermen. For example, 66% of the members of *Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.* and *Gobindhapore Juba Samobai Samity Ltd.* (CBOs of SEMP), and 56% of the members of *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* and *Dhash Ghorie ECA Management Bahumokhi Samobai Samity Ltd.* (CBOs of CWBMP) are farmers and/or agriculture labourers, while in the case of *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.* and *Madha Morshidabadkura Samaj Vittik Bahumokhi Samobai Samity* (CBOs of CBFM-2), 49% of the members are fishermen. In contrast, 80% of the members of *Nunua Mohila Samity* (a women's CBO) are involved in household activities (see Figure 4.5). The variety of the *haor* resources are contributing to their livelihoods and include land, fish, water, flooded forests, reeds, aquatic vegetables

and fruits, molluscs and aquatic fauna, and medicinal plants. In the case of all the CBOs, fish ranks number one among all resources of *Hakaluki haor* (see Figure 4.6). However, the pattern of resource collection from *Hakaluki haor* by the communities varies, and it is critical to understand their dependency and the nature of utilization of the *haor* resources to develop a sustainable community-based management approach.

Arguably, local communities are the most vulnerable stakeholders because of their high dependency on the *haor* resources. However, such dependency on resources often leads to conflicts of interest, as the *haor* resources are shared and used by diverse groups of stakeholders. Within the complex and hierarchical social settings, all stakeholders are active in *Hakaluki haor* area, such as poor communities' landless labourers, daily workers, poor fishers, and women, who have limited or no capacity to ensure their access and entitlements to the resources within the present management of the *haor*. They are always at the mercy of powerful stakeholders, even to use their traditional rights to the resources.

Local level stakeholders with great power are not only active at the local level but they also have very strong linkages with regional and national level authorities. This relationship helps them to influence the decision-making process in the *haor* management. Unfortunately, the exclusion of the poor communities is very common in the *Hakaluki haor* area due to social inequality in the village power structures. In the management process, powerful stakeholders are either bargaining with the government authority to ensure their benefits from the resources or taking part in favour of lessees to get a share of the profit from them.

Local communities are dynamic, have their own sets of environmental priorities and claims on natural resources, and are keenly interested in participating in sustainable development activities. Complex power relations within the communities and competitiveness for resource use are obviously the most critical issues for sustaining resources. The issues of sustainability can be dealt with in community-based management and/or co-management approach. The institutional structure and its arrangement are therefore vital to ensure access of the local people and control over wetland resources beyond the development initiatives. A multi-level institutional approach is being experimented within the NRM system to change the current state of access, rights and

entitlements to the resources, and to arbitrate contested resource claims, restructuring and reforming institutions must take place at all relevant levels (Agrawal and Gibson 1999; Armitage 2008; Berkes 2007; Leach *et al.* 1999). The results and experience of a multi-level institutional approach will be analyzed in Chapter 6.

4.2.4 Mobilization of the Communities and Participatory Action Plan Development (PAPD)

Many scholars have drawn attention to the importance of community participation in the natural resource management decision-making process to improve the outcome of management results. They have emphasized the mobilization of local communities, utilization of local institutions and local knowledge, establishment of a common property regime and effective partnership for community-based management with formal institutions (Berkes 2007; Berkes and Folke 1998; Pomeroy and Berkes 1997; Sultana and Abeyasekera 2008). It is necessary to assess to what extent the participatory processes are able to develop links with the local level institutions, what are the democratic and deliberative forms of engagement, what is the nature of vertical and horizontal partnerships and linkages, how to create synergies across sectors, how to ensure access and rights of the poor community members, and how to use and manage resources for sustainability.

Critics have argued that participation could turn into ‘tyranny’ if the participatory process fails to account for complex social power structure and implement participation as tools rather than empowerment (Cooke and Kothari 2002; Holmes and Scoones 2000; Mosse 2002). From this consideration, it is therefore required to use appropriate participatory methods that confer suitable fitting to community level planning for contested NRM.

The participation of local communities in planning and implementing the development activities was central to SEMP, CBFM-2 and CWBMP. These three development projects have been implemented by delegating power from government organizations (GOs) to international, national and local non-governmental organizations (NGOs) to involve local communities in the decision-making process. NGOs were involved under partnerships agreement with the concerned GOs to carry out these development initiatives (details of the structure of CBOs and partnership arrangements

with GOs, INGOs, NGOs, LNGOs and CBOs are presented in the following chapter - Chapter 5). Success and achievement were directly related to the effectiveness of the participation of local communities in these development initiatives. The application of a robust participatory method was observed to be very important to engage local communities for wetland resource management.

The Participatory Action Plan Development (PAPD) approach was first developed and used in Bangladesh for consensus-building among diverse stakeholder groups, concerned with the natural resources of *haors* and floodplains (Barr *et al.* 2000; Barr and Dixon 2001; Sultana and Thompson 2004; Sultana *et al.* 2007). The PAPD recognized that multi-stakeholders' livelihoods are linked with natural resources, the power structure in the community is complex, and disadvantaged groups are being excluded from their access to resources. The PAPD process was organized under a three phase process: i) *Scoping phase*, ii) *Participatory planning phase*, and iii) *Implementation phase/management phase*. Each phase had several steps that involved a series of local workshops to involve local stakeholders with diverse interests in the proposed plan. During the PAPD process, special attention was given to include the interests of the disadvantaged, particularly the poor of the project area, as they are often excluded by powerful stakeholders. The methodology of PAPD was structured into rounds of divergent and convergent sessions. Barr and Dixon (2001) argued that the PAPD process is good for helping multiple stakeholder groups to find common grounds, shared problems and solutions, and develop consensus among them to work together. A brief summary of PAPD processes is provided in Table 4.4, which have been followed in the implementation of SEMP, CBFM-2 and CWBMP.

PAPD processes in SEMP, CBFM-2 and CWBMP have been carried out in such a way so that all stakeholders could be involved and actively participate to develop the action plan for the project implementation. During the *scoping phase*, all three steps, situation analysis, reconnaissance social survey and stakeholder analysis, and household survey, were executed for the *Hakaluki haor* initiative. In the *planning phase*, participants for *problem census* sessions were selected from the *household census* list by following a stratified random sampling protocol. All stakeholders were involved in the

Table 4.4: Phases and Steps of Participatory Action Plan Development by the Local Community

| Phases and Steps of PAPD | Purpose |
|--|---|
| Phase 1: Scoping phase | |
| Step 1: Situation Analysis | <ul style="list-style-type: none"> • Understanding of the bio-physical, socio-economic and cultural environment of the area. • Understanding of the natural resource systems and sub-systems. • Summarizing local knowledge, organizations and institutions. <p>This provides some insights for the facilitators, which they will call upon during the PAPD workshops, when they try to draw out NRM constraints and possible solutions.</p> |
| Step 2: Reconnaissance social survey and Stakeholder analysis | <ul style="list-style-type: none"> • Understand the level of interaction between communities and resource systems • Identify the locally relevant stakeholder groups through key informants • Consideration of socio-economic status and gender |
| Step 3: Household census and stratified random sample of household | <ul style="list-style-type: none"> • Stratified by stakeholder categories |
| Phase 2: Participatory planning phase | |
| Step 4: Problem census | <ul style="list-style-type: none"> • Identification of issues, concerns and problems related to natural resources |
| Step 5: Cluster problems | <ul style="list-style-type: none"> • Problem ranking by combining stakeholder group ranking |
| Step 6: Plenary with stakeholders and local leaders | <ul style="list-style-type: none"> • To review and agree on main problems for solution analysis |
| Step 7: Solution and impact analysis | <ul style="list-style-type: none"> • Discussion of impact and possible solutions with each individual stakeholder group |
| Step 8: Plenary with stakeholders and secondary stakeholders | <ul style="list-style-type: none"> • Present the process, identify feasible solutions and institutional arrangement • Develop a shared framework of understanding and take steps to an action plan |
| Phase 3: Implementation/management phase | |
| Step 9: Develop community based organization for resource management | <ul style="list-style-type: none"> • Creation of community-based organization • Institutional arrangement for resource management |
| Step 10: Develop detail plan by community organization | <ul style="list-style-type: none"> • Identify and adopt agreed upon solutions for detailed plan |
| Step 11: Problem mitigation/solving session | <ul style="list-style-type: none"> • Review and adjust plans with community • Identify mitigation measures • Avoid any adverse impacts |
| Step 12: Implementation of action plan | <ul style="list-style-type: none"> • Ground level action implementation |

(Developed after Barr *et al.* 2000; Barr and Dixon 2001; Sultana *et al.* 2007)

identification of the problems, determination of root causes, and prioritization of problems. Representatives from GOs, NGOs, local government (*Union Parishad*) and various stakeholder groups participated in the *plenary session*. They exchanged their views on environmental concerns of the *haor* area, offered possible solutions and suggested institutional arrangements for action plan implementation. Their recommendations on how to avoid adverse impacts and find out feasible effective interventions were incorporated in the upcoming action plan. Social, economic, political, technical and sustainability aspects of proposed actions were thoroughly analyzed in the plenary session. Finally, the workshops developed a shared framework of understanding and took steps towards an action plan development and implementation.

4.2.5 Capacity Building Efforts for Effective Engagement of CBOs in NRM

The significance of capacity-building relates to the aspects of learning, skill acquisition at the individual level, and human resource development at the societal level. These aspects are captured in a traditional proverb, which suggests that: “*Give a man [person] a fish; you have fed him [or her] for today. Teach a man [person] to fish; and you have fed him [or her] for a lifetime*” (<http://www.eduqna.com/Quotations/815-Quotations-6.html>).

In the context of the capacity-building of CBOs themselves, and of the community by the CBOs, the proverb implies that these organizations are required to focus on sustainable know-how development among the community members and on engaging them effectively in the decision-making process, rather than on providing relief or periodic logistical or material help. This proverb applies very well to the context of the fishers’ needs and the role of CBOs in the *Hakaluki haor* area. This proverb also offers, in a philosophical way, what should be done to address the issues of knowledge and skill development of weaker and vulnerable groups in the society so that they can maintain their livelihoods independently and with dignity. It can therefore be argued that one of the critical tasks for partner organizations (i.e. CNRS, IUCN and Worldfish Center) is to provide appropriate training and initiate capacity-building programs for CBOs.

Anand and Sen (1994) emphasize that the development of human skills is critical for enhancing abilities and making larger contributions to progress, and it is important for devising ways and means of dealing with environmental and other challenges. Capacity

building therefore needs to be viewed concurrently with the development processes. Within the scope of the capacity-building approach, it is necessary to identify the constraints that CBOs experience in realizing their basic rights and in finding out the appropriate ways to strengthen their ability to overcome the problem of their exclusion and suffering (Eade 1997). The lack of certain skills may hinder the CBOs from being effectively engaged in the decision-making process as implementing partners of the development initiatives, e.g., SEMP, CBFM-2, and CWBMP.

In order to enhance the capacity of CBOs, several training programs on various aspects of development were conducted during the implementation of SEMP, CBFM-2 and CWBMP in *Hakaluki haor*. Capacity-building programs for the CBOs have been organized by both national and international NGOs (i.e. CNRS, IUCN and Worldfish Center) in which resource persons/trainers were also recruited from GOs. These training programs can be clustered into three categories: a) institutional development (i.e. leadership development, participatory planning, accounts and financial management, credit management, office management, NRM policy implementation and gender awareness), b) resource management (i.e. open-water fisheries management, wetland resource management and regeneration and rehabilitation of flooded forests), and c) alternative income generation (i.e. nursery development, poultry, duckery and livestock rearing, fish culture, and small trading and business).

The findings of my study have revealed that the performance of the seven CBOs was varied at the management level, though they had received the same training to enhance their knowledge and skills. In terms of the impacts and outcomes of wetland resource management, out of seven CBOs, three CBOs, namely, *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, SEMP, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, CBFM-2, *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.*, CWBMP and *Nunua Mohila Samity*, CBFM-2 came out as “good” performers in wetland resource management, whereas *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, CWBMP was found to be “average”, and *Gobindhapore Juba Samobai Samity Ltd.*, SEMP and *Madha Morshidabadkura Samaj Vittik Bahumokhi Samobai Samity Ltd.*, CBFM-2 were found to be “poor” performers (Table 4.5). The following discussion elaborates on the effectiveness of performance of

the CBOs in collective action and deals with the question why all the CBOs of my study area could not perform at the same level. In addition, the lessons learned are also determined in this section of the chapter.

4.2.6 Community-Based Organizations: Collective Action in Resource Management

The success of a participatory action plan depends on how the members of CBOs take responsibility for implementation of the plans. My study of seven CBOs from three development initiatives has revealed that they performed differently in the implementation of the participatory action plan aimed at engendering the expected outcomes and impacts of wetland resource management in *Hakaluki haor*.

During the implementation of three development initiatives of the government, the field level supports were provided by the Center for Natural Resource Studies (CNRS) and three different public agencies, namely, MoEF, DoF and DoE. The community-based management approach has been adopted in all SEMP, CBFM-2 and CWBMP initiatives to involve local stakeholders in the decision-making process in order to share authority and responsibility with them. The outcomes and impacts of CBWRM were particularly dependent on appropriate facilitation by NGOs and on the individuals concerned with these initiatives. The assessment of seven CBOs showed different degrees of achievement in their performance regarding the implementation of project activities (Table 4.5). The overall evaluation of CBOs has shown that four CBOs have been effective in the implementation of their tasks which was agreed during the PAPD process, whereas other three CBOs have failed to demonstrate their ability to mobilize collective action in *Hakaluki haor* resource management. It is important to note that during PAPD process action plan and implementation modalities were developed with shared understanding by the members of the respective CBOs. It was expected that all CBOs will implement agreed activities as a collective action. Therefore, evaluation criteria i.e. indicators were selected based on action plans, discussion with members of CBOs and field staff of CNRS to evaluate performance of the studied CBOs. A few examples of collective actions taken by CBOs of SEMP, CBFM-2 and CWBMP are summarized below, demonstrating the ability of CBOs to implement collective actions with shared understanding among stakeholders.

Table 4.5: Level of Outcomes and Impacts of Wetland Resource Management of CBOs

| Name Indicator | NSBSSL | GJSSL | SSVBSSL | MMSVBS SL | BSECAMBSS L | DGECAMBS SL | NMS |
|------------------------------|---------------------------|------------------------|---------------------------|-----------------------|--------------------------------------|--------------------------------------|---------------------------|
| Institutional Support | MoEF, IUCNB and CNRS | MoEF, IUCNB and CNRS | DoF, WFC and CNRS | DoF, WFC and CNRS | DoE, CNRS, IDEA and <i>Prochesta</i> | DoE, CNRS, IDEA and <i>Prochesta</i> | DoF, WFC and CNRS |
| Conflict management | Minimum internal conflict | High internal conflict | Minimum internal conflict | Low internal conflict | Minimum internal conflict | High internal conflict | Minimum internal conflict |
| <i>Beel</i> management | N/A | F | S | F | N/A | N/A | N/A |
| Closed season for fish catch | N/A | F | S | F | N/A | N/A | N/A |
| Fish sanctuary | N/A | N | N | N | Y | Y | N/A |
| PLS for plantation | Y | N | Y | N/A | Y | N | Y |
| Afforestation | GP | N | N | N/A | PS | N | N |
| Wildlife protection | Y | F | Y | F | Y | Y | N/A |
| <i>Co-management</i> | | | | | | | |
| Participation | H | L | H | L | H | M | H |
| Code of conduct compliance | Y | N | Y | N | Y | N | H |
| Resource status | I | D | I | D | I | Av | I |
| Resource mapping | Y | Y | Y | Y | Y | Y | Y |
| Legitimacy | H | L | H | L | M | M | H |
| Savings | Y | N | Y | N | Y | Y | Y |
| Micro-credit operation | Y | N | Y | N | N | N | Y |
| Endowment Fund management | Y | N | Y | N | Y | Y | Y |
| Overall evaluation | G | P | G | P | G | Av | G |

Overall evaluation based on the synthesis of success indicators of CBOs

NSBSSL= Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd., **GJSSL** = Gobindhapore Juba Samobai Samity Ltd., **SSVBSSL**= Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd., **MMSVBSSL**= Madha Morshidabadkura Samaj Vittik Bahumokhi Samobai Samity Ltd., **BSECAMBSSL**= Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd., **DGECABSSL**= Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd., and **NMS**= Nunua Mohila Samity.

Resource management: F= fail, S= successful, N/A= not applicable, N= no, Y= yes; **GP**=good plantation, **PS**= plantation started; co-management: H= high, L= low, M= Medium, I= increase, D= degrade, Av= average, G= good, P= poor and **PLS**= potential land use survey.

4.2.6.1 Flooded forests restoration by Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd., SEMP

Flooded forests are one of the important resources of *Hakaluki haor* that provide ecological goods and services to the local communities for their livelihoods as well as to the *haor* ecosystem to maintain ecological processes. During the PAPD processes, members of *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.* identified the rapid degradation of flooded forests in the *haor* area and viewed it as a critical issue for local communities, particularly to save their homestead and houses from wave erosion during the monsoon and to supply fuel energy for household activities. Stakeholders were unanimous in addressing the restoration of degraded flooded forests through plantation in *khas* land, specifically *kandha* and *ejmali* lands of *Hakaluki haor* area. CBO members were involved in designing the plantation program, in identifying potential land/area, in assessing the present land tenure system, the nature of resource harvesting, sapling collection, nursing, and the protection of the planted area, and in determining the benefit-sharing mechanisms among stakeholders. All these were done through community level meetings in order to develop shared norms and understanding on the proposed afforestation plan. The CBO members have taken the following specific actions to make the community-based flooded forests restoration program in the *haor* a success:

- CBO members developed comprehensive resource maps of the area that provide the state of the resource base of their commanding area (see Figure 4.7).
- All members of the CBO were considered as stakeholders in forest plantation activities and had an equal share in receiving benefits from generated resources.
- A Project Implementation Committee (PIC) of 3-7 members was formed from and by CBO members, and PIC acted as the plantation sub-committee to implement plantation activities, monitor compliance with the code of conduct, and report back to all members in a meeting.
- Potential lands for plantation, particularly *khas* land and/or *kandha* through a potential land use survey (PLS), were identified by the members from the CBO.
- The total area under the flooded forest restoration program was five square kilometres, on which *Hizal* (*Barringtonia acutangula*), *Karoch* (*Pongamia pinnata*) and *Barun* (*Crataeva magna*) have been raised by CBO members.

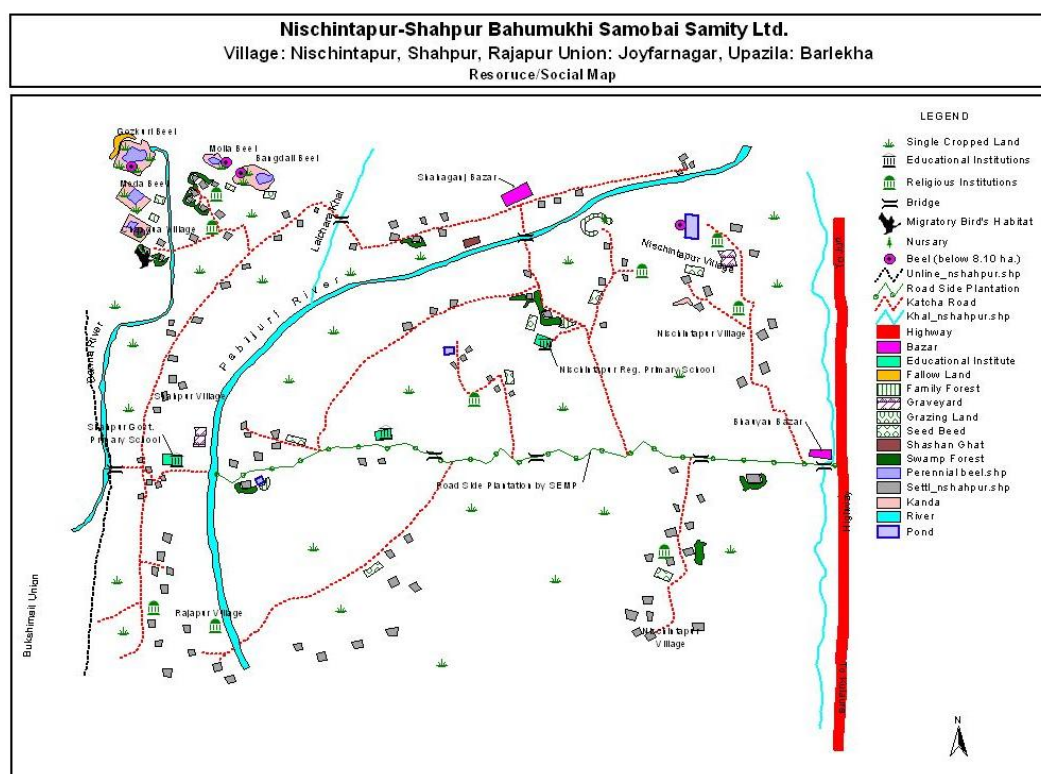


Figure 4.7: Resource/Social Map of *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.* (Map drawn by the CBO members and digitized by CNRS GIS Unit)

- Samplings were collected either from natural sources or from the community-owned commercial nurseries to support entrepreneurship activities of the communities.
- Male members of CBOs were appointed to guard newly planted area while poor women worked on irrigating planted saplings during dry months (March-April).
- In order to enhance the conservation effort, the community also agreed to conserve at least one-fourth of the plantation area as permanent reserved forest that would provide biodiversity protection.
- A resource harvesting code of conduct was developed by CBO members. It was decided that mature forest would be divided into four blocks, of which three blocks would be harvested and remaining block would be conserved as “community conserved area”. Members of CBOs will be allowed to harvest non-

timber forest products on a four-year rotation. The villagers will be allowed to collect grasses and fuel wood, to graze their cattle, and to catch fish during the monsoon with prior permission from the CBOs.

- These flooded forests provided home for both resident and migratory waterfowls, many of which are nationally and globally endangered. Community reported that fishing cats (*Prionailurus viverrinus*) now cited inside the restored flooded forests had disappeared from that area for the last 10 years.
- Members of CBOs agreed on a benefit-sharing mechanism, as stated below:
 - 60% benefit will be distributed equally among CBO members
 - 25% benefit will be saved as a reserve fund for the CBO for community development.
 - The remaining 15% will be distributed to land owners or *Union Parishad* depending on the nature of land ownership.

Members of CBOs have raised serious concerns about their legitimate existence as a community-based organization and ownership on the *khas* land under the flooded forest restoration program, as the government has yet to allocate *khas* land to CBOs and recognize them as legitimate beneficiaries.

4.2.6.2 Community-based fishery resource management (CBFRM) of Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd., CBFM-2

Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd. established community-based fishery resource management in *Gaimara beel* of the *hakaluki haor* area under the CBFM-2 initiative, with active facilitation by CNRS. The DoF made an arrangement with the MoL to hand over a few *beels* under the CBFM-2 initiative, including *Gaimara beel*. Local fishermen were mobilized by CNRS to take part in CBFRM through PAPD processes. Significant features and outcomes of the community-based fisheries resource management of the CBO were as follows:

- Fifty percent of the members of the CBO were from fishermen communities; however, members from other professions were also involved in fishery resource management.

- CBO members were involved in designing the action plan for fishery resource management, including drawing the resource maps (see Figure 4.8); and they also collectively developed a shared understanding and a set of norms for its implementation.

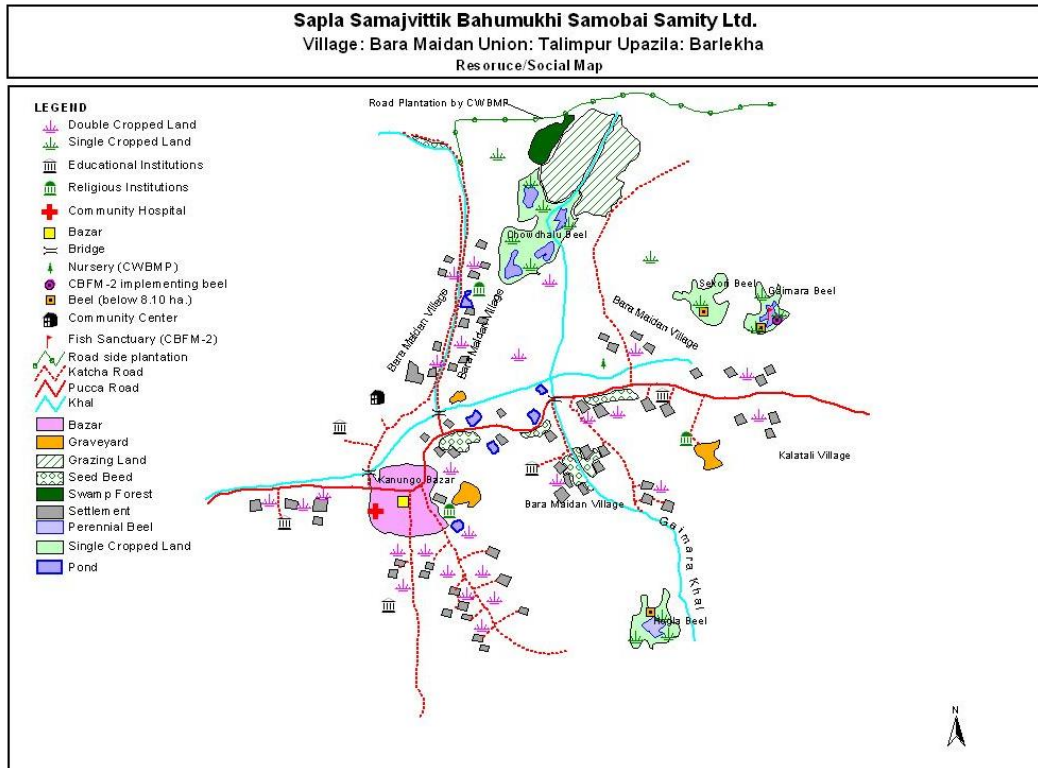


Figure 4.8: Resource/Social Map of Shapla Samaj Vittik Bahumukhi Samobai Samity Ltd. (Map drawn by the CBO members and digitized by CNRS GIS Unit)

- A CBO formed a *Beel* Management Committee (BMC) to act as a core group on behalf of CBOs with partner organizations and others.
- A portion of the *beel* was kept as a fish sanctuary to ensure the conservation of brood fish for the following year's recruit.
- An arrangement for declaring of a “closed season” (banning fish harvesting) for fishing by the CBO members and other local people, particularly during early monsoon, which is the breeding season of fish.

- Very high level compliance of crafted rules by the CBO members, as they were directly involved in framing their roles, which persuaded them to perform ethically in the process.
- The CBO initially received an endowment fund from the CBFM-2 project to pay the lease fee to the MoL, which has been managed efficiently by the CBO and till now the received fund is being used to pay the lease fee.
- Total catch per unit effort increased with community-based fishery resource management by the CBO.
- Because of the conservation effort by the CBO, some fish species are now available in *Gaimara beel* which were locally extinct for many years.

The transfer of *Gaimara beel* from the MoL to the DoF for community-based management expired in 2009. If the CBO wants to continue the CBFM approach in *Gaimara beel*, it will have to compete with others through an open bidding system of leasing to receive the lease-in for the stated *beel*. The CBFM-2 already expired in 2007 and there has not been any initiative from DoF to negotiate with the MoL to hold this *beel* for the CBO to continue with the CBFM approach. Members of the CBO have identified this as a serious setback in drawing institutional support from DoF and an external mediator, i.e. CNRS. The CBO is facing a frightening situation in that under an open bidding system of leasing, outsider investors will take every measure to capture this *beel*, as fish catch has improved significantly in this *beel* due to CBFM. Failure to establish the legal right on the *beel* by the CBO would bring misery to the members of the CBO, and their efforts in CBFM in *Gaimara beel* would have been in vain.

4.2.6.3 Biodiversity conservation of Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd., CWBMP

Biodiversity conservation by involving local communities in *Hakaluki haor* area was one of the major objectives of CWBMP. Under the partnership agreement between DoE and CNRS, the latter was responsible for community mobilization and for developing the CBWRM approach in the *Hakaluki haor* Ecological Critical Area (ECA). CNRS conducted PAPD processes to mobilize the local communities, to identify legitimate stakeholders, and to develop a participatory action plan. Members of *Belagaon*

Sonapure ECA Management Bahumokhi Samobai Samity Ltd. were involved in PAPD processes and developed their plan of actions for biodiversity conservation in their command area. The performance and outcomes of the CBO were effective, as they were involved in the following:

- Identification of potential *khas* lands through PLS for establishing 10 fish sanctuary in *Kanti Nala* River, *Puratan Kanti Nala* River and *Chatla beel* to enhance fish diversity and production (see Figure 4.9).

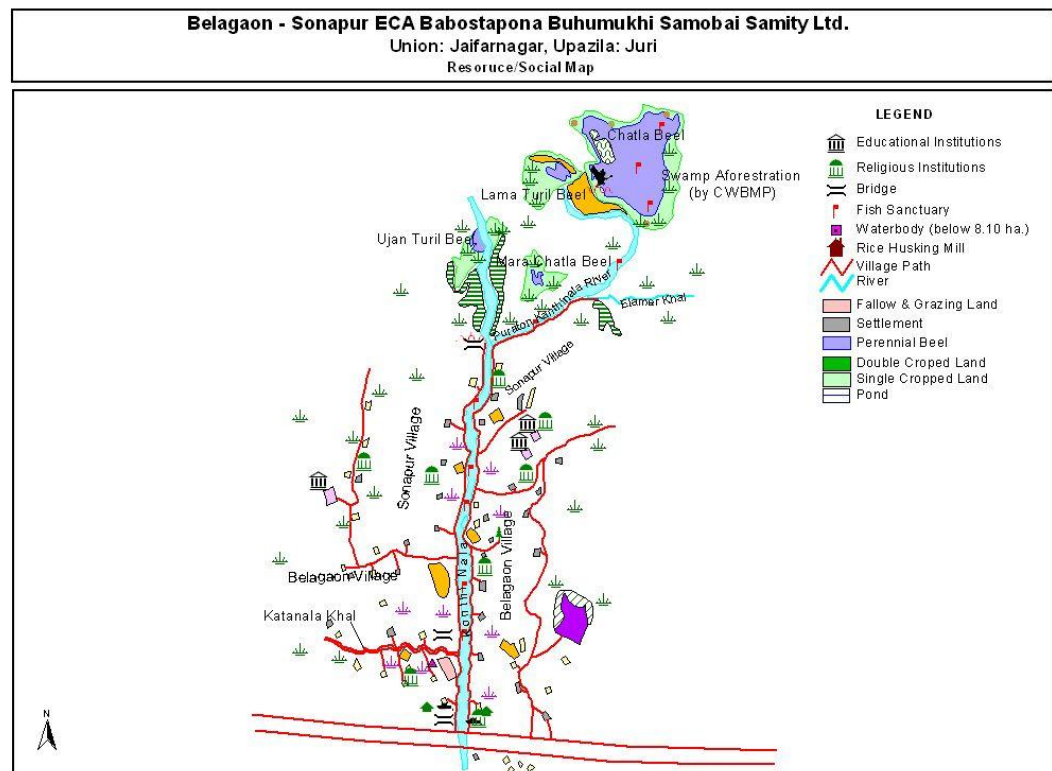


Figure 4.9: Resource/Social Map of *Belagaon-Sonapur ECA Management Bahumokhi Samobai Samity Ltd.* (Map drawn by the CBO members and digitized by CNRS GIS Unit)

- Some *khandha* in and around *Chatla beel* which had the potential for the regeneration of flooded forests were protected. These have been providing a safe habitat for wild flora and fauna.
- Some bird nesting towers in *Belagaon* and *Sonapur* village areas for conserving threatened bird species were established.

- An awareness campaign on conservation issues with local communities helped to motivate them to act against bird hunting, deforestation, using pesticides and chemical fertilizers, and to understand the anticipated benefits of such conservation measures. Two bird hunters are now working as conservation guards for the CBO, as they received opportunity for alternative livelihood support.
- Total fish catch per effort has increased in *Kanti Nala* Rivers and *Chatla beel* area and locally extinct fish species returned to that area.
- Local communities demonstrated responsiveness to rules and regulations on conservation issues developed by the CBO, as higher level compliance was observed among communities.
- There was a steady increase in the number of migratory as well as resident birds in the *Chatla beel* area. Detailed statistics are available in the “*Annual Bird Survey Report of CWBMP 2007*”.

4.2.6.4 Gender perspectives in community-based management – Nunua Mohila Samity, CBFM-2

Nunua Mohila Samity is the CBO of CBFM-2 comprised of all women members. This unique structure was uncommon in other development initiatives like SEMP and CWBMP. The idea of having only women as members of the CBO was to involve local women directly in CBFM, as women were not allowed to join CBOs with male members²⁹. *Nunua Mohila Samity* thus provided a scope for women to get involved in community-based wetland resource management in *Hakaluki haor*. The CBO mobilization process, including carrying out the PAPD processes to develop a participatory action plan to involve members in the activities of CBFM-2, was carried out by CNRS. The important features and outcomes of the CBO were as follows:

- This CBO had an executive committee of 7 members, elected by the CBO members to implement and monitor the activities.

²⁹ The whole Sylhet Division is conservative as compared to other parts of Bangladesh. It is quite unlikely to have any participation of women in any institutional process. Generally, having discussions or exchanging views with women is socially inappropriate if not prohibited.

- The CBO was not directly involved in any *jalmohal* management or fish catch from the *haor* as such, but the members were definitely involved in alternative income-generating (AIGs) activities to support their families. They were, thus, minimizing pressure on the *haor* resources.
- The capacities of the members and the potential area for AIGs were assessed by the members, and these assessments were translated into an action plan for involving individual members in their respective areas of interest and expertise.
- CNRS provided a one-time endowment fund (US\$ 2000.00) from CBFM-2 project to support AIGs activities of the CBO. With this fund, the CBO started its micro-credit program among its members. Individual members were using this micro-credit for a plant nursery, poultry, duckery, goat rearing, beef fattening, making fishing nets, making mats, a home-based small grocery shop and fish trading.
- The CBO has been efficiently managing a micro-credit program with no defaulter among credit recipients, and was able to receive a micro-credit operation loan from the Bangladesh Rural Development Board.
- The CBO had a bank account for maintaining its financial transactions, and individual members had passbooks for their own account updates, which ensured financial transparency and trust among the CBO members.
- CBO has been operating with a micro-credit program of more than US\$ 12,000 among its members during the time of the field survey of the study.
- This CBO also carried out a two-kilometre roadside plantation as well as homestead forestry as part of the community-based forestry program (see Figure 4.10). They also developed a benefit-sharing mechanism for the roadside plantation, with the provision of equal benefits sharing.

Nunua Mohila Samity has been supported and closely monitored by the staff of CNRS, even after the completion of the CBFM-2 in 2007. The members are demanding more support from GOs and NGOs to boost up their micro-credit operation beyond its

membership, as local women are showing interest in the micro-credit program and enhanced livelihood options.

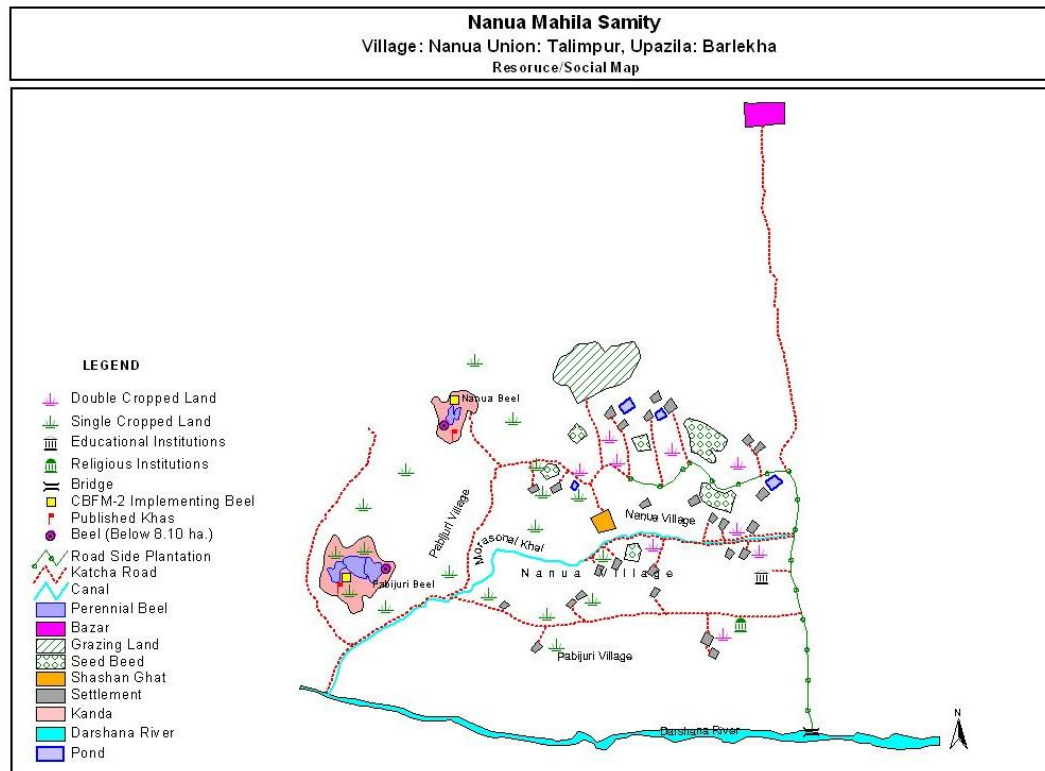


Figure 4.10: Resource/Social Map of Nunua Mohila Samity (Map drawn by the CBO members and digitized by CNRS GIS Unit)

4.3 Lessons Learned

Investigations on seven CBOs of three different development initiatives of CBWRM in *Hakaluki haor* provide us with an assessment of performance regarding institutional and wetland resource management by the local communities in collective actions. Lessons from these CBWRM initiatives are necessary to understand the strengths and weaknesses of the management approach and to determine how to enhance the sustainability of collective actions in a common property regime that is characterized by a complex social power structure and diverse interests among stakeholders. My study has revealed that an appropriate mobilization process is critical to unite disorganized and fragmented community for adopting a collective action approach. CBOs are generally

capable of participating in the decision-making process to implement collective action in order to secure access to and control over resources. The following important lessons were identified in my investigations which are relevant to sustain collective actions in commons management:

- Active participation of an external mediator, i.e. NGOs (CNRS, IDEA and *Prochesta*), is required for involving local resource users in wetland resource management, as local resource users are unable to mobilize themselves for collective action. Such a mobilization process provides the necessary insights to local communities on their rights and entitlements to the resources, to procure access, and to ensure distributional equity among stakeholders.
- There are visible conflicts among diverse formal and local institutions that govern wetland resource management. Institutions with great power are less concerned with sustainability issues of NRM and vice-versa.
- The influence of diverse stakeholders play a profound role in CBWRM, as these stakeholders have a direct bearing on different levels to implement collective actions in which the CBO only performs at one level, i.e. community level. This has limited capacity to operate at the higher levels and to play a part in the decision-making process.
- Considering the importance of local elites in the socio-political setting, it is critical to include local elites in the decision-making process to minimize conflicts.
- The complex social power structure in the rural community has a bearing on the process of CBO formation, in which stakeholders with high power tend to control the CBOs. The process of CBO formation needs to address this issue to defuse power struggles within the communities.
- The process and structure of democratic deliberations in participation of framing rules, developing action plans and implementation mechanisms, and formulating equitable benefit-sharing mechanisms are vital for

adopting a collective action approach and for providing a scope to local communities to share their views and concerns.

- After the termination of the project period, CBOs often suffer from a deficiency in legitimacy as they face threats and challenges by others, particularly by those who had been benefiting from wetland resources. The legal entitlement of CBOs provides its acceptance by the formal institutions and the necessary support to sustain their initiatives within diverse interests of wetland resource management.
- Both horizontal and vertical linkages of CBOs with multi-level organizations ensure the legitimacy of CBOs, as they create scope for their participation in the decision-making process, sharing concerns and issues with higher levels, and providing feedback from local communities.
- Networking among CBOs creates synergy to pursue their mandates with diverse stakeholders active in wetland resource management, and thus, institutional structure on networking is important to sustain CBOs in resource management.
- The performance of CBOs is linked with enhanced capacities to handle complex issues of natural resource management, which include institution-building, participation in the decision-making process, and maintaining linkages with higher level organizations.
- Conservative ideologies and value systems, and a male-dominated social structure do not usually appreciate the involvement of women in the decision-making process of the CBWRM approach. Except *Nunua Mohila Samity*, the participation of women in the other six CBOs is very poor, as they are not encouraged to engage in the CBO activities (see Table 4.6; indicate stakeholder male-female ratio).
- *Nunua Mohila Samity* is committed to their institutional development work and is efficiently operating with a higher degree of trust, confidence, accountability and transparency compared to other CBOs. Therefore, a higher level of performance of the women's CBO signifies

the prudent role of women in wetland resource management, specifically their involvement during CBO formation, participatory action plan development and implementation. These provide greater scopes for incorporating views and opinions of women as legitimate stakeholders in NRM (Ahmed *et al.* 2008).

Table 4.6: Gender Distribution of CBOs of SEMP, CBFM-2 and CWBMP

| | | Sex | | | | Total | |
|---------|-----------|--------|----------|-------|---------|-------|----------|
| | | Female | | Male | | Count | % |
| | | Count | % | Count | % | | |
| Project | SEMP | 5 | (12.2%) | 36 | (87.8%) | 41 | (100.0%) |
| | CBFM2 | 2 | (5.4%) | 35 | (94.6%) | 37 | (100.0%) |
| | CWBMP | 13 | (22.0%) | 46 | (78.0%) | 59 | (100.0%) |
| | Women CBO | 30 | (100.0%) | | | 30 | (100.0%) |
| Total | | 50 | (29.9%) | 117 | (70.1%) | 167 | (100.0%) |

Source: Household survey

- The likelihood of a success in community-based management is closely linked with capable leadership from the community. The selection and empowering of the community leaders are important elements for attaining satisfactory performances in CBWRM approach. The selection of leaders from the poorer groups has always been a sensitive issue, as the local elites would like to be the leader of the CBOs so that they can control and accrue most benefits from the new management approach. NGOs were viewed as a threat to local elites, as these NGOs facilitate scoping for poorer and disadvantaged groups to play a key role in the leadership selection process. Members of the CBOs are in favour of adopting a democratic election procedure for selecting leaders for a two-year term, with a rotational system to avoid any conflicts during the leadership selection. Considering the connections and influences of local elites, it is rational and practical to involve them in CBWRM, i.e. during the formation of CBOs, leadership selection and participatory action plan development and implementation. In fact, local elites want to see

that they are recognized publicly and are informed while implementing any development initiatives in their locality.

- The study has revealed that authorities of development initiatives are interested in establishing their own local institutional infrastructure, without taking into consideration building on the existing local institutions. For example, the CBFM-1 project began its activities before SEMP and CWBMP in the *Hakaluki haor* area, but SEMP and CWBMP were reluctant to work with the same CBOs formed under CBFM-1 and CBFM-2; rather they established their own CBOs to implement development activities in *Hakaluki haor* resource management. More specifically, the project implementing authorities, including its donors, want to capitalize their development initiatives in order to showcase their achievements to others. They are reluctant to rely on somebody else's initiated work for further advancement. This finding is a significant one for emphasizing the need for building on the existing local institutions, i.e. CBOs, for strengthening and empowering local resource users for access to and control over wetland resources.
- Physical, ecological, social and economic aspects of wetland resources are highly significant for understanding the behaviours of diverse stakeholders and to sustain collective action in resource management.
- The importance of the role of dedicated facilitators in establishing the local co-management approach has been stressed by many scholars (Ahmed *et al.* 1997; Ostrom 1992; Thompson *et al.* 2003). Such support from a facilitator in CBWRM is necessary, however, this is not sufficient in the case of Bangladesh. The performance of the studied CBOs in the decision-making process has been different from each other, though all CBOs have received the same level of support from the facilitators. At the field level, CNRS appointed full-time organizers to work with CBOs to ensure the effective participation of CBWRM in the *Hakaluki haor* area. However, *Gobindhapore Juba Samobai Samity Ltd.* and *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity*

Ltd. failed to achieve the expected level of CBWRM outcomes from their operations. The *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.* has been struggling to organize them into the CBWRM approach. A critical analysis of each CBO is necessary to identify areas of development and to strengthen the CBO while providing support to institutional development. Therefore, close cooperation from NGOs and reception of other concerned external facilitation in the CBO's operation is important to make CBOs self-functioning in CBNRM, which signifies the role of NGOs in the effective operation of CBOs.

- Enthusiasm and motivational aspects of communities are often linked with physical actions and achievements at the ground level. Without providing any effective measures to improve access to and control over resources by the communities within at least two years of the development initiative, it is difficult to make them interested in the investment of time and efforts to any development initiative. For instance, unnecessary delays in receiving entitlements to *jalmohals* by the CBOs of CWBMP created frustrations among members of the CBOs, which made them reluctant to engage in collective action. The members of *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.* have been waiting for years to receive any formal agreement regarding the *jalmohals* management from concerned authorities despite repeated verbal commitments from the project authority as well as from the external facilitator (CNRS).
- The CBWRM approach is often exposed to threats by external forces such as lessees, private investors and money lenders, as they used to benefit from the pre-existing wetland leasing system of management. In order to defuse pressure from external forces, partnership among GO-NGO-CBOs is required to empower CBOs in CBWRM and to allow

CBOs to establish linkages with higher levels of institutions in order to protect their access, rights and entitlements.

- Donor-driven development initiatives often fail to recognize embedded complex social power structures and the importance of social acceptance of the initiatives. Such failures could eventually lead to political crisis and conflicts among stakeholders.

All the above lessons learned are very important to address during CBNRM, particularly in a country like Bangladesh, where rural populations face severe competition in accessing common property resources. The following discussion attempts to determine the key important criteria for sustaining the CBNRM approach, and for shifting to it from the EEF approach.

4.4 Sustainability of CBWRM Approach: Processes-Outcome Model

Sustaining community involvement in the decision-making process is a prime concern in CBWRM approach as it needs special consideration in the development of an approach for the sustainable management of natural resources. The experience of this investigation confirmed that a transformation in natural resource management, in which the state has absolute authority over natural resources, from a highly bureaucratic, top-down, expert-driven, command-and-control system to participatory, people-oriented and locally designed management roles and to a collective choice and action approach is subject to many barriers and threats. CBWRM within the development initiatives is nested with many attributes that include the institutional arrangement and development partnership, external facilitation, empowering, deliberative decision-making process, multi-level institutional linkages, multi-level participatory governance, and the legal recognition of the management approach. These nested structures provided opportunities to the CBOs to overcome barriers and the ability to handle any external threats or limiting factors to implement and enforce their community-based or co-management approach in resource management.

Institutional arrangement facilitates the community mobilization process to involve them in management activities in which they share power and management

responsibility with formal organizations. The role of external facilitators, i.e. NGOs, is very important in this management processes for mobilizing, empowering, ensuring deliberative participatory structures and processes for local communities, on the one hand, and for maintaining strong institutional communication between CBOs and formal institutions, on the other hand. The community-based management approach requires multi-level institutional linkages for sharing concerns and providing feedback from the community level to higher levels to protect and ensure benefits to the local communities. The legal recognition of CBOs is fundamental to legitimize their acceptance among other stakeholders in wetland resource use. Also, the legal entitlement of CBOs is crucial to enforce their code of conduct for resource utilizations and protect their property rights from outsiders.

The findings of my investigation signify the importance of all the stated attributes in developing a processes-outcome model (see Figure 4.11) for sustaining CBWRM. Literature on the community-based natural resource management approach also identified many of these attributes, and determined them as critical elements in CBNRM (Agrawal and Gibson 1999; Berkes 2004; 2006; Ostrom 1990; Pomeroy and Ahmed 2006; Thompson *et al.* 2003).

The proposed processes-outcome model is generic in nature and specifically emphasizes the institutional structures and process to adopt a sustainable CBNRM approach as an alternative to an expert-driven, top-down, and command-and-control system for natural resource management. The effectiveness of this model is linked with the willingness of formal institutions to share power and responsibilities with CBOs through strengthening of the institutional framework for the community-based or co-management approach in wetland/natural resource management. The decentralization of management responsibilities from government agencies to the communities is needed in the formal management approach, and this should be mainstreamed in the policy of wetland/natural resource management rather than keeping such a practice confined only to development initiatives.

My investigation on the community-based management approach in three different development initiatives, namely, SEMP, CBFM-2 and CWBMP, has confirmed that the incorporation of some necessary elements is important in the processes for

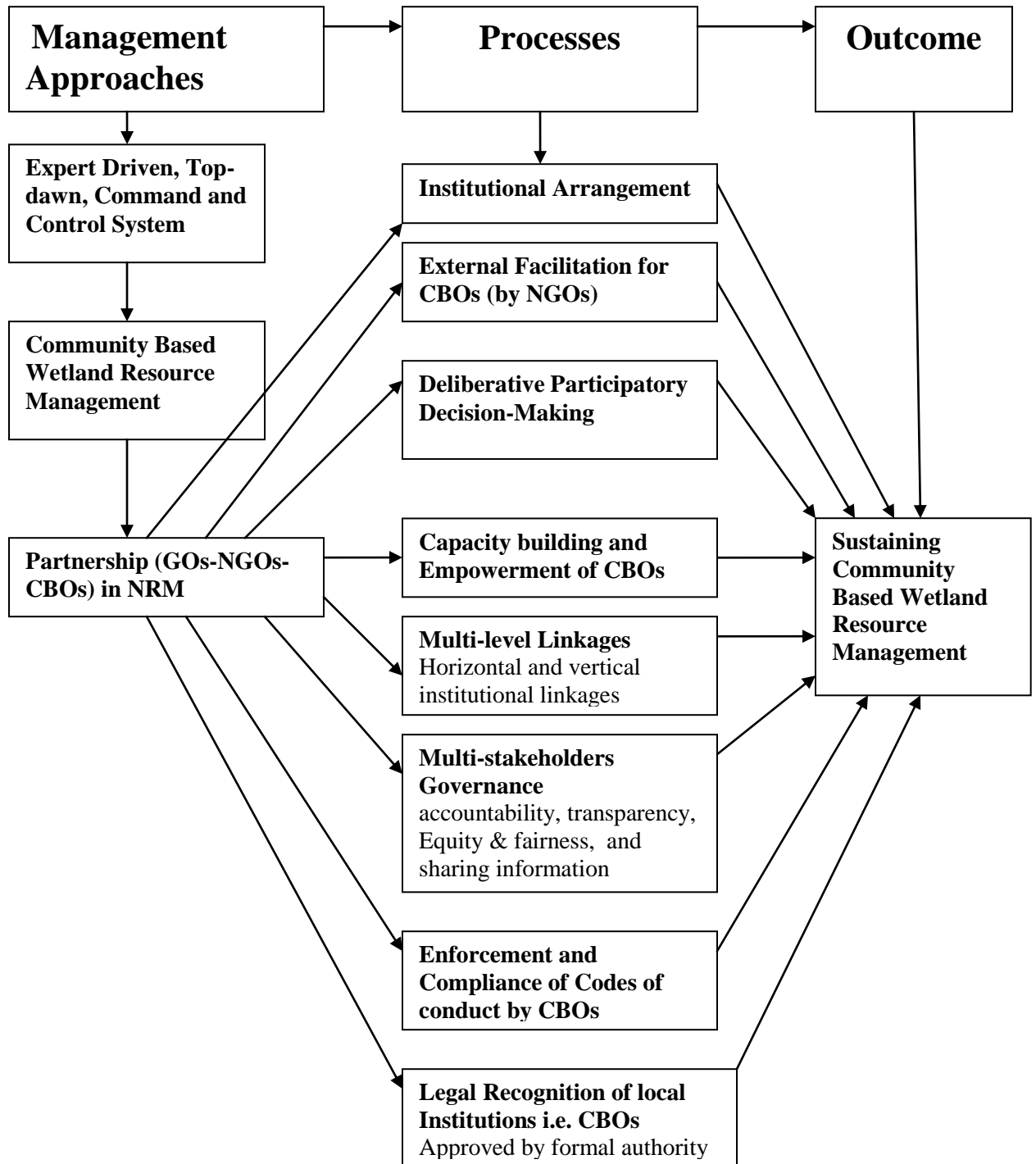


Figure 4.11: Processes-Outcome Model for Sustainability of Community-Based Wetland Resources Management

resource management to achieve the desired outcomes as well as to sustain CBWRM. Considering the findings of my study, I proposed the following model/concept (Fig. 4.11) for effective implementation of the community-based approach in NRM. The first column of the proposed model shows changes in the management approaches, i.e. from an expert-driven, top-down, command-and-control system to community-based wetland resource management and partnership among diverse institutions, i.e. government organizations (GOs), international and national non-governmental organizations (INGOs, and NGOs), and community-based organizations (CBOs). During this transformation, the management approach is required to follow a number of processes, which include, but are not limited to: i) Institutional arrangement (selection of institutions and formulation of the partnership agreement), ii) External facilitation of CBOs to provide support during local level implementation (selection of appropriate NGOs which have the reputation, experience and capacity to work with the local community), iii) Deliberative participatory decision-making (the institutional structure and process must ensure inclusiveness in the participation of stakeholders and deliberations in the decision-making), iv) Building capacity and empowering CBOs (strengthening of the institutional capacity of CBOs with appropriate training programs, workshops, exchange visits), v) Establishment of multi-level linkages (both horizontal and vertical linkages of relevant institutions established to ensure the flow of information, new knowledge, and feedback to and from the partner organizations), vi) Establishment of multi-stakeholder governance (accountability, transparency, equity and fairness, networking and sharing information ensured among all relevant stakeholders), vii) Enforcement and compliance of codes of conduct by CBOs (a strong monitoring mechanism for the proper enforcement of local level crafted rules and regulations to avoid conflicts among resource users), and viii) Legal recognition of local institutions, i.e. CBOs (registration of CBOs with the government for legal recognition), to achieve the outcome of sustaining community-based wetland resource management.

4.5 Discussion

The CBNRM approach is not a panacea for sustaining natural resources, however, more than two decades of experience with the CBNRM approach in Bangladesh signifies

that the effectiveness of local level planning is vital to the sustainability of natural resources. My investigations on three development initiatives—SEMP, CBFM-2 and CWBMP—specifically captured diverse experiences and lessons from the CBWRM projects. These provide adequate reasons for scaling up the approach beyond the boundary of development projects. Local communities are particularly interested in getting involved in the decision-making process of wetland resource management under the opportunities created by the development projects (Ahmed *et al.* 2008). Through their involvement, local communities can assure enhanced livelihood opportunities, access to and control over resources, and the legitimacy of exercising collective actions. The present management system of wetland resources is focused on property rights transfer from state to individuals/groups for revenue earning, which inevitably excludes local communities from access and traditional use rights to resources.

Alternately, the CBWRM approach of the development initiatives promote structures and processes of interaction between resource management institutions, resource managers, and local communities as beneficiaries of the projects contribute positively to community participation in collective actions (Berkes 2004; Ostrom *et al.* 2002; Mehta *et al.* 1999; Sultana and Abeyasekera 2008). As resource users, local communities have the most fundamental attributes of self-organization and self-regulation capabilities to solve the exclusion and subtractability problems of the commons (Berkes 2006). The CBWRM approach in these three different development projects has provided opportunities for local communities to directly contribute to the decision-making process with common objectives and choice that aimed for the sustainability of wetland resources.

My study has further revealed that local communities were successfully mobilized and they were involved in a unique planning procedure, PAPD, which ensured deliberative structures and processes for the participation of local communities in the participatory action plan development. These allowed the local communities to contest and challenge, and thus provided alternatives, knowledge, new experiences and eventually formed consensus with shared norms and understanding (Bates 1988; Barr and Dixon 2001; Stern 2005). The external facilitation of PAPD processes by NGOs ensured the participation of poor and disadvantaged groups in the community meetings, where

they expressed their own opinions without any fear or anxiety. As a result, these groups were able to communicate their concerns and issues during the participatory action plan development and ensure their incentives and benefits from the implementation of the development initiatives.

The inclusion of poor and disadvantaged individuals/groups in the CBOs is necessary to capture the interests of these groups in the decision-making process and to protect equity and ensure fairness. The role of external agencies, such as NGOs, is vital and necessary to build capacities among the poor. Shifting from the wetland resource management practice that is dominated by the elites to CBWRM has initially suffered from the lack of confidence among the local community members, as they were unsure about the intension of the government agencies as well as the NGOs.

The exclusion of elites and other groups may create scope for them to manipulate decisions in favour of these powerful vested interest groups (Cooke and Kothari 2002; Mohan 2002). This dilemma needs to be recognized by the external facilitator, as the communities are socially structured in such a manner in which elites and vested groups are always in an advantageous position to capture the benefits of any development initiative. The inclusion of representatives of stakeholders in CBOs is a practical option as this enables the accommodation of diverse interests in the management approach and avoids domination by elites in the processes of decision-making (Carr and Halvorsen 2001; Grimble and Chan 1995; Mascarenhas and Scarce 2004; Parkins and Mitchell 2005).

Interest in the involvement of the CBOs in different activities, like flooded forest restoration, establishment of fish sanctuaries, biodiversity conservation, habitat improvement, wildlife protection, *beel* management and seasonal closing on fishing activities, is indicative of sustainable thinking among the members of local communities. Prior to engaging themselves in the community-based management, local communities were in a competition to harvest wetland resources whenever they got an opportunity to exploit the resources. They did pay limited or no attention to care about the future availability of the resources, as they were excluded from the access and control over resources and had no incentive for rational use and for taking up conservation measures for the resources. The introduction of community-based management approach made it

possible to involve local communities in sustainable management practices. For instance, *Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.* developed five square kilometres of flooded forest plantation with a benefit-sharing mechanism among the CBO members; *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.* has proven that they are capable of framing fishery resource management rules and regulations to protect brood fish and fingerlings from harvesting during the breeding season; *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* carried out specific biodiversity conservation measures by establishing fish sanctuaries and a nesting place for globally and locally threatened birds, by taking special protection measures for migratory birds. *Nunua Mohila Samity* provided alternative income generation opportunities for the members of the CBO through a micro-credit program. All of these activities and outcomes had positive and incremental effects on the sustainability of wetland/natural resources in the *Hakaluki haor* area.

Not all seven CBOs were able to engender the same level of outputs from the initiative, as the other three CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samobai Samity Ltd.* and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, failed to achieve the objectives of the CBNRM approach. The main reasons for failure are i) delay in transferring *jalmohal*, ii) conflicts among CBOs members, iii) absence of able leadership, and iv) lack of implementation of crafted rules. Nonetheless, significant achievements have been made by other CBOs to preserve, enhance and regenerate wetland resources in *Hakaluki haor* area, and as most of the pilot projects were able to engage local communities in the CBWRM approach with shared norms and understanding.

The legal recognition of the CBOs as institutions by the appropriate authority is required for the continuation of the activities and implementation of the code of conduct in wetland resource management. My investigation has revealed that the CBOs were often challenged by the vested groups, elites or individuals on their legitimacy as resource managers. Most of the CBOs have yet to complete legalization (as registered CBOs) of their operation with the appropriate government authority to ensure their claim on the resources. After completion of the development projects, the legal recognition of the CBOs became more conspicuous, as direct support and linkages from higher level

institutions with the CBOs did not exist. The legitimacy of the CBOs must be confirmed during the development project period to avoid any controversy of the CBOs' role in CBWRM. It will protect CBOs and their activities from any potential threats from outside entities. Legal recognition helps the CBOs in various ways to claim their rights to the resources and protects their interests through negotiation with formal institutions.

CBOs maintain unique forms of institutional structure that allow flexibility in incorporating ideas, opinions, experiences, knowledge and diverse interests in the management systems. The use of local knowledge on flooded forest species, such as *Hizal* (*Barringtonia acutangula*), *Karoch* (*Pongamia pinnata*) and *Barun* (*Crataeva magna*), coping strategies during closed seasons for fishing, protection of migratory birds from organized hunting, and banning the clearing of flooded forests for agricultural activities, have properly been addressed by the CBOs. The organizational processes of CBOs are flexible to address emerging issues and solve problems around communities with consensus. These CBOs were not structurally rigid for accommodating issues which might not be directly related to resource management but are important for other aspects of the livelihoods of the community members (Sultana and Thompson 2007). As the external facilitator, the NGO played a significant role in this process and contributed immensely to resource management and other community level issues.

It is vital to recognize the ability of local communities as a unique depository of knowledge (Berkes 2008) which is capable of devising a management strategy to deal with critical issues concerning the sustainability of wetland resources and rural livelihoods. The understanding of natural resources by local communities is holistic, and they consider natural resources in an integrated way, such as land, water, forest, fish, wildlife, and medicinal plants as interconnected and ecologically interdependent. Such a perspective is absent in the formal management system. For example, members of the CBOs have a great ability to draw resource and social maps of their area without receiving any help from external facilitators or researchers. All CBOs produced very accurate resource/social maps identifying all sorts of resources, both physical and natural, in their maps (see figure 4.7-4.10). Involving local communities in the management structure and process would therefore facilitate getting correct information and the

needed knowledge to devise a management strategy for the sustainability of natural resources.

Involving women in the community-based resource management approach is a huge challenge for the external facilitator, i.e. CNRS, as the area is highly conservative compared to other parts of the country. Initially, male members of the communities opposed the idea of involving women in CBWRM initiatives. After several discussions with them by CNRS staff, they were motivated, convinced and gave permission to local women to participate in CBWRM initiatives.

CBWRM initiatives in the *Hakaluki haor* area have contributed significantly to changing the gender perspective and its importance in the community initiatives. With capable leadership, women's CBOs have been performing well and efficiently, and operating micro-credit programs to improve local livelihoods. The high rate of acceptance of the activities of the women's CBO has engendered a strong footprint in the development arena, which will help local women to overcome social impediments against their involvement in development activities in the future.

CBOs have been mobilized and operationalized under the development initiatives for CBWRM in which the external NGO facilitator, CNRS, as the external mediator, played a significant role. CNRS was involved in a wide range of responsibilities. These included the selection of legitimate members and capable leaders, and the development of a participatory action plan and implementation. During the implementation of the community-based management approach, the external facilitator acted as an arbitrator for solving conflicting issues among communities. This assisted in the development of CBOs to form a new local level institution. In addition, the external facilitator also played a significant role in maintaining linkages with higher level institutions involved in wetland resource management. The objective of the community-based management initiative was that these CBOs will be the key institutional vehicle for wetland resource management in *Hakaluki haor* after the termination of the development projects. However, considering the role of external facilitator in CBNRM, external facilitators should continue to be involved with CBOs for a considerable time period after the termination of the project period to strengthen the CBOs as independent institutions (Ahmed and Dickson 2007).

Generally, the community-based management approach in development initiatives has inbuilt incentive measures for the participation of stakeholders that drive local communities to be involved in the project activities. Otherwise, they (at least few of them) might not be interested in sharing their time and effort in the initiative. Incentive measures of development initiatives had created complexities among members of the CBOs, as they developed higher expectations among stakeholders. Also, incentive measures often give false notions to CBOs member regarding engagement with the CBNRM approach. They become interested only in the incentives as long as they continue to flow-in from development initiatives, not necessarily as part of the process of institutional development.

The community-based management approach is grounded in close community level involvement in resource management, but resource management systems have cross-scale linkages and external drivers at various scales which have bearing on management (Berkes 2002). The success of the community-based management approach thus depends on the establishment of strong cross-scale linkages to influence the management process at different levels. CBWRM initiatives in *Hakaluki haor* area have been implemented through a multi-institutional partnership arrangement in which CBOs have been involved as partners of the initiatives at the community level. An analysis of the partnership approach in community-based wetland resource management is presented in the following chapter (i.e., Chapter 5), which highlights the significance of the multi-institutional partnerships in wetland resource management.

The institutional framework is vital to minimize conflicts among multiple stakeholders and to devise a management mechanism to deal with diverse interests in wetland resource management. Effective and efficient wetland/natural resources management requires very strong and flexible institutions that provide clear property rights, allow the traditional use of resources by local communities, enable the participation of diverse stakeholders in the decision-making process, offer a fair enforcement system, strengthen multi-level institutional linkages, and implement multi-level participatory governance.

A competent role played by the state is also vital to them. A more nested structure of formal and informal institutions engenders more efficient and effective management in

wetland/ natural resources management, which can lead to the sustainability of natural resources (Bennett *et al.* 2001). After the termination of development initiatives, communications between the different layers get dissipated, the legitimacy of CBOs is challenged, and elites and vested groups become influential in the vertical relationship to regain their power to control wetland resources. The presence and continuation of NGOs are important to sustain existence of CBOs and to improve capacities (finance, organization, assets) to contribute in sustainable wetland resource management.

4.6 Conclusion

The success of CBNRM under development initiatives in Bangladesh and elsewhere around the globe signifies its effectiveness as an alternative management approach in natural resource management (Berkes 2004; 2006; Borrini-Feyerabend *et al.* 2004; Campbell and Thomson 2002; Dietz *et al.* 2003; Ostrom *et al.* 2002). It establishes the structure and process of transformation in NRM from the EEF approaches to the community-based management approach. This can emerge in many ways which range from self-organization, development of commons institutions, experimentation, external facilitation, international obligation and donor-driven development initiatives (Marschke and Sinclair 2009). Cumulative learning, successful experimentation and working together are essential to achieve positive outcomes of conservation-development initiatives (Berkes 2009) in which local resource users and supporting partners play significant roles. Positive outcomes of previous linkages are important and should be recognized in the new development initiative (Seixas and Berkes 2010).

The success of the CBNRM approach under development initiatives must be replicated within the institutional structure and process for scaling-up the approach as an alternative NRM approach. Establishing a sustainable institutional structure in the decision-making process and creating the political structure for scaling-up CBNRM are vital in this regard. Adoption of the proposed processes-outcome model (see Figure 4.11) is instrumental for sustaining CBNRM approach as an alternative management strategy for NRM. The experience and learning from CBNRM have yet to be incorporated at the

policy milieu to institutionalize the community-based approach for facilitating the participation of local communities to deal with natural resource management problems.

It was observed that stakeholders' participation has been limited only to development projects or programs, and has not yet been included in the mainstream policy regimes. The effective management of NRM at the local level requires the exercise of authority and control by stakeholders over three critical areas: i) making rules about management and use, particularly to establish who has the rights to access, use and control; ii) implementing the rules that are crafted; and iii) resolving disputes through the interpretation and application of rules, which include the authority to sanction against violators (Agrawal and Gibson 1999; Ostrom 2005). From these perspectives, it is essential to adopt a new management approach by institutionalizing stakeholders' participation in NRM. Stakeholders' engagement should be strengthened by legalizing the new approach in policy regime to ensure their effective performance within the existing complex social power relations and structures.

My study has revealed that CBWRM suffers from insufficient attention to the sustainability aspects of NRM, especially after the completion of development projects. Considering CBNRM as an alternative approach in resource management, it is necessary to establish strong partnerships among formal and local institutions so that the approach can continue even after the completion of development initiatives. Partnerships of GOs, NGOs and CBOs under the three selected development projects were examined to identify the nature and effectiveness of relationships among institutions to support mainstreaming of the CBNRM approach in wetland resource management. They are presented in the following chapter (i.e., Chapter 5).

CHAPTER 5

PARTNERSHIP APPROACH IN WETLAND RESOURCE MANAGEMENT: AN ASSESSMENT

5.1 Introduction

This chapter examines partnerships among various institutional partners, which include local, governmental, non-governmental and international organizations in wetland resource management. How effective these partnerships are ‘on the ground activities’ in providing management alternatives in natural resource management structure to the state-governed management approach is assessed. The structure, process and outcomes of partnerships among CBOs, GOs and NGOs in development initiatives (i.e. SEMP, CBFM-2 and CWBMP) are highlighted. Learning and experiences of partnerships and the role of supportive organization are analyzed to capture the strengths and weaknesses of this arrangement in the decision-making process. How this partnership played a role in social cohesion is explored. The lessons learned are documented for augmenting this management practice, and how this arrangement can be institutionalized for natural resource management is also evaluated in this chapter.

The state, particularly in the developing world, holds the ownership of the natural resources and is responsible for their management, with local institutions having no or just a limited role to play. Formal institutions have a defined jurisdictional authority over resources and have adopted a very strong authoritative management approach by ignoring other stakeholders in the decision-making process (Agrawal 2001; 2002; Agrawal and Ribot 1999; Pomeroy and Ahmed 2006). Many scholars, however, have revealed that formal institutions, such as government ministries and their agencies/departments, are extremely weak in their capacity to develop and implement policy to manage natural resources sustainably (Huda 2001; 2003; Ministry of Agriculture, FAO and UNDP 2002; WARPO 2001; World Bank 1996). Institutional incapability thus has led to the mismanagement of natural resources by which powerful sections of society accumulate wealth through the ruthless appropriation of natural resources. Such a weak structure and process of formal institutions has become a barrier against the establishment of the rights

of resource users. As a result of the existing NRM policy and management approach of the state agencies, local resource users continuously suffer and face deprivation of accessing natural resources to support their livelihoods (Aguero *et al.* 1989; Khan and Haque 2010; Siddiqui 1989; Thompson *et al.* 1999; Toufique 1997) The primary focus of the existing formal institutions is on enhancing productivity, improving economic efficiency, and implementing a management strategy that relies on cost-recovery policies and procedures (Crutchfield 1979; Scott 1979).

Within the scope of the EEF approach, formal institutions assess the transaction costs of management operations. Public institutions need to reduce transaction costs incurred for decision-making and implementation to ensure viability. Hence, minimizing the costs of policing and enforcing management decisions becomes a prime concern for institutions. Such efforts impact on the well-being of traditional users of natural resource (Leach *et al.* 1999; North 1990).

The wetland resources are governed by government departments that are structured based on distinctive sectors. Thus, the overall management strategy is highly compartmentalized. Such a compartmentalization of natural resource management in Bangladesh calls for a very high degree of coordination to deal with complexities and inter-related problems. The inter-agency overlaps, conflicts and coordination problems are highly visible in wetland resource management, as different resources are managed by the various agencies. For example, inland fishery resource management responsibility lies with the Ministry of Fisheries and Animal Resources (MoFAR) and the Department of Fisheries, while the Ministry of Land (MoL) is responsible for leasing out *jalmohals*. The Ministry of Water Resource has the authority to manage water resources. Each ministry has its own mandate and priorities which are not complementary with each other; rather in many cases they are conflicting in nature. To maximize revenue from *jalmohals* through the open bidding lease system, the MoL administers wetland, which is against the priority of the MoFAR, which focuses on conservation and the sustainable harvesting of fishery resources.

My study has revealed that a ‘tug of war’ among different agencies of the government is a continuous phenomenon, and such conflicts, especially to establish their jurisdictional authority, are publicly noticeable. Weak capacity and lack of coordination

among formal institutions in Bangladesh have failed to ensure equitable and just sharing of natural resources among the local resource users. Under the bureaucratic, top-down and command-and-control system of NRM, the rights of the local community are prone to abuse due to corruption and overexploitation by the formal institutions (Khan and Haque 2010; Huda 2003; Siddiqui 1989; Taufique 1997).

Non-governmental organizations (NGOs) have taken the initiative for social mobilization and empowerment, building human and social capital, providing quick service delivery, and supporting poor and disadvantaged groups. The growing demand for quick service delivery by the rapidly increasing population poses an immense pressure on the formal sector. The present management approach is unable to meet such an ever increasing demand from the growing populations. This creates a clear vacuum for NGOs to work with local resource users. Initially, NGOs were involved in relief distribution and micro-credit support activities with the poor members of the community. Later on, NGOs became involved in natural resource management-related activities in sectors like forestry and fisheries. Presently, NGOs are supporting public institutions and development partners in forming community-based organizations and in ensuring the rights of the poor resource users (Huda 2003). The growing recognition of NGOs in NRM has created a new scope for them to be involved in partnerships with formal institutions as well as with community-based organizations.

My study critically analyzed different types of GO-NGO-CBO partnerships in three development initiatives of the *Hakaluki haor* area which experimented with adoption of the CBNRM approach. Also, this research investigated critical aspects of institutional linkages, effectiveness in decision-making process, and attainment of the objective of co-management and/or community-based management approach by the institutional partnerships in NRM.

5.2 Conceptual Underpinning of Partnership Approach

The definitions and meanings of the term ‘partnership’ vary and depend on their particular use, organizational structure, operating procedure, temporal and special scales, and the characteristics of the participating stakeholders in the approach (Kernaghan 1993;

Quinn 2008). Partnerships are considered as legal relationships where partners share the outcomes of the decisions (Kernaghan 1993). Johnson and Wilson (2000) argued that partnership is a contractual relationship among participating institutions to implement joint decisions.

Although there is diversity in the definitions and meaning of partnerships, most share many key attributes. As identified by EKOS Research Association (1998), most partnerships have common goals and objectives; shared understanding and consensus on the decision-making process; shared risks, benefits and costs; a joint action plan to address critical management issues; joint responsibility, authority and accountability; improved effectiveness and efficiency in power sharing by partners and their representative organizations. However, the definition³⁰ of partnership given by Mitchell (1997) is more relevant in this context and is used in this discussion.

The evolution of partnerships has long been associated with private industries. Public institutions engage in partnerships to facilitate vertical and horizontal relationships among various public agencies and between private industry and government (Quinn 2008). Kernaghan (1993) highlighted that a successful response to a particular problem through partnerships between private sectors or governmental agencies can turn into a general approach to address complex problems and uncertain issues and to improve the effectiveness and efficiency of formal institutions. Over the period, the structure and process of partnerships have also extended into a multi-level organizational form that includes public, private, non-profit, voluntary and community-based organizations in collaborations among partners (Ekos Research Associates 1998; Lindquist 1993; Quinn 2008).

Considering the experience in the U.S.A., Johnson (2000) identified four primary factors in the development of partnerships in natural resource management, which include: i) lack of trust in federal government leads the general public to doubt about the federal planning system and efforts by the general public to become proactive, 2) federal actions on the environment have increased due to an enhanced awareness of the general public through the help of mass media, 3) a growing emphasis on the recreational and

³⁰ A partnership is a mutually agreed upon arrangement between two or more public, private or non-governmental organizations to achieve a jointly determined goal or objective, or to implement a jointly determined activity, for the benefit of the environment and society (Mitchell 1997).

aesthetic values of the natural environment, and 4) increased pressure by the general public for multiple uses in natural resource planning. In the development of partnerships, these factors are generic in nature. Lowndes (2001) identified that partnerships are increasingly popular in a formal management structure for its four main attributes that include *i) Efficiency* in using limited resources enhances the ability to access other funding, and value-added decision-making relationships are established, *ii) Integration* in collaboration among partners by stopping fragmentation, *iii) Accountability* in disseminating responsibility to participants to ensure accountability, and *iv) Requirement or promotion* in the development of partnerships to address certain issues and build trust and well-being among formal institutions, public and interest groups (Rodal and Mulder 1993).

There are various types of partnerships which evolve following certain structures and processes. Each has its own purpose, characteristics, and operational system in the management approach. Generally, partners are involved in power sharing in the decision-making process, sharing of costs and risks, and following attained consensus in implementation. The following classification exhibits various types of partnerships, purpose and characteristics that are relevant to NRM (Table 5.1).

There are a variety of indicators by which the effectiveness and success of partnerships can be assessed. The following indicators are linked with successful multi-level institutional partnerships in natural resource management, but are not limited to:

- Identification of appropriate partners with well-defined objectives and goals
- Long-term commitment and adequate time for partnership development
- Sense of ownership among partners
- Strong leadership in partnership development and implementation
- Participatory and deliberative structure and process of decision-making
- Shared understanding, built consensus, shared responsibility, and clear framework of implementation with a participatory action plan
- Good internal and external communication networks among partners and other stakeholders
- Sharing of resources, knowledge, special skills among partners to strengthen and improve the management system

Table 5.1: Different Types, Purpose and Features of Partnerships³¹

| Basis for classification | Types of partnership | Purpose | Features |
|--------------------------|----------------------|--|---|
| Sharing of power | Consultative | Formal institutions take advice and service from external sources to improve policy and program development, which helps to deliver, evaluate and adjustment in decisions. | Advisory in nature; and government maintains control and ownership |
| | Operational | Joint working arrangement; resource and information-sharing toward similar goals and objectives | Work/activities sharing in nature; government retains control; critical role of partners in decision-making process |
| | Collaborative | Power sharing and decision-making with partners; contribute to policy development, planning, program design and delivery, evaluation and monitoring | Power sharing in nature; ownership and risk shared |
| | Contributory | Financial support provided by partners having little or no operational involvement | Sharing in nature; government has control, partners may influence |
| Types of activity | Preventive | Prevent and spread existing and potentially adverse circumstance | Address constrained opportunity |
| | Coalescing | Competitors (for resources and project) are brought together and dependent on each other to pursue same goal | Improved communication and relationship |
| | Investigating | Partners involved in investigation or research issues of common interest | Knowledge sharing in nature; learning from each other |
| | Leverage | Investment sharing for mutual benefit | Sharing of costs and risks |
| Structure | Contractual | Partners involved in formal contracts, agreements, conventions, protocols and or treaties | Legally binding for partners |
| | Representational | Represent partners and shared authority at various forum | Representative in nature |
| | Transactional | Partners involved in joint-ventures and exchanging resources | Mutual benefit through business or research endeavour |

Adapted from Quinn (2008) and compiled from Ekos Research Associates 1998; Jentoft 1989; Jentoft & McCay 1995; Kernaghan 1993; Long and Arnold 1995; Mitchell 1997; Rodal and Mulder 1993.

- Strong participatory monitoring and evaluation plans for partnership activities

³¹ The specific types of partnerships are not exclusive; rather, each partnership is unique in its purpose and features, with considerable overlap among types (Kernaghan 1993).

- Scope for changes and learning as adaptive mechanisms that are crucial for management

(These indicators were compiled after Ahmed *et al.* 1997; Ekos Research Associates 1998; Kernaghan 1993; Leach and Pelkey 2001; Long and Arnold 1995; Mitchell 1997; Poncelet 2001).

The sustainable management of wetland resources includes several stages that take place at different temporal and spatial scales, and are needed for involving public, non-profit or non-governmental, commercial and community-based organizations. The partnership creates scope for the cross-scale involvement of formal, non-governmental, commercial and community-based organizations in decision-making process. The above-mentioned indicators can measure the degree of success of partnerships in natural resource management.

5.3 Transformation in Natural Resource Management

Under the recent governance regimes, local resource users have often been excluded from their customary rights and traditional practices in resource use and not considered as legitimate stakeholders in NRM. The centralized systems (in terms of decision-making and resource allocation) have systematically eliminated local resource users as potential decision-makers. In many instances, self-governing local institutions involved in resource management have been found more effective, efficient and socially acceptable than centralized top-down systems (Dietz *et al.* 2003). In the last two decades, however, scope for the participation of stakeholders has been created under development initiatives in NRM in Bangladesh.

Natural resource management needs to be considered as a Social-Ecological System (SES) in its entirety, with stakeholders as key agents; their participation should be recognized as a prime factor in the management process. An adaptive management system is vital to deal with the complex systems, in which the partnership of resource users and managers can play an effective role by providing information, knowledge and sharing risk between the management authority and local people (Berkes 2004). Power-sharing through a partnership between government agencies and legitimate stakeholders

can be arranged under the spectrum, from local self-management to a corporate arrangement at the national level (Jentoft 1989; Jentoft and McCay 1995).

This kind of management approach is also termed as a co-management partnership between stakeholders and government agencies, in which there is a shared framework of understanding, and informal arrangements and efforts facilitate community self-reliance and mitigate difficult policy management issues in NRM (Ahmed *et al.* 1997; Pinkerton 1989). The participation of local resource users in local and state-level management systems through co-management or community-based management enables the resolution of conflicts, sharing of risk, and crafting of rules and regulations that lead to more compliance and sustainability (Ahmed *et al.* 1997; Jentoft and McCay 1995; Berkes 2006). A formal partnership, within the co-management or community-based management approach, between concerned government organizations, non-governmental organizations and local level resource users, can be an effective institutional arrangement for natural resource management in many South Asian countries, including Bangladesh (Adhikari and Lovett 2006; Barr and Dixon 2001; Sultana and Abeyasekera 2008; Sultana and Thompson 2004).

5.4 Partnership Framework for Wetland Resource Management

The management of wetland resources worldwide is complicated and related to access, property rights, the socio-economic condition of stakeholders, resource-poverty relationship and institutional variables (Ahmed 1991; Ahmed *et al.* 1997; Charles 1988; Hanna 1994). The SMA is facing enormous implementation and enforcement problems that call for the revival of the concept of local management and recognition of the importance of the involvement of local resource users in the decision-making process through the adoption of the co-management and community-based management approach (Berkes 2009; Jentoft 1989). From the mid-1990s, government organizations (such as the DoF, the DoE, the MoEF and the MoFAR) have shown interest and flexibility in shifting from the EEF approach toward co-management/community-based management through various development initiatives such as SEMP, CBFM-2 and CWBMP. During the implementation of these projects in the *Hakaluki haor* area, different partnership models

among public, non-governmental, and local level institutions were developed and practised. The next three sections attempt to analyze the processes, outcomes, and effectiveness of these three initiatives.

5.4.1. Partnership in Sustainable Environment Management Program (SEMP)

a) Structure and process of the partnership

As a development initiative of the Ministry of Environment and Forest (MoEF), the Sustainable Environment Management Program (SEMP) was implemented from 1998 to 2005 with a view to reversing the degradation and poor management of natural resources in general, coupled with attaining sustainable development, poverty alleviation, and capacity-building of the local communities for the effective management of wetland resources. The Community-Based *Haor* Resource Management (CBHRM) project was one of the components of SEMP to address the sustainable management issues of *haor* resources.

The MoEF, for the first time in its history, agreed to deviate from its usual top-down management approach by making a partnership agreement with an international NGO called IUCN-The World Conservation Union for implementing the CBHRM component. Under the agreement, IUCN Bangladesh was authorized and made responsible for implementing the CBHRM component over a period of 5 years. Subsequently, on the basis of this agreement, IUCNB entered into an agreement with a national NGO, the Center for Natural Resource Studies (CNRS), for the implementation of field activities of the CBHRM in rural Bangladesh (Fig. 5.1). These partnership agreement focused on the restoration of wetlands and community-based resource management in *Hakaluki haor* in order to achieve i) participatory resource management tools development and implementation, ii) improvement, restoration and rehabilitation of *haor* ecosystems, iii) establishment and operationalization of local institutions, and iv) capacity-building, skills development, and awareness-raising among relevant stakeholders.

Under this partnership, IUCN Bangladesh was providing representational, administrative, financial and technical (very limited scale) supports during the implementation of the project. IUCN Bangladesh has received funds, policy instructions

and compliance with the decisions of the MoEF. CNRS was directly involved in field level project implementation, as instructed by IUCN Bangladesh. As a partner of the project, CNRS began its activities with the local communities by informing them about the objectives and implementation modalities, and by clarifying their role in the project

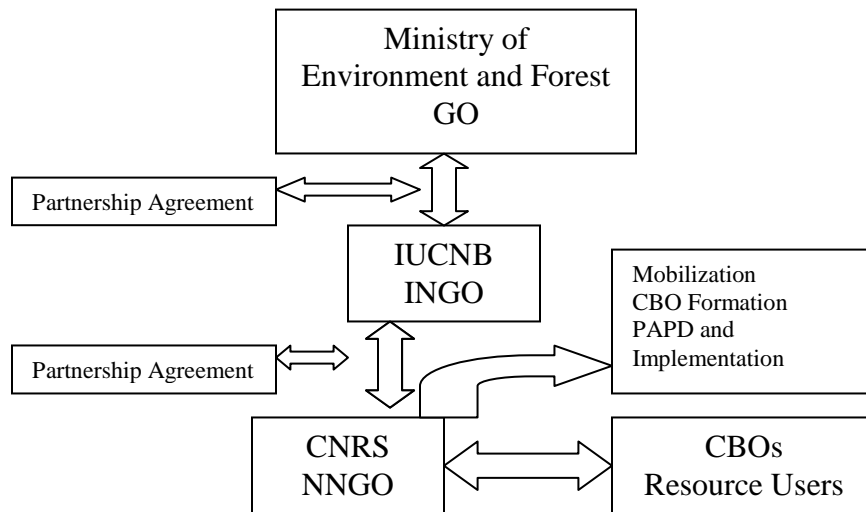


Figure 5.1: Partnership Framework of the MoEF-IUCNB-CNRS-CBOs in SEMP

implementation. During community mobilization, CNRS gave priority toward poor local communities, whose livelihoods largely depended on the natural resources located in common properties. Local communities were involved in identifying the specific project sites in the *Hakaluki haor* area that would be most suitable for the project activities.

Understanding the inherent nature of the key problems and issues and designing appropriate action plans are required to ensure the success of community-based resource management initiatives. In order to address particular problems and issues, a site-specific participatory action plan development (PAPD) was designed with the active participation of local communities through a series of planning workshops and feedback from relevant stakeholders. The PAPD was a process for consensus-building among various stakeholders active in natural resource use. The PAPD recognizes multi-stakeholder linkages with natural resources, the complex power structure in the community and the deprivation of disadvantaged groups. PAPD has three distinct phases that include i) the

scoping phase, ii) participatory planning phase and iii) implementation phase (details of PAPD are in the previous Chapter 4, section 4.3.4) by which an agreed upon framework of understanding among diverse stakeholders can be developed for adopting the community-based natural resources management approach (Barr and Dixon 2001; Sultana and Abeyasekera 2008). Eight PAPD workshops were conducted in the *Hakaluki haor* area to develop a shared framework of understanding and take steps toward an action plan. Staff and experts of CNRS facilitated these PAPD sessions to identify reasons for resource degradation, conflict resolution among stakeholders, planning for flooded forest plantation, acceptable benefit-sharing mechanisms, conservation measures for natural resources enhancement, an agreed upon code of resource harvesting, implementation of a ban on resource degradation, and the need for capacity-building of the local communities.

At the same time, CNRS also organized local resource users to form community level organizations for sharing responsibilities and involving them in the decision-making process at all stages of project implementation. In order to establish an effective organization at the community level, a three-tier organizational structure was decided at the planning workshop. The first tier was the Village Resource Management Committee (VRMC) or Village Committee (VC), with representatives from different stakeholders, including male and female, at the village level to ensure the participation of the diverse interests of communities in the decision-making process. One member from each of the households was included in every VRMC/VC as a general member. Each VRMC/VC had an executive committee of 7-11 members. The Executive Committee was responsible for holding meetings, implementing activities, managing funds, reporting to the general body about the progress of the project, and leading the CBOs for implementing its activities. For instance, two CBOs of SEMP, *Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.* and *Gobindhapore Juba Samobai Samity Ltd.*, were comprised of 21 and 20 general members from various stakeholders respectively. These CBOs had executive committees consisting of seven and nine members respectively for the effective operation of the organization. CNRS facilitated the formation of CBOs, assisted in capacity-building and provided training for the members of CBOs, offered technical and financial support for activities implementation, legal support to protect them from external pressure and

threats, and ensured the registration of the CBOs with the appropriate government authority.

The second tier was the *Upazila* Environment Committee (UEC). The UEC consisted of two members from each VRMC/VCs in each *Upazilla*. A Local Union Council Chairman was also included as the advisor to the committee. The UEC was responsible for negotiating and introducing the environmental activities generated at various levels, from the village to the government offices, under the aegis of the *Upazila Parishad*.

The third tier was the Apex Committee, called the *Haor* Resource Management Committee (HRMC), which consisted of representatives from the VRMCs/VCs and the UECs. HRMC was responsible for handling environmental issues relevant to the respective waterbodies and referred matters to the concerned governmental departments and NGOs. This committee was also involved in advocacy and conservation measures for the larger benefit of the waterbodies as well as its users. After the completion of the project in 2005, no activities of UEC and HRMC in *Hakaluki haor* have taken place to address NRM issues.

b) Outcome of the partnership

CNRS, as a partner of the project, was fully active in mobilizing the local communities for CBOs formation and facilitated project implementation in *Hakaluki haor*, which included:

- Conducting a participatory land-use survey to identify potential land for plantation and to establish community-conserved areas for protecting locally important threatened species. CBOs played a significant role in identifying locally threatened species of flora and fauna that are socially, economically and environmentally important for them to conserve.
- Carrying out a baseline survey on physical and biological resources of *Hakaluki haor* by involving local communities, particularly those who had the knowledge about the resources and were able to share information with others.
- Participatory resource mapping to recognize the trajectory of natural resources and linkages of local communities with resources, which was very relevant for identifying common property resources and access issue.

Seventeen VRMCs/VCs were formed by involving 300 members from diverse stakeholders; these CBOs were the key local level institutions for taking responsibility in project implementation. The formation of CBOs created opportunities for the local communities to eliminate or reduce conflicts among resource users, setting up codes of conduct for resource harvesting and exclusions, ensuring access and control over resources, and establishing institutional linkages for sharing of experience, knowledge and feedback.

CNRS organized capacity-building training programs for the CBO members on matters of financial and administrative management, which included bank operations, budget preparation, keeping financial accounts, conducting meetings, writing minutes of meetings, sharing of information, saving programs, representation in different committees, alternative income-generation, and creation of employment. Within the project period, CNRS organized 25 training programs for CBOs and 51 training programs for general members, in which the staff of IUCN Bangladesh have been involved in providing experts service to this processes. In addition, several awareness campaigns with CBOs, local communities, students, and local government representatives were organized to improve the understanding of ecological goods and services, and conservation measures of *haor* ecosystems.

A number of demonstration plots on various activities of the project were established in the project area by the CBOs. Demonstration plots on integrated farming with Integrated Pest Management and bio-fertilizers, the establishment of a community seed bank, medicinal plant nurseries, fish sanctuaries, ecotourism facilities, flooded forest restoration, and the establishment of a community-conserved area generated interest among members of the CBOs as well as other local people of the project area.

CNRS developed a participatory monitoring and evaluation system by involving members of CBOs during the project implementation. This participatory monitoring and evaluation process had a mechanism for updating communities on interventions and compliance of development targets.

With effective facilitation, guidance and support from CNRS, during the project period, newly established CBOs operated efficiently at the local level to achieve project objectives. IUCN Bangladesh, as a partner of the project, had nominal linkages with

CBOs during the implementation of the project. IUCNB mainly performed representational functions of the project at the higher levels (i.e., ministry, department, donor agency). Also, IUCN Bangladesh provided consultancy services to CNRS on different technical aspects. In fact, IUCNB did not maintain any direct linkages with the field level implementation of the project in which CNRS and CBOs were fully involved.

5.4.2 Partnership in Community Based Fishery Management (CBFM -2)

a) Structure and process of the partnership

CBFM-2 was the second phase of the CBFM-1 project of the Department of Fisheries (DoF) on fishery resource management, and was funded by the Department for International Development (DFID) of the United Kingdom. The first CBFM (funded by the Ford Foundation) was implemented from 1995 to 2000 in various waterbodies of the country other than the *Hakaluki haor* area. CBFM-2 was implemented in *Hakaluki haor* along with other waterbodies from 2001 to 2007 by making serious efforts to involve local communities. The overall objective of CBFM-2 was to improve the livelihood of poor fishermen communities by ensuring their access and rights on *jalmohals* (fishery estate). In CBFM-2, government organizations, international non-government organizations, and national non-government organizations entered into tri-lateral partnership agreements for the implementation of CBFM-2 in open water ecosystems like *Hakaluki haor* (Fig 5.2). The partnership among the Department of Fisheries (DoF), ICLARM-The WorldFish Center, and CNRS aimed at achieving the following: i) effective and efficient community-based fisheries management and its expansion in other waterbodies, ii) identifying, testing and assessing mechanisms to coordinate and link the local community with larger fishery and wetland management systems, and iii) informing and influencing all stakeholders about fisheries policy and management approaches (Agreement 2001: ICLARM-The World Fish Center, CNRS, and DoF).

As a government organization, the DoF had overall administrative responsibilities for implementing the CBFM-2 project. Recognizing their limited capacity, the DoF was willing to take assistance from both international and national NGOs, such as ICLARM-The World Fish Center and CNRS, for ensuring community-based fishery management through a partnership framework. The DoF was responsible for receiving jurisdictional ownership of *jalmohals* from the Ministry of Land and handing them over to the CBFM

project to introduce community-based management. To introduce community-based fishery management and implementation in the CBFM-2 project, activities were linked with handing-over of *jalmohals* under the project authority to a new partnership management approach. In this context, the DoF was partially successful in obtaining a

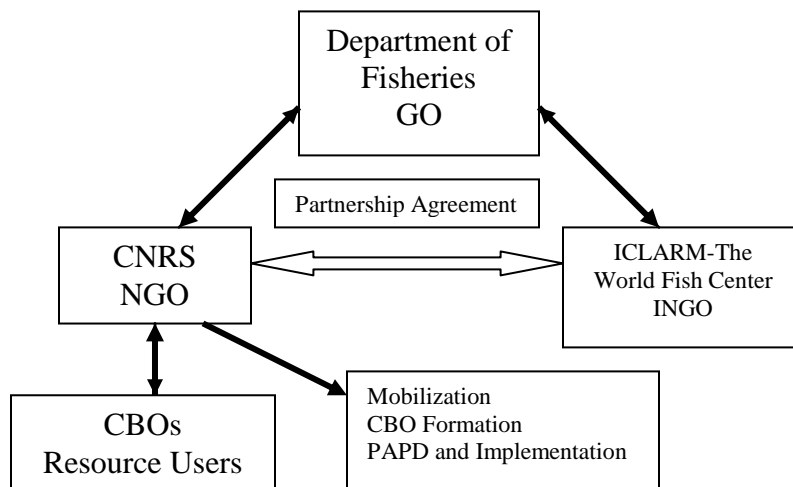


Figure 5.2: Partnership Framework of the DoF-WorldFish Center-CNRS-CBOs in CBFM-2

few selected waterbodies from the Ministry of Land to hand over to the project. However, in terms of quality and productivity of *jalmohals*, the DoF received degraded *jalmohals* from the MoL.

The new partnership approach emphasized the involvement of the relevant District and *Upazila* Fisheries Officers for implementing the project, representation of the DoF in any revenue collection committee, and offering technical fisheries management support to the communities and partners. The DoF was responsible for developing an agreement regarding a mechanism for revenue collection with CNRS and ICLARM-The World Fish Center. The *Upazila* Fishery Officer and CNRS were held responsible for collecting revenues from the CBOs for the transferred *jalmohals* by involving representatives of the community and ensuring the deposit of funds to the appropriate government revenue account.

ICLARM-The WorldFish Center, as a project partner, was responsible for providing overall leadership and coordination to the project as well as technical assistance to CNRS and DoF by appointing experts. The WorldFish Center provided research protocols and research designs, capacity-building programs, knowledge management and dissemination, networking for policy influence, monitoring and evaluation, and impact assessment of the project.

CNRS, a national NGO, was selected as a partner for implementing CBFM-2 project activities at the field level, as it had the comparative advantage in working with communities of *Hakaluki haor* areas for the previous 10 years to improve their socio-economic conditions and well-being. CNRS was specifically responsible for mobilizing and strengthening fishers' communities that were dependent on wetland resources to establish community-based organizations, and for empowering them to manage fishery and wetland resources. In order to reduce pressure on fishery and other wetland resources, CNRS also provided livelihood, employment and alternative income-generation opportunities for professional fishers, subsistence fishers and other poor people of the project area.

In *Hakaluki haor*, CNRS adopted and demonstrated a path of coordination in implementing the project activities within the broader framework of the project management approaches of CBFM-2. It emphasized building local management structures that enhanced the capacity of local resource users, and linked government line agencies (particularly the DoF) and the local government bodies (Union *Parishads*) to share responsibilities in management decision-making processes. This approach also effectively involved diverse stakeholders to participate in planning, designing of initiatives, implementing community development interventions, and monitoring of wetland and fisheries management. CNRS adopted a cluster-based approach to address issues and problems in open water wetland/fishery management. Any problem or issue concerning each waterbodies could be seen in the context of the broader cluster, rather than individual units, where boundaries of waterbodies were determined by ecological features instead of administrative decisions. It is important to recognize that the waterbodies in large hydrological regimes or defined catchments are interlinked and have both upstream and downstream effects that influence the production systems, land use,

ecological process and function, and the livelihoods of the locals. In this context, CNRS developed a four-tier institutional structure (Fig. 5.3) for implementing CBFM-2.

First Tier: A non-formal structure at the village level, called Village Committees (VCs), consisting of genuine fishers and other poor households living adjacent to project waterbodies. To include diverse interests, the VCs included representatives from all socio-economic and professional groups.

Second Tier: The formal setting of waterbody management committees called the *Beel* Management Committees (BMCs). The BMCs were comprised of members from the genuine fishermen community. The BMCs were registered with the Department of Cooperatives as primary cooperative societies or with the Social Service Department as voluntary organizations and thus became formal entities under the legal system of the country. These committees were directly involved in *jalmohals* management taken under CBFM-2 project.

Third Tier: Non-formal networking bodies at the cluster level, called the Cluster Waterbody Management Committee (CWMC), consisted of representatives from closely linked/adjacent BMCs. The CWMC acted as an informal networking body at the ground level for integrating physical interventions and for conflict resolution in wider areas. It played a significant role in resolving transboundary issues between waterbodies, and in addressing conflicts among the fishers, farmers, water-pump owners and other stakeholders.

Fourth Tier: A formal structure at the *Upazila* level called the Apex Committee (AC), which was formed by including representatives from all BMCs in an *Upazila*. The main responsibilities of the Apex Committee were to ensure linkages among CWMCs, government organizations, NGOs, and to resolve inter-sectoral conflicts. Apex Committees were registered as central cooperatives societies under the Department of Cooperatives. In the case of *Hakaluki haor*, the Cluster Waterbody Management Committee acted as an *Upazila* Apex Committee, instead of forming a new apex committee, as CNRS implemented the CBFM-2 project only in Barlekha *Upazila*. Through the PAPD processes, CNRS formed a. *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, b. *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity* and c. *Nunua Mohila Samity* (women's CBO) to implement the CBFM-2 project.

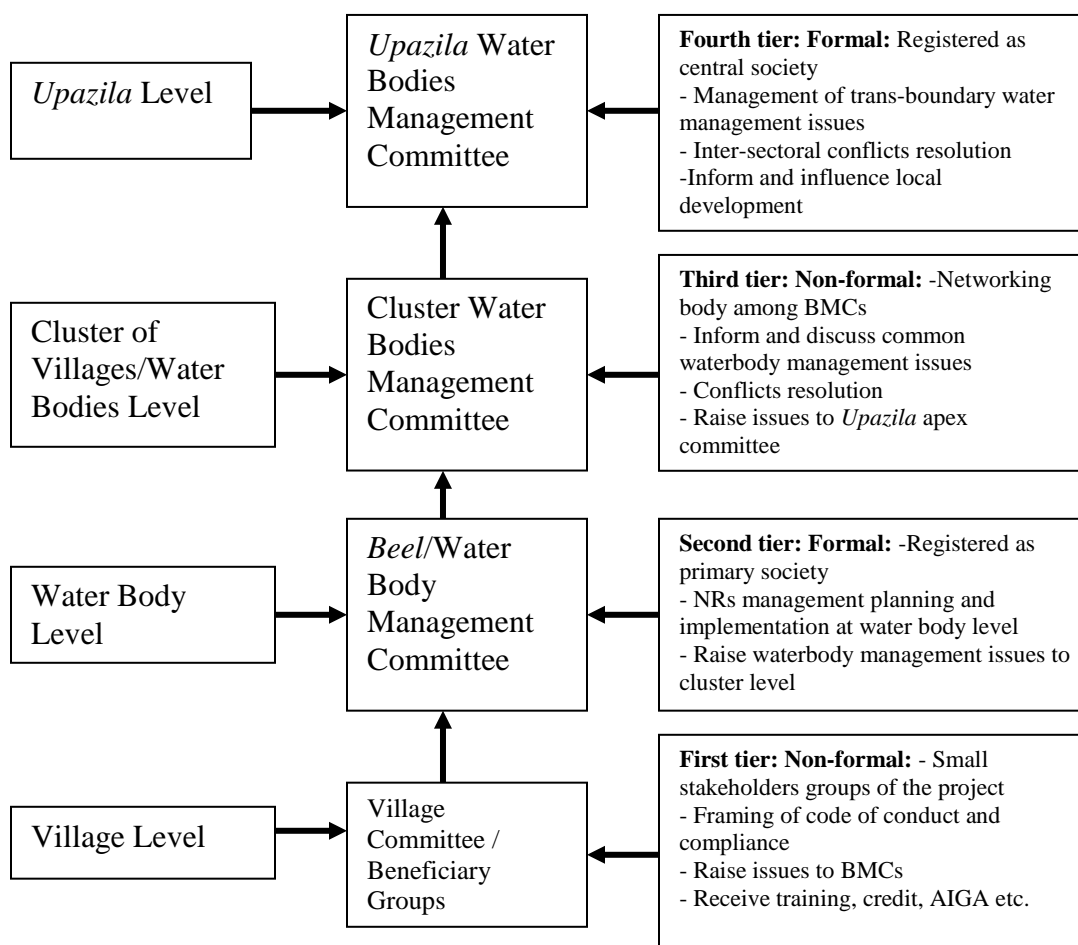


Figure 5.3: Schematic Diagram of the Four Tier Local Institutional Setting of Fishery Resources Management in *Hakaluki haor* under CBFM-2 project (adopted after Rahman and Islam 2007).

The professions of CBO members, other than *Nunua Mohila Samity*, clearly indicated the diverse nature of stakeholders that existed in the project area; these included full-time and part-time fishermen (48%), farmers (24%), and people of other occupations (22%). The *Nunua Mohila Samity* was formed by women representatives from local communities, of which 80% of the members were involved in household chores and 18% of the members were engaged in raising poultry.

b) Outcome of the partnership

Members of the CBOs were encouraged to get actively involved in the implementation of CBFM-2 activities. PAPD processes increased links between the

community and other stakeholders, as a deliberative system was provided to raise the issues and concerns of all stakeholders during the development of the action plan. The CBOs were directly involved in project activities, and accomplished many goals and objectives through the adoption of a partnership approach, which included the following:

- The CBOs were involved in identifying potential water bodies in the *haor* area and in demarcating its boundaries. After meeting with the *Upazila Jalmohal Committee* (UJC-responsible for leasing out less than 8.10 ha *jalmohal*), *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.* was able to convince UJC to procure a small *beel* (less than 8.10 ha) for management under the project. Such *beels* were previously leased out to the highest bidder through an open auction.
- The project had a provision to establish a community centre for CBO members, if communities could provide a piece of land. The CBOs decided to construct a community centre at *Kanango Bazar* (local market) for their use. The price of land in *Kanango Bazar* was relatively higher compared to other areas of the locality. The community members did not own any land in *Kanango Bazar*, and it was difficult for them to afford the price of a piece of suitable land. It was estimated that one decimal of land (40 m²) was required to construct the community centre and the price of the land was approximately Tk. 300,000/- (US\$ 4,500/-). The project did not have any provision to buy land for building a community centre for the CBOs. Members of the CBOs and cluster committee decided to request the government to provide a piece of *khas* land (government land) for this purpose. They approached the local *Upazila Nirbahi Officer* (the chief executive of Barlekha *Upazila*) for a piece of *khas* land in *Kanango Bazar*. The *Upazila Nirbahi Officer* agreed to lease out one decimal of land in *Kanango Bazar* in favour of the CBOs. The CBOs were able to establish a community centre at *Kanango Bazar*, which has been used by them for multiple functions of the CBOs.
- Resolving conflicts was considered as one of the key tasks for CBOs. CBOs conducted a series of meetings with the members and agreed on issues, such as, banning harmful gears for fishing, banning fishing during the breeding season, maintaining a closed-season, restoring the fish migratory route, compliance of

harvesting codes of conduct, use of irrigation pumps during the dry season and plantation of flooded forest in *khas khandas* (raised land around *beels*).

- “Gang fishing³²” or “force fishing” is a common problem in the *haor* area. It generally takes place just after the recession of normal flood water into resource-rich/productive *jalmohals*. It is difficult for poor fishermen to stop such a malpractice and save their resources from organized looting. The CBOs, with the help of Union *Parishad*, local elites, administration and government agencies, were able to stop such criminal activities in the project sites.
- CBOs with the help of CNRS developed a very strong and effective relationship with the government agencies and development service providers operating in the project area. They managed to receive credit for rearing goats from the *Upazila* Livestock Office. CBOs also requested the *Upazila Jalmohal* Management Committee to reduce the higher lease fee on their waterbody and allow them to pay the lease fee on an instalment basis; they were successful in receiving positive responses.
- As a women’s group, the *Nunua Mohila Samity* was involved in a number of project activities other than managing water bodies. Members of this CBO were trained on alternative income-generation activities in order to enhance their family income. Members of the CBO received micro-credit funds from the project and they were particularly involved in poultry, goat rearing, small business and trading. This CBO is now successfully operating the micro-credit program among the members for supporting alternative income-generation activities.
- The CBOs in *Hakaluki haor* area also received credit support from the project to pay the *jalmohal* lease fee. This credit support to the CBOs, particularly for poor fishermen, was a great relief for them. It allowed poor fishers not to borrow money from local money lenders at a very high interest rate.

Overall, the partnership approach in CBFM-2 facilitated the formation of local level institutional development in which the most disadvantaged groups, such as genuine

³² Gang fishing – illegal fishing organized by local gang in *jalmohals*, particularly *jalmohals* owned by poor fishers.

fishermen and poor women, were particularly involved. They were involved in decision-making regarding the management of fishery and other wetland resources. The importance and role of the CBOs in wetland resource management were recognized by the government agencies under the CBFM-2 project, and they accepted the CBOs as partner institutions in the management system of waterbodies. The facilitation, supervision, guidance and supportive role of CNRS for the CBOs played a very significant role in making them effective and efficient in planning and implementing development initiatives and in ensuring access and rights to the resources. My study revealed that the effectiveness and efficiency of the CBOs were much higher during the implementation of the project relative to the post-project phase of the CBFM-2. This is because, prior to the completion of the CBFM-2 project, CNRS and other partners were directly involved in providing support to the CBOs in resource management.

5.4.3 Partnership in Coastal and Wetland Biodiversity Management Program (CWBMP)

a) Structure and process of the partnership

CWBMP was implemented by the Department of Environment (DoE) during 2003-2010 with support from the Global Environment Facility (GEF), United Nations Development Programme (UNDP) and the Government of Bangladesh. This type of partnership approach in wetland resource management in Bangladesh facilitated placement of a structure and process to involve a government organization (DoE), a national non-government organization (CNRS) and two local non-governmental organizations (IDEA and *Prochesta*) (Fig. 4) in establishing a system for the management of the Ecologically Critical Area (ECA) of *Hakaluki haor*. Such a management approach was expected to engender significant and positive impacts on the long-term productivity of natural resources of the *Hakaluki haor* ecosystem. This partnership approach for CWBMP implementation focused on the involvement of local resource users in decision-making regarding the implementation of development initiatives, and in providing them management responsibilities beyond the project period through local level institutional development.

On behalf of the Ministry of Environment and Forests, the Department of Environment is legally authorized (through the Environment Conservation Act, 1995 and

the Environment Conservation Rules 1997) to manage the Ecological Critical Areas (ECAs) of the country. The *Hakaluki haor* area was declared as one of the ECAs in 1999 along with other seven ECAs of the country. The declaration of *Hakaluki haor* as an ECA entailed a new legal perspective in the resource management system that prohibited or banned all sorts of destructive activities to the *haor* ecosystem. With this mandate, the DoE entered into an agreement with CNRS to implement CWBMP in *Hakaluki haor* to assist in establishing a strong local level institution for wetland resource management in the *haor* area.

In this partnership, CNRS was responsible for developing and implementing awareness programs and for motivating and mobilizing the local communities for biodiversity management through participatory action plan development (PAPD), the formation of Village Conservation Groups (VCGs), building capacity and facilitating the empowerment of VCGs. Under the jurisdictions of the Juri and Barlekha *Upazilas* of Moulvibazar district, CNRS was also assigned for the implementation of the Biodiversity Conservation Management Plan (BCMP) of the *Hakaluki haor* ECA. CNRS was responsible for taking on all types of administrative, technical, and financial tasks concerning the implementation of the project.

On the basis of the agreement between the DoE and CNRS, the latter entered into an agreement with two local NGOs, the Institute of Development Affaires (IDEA) and *Prochesta*, to form a consortium to implement CWBMP in *Hakaluki haor*. This consortium of national and local level NGOs was held responsible for community mobilization processes and for accomplishing the following activities in the project area: i) socio-economic baseline survey, ii) identification of legitimate and diverse stakeholders, iii) PAPD with the local communities, iv) defining roles and responsibilities of user groups, v) developing conflict resolution mechanisms, and vi) mapping village and resource boundaries.

CNRS, in association with its partners, conducted a series of PAPD sessions to inform, influence, motivate and mobilize the local communities for their involvement in the project implementation. Diverse groups such as fishermen, farmers, service holders, landless, day labourers and traders, from both male and female gender, were included in PAPD sessions to capture the diverse interests of the communities in NRM.

Through the PAPD sessions, 27 Village Conservation Groups (VCGs) were formed in the *Hakaluki haor* ECA area, in which *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* and *Dhash Ghorī ECA Management Bahumokhi Samobai Samity Ltd.* were included. The diverse nature of stakeholders in CBOs was reflected by their professions, and these included farmers (56%), service holders (10%), household workers (women) (15%) and small business, day labourers, fish traders, agricultural labourers, and transport workers in the VCGs (18%). The interests of all these diverse stakeholders were incorporated in the participatory action plan of the project for wetland resource management.

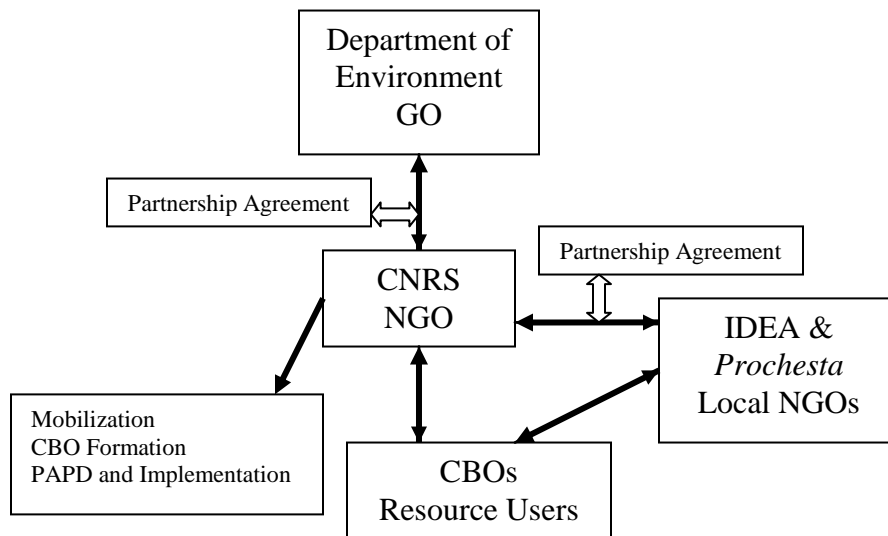


Figure 5.4: Partnership Framework of the DoE-CNRS-IDEA-Prochesta-CBOs in CWBMP

To develop linkages among various institutions at different levels, a number of committees were formed involving all relevant stakeholders (Fig. 5.5). It was expected that these committees would perform in a coordinated way so that an effective partnership of the DoE-CNRS-IDEA-Prochesta-CBOs in wetland resource management would form. Involving all relevant stakeholders or sectors within an institutional framework was considered as opportunities for the CBOs to share their feedback from the field to the higher levels for obtaining support to resolve inter-sectoral or inter-

stakeholder conflicts. Such an institutional arrangement was also considered as an empowering mechanism of the CBOs to work with higher levels of institutions. The following four committees were formed through proper government notification to manage *Hakaluki haor* as part of local level institutional development processes.

i) *Union ECA Committee*: This committee was formed at the union level by involving all relevant stakeholders, where a concerned Union *Parishad* Chairman was selected as the Chair of the Union ECA committee. The Block Supervisor of the Department of Agriculture Extension, Union Assistant Land Officer, *Anser/* VDP, Brick Field Owners Association, Fishermen Cooperative/Society, VCG, NGOs, and the Community Development Officer of CWBMP were included as members of the committee. This committee was responsible for supervising and providing the necessary support to VCGs, resolving conflicts at the local level, facilitating implementation of development activities and communicating with the *Upazila* ECA Management Committee. The CBOs had direct communication with this Committee to facilitate their activities in the field.

ii) *Upazila ECA Committee*: A committee called the *Upazila* ECA Committee was formed at the *Upazila* level to coordinate and communicate with all *Upazila* level stakeholders for the implementation of development activities in the *Hakaluki haor* ECA. The committee was headed by the *Upazila Nirbahi* Officer (Chief executive of *Upazila*), and members included an Assistant Commissioner (Land), Agriculture Extension Officer, Fishery Officer, Livestock Officer, Cooperative Officer, Forest Range Officer, *Anser-VDP* Officer, Officer-in-Charge of Police, Union *Parishad* Chairmen, Representative of Rubber Plantation and Tea Garden, NGO representatives, Fishery Cooperative/Society, representatives of VCGs and ECA Management Officer of CWBMP. The committee's role of implementing development activities in *Hakaluki haor* area was vital. The *Upazila* was the main administrative hub of the government at the local level by which higher level government decisions were implemented through the *Upazila* system. In the case of resource management, the *Upazila Nirbahi* Office, on behalf of the Ministry of Land, was authorized to lease out *jalmohals* which were less than 8.10 ha in his/her jurisdiction.

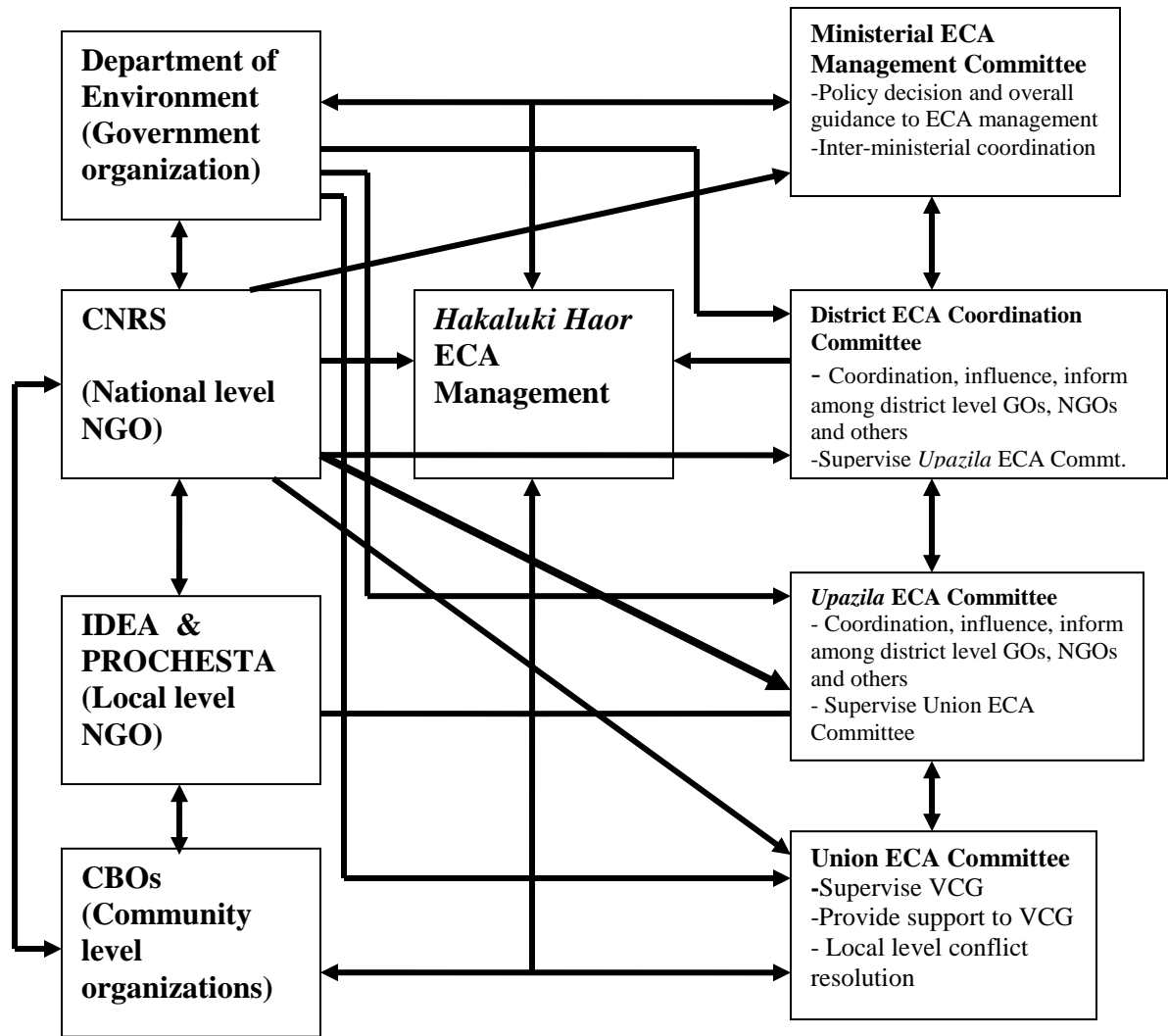


Figure 5.5: Institutional Linkages at Various Levels for *Hakaluki Haor* ECA Management

iii) District ECA Coordination Committee: The district level ECA Coordination Committee was formed and it was headed by a Deputy Commissioner (DC). The Police Superintendent, Additional Deputy Commissioner (Revenue), Deputy Director of the Department of Agriculture Extension, District Fishery Officer, District Livestock Officer, Deputy Director of the Department of Environment, Divisional Forest Officer, Deputy Director of the Department of Social Welfare, Concerned *Upazila Nirbahi* Officer, District *Anser* and VDP Officer, Chairperson of District Lawyers Association,

Chairperson of District Press Club, representative of rubber plantation and tea garden, representative of NGO, representative of Fishermen Cooperatives/Societies and ECA Management Officer were included as members in the committee. This committee had the mandate to coordinate and influence all relevant stakeholders at the district level to assist in the implementation of development activities to establish *Hakaluki haor* as an ECA. The *Upazila* ECA Committee was supervised and guided by this committee. The Deputy Commissioner's Office, on behalf of the Ministry of Land, was responsible for leasing of *jalmohals* that covered more than 8.10 ha.

iv) Ministerial ECA Management Committee: Under the Chairmanship of the Secretary of the MoEF, a ministerial ECA Management Committee was formed at the national level. This committee consisted of representatives from all relevant ministries and others that included the Ministry of Land, the Ministry of Fisheries and Animal Resources, the Ministry of Agriculture, the Ministry of Water Resources, the Ministry of Local Government, Rural Development and Cooperatives, and the Ministry of Civil Aviation and Tourism. It also involved academia, natural resource experts, representatives of NGOs, representatives of the local and tribal community, and the Director General of the Department of Environment as members. This committee was responsible for inter-ministerial coordination and overall policy decision on ECA management.

ECA management committees at different levels established linkages of CBOs and NGOs with local government representatives and higher level government organizations, which strengthened both CBOs and NGOs in seeking cooperation and support to ensure access and rights to the resources of local communities. The deliberations of local communities were enhanced by the structure and process of the ECA management committees, as the local communities were involved directly in the decision-making process. Representatives of the CBOs were encouraged to participate in the ECA management committee at various levels. This was a remarkable progress in the co-management/community-based wetland resource management practices, in which government organizations were willing to share their power with national and local NGOs and CBOs in the decision-making process as well as in the implementation of policies and programs.

b) Outcome of the partnership

CNRS, IDEA and *Prochesta*, as partner NGOs, have been working at the field level to implement the CWBMP in association with VCGs (local level institutions). They developed participatory action plans within the scope of CWBMP through local level workshops and by involving all relevant stakeholders. Under the guidance, supervision and facilitation of the NGOs, a number of activities were carried out by the VCGs, which included the following:

- Members of *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* identified potential land for flooded forest restoration on the *kandha* of *Chatla beel*. Ten thousand seedlings of wetland species, such as *Hijol* (*Barringtonia acutangula*), *Barun* (*Crataeva nurvala*), *Koroch* (*Pongamia pinneta*) and *Jarul* (*Lagerstroemia speciosa*), were planted in the project area. VCGs were responsible for protecting this plantation and developing a benefit-sharing mechanism that will be accrued from the plantation.
- To enhance fish production and diversity in waterbodies, three fish sanctuaries were established in the Juri River. VCGs developed codes of conduct for fishing and a closed season for non-fishing activities. In addition to fish sanctuaries, fish fingerlings of four threatened species, namely *Kalibaus* (*Labeo calbasu*), *Chital* (*Notoptera chitala*), *Ghonia* (*Labeo gonius*) and *Modhu Pabda* (*Ompok pabda*), were released to *Hakaluki haor*.
- CNRS, IDEA and *Prochesta* conducted training programs on various aspects of institutional development, such as, leadership development and conflict resolution, accounting and financial management, conducting meetings and maintaining records, conducting surveys, networking and knowledge sharing, and project monitoring.
- In order to generate alternative income for the poor of the local communities, the project provided Tk. 100,000/- (US\$ 1,500) to each VCG as a revolving fund to support small initiatives during the closed season of fishing or lean season when poor fishers cannot sell their labour or are unable to catch fish. This fund was placed under the management of VCG and the executive

committee of VCG had total control over it. The executive committee developed a mechanism to support poor and women members of VCG through disbursing this fund.

- VCGs identified potential *jalmohals* in the *Hakaluki haor* area to bring these wetlands under their management. However, the allotment or leasing of *jalmohals* to VCGs by the Ministry of Land never materialized.
- VCGs initiated a social movement to protect migratory water birds from illegal hunting through an awareness campaign. *Hakaluki haor* is one of the significant places in Bangladesh for providing a suitable habitat for migratory water birds as a winter ground. It is presently under active consideration of Ramsar Secretariat to be declared as a Ramsar Site (wetland of international importance).

5.5 Analysis of Power Sharing, Activity and Structure of Partnership in SEMP, CBFM-2 and CWBMP

Different types of partnerships have different purposes and characteristics for accomplishing goals and objectives, along with corresponding activities, within an agreed mandate. The structure, processes and outcomes of the partnership approaches in SEMP, CBFM-2 and CWBMP provided an insightful experience of partnership in wetland resource management. My study revealed that partnerships among different institutions at various scales were instrumental to sharing power among partners and developing an appropriate structure and process for the implementation of development plans.

Structurally and functionally, partnerships varied in SEMP, CBFM-2 and CWBMP (see Fig. 5.1, 5.2 and 5.4) to implement development activities. These partnerships demonstrated a remarkable progress in delegating responsibilities and authority from the government organizations to non-governmental organizations through effective multi-level institutional partnerships. In the first case (i.e. SEMP), the partnership agreement was established between the public agency (the MoEF) and an international NGO (IUCNB), and then the international NGO developed a sub-agreement with a national NGO (CNRS). In the second case (i.e. CBFM-2), the partnership

agreement was arranged among a public agency (the DoF), an international NGO (ICLARM-The WorldFish center) and a national NGO (CNRS). In the third case (CWBMP), the partnership agreement was developed between a public agency (the DoE) and a national NGO (CNRS) and then with local NGOs (IDEA and *Prochesta*). This is clearly a significant progress in building institutional partnership by which local resource users become part of the formal decision-making process.

Under SEMP and CBFM-2, international NGOs (IUCN and WorldFish Center) had legal obligations with the government to take main responsibilities in implementing all development activities in the project area. Such a structure made the local resource users functionally indirect partners or beneficiaries of the projects. In case of CWBMP, the national NGO (CNRS) was obligated to implement the project activities with CBOs. With these partnerships, the GOs began to share their power and responsibility with NGOs and CBOs.

Power sharing is a critical issue in a partnership arrangement that strengthens partners to discharge their responsibility in implementing the agreed upon plan of action with specific activities. Government organizations (GOs) hold the management power within a legal mandate that can only be transferred to partner organizations through agreements. In SEMP, the donor-driven partner selection process failed to ensure transparency in the selection system, and the MoEF entered into a partnership agreement with IUCN Bangladesh without any choice on partner selection. The partner selection process therefore received criticism from other potential organizations working in this field. In order to implement field level activities, IUCN delegated its implementation responsibility to an NGO, the Center for Natural Resource Studies (CNRS). In this structure of delegation, the MoEF had very limited authority to hold CNRS responsible for any failure of project implementation. The MoEF did not have any direct communication with CNRS. During the process of project implementation, CNRS had a strong understanding with CBOs to involve them in collective actions. Besides representational functions at various forums and providing consultancy service to CNRS, IUCN had a very limited role in the implementation of the development initiative.

Institutional partners (i.e. WorldFish Center and CNRS) in CBFM-2 were selected by the donor agency, and the DoF had no role to play. Such a selection process was

viewed as biased and pre-determined, and it received criticisms from numerous concerned organizations. The CBFM-2 implementation authority (i.e., the DoF) considered its partners (WorldFish Center and CNRS) with equal status through a power-sharing approach in project implementation. They were legally accountable to the DoF for the field level implementation of the project, including investigative (action research) activities. Both partners were engaged in the formation and development of CBOs and involved them in collective actions. Also, the partnering institutions delegated authority and responsibility to CBOs in the implementation. The WorldFish Center developed a consultative mechanism with the management authority of the DoF to provide them policy, planning and program development support. CNRS carried out consultative meetings with local communities to get their feedback on various issues, which was communicated to higher level institutions that helped to protect CBOs from any potential threats from outsiders.

The selection of institutional partners was performed on the basis of a competitive process in CWBMP, as a public circulation was given to all potential organizations by the project authority to give them a fair chance in the selection process. The DoE, as the government authority, entered into an agreement with CNRS as a partner for implementing the development activities under legal obligation. CNRS involved local NGOs, such as IDEA and *Prochesta*, through signing agreements that outlined the power-sharing mechanism and structure with these local NGOs. These local NGOs, however, had no legal accountability to the DoE.

CBOs were empowered with delegated authority and responsibilities, and were strengthened with training and capacity-building programs by CNRS, IDEA and *Prochesta*. Endowment funds were made available to CBOs for alternative income-generation that enhanced the livelihood safety net of the members of the CBOs. This partnership arrangement with national and local NGOs was more capable of investigating local issues to produce problem-solving outcomes, as they were more deeply involved with local issues and problems relative to international NGOs. Direct partnership between the DoF and CNRS was made easy for CBOs to provide feedback to higher levels, and thus, the CBOs received protection from higher level institutions on potential threats from outsiders. This partnership arrangement was more effective for sustaining the

community-based management approach as both vertical and horizontal linkages among relevant institutions evolved that attempted to adopt an integrated ‘bottom up’ and ‘top-down’ management approach.

My study provided opportunities to compare and to analyze these institutional partnerships in SEMP, CBFM-2 and CWBMP on the basis of three classification criteria – i) power sharing, ii) activity, and iii) structure which are presented in the following:

i) Power Sharing:

In the case of SEMP, the MoEF, as a government partner, was responsible for providing administrative, financial, policy guidance and coordination support to the international NGO partner (i.e. IUCN) at the contributory level. There was no support to CNRS and the CBOs at the contributory level. At the operational level, the GO partner had no specific role to implement any field level activity of the project. IUCN delegated the project implementation responsibility to CNRS, which included community mobilization, formation and strengthening of CBOs, and implementation of field level activities with the CBOs. However, IUCN provided consultancy and advisory service to CNRS. As the NGO partner, CNRS developed a participatory action plan with the CBOs, and was involved in the joint implementation of the project activities at the collaborative level. The MoEF and IUCN were not involved at the collaborative level. In this partnership approach, none of IUCN, CNRS or the CBOs had any scope to provide policy inputs to the MoEF through consultation.

The DoF, as the GO partner of CBFM-2, directly provided administrative, financial, policy guidance and coordination support to both the WorldFish Center and CNRS at the contributory level. At the operational level, the DoF was involved with other partners during the design of the operational plan for the project implementation in which GO provided technical support. Both the WorldFish Center and CNRS were involved in community mobilization, the formation of and strengthening of CBOs, and the development of the PAPD for joint implementation of the activities at the collaborative level. The DoF, as the technical agency for fishery resource management of the government, was open to receiving policy inputs from the partners of CBFM-2 through a consultative process in which often CBOs were invited to share experiences and provide feedback.

At the contributory level of power sharing, CNRS as a partner of the CWBMP was directly supported by the DoE on administrative, financial, policy guidance and coordination aspects of the project. CNRS was solely responsible for implementation of the project activities at the field level, which included community mobilization, assistance in forming and strengthening CBOs, selection of local NGOs (IDEA and *Prochesta*) as partners, and development of the PAPD and joint implementation plan with communities at the operational level. Also, the DoE was involved at the operational level in providing technical support to the partners. CNRS, IDEA, *Prochesta* and CBOs were involved in the joint implementation of collective action at the collaborative level. Due to direct linkages with higher levels, CNRS provided policy inputs to the DoF level in which other partner NGOs and CBOs were involved at the consultative level.

ii) Activity:

During the implementation of the SEMP in *Hakaluki haor*, IUCN, CNRS and CBOs were free from any potential threats. IUCN as a partner of the project was pre-selected by the donor agency, i.e. UNDP. As a national NGO partner, CNRS was directly selected by IUCN for field level implementation of SEMP. In this partner selection process there was no public and open competition among the potential partner organizations, and as a result, no or only limited coalescence took place in this partnership. Also, there was limited scope for investigative activities in the SEMP. CNRS conducted little investigative research on biodiversity conservation and resource enhancement of the *Hakaluki haor* area. As SEMP was a donor-supported development initiative, the institutional partners, i.e. IUCN and CNRS, did not assert any effort to find out areas of common interest. However, a one-time endowment fund was provided to the CBOs from the project fund as a part of the activity under leverage.

The DoF was actively involved in implementing the CBFM-2 to diffuse external pressure and threats to NGO and CBO partners to get *jalmohal* under their control at the preventive level of activities. The pre-selection of partners (i.e. WorldFish Center and CNRS) by the donor agency (i.e., UNDP) had constrained the scope for coalescence among the competitor organizations. Action research was carried out by the partners, namely the WorldFish Center and CNRS, by involving CBOs under investigative

activities of the partnership. These two partners encouraged CBOs to conduct leverage activities through allocating funds for micro-credit operation.

Preventing external pressure and threats was taken care of by the DoE, which assisted the CBOs in getting *jalmohals* under their control. Coalescing was visible in this partnership approach, as CNRS invited two local NGOs, IDEA and *Prochesta*, to become local partners in this management approach. Both local NGOs and CBOs were encouraged by CNRS to conduct action research in the *Hakaluki haor* area under investigative activities of the partnership. Outcomes of such research were shared with all partners, including the DoE, for their incorporation in the management policy. The project authority, i.e. the DoE, provided a one-time endowment fund to the CBOs for alternative income-generation (AIGs) under the management of the CBOs as part of leverage activities of the CWMBP.

iii) Structure:

Contractually, two separate agreements were made between the GO (MoEF)-INGO (IUCNB), and INGO-NGO (CNRS) in the partnership approach of SEMP. IUCNB was legally obligated to the DoE for implementation of the project activities. However, CNRS contractually had no legal accountability to the DoE for non-compliance of project tasks. IUCNB was responsible for all representational functions at various forums in which CNRS and CBOs did not play any role. SEMP was a donor-supported development initiative and therefore there was no scope for joint-venture investment with a motivation for making profit.

Both the WorldFish Center and CNRS were made partners of the CBFM-2 under a partnership agreement with the DoF. These partners were legally accountable to the DoE, as part of the contractual obligation, for implementation of the activities. However, the CBOs had no legal obligation to the DoF. Representational functions were facilitated by these two partners. However, leaders of CBOs were invited to join them. It was a donor-supported project focusing on the livelihood improvement of poor fishers in the project area; hence, there were no transactional elements in the structure of partnership.

There was an agreement between the DoE (GO) and CNRS (NGO) for which CNRS was contractually obligated to the former for implementation of CWBMP in the *Hakaluki haor* area. Subsequently, CNRS made agreements with IDEA and *Prochesta* to

share the implementation responsibility. These two partners were legally obligated to CNRS, but not to the DoE. The CBOs had no legal obligation to any partners. The representational function was a team effort in which all partners, i.e. CNRS, IDEA, *Prochesta* and leaders of CBOs, were included in the team to represent the project at various forums.

Among the three partnerships under study, CWBMP was more effective at establishing ownership, sharing power, strengthening cross-scale linkages, and institutional development at the local level by involving local NGOs and resource users directly in the process. From a practical viewpoint of management, the direct and close partnership between the formal and local institutions would create the necessary means for local resource users to be part of the decision-making process, with the responsibility and authority in which the NGOs would remain as prime facilitators in the partnership approach for wetland resource management.

5.6 Lessons Learned

The partnership initiative between government organizations, NGOs and CBOs in regard to natural resource management validates a major shift from the EEF system toward a democratic, participatory and community-based/co-management approach in which resource users were recognized as legitimate stakeholders and they needed to be involved in the decision-making process. The following lessons have been learned from these three different partnership experiences in wetland resources management, carried out under SEMP, CBFM-2 and CWBMP:

5.6.1 Each Partnership is Unique in its Structure and Process in Performing the Management System

It is difficult to determine that one partnership is more effective in all respects than the other partnerships in wetland resource management. IUCNB, the international non-governmental organizational partner of SEMP, was involved nominally with the field level implementation of the project activities, while ICLARM-The WorldFish Center, the partner in CBFM-2, provided all the necessary technical inputs to CNRS during the implementation of field level activities. In the case of CWBMP, the NGOs

and the CBOs were directly involved in field level implementation. In considering the effectiveness of the partnership approach, structurally and functionally, the partnership of CWBMP was more realistic as national and local NGOs acted together as facilitators and the local communities had direct involvement as partners of the management system. Operationally, the CBOs were involved in decision-making for planning and implementation. This partnership provided scope to the CBOs for establishing direct linkages with the government organizations. In terms of agreement, they were not only legally obligated to manage resources, but the partnership also provided the authority and power to promote and protect their interests in the process. Within the scope of the partnership, local communities regained some of their forgone access to resources.

5.6.2 Clarification of Roles and Responsibilities during Implementation of Activities is needed for all Partners

Because of the ambiguity in the allocation of responsibilities among partners, many important activities of the project were not implemented at the appropriate time. For instance, which partner will take the lead for transferring *jalmohals* from the government authority to CBOs was not specifically spelled out in the allocation of activities among partners. Likewise, who will take care of the registration process of CBOs with the appropriate government authority was not indicated in the allocation of the responsibilities. These are very significant aspects for implementing the project effectively and for sustaining CBOs after the completion of project.

It is, therefore, important to have clarity in terms of the role of different partners, especially NGOs in partnership with the government organizations and CBOs. The selection of partners should be done objectively on the basis of their capacity and experience in the co-management/community-based management of natural resources. In order to develop an effective partnership, it is also critical to identify legitimate stakeholders during the selection of members for the CBO.

It is not always necessary to include international NGOs as partners, as they often charge higher fees for their services. International NGOs can be partners in the management system if their service is highly technical in nature and not available within the country. The role of international NGOs should not be limited only to assisting in coordination between donors and the government organizations but should also

incorporate their direct involvement with local issues. For example, the roles of IUCNB in the field activities of SEMP implementation were very limited. IUCNB performed some representational functions by attending meetings with the government organizations, local government organizations and donor agencies. Local communities had little or no idea about IUCNB and its role as a partner in SEMP implementation; rather, CNRS was considered as the main organization in this partnership approach by the local communities.

5.6.3 Lack of Long-term Commitment of NGOs in Partnership Hinders Sustainability

The involvement of the NGOs, particularly international NGOs, was chiefly confined to the payment for their services. They offered services for the implementation of project activities as long as they received funds from the project. Generally, NGOs negotiated with the project authority their rate for the services they would offer to project implementation (Ahmed and Dickson 2007). The services of NGOs do not continue after the project period due to discontinuity of funds. It is necessary to maintain a long-term commitment by NGOs to ensure services to CBOs for continuing their activities beyond the project period; without such a commitment, local communities and institutions often fail to self-organize and sustain.

5.6.4 Lack of Communication and Networking among Partners and other Stakeholders Undermines Achievements of Project Goals and Objectives

More interactions among partner NGOs should have taken place through cross visits and attending each other's meetings, discussion sessions and workshops. The involvement of local NGOs in the partnership arrangement facilitates learning, capacity-building and linkages with higher level organizations. Frequent and effective communications among partners would facilitate the learning of special skills and sharing of knowledge among partners, which would engender additional strength to local level institutions.

5.6.5 Appropriate Institutional Mechanisms Allow Marginal, Poor Resource Users to Participate in Decision-making

Within the complex social power structure, elite sections of society play a major role in commons management. The exclusion of the very poor, weak and disadvantaged

groups and individuals may be more likely within a structure whereby, in the process of CBO formation, the dominant role of a particular group or elites cannot be ignored. Partnership among public agencies, NGOs, and CBOs (e.g. SEMP, CBFM-2 and CWBMP) in the form of a co-management/community-based management structure can make provisions to include such disadvantaged communities in CBOs or can provide opportunities for them to continue their livelihood efforts relying on wetland resources.

It remains unclear how property rights would be secured for the CBOs beyond the project period, as the MoL legally retains ownership of all natural resources, including wetlands. However, cross-scale institutional partnerships provided a way to reach agreements to transfer the authority of fishery estates to local resource users to manage resources sustainably. Long-term partnership could be an effective institutional structure for local resource users to be involved in NRM following the completion of development projects.

5.6.6 Lack of Linkages between CBOs and Financial Institutions could lead to Cumulative Debt Burden

Borrowing money from local money lenders increased the burden on the local resource users as the lending rate was unusually high compared to formal financial institutions. My field investigation revealed that private money lenders can charge very high interest rates, ranging from 10 and 20 per cent per month. When compounded, the interest rate becomes 300-340% per annum. Considering the economic hardship of genuine fishers, this interest rate has been a huge burden for them, stemming from money borrowed from local money lenders. The linkage between CBOs and formal financial intermediaries should therefore be strengthened during the process of partnership building. The partnership must develop and facilitate a mechanism for CBOs to receive funds from the formal financial institutions during and after the project period to operate their business as usual without borrowing money from *mohajons* (local money lenders) at a very high interest rate.

5.6.7 Strong Leadership in Partnerships is Critical for Success in Local Level Management

As argued by Ostrom (1992), strong facilitation is vital for leadership development, but the selection of right and able persons from the community is equally

important to enhance the capacity of leadership to perform effectively in the partnership management approach. Strong leadership is needed to achieve success in the partnership management approach. The selection of a capable person as a leader in this process facilitates proper augmentation of partnership management.

My study revealed that 50% of CBOs from SEMP, CBFM-2 and CWBMP have failed to achieve the expected level of performance in their institutional operation. The same level of training and facilitation by NGOs and other experts could not produce capable leaders for all CBOs, as initially inappropriate persons were selected as leaders to direct some of the CBOs. This shortcoming was elicited several times during key informant interviews and focus group discussions. Therefore it is critical to select capable leaders from the local users and enhanced their capacity to lead community in the partnership approach.

5.6.8 United and Coordinated Efforts of Partners can Diffuse External Pressure

Threats from external forces and powerful individuals or groups were identified as important limiting factors against establishing a strong partnership management structure with legitimate CBOs. Powerful external individuals or groups, who usually are the leaseholders of fishery estates, attempt to destabilize new institutional partnerships to ensure their control and procurement of benefits from wetland resources. The CBOs of SEMP, CBFM-2 and CWBMP initially suffered from such external pressures not to get involved in the management of wetland resources. However, such pressures from external sources were minimized by the coordinated efforts of all partners. Specifically, the government organizations facilitated the establishment of linkages with the local administration to diffuse external pressure on CBOs and to involve them in the management process.

5.6.9 NGOs' Supports are Important and Required in Ensuring Sustainability of CBOs Operation

Structurally, local level institutions were not capable of coordinating with confidence with the senior level organizations or government departments, as they had not been directly involved in the management of natural resources for a long time. NGOs provide structural improvement of local institutions and operational capacity of CBO

members by implementing various capacity-building programs for CBOs. In addition, NGOs also support CBOs in terms of financial requirement by mobilizing finances for members of CBOs. The roles of NGOs are therefore essential for strengthening CBOs to perform at various levels. The partnership could be a means to empower the CBOs to perform in the management system, even after the termination of the project period. Legalization of the CBOs as partner organizations in natural resource management is needed to facilitate *de jure* resource access rights. The institutional framework of CBOs can be improved by the long-term involvement of local resource users as legitimate partners in resource management endeavours.

5.7 Discussion

The partnership approaches of SEMP, CBFM-2 and CWBMP in wetland and fishery resource management enabled the government organizations, international and national NGOs to provide institutional, organizational, financial and technical supports to the resource users. These institutions mobilized local resource users to establish local level institutions (CBOs) to ensure the access and rights of the local communities to the resources. They facilitated the effective involvement of resource users in the decision-making process.

It is important to ensure complementarities and the creation of mutual benefits among partner organizations to make partnerships effective (IIRR 1999). The partnership approach in a development project often is a temporary arrangement with the CBOs and, characteristically, is a fund-driven initiative in natural resource management (Lewis 1998). They fail to sustain their relationship after the termination of the development initiatives period. It is not uncommon that they get involved in competition for resources to sustain the business. Every partner organization has its own expectations, regardless of size and the nature of the operational domain. The interests of organizations in partnership are quite diverse. For some NGOs, partnership helps to raise its profile; it creates opportunities for accessing resources, assists in improving knowledge on management issues, empowers the existing groups at the local level and helps them to

become an effective “voice” in natural resource management (Dickson 2007; Thompson *et al.* 2003).

There are numerous reasons for adopting a partnership approach in wetland resource management, particularly between government organizations and NGOs, which include worldwide positive experiences in the co-management and/or community-based management of natural resources (Berkes 2004; 2006; Borrini-Feyerabend 2004; Campbell and Thompson 2002; Dietz *et al.* 2003; Ostrom *et al.* 2002). The approach could be completely donor-driven in development initiatives without considering local needs and perspectives. The nature of partnership depends on the ability of the national institutions to negotiate with development partners to capture benefit from development initiatives. It could be attributed to policy changes, reaching out to communities, political causes, or a funding opportunity for potential partners. In the case of SEMP and CWBMP, the co-management or community-based wetland resource management originally initiated by the donors (UNDP and GEF) compelled the MoEF and the DoE to enter into partnerships with NGOs. The DoF was interested in partnership to gain jurisdictional power over waterbodies through CBFM-2, as the MoL agreed to transfer waterbodies under CBMF management (Thompson *et al.* 2003). It was learned from the development initiatives in *Hakaluki haor* that the partnership approach in NRM facilitates a process of power sharing between the formal sectors and informal sectors by which local resource users become legitimate stakeholders in the resource management system.

The nature of the multiple uses of wetland resources needs to be understood by the partner organizations, particularly by the NGOs working at the field level. There are conflicts between fishery and non-fishery uses, water resources for irrigation and environmental flow, overharvesting and conservation of resources. In order to deal with multiple resource uses and conflicts among CBO members and others, an altered and agreed upon workable relationship among poor fishers, farmers and other resource users needs to be developed within this co-management/community-based framework (Ahmed *et al.* 1997).

The participation of non-vocal and disadvantaged groups in the decision-making process is limited due to the structure of the CBOs, where the executive committee of

CBOs is mainly responsible for maintaining liaison and coordination with GO, NGOs and others. The deliberations of all participants need to be worked out within a democratic structure and process of participation (Meadowcroft 2004), particularly in PAPD sessions to include diverse interests in actions. It is also important to develop a mechanism for the exclusion of non-stakeholders from the system to ensure the access and rights of legitimate stakeholders (Gunderson 2000; Parkins and Mitchell 2005; Young 2002).

Community mobilization is one of the most time consuming and challenging tasks for partner NGOs as it requires the involvement of diverse groups in an institutional structure for collective action. NGOs are more flexible at providing inputs in this process than the government organizations; this characteristic allows the NGOs to work with the communities to resolve conflicts and undertake collective action. Overall, the partner NGOs in SEMP, CBFM-2, and CWBMP were successful in achieving the goals of the development initiative. Such accomplishments were evident in the development of confidence among local communities in *Hakaluki haor* and in forming CBOs for taking responsibilities in development initiatives, ensuring access and rights to resources, formulating mechanisms for sharing benefits, and making equitable decisions within the complex social power structure. These partnership approaches have created incentives and provided better livelihood opportunities for local communities, which have enhanced prospects for co-management/community-based management in wetland resource management (Ahmed *et al.* 1997; Pinkerton 1989; Rahman and Islam 2007; Thompson *et al.* 2003).

The traditional form of participation in natural resource management has received stern criticisms as a technical method of project activities rather than a methodology to empower resource users (Hickey and Mohan 2004), and public agencies often perform to implement donor-defined standards (Thompson 1995). As to provide an alternative, the success of the co-management/community-based management approach is vital to ensure the effective participation of all relevant stakeholders in the decision-making process. The effectiveness of the partnership between GO-NGO-CBO is linked with the structure and process of participation of stakeholders in decision-making in resource management.

Formal networking among CBOs, as emphasized by Ostrom (1994), is essential to develop a movement of community organizations to sustain themselves after the project life (Thompson *et al.* 2003). Leadership and the real empowerment of CBOs are critical elements to protect the interests of the local communities that have been evolving within the partnership approach, particularly on access and control over resources (Ahmed and Dickson 2007), and the ability of collective decision-making. It is important to recognize the positive and effective roles of NGOs in empowering CBOs and to support them in institutional development to perform in the wetland resource management process.

Deliberation provides meaningful means of public dialogue and debate on common concerns, and it reflects their understanding and achieves collective choice in resource management. Appropriate deliberation facilitates understanding among individuals, groups, users, and managers to formulate consensus-based decisions rather than achieve success based on predefined goals presented by individuals (Parkins and Mitchell 2005). Group-based approaches to participation (Meadowcroft 2004), which emphasize the importance of stakeholders, are more effective than the approaches that depend on individual citizens, as the participation of individuals is often prone to conflicts and bias to individual interests.

5.8 Conclusion

The recognition of local resource users/communities as legitimate partners in the decision-making process is necessary for transforming the usual formal EEF approach of NRM into the co-management/community-based management of wetland resource within multi-level institutional partnerships. It is necessary to mobilize the local resource users to unite and be organized to form CBOs to function as institutional entities at the local level of NRM as this is the most challenging task in such efforts. The idea of strengthening local institutions and forming CBOs, and strengthening their capacity to emerge as effective local institutions, should be included in the formal policy milieu of natural resource management (Pimbert 2004).

Partnership approaches in wetland resource management are providing scope for local resource users to be involved in the decision-making at multi levels. The eagerness

of involvement of local resource users is linked with incentives, external facilitation, hope and expectation under the partnership arrangement, which expedites and promotes their interest in this process. The durability of the institutional arrangement in partnership approaches for wetland resource management is dependent on various factors that include leadership of CBOs, transparency and accountability, the sharing of responsibility and authority, the sharing of information, cross-scale linkages of institutions, participatory governance, and legitimization of CBOs within the formal legal framework of the country (Ahmed *et al.* 1997; EKOS Research Associates 1998; Kernaghan 1993; Leach and Pelkey 2001). Bavinck (2009:3) mentioned that “*governance by a single governor tends to be unsuccessful, whereas partnerships provide the possibility of harmony and forcefulness to the governance effort...They depend on agreement not only about concrete management measures, but about the principles underlying governance.*” Thus partnership becomes critical for interactive governance in wetland resource management.

Experiences and positive impacts of co-management/community-based management through GO-NGO-CBO partnership in wetland resource management under development initiatives need to be mainstreamed to facilitate the involvement of local resource users in decision-making and for them to accrue benefits. Arguably, the partnership approach in NRM would facilitate the involvement of various institutions at different scales (i.e. local, regional, national and international) to perform diverse activities within the co-management/community-based management approach, which signifies multi-level governance to ensure effective partnerships among institutions. In order to provide an in-depth analysis of governance issues in co-management/community-based management, my study also examines multi-level governance in wetland resource management. These analyses are presented in the following chapter (i.e. Chapter 6).

CHAPTER 6

MULTI-STAKEHOLDERS, MULTI-LEVEL, AND PARTICIPATORY GOVERNANCE FOR WETLAND RESOURCE MANAGEMENT

6.1 Introduction

The participation of stakeholders in multi-level governance in the community-based approach is explored in this chapter. The partnerships among diverse institutions including GOs, NGOs and CBOs are assessed in the context of management of the commons. The performance of CBOs in multi-level governance is evaluated, and the strengths and weaknesses are determined. The effectiveness of the implementation of bylaws that are crafted by seven CBOs of the *Hakaluki haor* area is assessed; this assessment, in turn, measures the institutional capacity of CBOs in the decision-making process in collective action. This chapter further analyzes the role of the supportive organization for capacity building and empowering CBOs to perform effectively in multi-level participatory governance. Lessons learned from the seven CBOs are determined for strengthening the roles and capacities of CBOs in resource management.

Governance³³, in its structures and processes, emphasizes the involvement of public-private-civil society partnerships to deal with the limitations of single agency, top-down command-and-control bureaucratic management to handle ecological, economical and social complexities of resource management (Bavinck 2009; Berkes 2009; Pierre and Peters 2000; Kooiman 2003; Kooiman *et al.* 2005). Governance is not only the responsibility of the state; other actors, such as the private sector, non-governmental organizations and civil society, also play much more important roles than states -- both nationally and internationally (Bavinck 2009; Kooiman and Bavinck 2005). Ideally, all

³³ “Governance itself is a contested term. It is used sometimes narrowly by planners and development financiers to refer to the efficient functioning of government with respect to service provision, or to the maintenance of a legal and regulatory framework conducive to private sector growth. In a quite different sense, the term has also been adopted by activities and non-government actions to describe the role of civil society in protecting against abuse by the state, private sector, and international development agencies” Ratner (2003:61).

actors should be involved in and assume responsibility in the interactive, problem-solution dimension.

Three types of governance - hierarchical governance, self-governance, and co-governance - are identified in NRM (Kooiman and Bavinck 2005). *Hierarchical governance* operates through the top-down, command-and-control approach, where states interact with citizens without the sharing of responsibilities between the state and the people. In the *self-governance* mode, stakeholders take care of themselves outside the purview of the government. This approach operates within an informal structure of governance, and dynamic processes of operational adjustment are maintained by stakeholders. The *co-governance* type facilitates uniformity among societal actors with a common purpose in mind, and they maintain their identity and autonomy in the process. It establishes a process of interaction among all actors in business and provides a system for the sharing of responsibility and authority in NRM (Bavinck *et al.* 2005; Kooiman and Bavinck 2005; Kooiman *et al.* 2005). Also, it is important to understand governability of natural resource management, which is related to the compatibility between the system-to-be-governed and the governing system (Bavinck and Salagrama 2008).

Governance not only accounts for the problem-solution dimension, but also promotes the processes for the materialization of opportunities. Bavinck *et al.* (2005:7) point out that “[g]overnance is the whole of public as well as private interactions that are initiated to solve societal problems and to create societal opportunities.” Public-private interactions for societal development need to be operated, using guiding principles, within a strong institutional system. Without complying with the basic principles of governance, human interactions and institutional linkages cannot be sustained in the long run. The multi-stakeholder participatory governance approach thus involves the types of the structures and processes with which power is shared amongst diverse stakeholders in decision-making, to establish an institutional framework for sustainable natural resource management within the complex power struggle across the scales.

Governance in wetland resources management in most regions of the world is a critical issue that affects millions of people’s livelihood as they depend heavily on these

resources. The significance of governance in wetland resource management is not only limited to its primary stakeholders (i.e. fishermen, farmers, local poor and women as their livelihoods are dependent on the resources), but also other stakeholders, such as, policy makers, government agencies, development agencies, researchers, planners, NGOs, local elites, local government representatives, and political agents. This is because of the involvement of the latter groups in the policy formulation, administration, and decision-making process in resource management across the scales.

Stakeholders influence and shape the outcomes of governance to sustain collective action in natural resource management. In that respect, considering the multi-stakeholder participatory approach in governance structures and processes of wetland resource management, it is necessary to produce results and attain goals through collective actions. This multi-stakeholder participatory governance approach embraces attributes of good governance, i.e. accountability, responsibility, transparency, fairness and equity, across the scales. In such approach, the dimensions and interests of multiple social actors are also taken into consideration for effectively governing the resource management (Armitage 2008; EU 1995; Marshall 2008; UNDP 1997). It is important to recognize the critical role of each stakeholder in the management system, as they influence the decision-making process.

A growing body of literature identifies key elements of governance that are critical to ensure governance in NRM; these include accountability, transparency, equity and responsiveness, participation and rule of law (CIDA 2006; Kjaer 2004; Kooiman and Bavinck 2005; Kooiman *et al.* 2005; Lebel *et al.* 2006; UNDP 1997). In practice, participation in the management approach and deliberation in the decision-making process emerged as a response to the top-down, command-and-control hierarchical management system in natural resource management. This process has encouraged the institutional structure to address local needs in potential development initiatives as well as include the diverse interests of multiple actors and their perspectives (Armitage 2008; Armitage *et al.* 2007; Berkes *et al.* 2005; Stern 2005).

By evaluating the relative presence or absence, strength or weakness of these attributes of governance, it is possible to understand the form and nature of governance that exists in NRM institutions. Ideally, the participation of communities in CBNRM or

the co-management approach commences with information-sharing and consultation during policy formulation and or project implementation. But the participation of communities reaches its peak when communities take part in the decision-making process and initiate actions on their own (Box 1 as Appendix 8; Bene and Neiland 2006; Bhatnagar and Williams 1992). It is, therefore, vital for CBOs, especially for the disadvantaged groups, to take a proactive role in decision-making process to ensure their interests in the management approach. Strong participation of resource users is also needed to meet organizational demands, i.e. capacity-building, empowerment and social conditions (Bene and Neiland 2006).

Attributes of governance are not to be separated from each other. In fact, the strong interconnectivity of key elements of governance strengthens the effectiveness of governance to achieve the broad goal of societal development (Fig. 6.1). For instance, it is not possible to ensure accountability without transparency, rule of law and responsive participation of stakeholders in resource management. Also, equity and fairness assure benefits and well-being of local communities, particularly poor and disadvantaged groups, within the process of governance. Strong connectivity among attributes of governance engenders the expected results of governance.

Recently, the literature has emphasized that without a fundamental change in the management approach by operationalizing good governance, many of the world's wetland resources will fail to survive or remain productive in the future (Adams 1996; Bene and Neiland 2006; McGlade 2001; Ostrom 1990). In the developing world, particularly in Bangladesh, lack of effective governance translates into the overexploitation of the resources and dissipation of economic rent, i.e. leasing out of *jalmohals* to the highest bidder, without considering their connectedness and dependency on the resources (Bene and Neiland 2006; Siddique 1989; Toufique 1997, Thompson *et al.* 2003). For instance, the rent-seeking nature of wetland resource management that led to the overexploitation and degradation of resources is severely affecting access and entitlement of local resource users to their traditional resource use and is failing to protect social well-being (details are in chapter 3).

The issues of environmental governance have begun to receive more attention after the Rio Earth Summit in 1992, when Agenda 21 and other international

environmental conventions and agreements emphasized the need for community participation in management systems (Karanja 1998; Harman 2005). As stated earlier, governance seeks to improve the management of the environment and natural resources

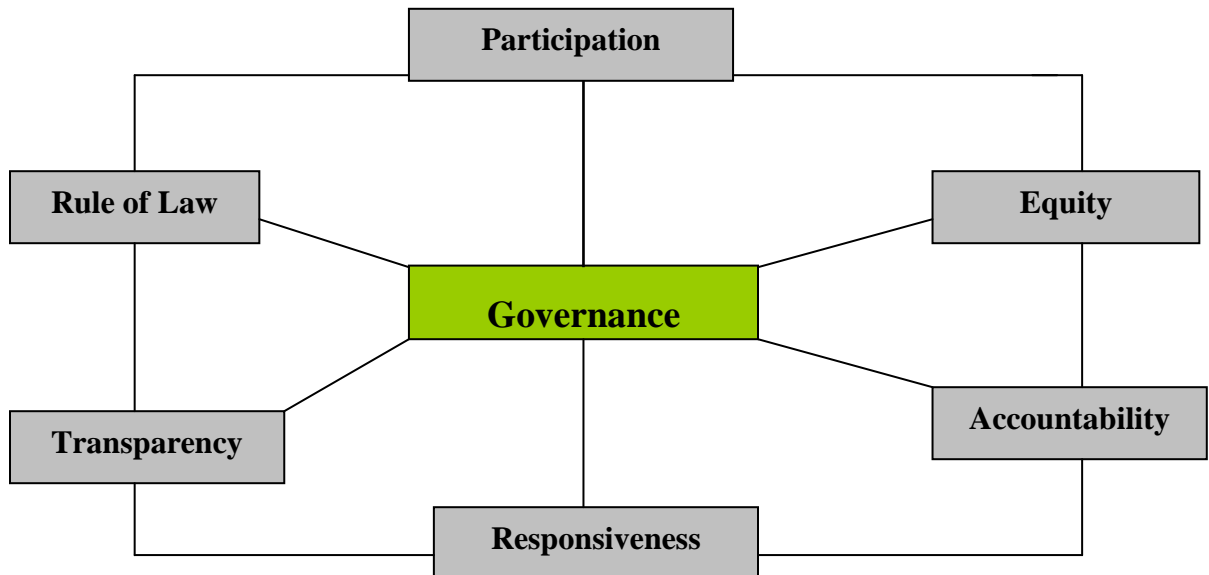


Figure 6.1: Linkages of Key Elements of Governance (Adapted from Canada Corp 2006)

through better institutional structures and processes by engaging local stakeholders in equitable decision-making. It incorporates the cultural, social, economic, political and scientific context into issues surrounding the sustainability of the natural and cultural environment. The integration of all these dimensions depends on the institutional structures, procedures and relationships between government, private actors and resource users. Young (1992) argues that governance, the structure and processes by which societies share power, shapes individual action and helps achieve collective action. Further, governance creates platforms for interactions among multiple actors, both formally and informally, to influence decision-making processes by contesting and pursuing their agendas and by determining access to resources (Lebel *et al.* 2006).

Wetland resource management, specifically fishery resource management, has evolved through a shift from state control to a community-based management/co-management approach to involve diverse and legitimate stakeholders in the management

practice. It is argued that such a community-focused approach has the ability to address multiple interests of different stakeholders within shared norms and consensus (Ahmed *et al.* 1997; Berkes 2009; Pomeroy and Viswanathan 2003; Thomson and Gray 2009). The main feature of community-based natural resource management is a shift of management responsibility from the state agencies to a people-centered and community-focused management approach. This approach emphasizes the sharing of power and responsibility with local resource users to involve them in management practices (Berkes 2009; Pomeroy and Viswanathan 2003; Thomson and Gray 2009). In addition, it also facilitates learning-based approaches, such as adaptive management, i.e. learning-by-doing (Berkes 2009), community development and social empowerment (Pomeroy and Viswanathan 2003), which address a broader governance perspective than only resource management. Within the structures and processes of community-based/co-management, governance reform, such as decentralization of power, authority and responsibility from central formal institutions to local level community for natural resource management, provides legitimacy to access, control and entitlements of local resource users to the resources.

Cross-scale institutional linkages, both horizontal and vertical, can create opportunities for multi-level environmental governance in NRM with equitable decision-making processes. There is a potential to transmit local concerns across multiple levels of political organization (Berkes *et al.* 2005). Berkes (2006) has recently emphasized on cross-scale linkages of community-based management, and hence the likelihood of successful natural resources management depends on multiple levels of governance. In Berkes's words, "governance begins at the community level. ...[A]ttention to the community level alone is never likely to be sufficient to provide for effective management" (2006:48).

My study revealed that wetland resource management in Bangladesh not only has suffered from the traditional bureaucratic top-down management approach, but also failed to establish effective governance in the management approach. While a transformation in management approach from the EEF approach to community-based/co-management approach is required to involve resource users in the decision-making process, such a shift has not yet taken place in Bangladesh. Multi-stakeholder wetland resource governance has a significant role to facilitate effective democratic and

deliberative participation for diverse stakeholders in management planning and implementation to address diverse interests, though only a handful development initiative multi-stakeholders' roles have been recognized.

Hakaluki haor, the largest wetland of the country, has been the subject of two governing systems, namely, i) top-down, command-and-control state management based on economic efficiency, and ii) community-based management/co-management through a partnership arrangement (details are in chapter 3, 4, and 5). The latter management approach has been implemented under three development initiatives. The study examined and provided a systematic, empirical data-based analysis of wetland resource governance in *Hakaluki haor*; these are presented in the following sections.

6.2 Diverse Stakeholders in Wetland Management in *Hakaluki haor*

The presence of diverse stakeholders (see details in Chapter 4, Fig. 4.1) in *Hakaluki haor* management is essential, as they are affected by the social, ecological, economic and political aspects of natural resources management decisions. A detailed understanding of the dynamics of the social actors, group interests and power relations is necessary for making collective decisions and actions in natural resources management. Four major attributes are important for understanding of the nature of the involvement of stakeholders while taking collective decisions: i) the stakeholders' position on the issues, ii) the level of influence (power) they hold, iii) the level of interest they have, and iv) the group/coalition to which they belong (World Bank 2006). For example, local poor resource users can have a high interest in resources, but they have limited power to take any decisions. In contrast, the MoL can hold high power to decide on access and use, but it has minimum interest in sustaining the resources. Complex power relations among social actors and their interests have profound impacts on blocking or advancing collective decisions and actions; some are interested in being involved in the processes, and others are indifferent. A detailed analysis of the power and interests of diverse stakeholders was accomplished with the participants of my research; this is summarized in Table 4.3 of Chapter 4.

It is important to identify the level of stakeholders in multi-stakeholder governance, as they play different roles in wetland resource management. Their level in the decision-making process reflects the ability to hold power and the authority to influence management decisions in *Hakaluki haor* resource management (Table 6.1).

Table 6.1: Level of Stakeholders in Decision-making in *Hakaluki Haor* Resource Management

| Level | Stakeholder |
|--------------|---|
| Senior level | PMO, MoL, MoEF, MoFAR, MoWR, MoA, MoLGRD, MoF, MoYS, NPC, Elected Representatives (MPs), Donor Agencies, Professional Groups and MEAs |
| Mid level | DoF, DoE, BWDB, LGED, DAE, District and <i>Upazila</i> Administration, Local Government Representatives (<i>Upazila</i> Chairman), Bank, Lessees, Investors, International NGOs, National NGOs, and CSOs |
| Local level | Fishers, Farmers, Day Labours, Small Traders, Vulnerable and Disadvantaged Groups, FCSs, <i>Union Parishad</i> , Local Elites, Local money lenders, local NGOs, CSOs, and CBOs |

Source: Summarized from FGD and Key informant interviews conducted in 2007 and 2008.

Three levels of stakeholders were involved in the management of *Hakaluki haor* that directly or indirectly had different degrees of power and authority to influence the decision-making process of resource management. For examples, the selection of international NGOs as partners of the SEMP and CBFM-2 was made by the donor agencies (UNDP and DFID) without any consultation with lower levels. In contrast, FCSs, as genuine fishers' cooperatives and legitimate stakeholders in *jalmohal* management, could not renew their *jalmohals* without facing and competing in a leasing process, as they had limited or no ability to influence decision-making process at the mid and senior levels.

The multi-stakeholder governance approach focuses on the linkages of stakeholders across the scales (both horizontal and vertical) in which connectivity of stakeholders facilitates a system of sharing power, access to resources, sharing

knowledge and experience, and feedback. The three development projects studied provided a clear perspective of diverse stakeholders' involvement and their roles in *Hakaluki haor* management. The study revealed that the CBOs of SEMP, CBFM-2, and CWBMP were able to work with diverse stakeholders and capable of engendering the expected level of outcomes from their initiatives. However, the external facilitation of NGOs had to play a critical role for strengthening the capacities of CBOs so that they could get involved in the adoption of a multi-stakeholder governance approach (see details in chapter 4 and 5).

6.3 Changes in Wetland Resource Management in Bangladesh

Reiteration on the changes of the wetland resource management system in Bangladesh is required here to introduce critical governance issues. The change in the governing structure of wetland resource management, even after the independence of Bangladesh in 1971, in real terms, has been nominal. Legally, the East Bengal State Acquisition and Tenancy Act (EBSATA), 1950 has given jurisdictional authority to the state on all natural resources, including wetlands resource and hence its management. All *jalmohals* including *Hakaluki haor* were brought under the direct control of the Ministry of Land; for their management the primary objective of revenue collection from the natural resources was pursued. The Act has given the authority to formal agencies to rent out all *jalmohals* (fishery estate) to maximize revenue collection through a competitive, open auction process.

In 1973, the fee-based licensing system of fishing rights for genuine fishermen was introduced by the state but it could not continue because of corrupt practice in the management system (Huq and Huq 1985; Naqi 1989; Rahman 1989; Siddiqui 1989; Toufique 1997) and internal conflicts among fishers' co-operatives (Rahman 1989; Siddiqui 1989) (details are in chapter 3). In 1980, a number of *jalmohals* (not the ownership of *jalmohals*) were transferred from the Ministry of Land (MoL) to the Ministry of Fisheries and Animal Resources (MoFAR), without changing the policy of revenue collection, to ensure management of these *jalmohals* by genuine fishers only. Again in 1983, the management of *jalmohals* (8.10 ha or less in size) was transferred to

the local government and local formal administration. This management arrangement did continue till the framing of the New Fisheries Management Policy (NFMP) in 1986.

The NFMP-1986 provided the scope for the MoFAR to get involved in the management of *jalmohals*, keeping the revenue collection objective in place. Due to the weak institutional capacity, the MoFAR failed to demonstrate effective *jalmohals* management as well as to deal with the economic, social and ecological complexities of wetland resources. As a result, all *jalmohals* were transferred back from the MoFAR to the MoL; this reinstated the old leasing system of *jalmohals* management. This leasing system of *jalmohals* management has been vetted by the central government through the framing of “the Government *Jalmohals* (Wetland) Management Policy 2005,” which re-endorsed the power and responsibility of the MoL to apply the EEF approach of wetland resource management. Although the Wetland Policy 2005 explicitly stated a commitment of the state to ensure the rights of the local resource users in accessing natural resources, in practice, that remained only in the policy documents without showing substantial progress in its implementation. My field investigation revealed that only 16% of resource-rich *jalmohals* were leased out to fishermen co-operatives in the *Hakaluki haor* area (Table 3.4 and Figure 3.1 of the chapter 3).

Framing of the new policy in NRM should be grounded on socio-political considerations as well as the ecological contexts of the local conditions to make it effective in the management system. As one of the field workers of DoF stated “*policy has been developed by the central government agencies without considering field situation, specifically political and financial abilities of local poor communities to claim their legal rights within elite dominated societal structure. These poor groups often sell their rights to the powerful groups or individuals taking very little benefits. State control management systems purposely remain quite in this situation and facilitate elite capture mechanisms*”. The most striking comment made by one senior policy maker of the government was: “*donor driven policy framework does not reflect the socio-political need for ground level changes, and institutional inability to handle such transformations are not properly recognized in the policy changes to face implementation challenges*”. In fact, the above two statements explicitly capture the institutional weakness of state control management to ensure good governance in wetland resource management.

Specifically, transferring the management responsibility of wetland resources from one ministry to another ministry does not necessarily ensure the involvement of local resource users in decision-making processes, unless local resource users are considered as legitimate stakeholders in the formal system.

The findings of my study further indicate that community-based/co-management partnership approaches were remarkably successful in engaging local resource users in decision-making (details are chapter 4 and 5). In the case of SEMP, CBFM-2 and CWBMP, local resource users were able to form and strengthen their CBOs and to participate in collective actions to protect their interests.

Governance failure was visible in the state-governed management approach (SMA) of *jalmohals* management in the *Hakaluki haor* area. SMA led to the exploitation and deprivation of legitimate genuine fishers' communities from their access to and control over resources, inequitable benefit distributions, allowed the capture of resources by the elites, and overexploitation and habitat degradation in the *haor* area. In contrast, the experiences of the three selected development projects revealed that the decentralization of power and management responsibility from state control to the multi-stakeholder management system succeeded in enhancing the access and rights of the local resource users. However, this alternative management approach was mainly appreciated by donors and development agencies, international and national NGOs, and civil society (Bene and Neiland 2006; Berkes 2009; Ostrom 1990).

My field-based research findings also confirmed that less than one per cent of *jalmohals* were managed under community-based/co-management in the *Hakaluki haor* area. About 75% of resource-rich (productive) *jalmohals* of *Hakaluki haor* were captured by the outsider vested groups, with actions from the government agencies (allegedly through malpractices), under the so-called open bidding leasing system (Table 3.4 and Figure 3.1 of the chapter 3). In the name of creation of employment opportunities for rural youths, small *jalmohals* (less than 8.10 ha each) were taken away from poor fishers. Such a deprivation created negative impacts on the livelihood of local communities. Local youths, particularly political activists of the ruling political party, were benefitting from such management of wetland resources by depriving local communities from their legitimate claims on the resources.

All these issues can be listed as a failure of governance of SMA in the wetland resource management. The ineffectiveness of SMA in the *Hakaluki haor* area was reflected in the lack of assurance of access, rights and entitlement over resources by the local communities. The SMA acted in such a way that it not only caused the exclusion of the local resource users from their traditional uses of resources, but also provided a scope to vested groups to capture the benefits of wetland resources ruthlessly.

Promoting good governance has been a priority for the donor agencies in management structures and processes for the last few decades. During the 1980s, donors and development agencies initiated discussions with the national governments of many developing countries to promote good governance through democratization and decentralization in their management system (Bene and Neiland 2006). In fact, decentralization was prioritized as a pre-condition for effective rural development (Aiyar *et al.* 1995; ECDPM 2001; Esmail 1997; Goldman 1998), including natural resource management. Participation and decentralization were seen as effective mechanisms for ensuring the inclusion of the most marginalized, poorest and vulnerable groups into the decision-making process to provide them access to and benefits from the resources (Bene and Neiland 2006; Feeny *et al.* 1990; Ostrom *et al.* 2002; World Bank 1996).

The incapability of the government agencies, such as, the MoFAR, the DoF, in ensuring fair practices in wetland resource management led to the call for involving the local resource users in the management (Campbell *et al.* 1999; Thompson *et al.* 2003). Besides, the limitation of Hardin's (1968) prescription of state control or privatization of the commons has instigated the idea of community-based/co-management partnership arrangements in the natural resource management to seize or limit overexploitation and degradation of resources from SMA and to provide scope for local resource users to be involved in decision-making of wetland resource management.

6.4 Governance in Community-Based Management Approach

The sharing of power and management responsibility with local communities for wetland resource management was promoted for many practical reasons. These include: i) formal institutions in many ways were ineffective in managing natural resources at the

local level, ii) local level institutions are capable of framing bylaws to manage natural resources effectively, iii) sharing of management responsibility greatly decreases the transaction costs of the management, iv) local knowledge that is specific to local resources is easily available and time-tested, v) it is very effective to resolve conflicts through mediation, and vi) recognition of multiple social actors and diverse interests in the decision making process (Baland and Platteau 1996; Bene and Neiland 2006; Berkes *et al.* 2005; Gibbs and Bromley 1989; Vedeld 1992).

As a recapitulate from the previous chapters, the EEF wetland management approach generated mistrust, chaos, conflicts, and injustice among the local level resource users. The leasing system of *jalmohals* was favouring non-fishers, politically and financially powerful groups or individuals. Such a highest bidding leasing system excluded genuine fishers from their traditional user rights to resources and created scope for outsider investors to capture *jalmohals*. However, the higher lease fee means excessive exploitation of resources because the investors tend not only to procure the paid lease-fee but also make a substantial amount of profit. This also, in turn, implies more restrictions on the access to resources by the local communities.

Locals were complaining about the use of destructive fishing methods usually practiced by the lessees. These included dewatering, poisoning³⁴, use of small-mesh net and fishing during the breeding season (Fig. 6.1). The following remark from a local fisherman reflects these perspectives:

“Ijaraders (lessees) want to catch all fishes by using all possible methods of fishing, no matter how destructive the methods are – they want to make sure about their profit from jalmohals and have no respect for Jal-debota (Water Goddess³⁵). They dried up water to catch fishes, catch mother fish and fries, destroy breeding ground ----- . We never had done such damage to haor, ... haor is like our mother, we are surviving on its resources. We do maintain some ethics – we save some resources and have respect for Jal-debota”.

Vanu Ranjan Das, local fisherman of *Hakaluki haor*

³⁴ Poisoning – after dewatering of *beels*, lessees apply large amount of urea fertilizer on the exposed bottom of *beels* that immediately kill eel and cat fishes which are hiding in the muddy areas of the bottom.

³⁵ Local people have a belief in the Water Goddess. They have a spiritual conditionality in their mind set that they are getting protection from the Water Goddess - who is looking after *haor (jalmohals)* and taking care of all evils acts to save human beings. Locals also believe that there are devils associated with fish and water which can harm them if the Water Goddess is not happy with them for any wrongdoing.



Figure 6.2: Destructive fishing methods (dewatering, poisoning, use of small –mesh net) in *Hakaluki Haor*

Inherent in this spiritual belief of the local communities is a strong message of sustainability and a conservation philosophy that should be recognized in the natural resource management approach. However, generally, local beliefs remain neglected in the expert-driven, technology-based natural resource management approach. The community-based management approach, in contrast, promotes the incorporation of spiritual aspects of resource management to strengthen the sustainability context.

Local communities of the *Hakaluki haor* area participated in CBWRM during the implementation of three different development initiatives, namely, SEMP, CBFM-2 and CWBMP. This study found that local communities were capable of developing and strengthening local institutions (CBOs), developing a participatory action plan, formulating conflict resolution mechanisms, framing rules and regulations for resource use, and developing shared norms and consensus on complicated resource management issues (such as banning of fishing during the breeding season).

Some examples can be cited here to substantiate the above assertion. Members of the *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.* of SEMP were successful in restoring the flooded forests. They had developed five square-kilometre patches of flooded forests, with an agreed upon benefit-sharing mechanism. The *Shapla Samaj Vittik Bahumokhi Samobai Samity* of CBFM-2 was able to manage *Gaimara beel* by crafting resource harvesting codes of conduct and a monitoring mechanism for *Beel* management by forming a *Beel* Management Committee. The *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* of CWBMP was successful in developing a biodiversity conservation plan for protecting freshwater fish species and water birds. Members of the CBO were able to identify *khas* land to establish 10 fish sanctuaries in *Kanti Nala*, *Puratan Kanti Nala* Rivers and *Chatla beel*. Members of the *Nunua Mohila Samity* of CBFM-2 were capable of organizing themselves to run a successful micro-credit program. These are a few examples of the many successes in collective action of CBOs under the community-based management approach in *Hakaluki haor* (see chapter 4 for details). Scope for community participation in decision-making and empowering local communities through CBWRM has strengthened these positive attributes of local communities, which helped them to act effectively in collective action.

However, the effective performance of CBWRM with all seven CBOs was not satisfactory and some of them failed to achieve the objectives of the development initiatives. Out of seven studied CBOs, three of them failed to demonstrate their effective involvement in CBWRM. Because of intense internal conflicts and incompetency in leaderships, and due to the lack of managerial and technical skills to manage finances and resources, some CBOs could not sustain their collective action. In fact, using the scope of CBWRM, few members of CBOs (mostly leaders of CBOs) acted upon project activities for their personal gains and wealth accumulation. Some of the members of these CBOs commented on the leadership as follow:

“Failure of running our organization is due to selection of incapable or wrong person as the leaders of our Samity. These leaders could not ensure accountability, responsibility and transparency in the operation of CBOs management. Now they are blaming the communities for failure”.

The selection of potential leaders for mobilizing collective actions is one of the key issues in the community-based management approach. Selection criteria must follow a democratic process for the local community, not the external facilitator (NGO), to identify potential leaders. The likelihood of selecting appropriate and strong leaders is much greater through a democratic process in which local communities participate and take the responsibility of identifying their own leader.

My investigation revealed that the CBOs were successful in maintaining many attributes of wetland resource governance, including the following: i) democratic, deliberative methods of developing the participatory action plan, ii) a conflict resolution mechanism and consensus building, iii) sharing of knowledge and experience, iv) ability to build capacity, v) ability to make cross-scale linkages, and vi) ability to maintain a transparent, accountable management system. The aspects of governance of the CBOs management are analyzed in the following section (i.e. section 6.5).

6.5 Governance in Partnership Approach

Community level management alone cannot perform effectively to manage wetland resources due to its inbuilt social-ecological complexities. Joint actions of multi-

stakeholders in the management system for wetland resources are necessary to ensure good governance. This signifies government-private-civil society partnership arrangements to address the diverse interests and management complexities of the EEF approach through sharing of power and responsibilities across the scales and shortcomings of single agency management (Berkes 2009; Kooiman 2003; Pierre and Peters 2000).

Summarizing from Chapter 5, it can be stated that wetland resource management in *Hakaluki haor* tested the partnership approach successfully through development initiatives such as SEMP, CBFM-2 and CWBMP. In the case of SEMP, the partnership was formed among the government, international non-governmental organization, national non-governmental organization and community-based organization (the MoEF, IUCN-The World Conservation Union Bangladesh, CNRS and CBOs). CBFM-2 had a similar kind of partnership arrangement as SEMP; it involved the DoF, The WorldFish Center Bangladesh, CNRS and CBOs. The partnership in CWBMP was different as the arrangement was made among the government organizations, national non-governmental organizations, local non-governmental organizations and community-based organizations (DoE, CNRS, local NGOs –IDEA & *Prochesta* and CBOs) (see Fig. 5.1, 5.2, and 5.4 of Chapter 5).

In these partnership arrangements, different agencies were involved to perform different responsibilities to implement the development initiatives. The government agencies, as the supreme authority, were responsible for resource mobilization and for providing overall policy guidance to the other partners. International NGOs provided administrative, financial management and consultancy supports on technical matters. National and local NGOs were responsible for the actual implementation of field activities, including community mobilization, conducting PAPD process, strengthening and capacity-building of CBOs, and coordinating between GOs and INGOs. CBOs were responsible for providing issues, concerns, new knowledge and experience to the action plans and for implementing the project activities at the field levels.

The partners engaged in SEMP, CBFM-2 and CWBMP performed diverse roles in wetland resource management that were based on their inherent institutional power, authority, responsibility and operational levels (Table 6.2). In these partnership

Table 6.2: Governing Roles of Government Organization, International NGO, National NGO, Local NGO and CBO in Co-management Partnership in SEMP, CBFM-2 and CWBMP

| Organizations in the Partnerships | Type of Organization | Governance Role |
|---|---|---|
| <p>The Ministry of Environment and Forest (GO partner of SEMP)</p> <p>The Department of Fisheries (GO partner of CBFM-2)</p> <p>The Department of Environment (GO partner of CWBMP)</p> | Government organization | <ul style="list-style-type: none"> -Hold authority and responsibility to implement development initiatives -Negotiate resource mobilization and implementation strategy with donor and other central government organization - Possess the top operational position in the partnership arrangement (in terms of power and authority). -Sharing of power and management responsibility with other stakeholders |
| <p>IUCN-The World Conservation Union, Bangladesh (partner of SEMP)</p> <p>The World Fish Center (partner of CBFM-2)</p> | International non-governmental organization | <ul style="list-style-type: none"> -Channelling resources from the MoEF to the CNRS -Share concerns and critical issues from the field with the MoEF and provide feedback to the partners at the lower level -Provide technical support to other partners i.e. enhance capacity of NGO and CBOs -Monitoring and evaluation of performance other partners involved in the initiative |
| Center for Natural Resource Studies (CNRS), (NGO partner of SEMP, CBFM-2 and CWBMP) | National non-governmental organization | <ul style="list-style-type: none"> -Mobilization of local communities -Formation of CBOs -PAPD development and its implementation with CBOs -Capacity-building and empowering of CBOs -Maintain liaison with GO and INGO and negotiate with them on behalf of CBOs -Negotiate with GO to ensure <i>jalmohal</i> lease for CBOs -Acting as arbitrator to solve local conflicts -Facilitate democratic deliberative participatory structures and processes of participation -Providing financial, managerial and technical support to CBOs -Compliance with progress reporting, sharing concerns, feedback of CBOs with partners at the higher levels -Facilitate registration process of CBOs with appropriate authority to ensure legal entity of CBOs |
| IDEA and <i>Procheta</i> (partner of CWBMP) | Local non-governmental organization | <ul style="list-style-type: none"> -Provide necessary support for mobilizing communities -Helping CNRS for CBOs formation, PAPD development and implementation - Identifying vulnerable, disadvantaged local communities for involving them in development initiatives -Helping CNRS in conducting base line survey -Identifying local concerns and issues to address in the management approach |

| Organizations in the Partnerships | Type of Organization | Governance Role |
|--|-------------------------------|--|
| | | <ul style="list-style-type: none"> -Helping in micro-credit operation with CBOs -Capacity-building and empowering of CBOs |
| CBOs | Community based organizations | <ul style="list-style-type: none"> -Mobilize CBO members to join collective actions -Identify environmental concerns and challenges at the local level -Participation in PAPD processes -Implementation of actions plan -Responsible for taking management decision at the local level -Develop shared norms and understanding at the local level -Leadership selection for CBO -Ensure acceptable and legitimate exclusion and inclusion system in CBO -Develop rules and regulations for resource utilization (code of conduct for CBO members) -Develop equitable benefit sharing mechanisms of natural resources -Create space for vulnerable, disadvantaged groups in CBOs -Maintain democratic deliberation of participation of all CBO members -Conflict resolution mechanisms at the local level -Maintain accountable and transparent financial procedure of organization -Sharing of information with all CBO members and take feedback to the higher level -Maintain strong linkages with the higher levels to ensure interests of the community -Maintain participatory monitoring system |

arrangements, multiple stakeholders were involved in acting on their responsibilities, which specifically signified critical aspects of multi-level governance in wetland resource management. In fact, partnership arrangements created scope for local resource users' involvement with diverse institutions, including GOs, INGOs, and NGOs for wetland resource management. Such partnership arrangements were grounded on governance in resource management to ensure accountability, responsibility, transparency, equity, fairness, and linkages to sustain collective action (see chapter 5 for details of the partnership arrangement in implementing collective action).

The co-management partnership approach enables the involvement of multi-stakeholders in shared power, authority and responsibility, and it establishes strong vertical and horizontal linkages and learning functions among partner organizations

(Folke *et al.* 2005). This approach ensures both upward and downward accountability within the system as well as establishes appropriate mechanisms for CBOs to share information, feedback, and concerns with higher level partners to ensure their interests as resource users (Bene and Neiland 2006; Berkes 2009; Thomson and Gray 2009). The co-management partnership approach should not only be considered as a way of sharing of power and authority from the central government organizations to local community for NRM, it should also be regarded as a unique method of implementing collective actions by combining both top-down and bottom-up approaches in natural resource management within a multi-stakeholder governance system. In this logic, governance can be understood as a process, which ‘includes the setting of rules, the application of rules, and the enforcement and adjudication of rules,’ (Feeny 1988:172). With some degree of durability, the co-management system should be recognized as systems, or networks, of governance in natural resource management (Carlsson and Sandstrom 2008).

6.6 Performance of the CBOs in Multi-stakeholder Governance at *Hakaluki haor*

The effective performance of community-based organizations in wetland resource management through the sharing of power and responsibility from the central formal organizations to local communities is highly dependent on the attributes of governance. Multi-stakeholder governance widens the scope for the involvement of diverse stakeholders in the structures and processes of management to strengthen the institutional framework, enhance capacity, and empower CBOs in collective actions. This study observed that in between central organizations and CBOs, the roles of other stakeholders (i.e. IUCNB, The WorldFish Center, CNRS, IDEA and *Prochesta*) were mainly in facilitating and strengthening the capacities of CBOs to perform in the multi-stakeholder governance systems. The long-term success of the community-based/co-management approach is, therefore, linked with the durability of CBOs in wetland resource management systems as self-governing institutions. In this consideration, the attributes of governance played significant roles in the performance of CBOs to sustain their management systems. As mentioned by Armitage (2008), governance attributes are,

therefore, vital to deal with the complexity of the commons (wetland resources) in a multi-actor management system.

During my field study, a performance evaluation of CBOs in regards to governance attributes was carried out by members of the CBOs, which signified their overall institutional ability to address governance issues in wetland resource management (Table 6.3). These attributes, which include participation and deliberation, accountability, transparency, equity and fairness, leadership, trust-building, and networking in governance, are not exhaustive, and it is important to assess the degree of effectiveness of governance structures and processes in the management system. These are also indicators of success or failure of alternative management approaches, providing a critical view of institution building and strengthening them at the local level (Armitage 2008; Dietz *et al.* 2003; Level *et al.* 2006; Ostrom 2005; Young 2002). In the following, an analysis of these attributes as important elements of wetland governance in the development initiatives in *Hakaluki haor* is presented.

i) Participation and deliberation: The participation of diverse stakeholders, including members of the CBOs in the implementation of collective actions that were designed in the SEMP, CBFM-2 and CWBMP, created opportunities to develop shared norms and consensus in management approach. These collective actions, particularly through the participation and deliberations of actors, materialized by bringing knowledge and experience that were suitable in the local context as well as through resolving conflicts among them (McCool and Guthrie 2001).

In the case of SEMP, CBFM-2 and CWBMP, local resource users were included at the beginning of the project implementation; they were fully engaged with PAPD processes to share their issues, concerns and interests. Community members were allowed to raise any contested issues through their participation and deliberations in various PAPD sessions, community meetings, and workshops. For example, farmers and fishers had consensus on water use during the dry season or on identifying fallow land for flooded forests restoration (which used to be good for farming). Among seven CBOs, the participation and deliberation of members of *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.*, and *Nunua Mohila Samity*

were effective and the outcomes contributed towards local level management. The participation and deliberation of members of three other CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, were “average” in terms of engaging themselves in discussions and dialogues during project implementation.

Table 6.3: Environmental Governance Performance of CBOs at *Hakaluki Haor* area

| Name of CBOs Attributes | NSBSSL | GJSSL | SSVBSSL | MMSVBSSL | BSECAMBSSL | DGECABSSL | NMS |
|--------------------------------|--------|-------|---------|----------|------------|-----------|-----|
| Participation and deliberation | G | AV | G | AV | G | AV | G |
| Accountability | G | P | G | P | AG | P | G |
| Transparency | G | P | G | P | G | P | G |
| Equity and fairness | G | P | AV | P | AV | P | G |
| Leadership | G | P | G | P | AV | P | G |
| Trust building | G | P | G | P | G | AV | G |
| Networking | G | P | G | P | AV | P | AV |

G=Good, AV= Average, P= Poor (performance assessment on governance attributes done by the members of CBOs based on 1 to 10 scale, where 1-4= poor, 5-7=average and 8-10= good)

NSBSSL= *Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.*, **GJSSL** = *Gobindhapore Juba Samobai Samity Ltd.*, **SSVBSSL** = *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, **MMSVBSSL** = *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, **BSECAMBSSL** = *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.*, **DGECABSSL** = *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, and **NMS** = *Nunua Mohila Samity*

ii) *Accountability*: Accountability is a crucial element in multi-actor management systems. The institutional mechanisms or processes ideally should be designed in such a way so that the executing agents or decision-makers (at every level) remain accountable

to their beneficiaries. This concept emphasizes downward accountability in which actors are accountable to their constituents (Baland *et al.* 2008; Bardhan and Mookherjee 2006; Bardhan *et al.* 2006; Bardhan *et al.* 2008). Accountability plays a vital role in pursuing the distribution of benefits in equitable way, which can reduce threats to vulnerable groups and build adaptive capacity (Armitage 2008; Lebel *et al.* 2006). It is critical in the sense that without ensuring accountability to its constituents, community-based/co-management of natural resources management is not likely to accomplish its stated aims (Agrawal and Ribot 1999; Bene and Neiland 2006).

The governance mechanism in multi-stakeholder involvement lies with the performance of CBOs to address accountability in the governance of their management system. Institutional structures and processes must ensure the accountability of executives or leaders of CBOs to their general members. This downward accountability, in a way, by maintaining accountable performance with higher levels, ensures the upward accountability of CBO leadership to protect the interests of local community.

My study revealed that three CBOs, namely *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, failed to demonstrate that they were accountable in their management system. A poor rating in the accountability of their management approach was recorded. Due to the deficiency in accountability, there were problems regarding defining responsibility among CBO members, members of the executive committees, benefit distributional implications, mistrust and poor performance in collective action. The *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* performed “average” in ensuring accountability in its operation. However, three other CBOs were able to establish a mechanism for ensuring a high degree of accountability in the implementation of their activities (Table 6.3).

iii) Transparency: Transparency, as an attribute of governance in the management system, refers to the free flow of information and access to information by all stakeholders (Graham *et al.* 2003). It is very important to build trust and improve the credibility of institutions among stakeholders. Easy access to information helps immensely to reduce conflicts among resource users. The following statement by one

CBO member is noteworthy to exhibit critical contributions of easy access to information in the management system.

‘Whenever I want to see my balance of savings - I can see it, I do not have any problem. Jarna Didi (Chairperson of Nunua Mohila Samity) always allows us to see the account book of the Samity to compare our pass books (that contain individual’s savings information) with the balance maintained by Samity. I am depositing monthly savings to the Samity without any concern’.

Dipti Rani Das, Member of *Nunua Mahila Samity, Hakaluki haor.*

Transparency in the management system has a long enduring positive impact on the internal resource mobilization process that can be used to initiate collective actions on their own rather than depend on external sources for resources. The savings program of *Nunua Mohila Samity* was a good example of internal resource mobilization from the members. My study has recorded that four CBOs, namely, *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.*, and *Nunua Mohila Samity*, maintained a transparent system in the organizational structures and processes. Members of these CBOs enjoyed free flow and easy access to information. At any time, they were allowed to see the account balance of the CBOs. Also, these CBOs had a system of having a monthly meeting with all members of the CBOs to inform them of any new development of the organization, and share any new information and/or news from higher levels. They also had a system of recording the minutes of meetings as a part of record keeping, and members were allowed to access such minutes as and when necessary. Three other CBOs, namely *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, were unable to implement transparency in their operations, and thus mistrust and conflicts among members developed, which eventually led to the disintegration of the CBOs.

v) *Equity and fairness*: Generally, disadvantaged and vulnerable groups are deprived from their due share of natural resources (commons) within a complex social power structure. With the alternative management approach, i.e. CBNRM, opportunities

are provided to these groups to be involved in the decision-making process to ensure their interests. My study on seven CBOs revealed that only two such CBOs, namely, *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.* and *Nunua Mohila Samity*, were able to develop a system ensuring equity and fairness, which was appreciated by the members of the CBOs. Members of the other three CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, were unhappy on equity and fairness issues. The *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.* and *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* were in-between in the evaluation outcomes concerning the equity and fairness issue of CBOs management (Table 6.3).

A failure in ensuring equity and fairness can aggravate the situation for disadvantaged and vulnerable groups to access resources. For instance, the frequency of fishing in *beels* under FCS management must be equal for all members of the CBO. Any special opportunity for fishing for the leaders or influential members of the CBO will lead to conflicts among them. During the selection of members for providing funds for alternative income-generation, two CBOs, namely, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.* and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, failed to maintain neutrality. These CBOs also failed to stop the grazing of cattle owned by their influential members in the plantation area.

v) *Leadership*: The role of leaders in the CBO operation was considered as evolving in nature, in which the capacity of the leaders could be incrementally enhanced through training to deal with complex issues in the multi-stakeholder management system. This study revealed that three CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, suffered from incapable leadership in CBO operation. In contrast, the leaders of the *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, and *Nunua Mohila Samity* demonstrated their ability to strengthen institutional bonds with greater satisfaction among members. The quality of leadership of

the *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* was “average”, according to the assessment of the members (Table 6.3).

Able leadership of the CBOs could engender a strong connection with the higher levels of the management authority, such as, policy makers and resource managers, to convince them to consider the interests of the communities during the decision-making process at the higher levels. Also, the capable leaders showed their ability to help individuals to connect with key actors and engage in dialogues to ensure the interests of the communities at different scales (Brunner *et al.* 2005; Folke *et al.* 2005; Olsson *et al.* 2004). In this context, the development of leadership in the CBOs can be seen as a process-oriented, rather than results-oriented, intervention for enhancing the capacity and empowering individuals at the community level. Capable leadership, along with appropriate structural changes in the management system (from top-down to community level), can ensure collective action by directly involving local communities in the implementation. The selection of appropriate persons as leaders of the CBOs is vital for implementing the community-based/co-management approaches in wetland resource management effectively.

vi) *Trust-building*: My investigation found that true partnership and collaborative engagement were largely dependent on trust-building among participating stakeholders within the multi-stakeholder governance approach. Four CBOs, namely, the *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, *Belagaon Sonapure ECA Management Bahumokhi Samobai Samity Ltd.* and *Nunua Mohila Samity*, were successful in developing trust for management of the wetland resources by involving different partners. Such an arrangement did not hamper persuasion of their own interests during the implementation of development activities (Table 6.3). For instance, the following comment of Mr. A. Rahman, former chairperson of *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, *Hakaluki haor*, signifies the importance of trust building in collective action:

‘CNRS started discussion with us about joint implementation of fishery project (CBFM) and wanted our direct involvement in this. Initially, we were not sure about their intension and we were reluctant to join the project. After several meeting with CNRS and their repeated commitment on ensuring our legitimate claims on the resources, we become, motivated that our fisher community should join

the project. When we first received fund from CNRS to implement certain activities of the project, it gave us full confidence and trust to work with CNRS without any hesitation’.

The two other CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.* and *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, were “poor” at building trust among their members to work with confidence in the multi-stakeholder governance system. In contrast, *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.* performed in an “average” manner in trust-building among its members (Table 6.3).

Trust building among resource users is necessary for enhancing social capital and thus for multi-stakeholder governance in NRM. Trust-building should begin from launching the collective action to engage local communities, particularly disadvantaged groups, as they are always deprived by the EEF management approach. The process of trust-building, in turn, enhances social capital that has a positive impact on collective action. It also boosts social bonding among resource users. More specifically, it does signify social interaction among the multi-stakeholder governance structures and processes to engage resource users in collective action, which is often underestimated in the traditional top-down management approach (Armitage 2008; Berkes *et al.* 2005; Brunner *et al.* 2005; Folke *et al.* 2005).

vii) *Networking*: Networking arrangements among CBOs involved in collective action build strength to protect their benefits and interests within the complex social power structure. Networks, as forums of CBOs, create scope for them to discuss their concerns and issues, share their experiences and knowledge, and face challenges in a coordinated way. The *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.* and *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.* were successful in networking among similar kinds of local organizations in *Hakaluki haor* and other areas. Three CBOs, i.e. *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, were “poor” in terms of networking with others. Although *Nunua Mohila Samity* was capable of ensuring attributes of governance in its CBO operation, this CBO scored “average” in the establishment of networking (Table 6.3).

With appropriate networking, the CBOs can improve their negotiation power to deal with higher levels of management authorities and influence the decision-making process in the multi-stakeholder governance system. For example, networks of the CBOs of the CBFM-2 projects are now negotiating with the government to establish their rights on *jalmohals*, and are creating pressure on the government to allot *jalmohals* of the CBFM-2 project areas under their control. It suggests that the network has inbuilt strength for developing institutional capacity to act in a coordinated manner beyond the project period to engender positive effects, ensure benefits and protect the interests of local communities.

The involvement of diverse social actors in multi-stakeholder governance signifies the importance of networks across the scale, i.e. from CBOs to external facilitators INGO/NGOs, local governmental agencies, regional governmental agencies, and national policy making government agencies. An appropriate structure for networking is necessary to establish an effective coordination, flow of information, and feedback among stakeholders from the community level to the policy makers. Also, it helps to synthesize knowledge of ecosystem dynamics, as relevant stakeholders can share their experience and learning with others in the process (Olsson *et al.* 2004; Wilson 2006). Armitage (2008) argues that effective networks should confer resilience in the institutional system, as networks are able to enhance capacity to diffuse negative effects and distribute benefits among members of the network.

6.7 Implementation of Bylaws Crafted by CBOs

Bylaws were formulated by the members of the CBOs of all three development initiatives during the PAPD processes. The CBOs were able to develop a set of bylaws for collective actions in order to be successful in the community-based/co-management approach of wetland resources management. Bylaws were crafted with shared understanding and the consensus of the local communities so that these could easily be enforced at the local level. The following list of bylaws provides some examples of their areas of concern in wetland resource management.

a) *Fishery resource protection bylaws*: For fishery resource development in *Hakaluki haor*, the CBOs developed several restrictions and development measures that included: i) banning of fishing activities during the spawning season, ii) banning of the use of detrimental fishing gear, iii) banning of fishing that uses poison, and dewatering of waterbodies, iv) banning fishing activity in micro-sanctuaries, v) banning the discharge of pollution into rivers and *beels*, vi) establishing fish sanctuaries for the conservation of threatened fish species and vii) limiting the use of irrigation pumps during dry season.

b) *Flooded Forests restoration and protection bylaws*: Flooded forests are one of the important resources in the *Hakaluki haor* area. In the past, the *haor* was covered by dense flooded forests. Overharvesting of this forest severely reduced its geographical extent in the *haor* area; now the *haor* has only two small patches of forest remaining. Considering the importance of flooded forests, the CBOs developed bylaws for their regeneration and restoration. These bylaws included the following: i) banning the grazing of cattle in potential areas of flooded forests regeneration, ii) banning the harvesting of flooded forests in the project area, iii) banning the use of flooded forests as *katha*, iv) identification of the land and plantation program in the project area, and v) plantation of flooded forest species on the roadside and in homestead yards.

c) *Wildlife protection bylaws*: *Hakaluki haor* is a critical habitat for wildlife, specifically for migratory and resident waterbirds. The CBOs identified illegal bird hunting as a major threat to wildlife. They formulated specific bylaws for the protection and conservation of wildlife in the *haor* area, which included: i) no hunting of migratory and resident waterbirds in the *haor* area, ii) protection of old trees for providing nesting places, iii) establishment of towers for nesting places, iv) guarding wildlife by members of the CBOs during winter season, and v) establishing a ‘community conserved area’.

An assessment of the implementation of the above-mentioned bylaws was conducted with the three selected development projects in *Hakaluki haor*. The level of outcomes and impacts of the implementation of bylaws are summarized in the Table 4.5 of Chapter 4. The assessment outcomes revealed that the CBOs have failed to demonstrate the same level of outcomes in implementing these bylaws. For example, *Nishchintapore-Shahpur Bahumokhi Samobai Samity Ltd.*, *Shapla Samaj Vittik Bahumokhi Samobai Samity Ltd.*, *Belagaon Sonapure ECA Management Bahumokhi*

Samobai Samity Ltd. and *Nunua Mohila Samity* showed good progress in the enforcement of bylaws, while *Gobindhapore Juba Samobai Samity Ltd.* and *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.* were “poor” in enforcing these bylaws. The *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.* was “average” in enforcing the bylaw. It is important to note that the first four CBOs were successful in enforcing the bylaw because of minimum internal conflicts among members of the CBOs. In contrast, the other three CBOs were involved in intense and multitude internal conflicts on various issues that made implementation of their own bylaws difficult (see Table 4.5 of chapter 4).

The degree of enforcement of bylaws signifies the strength of social capital to pursue long-term development efforts by local institutions (Sanginga *et al.* 2010). In this effort, external agents can play a critical role in building social capital (Folke *et al.* 2005) that will eventually contribute to the integration of the local institution for collective action. The most critical aspect of formulating bylaws is to involve all stakeholders during the development process so that bylaws can be formulated on the basis of the needs and constraints of local communities (Sanginga *et al.* 2010). The multi-stakeholder governance approach enables all stakeholders, particularly local communities, to be involved in the process of bylaws development by incorporating their issues and concerns regarding resource management.

6.8 Lessons Learned

As stated earlier, hierarchical government bureaucracy, the predominant organizational structure of the 20th century, favours a top-down, command-and-control management system of natural resources management, which generally undermines the need of sharing power and authority with other stakeholders. In contrast, the multi-stakeholder governance system facilitates the interaction of stakeholders across the scale to perform according to their authority and responsibility in natural resource management. The main element of multi-stakeholder governance is the sharing of power from the central formal government agencies to the local level institutions, which encourages flexibility and adaptability in the management approach. To engage diverse

stakeholders in NRM, it is essential to share power and transfer responsibilities to accountable and representative local institutions to ensure an effective local level management system (Bene and Neiland 2006; Kupcu 2005). My study documented the following lessons learned from multi-stakeholder governance in the *Hakaluki haor* resource management:

6.8.1 Sharing Power from the Central to the Local Level Institutions should be Free from Rent Seeking Condition and be Accountable to Local Resource Users

Multi-stakeholder governance is different than transferring power from the central to non-representative local institutions. Conditionality, along with sharing power, often limits the scope for local level institutions to decide independently. Usually, local institutions are controlled by the strict compliance with management conditions by the central government authority. For instance, the transfer of the *jalmohals* management authority from the MoL to the *Union Parishad* (local government), *Upazila* council and the MoFAR was highly controlled and was attached to the strict conditionality of maximizing revenues from the *jalmohals* management. Such a condition of maximizing revenues from the transferred *jalmohals* failed to provide any scope for the new management authority to meet the logical demands of local communities in the *jalmohals* management system. In addition, these central organizations were not accountable to local communities for *jalmohals* management instead, local institutions were specifically accountable upward to the central authorities (please see Table 3.1 of chapter 3).

Scholars argue that when self-interested, non-representative or autocratic organizations like NGOs, interest groups, and customary authorities are chosen for the management of natural resources, it greatly increases the risk of strengthening their autocratic nature in the management system (Bene and Neiland 2006; Fisher 1997; Shackleton and Campbell 2001). This type of power transfer, however, could be misleading to decentralization and often widens the scope of autocratic resource management practice by these organizations. Thus, selecting an appropriate local organization is essential in the community-based/co-management approach to strengthen its management capacity to perform as part of the multi-stakeholder governance system. Such an arrangement is specifically significant for ensuring both upward and downward

accountability in the management system in which every organization is accountable to its beneficiaries.

6.8.2 Management Reforms should Address Problem of ‘Elite Capture’

There is a risk that reforms in natural resource management could favour elite groups to grab the benefits of the new management approach. Literature on this topic suggests that the most common danger in the reform process is the possible control over the management system and, hence, the benefits by the elites. Recent evidence has exhibited that, in the processes of management reform, elite groups have usually captured the benefits of the development initiatives for their own use (Crook and Sverrisson 2001; Draze and Sen 1995; Moore and Putzel 1999). Bene and Neiland (2006) argued that weak institutional capacities within the community help the elites to capture resources during the management reform. Such weaknesses of local institutions, rather, create the scope for enhancement of the power of the elites.

Within the management system, elite groups take advantage during the reform process by representing themselves as local institutions. For instance, in the *Hakaluki haor* area, fishers’ cooperative societies were used as dummy organizations to represent the fisher communities by an investor (Mr. Nazrul Islam) to capture the productive *jalmohals*. In the absence of genuine and strong local institutions (represented by local poor and disadvantaged communities), elite groups, such as local chiefs, headmen, *Mattabor* (socially influential persons in rural Bangladesh) and so-called “customary authorities”, are generally targeted by the central government authority, development partners, and NGOs as representative local institutions. Elite groups possess their positions through an inherent structure rather than any form of democratic process. As a result, their local accountability depends on their personalities and socio-political histories (Devereux 1996; 2001; Johnson 1997; Leach *et al.* 1999; Moore and Putzel 1999).

The objective of reforms in the *jalmohals* management approach was to ensure benefits accruing to the poor communities. However, most gains of the reforms were grabbed by the elite groups (as investors). Reforms did not take into account the aspect of the capacities (i.e. social, political and financial) of local communities, which were very important elements for the effective involvement of local communities in the newly

adopted management approach. This situation, in fact, opened the doors up for local elites to re-capture the benefits within the reform process. My research found that more than 74% of the resource-rich *jalmohals* were captured by the rich, powerful investors though the revealed intension of the central authority was to provide benefits to the local poor (please see chapter 3, particularly Table 3.4, Figure 3.1). The investors were from the elite groups and they never represented the interests of the local poor and disadvantaged groups. This significantly reduced the potentially positive effects of the reforms for the intended local communities. In this context, management reforms should have addressed the problem of only elites capturing gains stemming from the reforms in the management system. This problem could be dealt with by strengthening local institutions and involving them directly in the management of natural resources.

6.8.3 Recognition of NGOs' Role in Multi-stakeholder Governance is Necessary

The roles of NGOs in development initiatives are significant in developing countries, including Bangladesh. It is expected that NGOs should take part in implementing management reforms by acting as facilitators, power brokers or mediators between communities, government organizations, and other actors. In many cases, NGOs offer such roles in poverty alleviation, gender development, entrepreneurship development, capacity-building, and environmental and natural resource conservation.

The roles of NGOs in multi-stakeholder governance should critically be examined to understand their neutrality and vision in the process of reforms. Tandon (1994) argues that international NGOs and their counterpart are “inspired by a particular vision of the society they wish to develop” (p.53). These values differ and could be politically motivated, which loses the neutral standard of values in the development initiative (Bene and Neiland 2006). Within the process of decentralization and governance reforms, NGOs may not be accountable to, or representative of, local communities in an appropriate way (in the sense of a democratic and deliberative system in the decision-making process). There are chances of supporting a privileged minority through their efforts (Botchway 2001; Mearns 1996; Toulmin and Cotula 2003), which can facilitate an enabling environment for local elites to capture benefits from the reform.

My investigation revealed that supports from international NGOs, particularly from IUCN Bangladesh and WorldFish Center, for the development of CBOs in SEMP

and CBFM-2 were closely linked with the availability of financial resource for them. These INGOs were involved in the development initiatives as long as funds were available for services. They withdrew from the development activities immediately after the termination of the projects. Besides, these international NGOs were not representative of local communities, and in most cases of management decisions, they failed to recognize the need for appreciating the local context. The role of INGOs in the multi-stakeholder governance system might be politically motivated to satisfy government organizations and donors rather than protecting the interests of local communities, as these INGOs are chiefly accountable to government organizations and donors, not to the CBOs.

In contrast, national NGOs (i.e. CNRS) and local NGOs (i.e. *Prochesta* and *IDEA*) were involved in the formation of CBOs, and strengthened and provided all the necessary supports for the successful operation of these local level institutions. These NGOs continued their services to the CBOs even after the termination of the projects. It is, therefore, necessary to identify and involve appropriate NGOs in facilitating support to CBOs for taking part in the management of natural resources.

6.8.4 Sustainability Goals Demand Assurance of Access to Resources and Incentive for Local Communities

One of the most important elements in multi-stakeholder governance is to develop economic security for local poor and disadvantaged groups within the structures of management (Thomson and Gray 2009). The reform process needs to explicitly state the plan for ensuring access to resources and economic incentives for local communities as part of the reform. Often, local communities are reluctant to get involved in a newly designed management approach, because they think “it is another typical government initiative” that would not engender any benefit for them. Government organizations have been suffering from a poor perception of their profile and image due to their pro-elite activities in the *jalmohals* management approach.

My study documented that changes in the *jalmohal* management approach by introducing the Government Wetland Management Policy-2005 did not engender the expected outcomes regarding engagement of local resource users in *jalmohal* management. Due to the financial inability of local resource users, they could not ensure

their access and rights on *jalmohals* of the *Hakaluki haor* area under the existing leasing system, as it required the upfront payment of the lease fee.

Local communities were interested in regaining their access to resources and in securing their economic income from *jalmohals*. The active participation of CBOs in the implementation of development activities clearly indicated that, within an appropriate structure and process of resource governance, local resource users can contribute effectively. Assurance in accessing resources and incentives for them acted as a vehicle for local resource users to be involved in resource management. A community member involved in a CBO of SEMP stated that “*We are now getting some income from flooded forest plantations [from pruning of branches after the fifth year of plantation] as a member of the CBO. I never thought that I will get this benefit from the plantations. The project gave us a chance to develop plantation on khas land [government owned land] of haor. We could not use these khas land for years. This land was under the control of powerful people. Without support from the project we cannot do anything on khas land. This project made this difference and we can access this land*”.

-Nirmal Chandra Das, General Secretary, *Nishchintapore - Shahpur Bahumokhi Samobai Samity Ltd.*

Reform processes often empowered local councils, membership organizations, single-purpose committees and financially stronger groups. These groups are not representative of the local poor and disadvantaged groups for protecting the interests of local resource users. Nonetheless, they become part of the management decision-making bodies due to their social, economic, and lineage position in the community, clan or tribe, but not through any democratic process (Willmann 1993). Multi-stakeholder governance, as a reform in the management approach, has the necessary organizational structures and decision-making processes to protect the interests of local communities.

6.8.5 Governance Structure should become a Means of Conflict Resolution

Diverse stakeholders are always in competition to ensure their access to and control over natural resources, and this creates conflicts and chaos among them. However, multi-stakeholder governance can become an effective means of conflict resolution to wetland resource management. The advantage of multi-stakeholder

governance is that it can effectively resolve conflict at the lowest level possible, by engaging local communities who are directly involved in the disputes (Berkes 2009; Bothe 1993; McCay and Jentoff 1996; Thomson and Gray 2009). My study revealed that in the case of *Hakaluki haor*, the involvement of local communities during the process of the participatory action plan development (PAPD) contributed significantly to defusing conflicts among diverse stakeholders. This process developed a system of attaining shared norms and consensus among stakeholders to get them involved in management decisions and implementation. Structurally, CBOs had well-delineated methods of conflict resolution in their management system, such as, weekly and monthly meetings, in which, with all members of CBOs, these forums created a scope for local resource users to express their concerns on any conflicting issues and to build a consensus.

Consultations with stakeholders on any contentious issues also prevented any further conflict among them. Generally, conflict may occur if members of CBOs are not consulted well in advance regarding changes on pre-decided issues or any changes in the modes of management. It was mentioned by the community members during focus group discussions that, in the case of serious differences of opinion on any issues, they usually referred such issues to NGO field coordinators (i.e. field manager of CNRS) to find an acceptable resolution. This kind of arbitration was generally acceptable to the members of CBOs.

Wetland resource management is highly complex and contains many evolving issues to consider on a daily basis. Recognizing these complexities in the management approach is essential for having well-structured conflict resolution mechanisms in place, particularly at the CBO level. Further, the roles of CBOs in multi-stakeholder governance are subject to immediate challenge and conflicts in resource management compared to other partners at the higher levels. The emphasis given on CBOs' involvement in conflict resolution does not necessarily limit the scope for contributions by other stakeholders to facilitate vertical and horizontal linkages within multi-stakeholder governance.

6.8.6 Compliance of Rules and Regulations at the Local Level is Important for Resource Management

The enforcement of rules and regulations is a huge challenge in natural resource management, particularly in complex rural power structures. My study found that the

CBOs of SEMP, CBFM-2 and CWBMP succeeded in improving the enforcement of rules and regulations to a great extent at the local level. The CBOs, as part of the multi-stakeholder governance, were empowered and were assisted to be capable of formulating crafted rules and regulations for wetland resource management. In fact, they had developed a set of locally contextual rules and regulations for maintaining a common standard in wetland resource management. For example, they had built consensus and shared understanding on banning fishing during the spawning season, developing and protecting fish micro-sanctuaries, protection of wildlife, banning the use of detrimental fishing gear, banning of grazing on potential areas for flooded forests, and afforestation to maintain the ecological integrity of wetlands. Members of the CBOs were responsible for routine patrolling to enforce these locally crafted rules. They had punishable measures for any member or outsider who violated these rules and regulations or who benefited from personal gain.

It is critical to understand the complexities of the ecological features of the wetlands to develop enforceable rules and regulations. The CBOs are the most appropriate level to frame rules and regulations, as they possess both social and ecological knowledge of the locality (Berkes 1989; Ostrom 1990; Ostrom 2005). Rules and regulations that were developed by the CBOs considering the local context had a higher compliance record in the *Hakaluki haor* area. In order to achieve a higher enforcement rate, rules and regulations should be based on the local context, and shared norms and consensus of local communities. Further, it is also necessary to reduce the transaction costs of enforcement and of maintaining equity in resource distribution.

6.8.7 Inclusion of Gender Perspective in Collective Action is Required

Generally, women's rights to natural resources are neither recognized by local institutions nor by formal institutions. Therefore, they have limited or no role in wetlands and floodplains resource management in Bangladesh (Sultana and Thompson 2008). Formally, they remain outside the structure and processes of natural resource management practice in the *Hakaluki haor* area. There are socio-cultural taboos promoting pessimistic views on women's involvement in development initiatives. In

fact, male-dominated local socio-cultural views³⁶ exert limits to the involvement of women. The level of engagement by women in the decision-making process was therefore very low or absent in natural resource management at the local level, i.e. *Hakaluki haor*.

Multi-stakeholder governance in *Hakaluki haor* provided a scope for local women to be involved in resource management. Development initiatives mobilized local women to form CBOs (i.e. *Nunua Mohila Samity* and other women's CBOs) and encouraged them to be involved directly in wetland resource management at the local level (see chapter 4, section 4.3.5.4). Particularly, one NGO (CNRS) played a significant role in building capacities and empowering these women CBOs to organize themselves strongly. They were involved in taking part in different activities of the projects.

My investigation found that women's CBOs were equally capable of implementing development activities relative to their counterpart male CBOs. In many cases, they were more advanced and more organized in discharging their responsibilities than male CBOs. For instance, the micro-credit operation of *Nunua Mohila Samity* was considered by other CBOs as one of the best examples of strong organizational performance among CBOs in the *Hakaluki haor* area. The CBO was operating micro-credit programs even after the termination of the development initiative (CBFM-2) from which they used to receive organizational support.

An assessment of the governance performance of *Nunua Mohila Samity* is noteworthy here, as the activities were result-oriented. During the assessment of the *Nunua Mohila Samity*, it was observed that this CBO was successful in achieving all attributes of governance, i.e. participation and deliberation, accountability, transparency, equity and fairness, leadership, and trust-building in their institutional structures and processes. The only exception was in networking, in which this women's CBO achieved "average" outcomes (Table 6.2).

It is also worth noting here that, for the first time, women were formally involved in wetland resource management in the *Hakaluki haor* area as part of a multi-stakeholder

³⁶ The male-dominated socio-cultural profile of local communities strongly believes that women should not be involved in any development activities that demand time outside of their home. They (males) want to limit women's involvement to homebound activities. This type of socio-cultural view, which I call social-psychological-trauma, should be addressed both through formal and informal institutions to involve women in mainstream development initiatives.

governance approach. The success of *Nunua Mohila Samity* has opened the door up for other local women to be involved in other development initiatives of natural resource management. However, the development of a gender perspective in multi-stakeholder governance needs serious attention from the higher level to strengthen organizational skills and effective performance in collective actions. More importantly, women's CBOs need strong support from male members of the society to play an effective role in wetland resource management. An adoption of the multi-stakeholder governance approach can help in this by bringing the necessary structural adjustments to resource management.

6.8.8 Issues of Inclusion and Exclusion of Legitimate Stakeholders in Resource Management

Progress in local level wetland resource management through the involvement of the CBOs and incentives from development initiatives to members of the CBOs raise issues of inclusion at the local level. Local communities (which were not interested initially in joining CBOs) now have become interested in joining the CBOs. Apparently, one may consider this as a positive outcome of the CBO management approach that has generated interest among local communities.

However, the system does not have enough room for new members to get involved in the governance of wetland resources. Existing members of CBOs were opposed to any new inclusions into their organizations mainly for two reasons: i) the possibility of a decrease in existing benefits due to expansion of the total size of members, and ii) new members could bring new challenges into the present CBO management system. But local communities created considerable pressure to allow them to be members of the CBOs and access to the benefits of the development initiatives. Such a situation often leads to local conflict and unauthorized access to resources by outsiders, especially when new entrants receive support from local elites.

During the project period, it was easy for CBOs to tackle this pressure by taking help from higher level institutions. Now, it has become a serious challenge for them to handle such situations after the termination of the project period. Since the CBOs did not obtain the same level of organizational supports from higher level institutions after the

expiry of the projects, they had to look either for legal measures or make compromises with new entrants.

In order to ensure their legal recognition and to establish their legal recognition in the court of law, the CBOs should be registered under the appropriate governmental authority. In fact, legal recognition of the CBOs provides immense institutional strength and ensures lawful authority to manage natural resources at the local level. This enables CBOs to handle issues like inclusion and exclusion. Generally, the CBOs also receive support from local administration once they obtain legal recognition from authorized governmental organization.

6.9 Discussion

Shifting from the EEF approach to the community-based/co-management approach does not always engender the expected results and achieve the objectives of the multi-stakeholder governance system. CBWRM approaches with multi-stakeholder partnerships, for example, failed to work effectively at the local level organizations (Table 6.3), primarily because attributes of governance were not effectively embedded with the transformation of management approach. Three CBOs, namely, *Gobindhapore Juba Samobai Samity Ltd.*, *Madha Morshidabadkura Samaj Vittik Bahumokhi Samabai Samity Ltd.*, and *Dhash Ghor ECA Management Bahumokhi Samobai Samity Ltd.*, were not able to engender the same level of results in implementing the community-based management of wetland resources in *Hakaluki haor*. Operationalizing effective governance with every stakeholder will certainly bring about positive results in wetland resource management through adoption of a multi-stakeholder governance approach (Adams 1996; Bene and Neiland 2006; McGlade 2001; Ostrom 1990).

How participation is taking place in solving collective problems affects the performance of a participatory management approach. Dilemmas concerning power struggles in the social profile of stakeholders, particularly at the local level, often exclude vulnerable and disadvantaged groups from genuine involvement in the decision-making process. How decisions are taken and who is making decisions are the most important

aspects in democratic deliberations. The processes of PAPD³⁷ with the CBOs of SEMP, CBFM-2 and CWBMP were very effective means to address all these issues of participation and deliberation. In the development initiatives studied, the deliberations of the communities in PAPD sessions and other meetings were conducted without coercion, threat and manipulation. Such conditions created opportunities for participants to reflect on their experience in reasoned discussions that strengthened their opinions and arguments (Cunningham 2002; Meadowcroft 2004; Parkins and Mitchell 2005; Smith 2003; Zachrisson 2005). In other words, the involvement of members of the CBOs in reasoned discussion provided an opportunity to elaborate and articulate their arguments with evidence to influence decision-making processes (Dryzek 2001).

Balancing power and bringing inclusiveness into deliberations are the most crucial aspects in participation. It was found that the involvement of CNRS, IDEA and *Prochesta* (NGOs) to facilitate inclusiveness in deliberations was very effective for handling elite-dominated views in the decision-making processes. These NGOs, as partners of the multi-stakeholder governance approach, played significant roles in the empowerment and emancipation to involve the CBOs in the decision-making processes. For example, PAPD processes, facilitated by CNRS, with the CBOs following democratic deliberation structures and processes, created opportunities for local communities to develop shared norms and consensus to act under a multi-stakeholder governance approach in resource management.

In reality, participation³⁸ does play a significant role in multi-level governance, but it should not be treated as the only powerful means of management; rather it should be considered as one element in the wider approach of management. Both ‘top-down’ and ‘bottom-up’ management systems should be recognized and practiced in multi-stakeholder governance to sustain collective action. Agrawal and Ribot (1999)

³⁷ PAPD activities maintain inclusiveness in the structures and processes to ensure the interests of vulnerable and disadvantaged groups.

³⁸ “The aims of membership participation need to be realistic ... there are many different kinds of participation, not all of them relevant or effective for all tasks. It makes no sense to think in terms of achieving maximum participation, since participating in decision making or implementation, for example entails costs as well as benefits to individuals” (Esman and Uphoff 1982:82).

emphasized downward accountability³⁹ as a critical element in decentralization processes. They stated that,

“if power are decentralized to actors who are not accountable to their constituents, or who are accountable only to themselves or superior authorities within the structure of government, then decentralization is not likely to accomplish its stated aims. It is only when constituents come to exercise accountability as a countervailing power that decentralization is likely to be effective” (1999:477).

Agrawal and Ribot further warned that by considering only participation as the best method of achieving empowerment and emancipation without ensuring accountability, transparency, and equity and fairness, the participatory approach can fail to engender its expected outcome in development management. From the multi-stakeholder governance point of view, the management of wetland resources must recognize and include higher level institutions in this process of strengthening governance. Undoubtedly, the participation of communities can exhibit the best performance at the local level, but positive results cannot be achieved without having higher level institutions or stakeholders on board to provide support to lower levels to perform effectively. In efforts towards participatory governance, consideration must also be given of the social profile of local communities, their vulnerability within complex rural power structures and how they are excluded from decision-making process. Multiple drivers are always active against the participatory approach to regain their position in the management approach. There is a need for hierarchy, expertise and discipline in the service delivery system with bottom-up controls in the processes, which make CBOs stronger for performing in multi-stakeholders governance (Bene and Neiland 2006).

Multi-stakeholder governance in *Hakaluki haor* demands the inclusion of new knowledge and experience in managing resources by involving diverse stakeholders in the management process. It includes the knowledge of local level resource users, managers, NGOs staff, formally trained experts, government officials, academics, and

³⁹ Downward accountability is defined by Bene and Neiland (2006) as “the institutional mechanisms or processes through which executing agents or decision makers are liable to be called by their beneficiaries or consumers”.

policy makers to build a holistic, integrated system of understanding. The CBOs involved in *Hakaluki haor* resource management have benefited from inclusiveness of diverse stakeholders through the multi-stakeholder governance approach.

Two international NGOs, namely, IUCN-The World Conservation Union and The WorldFish Center, were specifically involved in providing technical and expert-oriented knowledge to develop a participatory management scheme, through the NGO partner, CNRS. In order to ensure the sharing of new knowledge at the local level, NGOs initiated a significant number of efforts, such as, exchange visits among CBOs, sharing of experiences, and working with NGOs to enhance the capacities of the CBOs to become effective partners in the multi-stakeholder governance arrangement. Moreover, experts were engaged with the CBOs to provide technical knowledge for establishing fish micro-sanctuaries and a wildlife habitat restoration program in the *Hakaluki haor* area. Local communities identified the critical locations for fish sanctuaries and appropriate areas for wildlife habitat restoration, and experts provided technical knowledge for setting fish micro-sanctuaries and habitat restoration for threatened wildlife.

Multi-stakeholder governance addresses challenges of horizontal linkages (across geographic space) and vertical linkages (across levels of organization) in resource management (Berkes 2006; Young 2002). Horizontal and vertical linkages assist in improving communication, collaboration, feedback exchange, coordination among social actors, and the organizational responses to change, adapt and cope with uncertainty (Armitage 2008; Berkes 2006; Young 2002). In the case of *Hakaluki haor* resource management, linkages were established across the scales through partnership arrangements. Linkages among various organizations, such as government agencies (MoL, MoFAR, MoEF, DoF, DoE), international and national NGOs and local level CBOs, contributed to establishing communication, collaboration, feedback exchange and coordination mechanisms for complex system management.

In the context of top-down, command-and-control management of *jalmohals* in the *Hakaluki haor* area, multi-stakeholder governance created opportunities for local level institutions (the CBOs) to link themselves with higher level formal institutions so that CBOs could express their issues and concerns that needed attention from the latter.

However, sustaining this linkage after the termination of development projects has been a major challenge for the CBOs to ensure access to and control over resources.

Another important aspect is resilience thinking to deal with the challenges and implications of complexity for commons governance (Anderies *et al.* 2004; 2006; Armitage 2008; Gunderson and Holling 2002). Resilience thinking in natural resource management has provoked policy makers and managers to think about moving away from the objective of maximizing output or sustainable yield into managing the capacity of the social-ecological system(s) to cope with changes (Folke 2006). In the context of resilience thinking, the inclusion of CBOs in wetland resource management will enhance the capacity of social-ecological systems, as they would be able to address changes effectively and adapt to them. Sustaining resilience thinking in natural resource management requires governance that is adaptive, multi-stakeholder-based and focused on learning (Armitage 2008). Collaboration and learning are key components that include epistemic communities, boundary organizations, policy networks and institutional interplay to deal with commons as complex systems (Berkes 2006).

The multi-stakeholder governance approach in *Hakaluki haor* resource management has exhibited the potential of collaborative and participatory approaches, and of involving stakeholders (particularly CBOs) in the learning process. Further, the collaboration of multiple stakeholders across levels and scales of organizations in *Hakaluki haor* resource management has contributed to finding ways to handle uncertainties about human interactions (Armitage and Johnson 2006; Bavinck and Salagrama 2008). The development experiments of the multi-stakeholder governance approach in *Hakaluki haor* effectively created a scope for management reform -- from centralized to collaborative arrangement of the 'top-down and bottom-up' approach and to sustaining collective actions in wetland resource management by involving multiple social actors.

6.10 Conclusion

The study has revealed that the top-down, command-and-control bureaucratic wetland resources management approach has failed to recognize commons as complex

systems that require the involvement of multiple social actors in management decisions and in implementation that can be facilitated by the multi-stakeholder governance approach. Results of the study indicated that there is a critical need for the multi-stakeholder governance approach in wetland resource management as a complex system. Although there were visible changes in the management regime of wetland resources, all the regimes in the past were basically focusing on the EEF approach. Such considerations resulted in ecological changes (degradation of resources) and social changes (capture of resources by the elites). Through the existing centralized management approach and financial and policy processes, local communities were excluded from access to and control over common property resources. In this context, experiments on reforming the management approach from central agencies to the local community-based organizations have revealed the prospect of addressing economic, ecological and social dimensions of wetland resource management.

The transformation of management regimes toward partnership arrangements among institutions also revealed the potential contributions of a multi-stakeholder governance system in wetland resource management. In order to achieve this management objective, all participating institutions, from local to central, need to be equipped with the attributes of governance for effective and efficient performance in their management responsibilities. Designing principles of institutional forms (particularly CBOs) should be strengthened and capacitated for governing the commons as complex systems, and the diverse interests of different stakeholders need to be accounted for through the multi-stakeholder governance approach.

A strong democratic form of institutional structures and processes is required in multi-stakeholder governance to ensure deliberations of the members of CBOs, particularly the poor and disadvantaged groups. Otherwise, the objective of management reforms for involving local communities can be distracted by local elites because of their socially advantageous position. In this context, governance structures and processes must ensure downward accountability by which the beneficiaries of multi-stakeholder governance, such as the CBOs, would be empowered so that they could exercise effective leverage to protect their interests within the complex social power structure.

Generally, local poor women are largely dependent on natural resources for their livelihoods, and this signifies the need for women's involvement in the management of NRM. Women's participation in wetland resource management can play an effective and leading role for improving the local level management approach. In this context, governance structure must provide special mechanisms to include local women in the decision-making process to ensure a more adaptable management practice. Both social and structural considerations in the management approach require removing the 'social-psychological-trauma' to create an enabling condition for women to be involved in development initiatives.

A centralized management system, based on the EEF approach, fails to recognize social and ecological impacts of NRM. The hierarchical, bureaucratic structure of the management approach precludes local community, particularly socially vulnerable and disadvantaged groups, from the management of wetland resources. Within existing management and institutional structures, local communities remain financially and politically weak, and they are unable to exert their rights to resources. A multi-stakeholder governance approach addresses the challenges of access to and control over the resources of local communities and ensures their entitlement to the resources. Multi-stakeholder governance assists in developing institutional mechanisms and in building the capacities of the CBOs to self-organize and engage themselves to sustain collective actions. Considering the effectiveness of multi-stakeholder governance in providing access, control and entitlement of local communities to the resources as well as in improving the socio-ecological resilience of the systems, mainstreaming multi-level governance by combining both 'bottom-up' and 'top-down' management approaches should be adopted by the policy arena of wetland resource management.

In light of the objectives of the study, the previous chapters 3, 4, 5 and 6 provided in-depth analyses of issues and concerns of wetland resource management in *Hakaluki haor*. Based on these analyses, the key findings of my study and policy recommendations are presented in the following chapter (i.e. Chapter 7).

CHAPTER 7

CONCLUSIONS

“We, as fishers, have been involved in this *haor* [wetland] for generation after generation and are living on fish, vegetables, fuel wood, thatching materials, fodder ----for maintaining our livelihoods. First, DC office [district level administrative agency of the government] has taken large *jalmohals* from us and leased out to outsider investors for more money; second, all small *jalmohals* were given to youth groups for fish culture; and now we have nothing, have no access to *jalmohals* and we become intruders to our *haor*. Fishery office, *Upazila* offices, chairman, members [local government representatives] and MP, nobody is favoring us to get back to our *jalmohals* and fishing rights. CNRS came with the project and helped us to get *jalmohals*, but after the project our *jalmohals* were taken back by the land office and leased out to outsiders. How can we get back our *jalmohals* for fishing to maintain our livelihoods? And who can help us to protect our rights on *jalmohals*? ”

Nirmal Chandra Das (66), General Secretary,
Nishchintapore- Shahpur Bahumokhi Samobai Samity Ltd.

7.1 Introduction

This chapter focuses on the findings of the research in response to the key research questions, along with the implications for policy formulation relating to natural resource management in general and wetland resource management in particular. The research purpose and objectives of my study were concerned with how institutions, both formal and informal, constitute their structure and process to ensure the participation and deliberation of local resource users within the scope of multi-stakeholder governance of a wetland resource management system. The centrality of such wetland governance issues lies with finding out how to ensure access to, and establish the right, of local resource users on wetland resources for maintaining their livelihoods.

Specific attention has been given to the engagement or exclusion of local resource users in the critical aspects of the decision-making process at various levels upon which the sustainability of natural resources depends. In particular, I have investigated the governability of wetland resources in relation to the institutional arrangement, distributional inequalities and marginalization processes, effectiveness of multi-level

institutional partnerships, role of local poor resource users in decision-making process and sharing of power toward the sustainability of collective actions in resource management. I have also examined three major development projects concerning wetland and fisheries management, namely, SEMP, CBFM-2 and CWBMP, which have been specifically implemented to develop new institutional arrangements. The overall aim was to experiment with an institutional development effort aimed, on the one hand, at sharing power and responsibilities with local communities for the sustainable management of resources and, on the other hand, aimed at providing the local resource users, particularly the poor and disadvantaged, access to wetland resources.

This research reflected the perspectives and views of all relevant stakeholders, which range from the local poor to policy makers who are actively involved in the governability of wetland resources with diverse interests. Conclusions are drawn from the findings of the research that are elaborated in Chapters 3, 4, 5, and 6, and are presented in light of the scope of the objectives of the study. Major findings of the study, as summarized below, not only provide an analysis of what has been happening with wetland resource management under the conventional Economic Efficiency Focused (EEF) approach, but they also extrapolate many issues related to the complexities and inter-linkages of economic, social, political and ecological facets of resource governance. The research outcomes also offer insights about the critical roles of local institutions, participation, deliberations and partnership as vehicles for approaching good governance in resource management. Based on the findings of my study, this chapter also elaborates significant policy recommendations that are required for ensuring sustainable wetland resource management by involving relevant social actors within a multi-stakeholder governance system.

7.2 Major Findings of the Study

While I was sharing and explaining my experiences and the findings of the study with the local communities at a meeting in August 2008, Mr. Nirmal Chandra Das, a local fisherman and CBO leader, made a very substantive comment on the governance structure of *jalmohals*. Mr. Nirmal, as a representative of the fishers' community, has

been affected by marginalization processes that stemmed from the state functionaries. Changes in wetland resource management policy over time could not ensure their access rights on *jalmohals*; rather the state has created favourable conditions for the commercialization and privatization of *jalmohals* by which outside investors have been taking benefits from the commons.

The cumulative effects of policy changes in *jalmohals* management have resulted in the total exclusion of local fishers and other poor communities from wetland resource use, which has severely impacted their livelihoods. Mr. Nirmal raised some very fundamental issues of the sustainability of collective actions that have been organized (and experimented) through different development initiatives of the government. More specifically, SEMP, CBFM-2 and CWBMP facilitated institutional structures and processes for sharing of power with local resource users in the decision-making process of the project implementation. In fact, major changes in the management approach of wetland resources, i.e. a shift from a centralized, top-down, command-and-control system to a participatory system has provided an opportunity for the engagement of local resource users to protect access rights and address unsustainable practices as well. How to sustain this engagement process of marginalized local resource users in resource management decision-making courses of action, as raised by the representative of local communities, remains a major challenge in wetland resource management. The following key findings of my study identify the most critical elements to address these challenges in resource management, particularly wetland and floodplain resources.

Key Finding 1: An effective institutional mechanism is required to change management approaches in order to mitigate marginalization of local resource users

The research conducted in *Hakaluki haor* revealed how changes in the formal management approach augmented the marginalization process of local resource users through which they become incrementally vulnerable to shocks and stresses. Traditional wetland management approach is based on two stated objectives: i) to maximize the resource rent from *jalmohals* through an open-bidding leasing system, and ii) to create opportunities for genuine fishermen to access resource. These two objectives are contradictory and generate conflicts in implementation. While the present wetland

management policy, enacted in 2005 (revised in 2009), places priority on fishermen's cooperative societies in the leasing process to provide genuine fishers with access to resources, in practice, through manipulation and malpractice, the access rights of fishermen societies are passed on to non-fishermen. Two major marginalization processes are documented in this study, which include: i) legal and policy processes; and ii) the financial process of marginalization that enables non-fishermen investors to capture and control resource-rich *jalmohals* of *Hakaluki haor*.

Genuine poor fishers are compelled to borrow money from local money lenders at a very high interest rate to meet all the financial obligations that are required for bidding system. The reluctance of local fishermen cooperatives societies (FCSs) to participate in the bidding process has been identified, and is attributed to a number of factors. i) FCSs are not certain about their return on investment, as the future production of fish and the catch are unpredictable under a natural production system. This may impact their income and ability to pay back loans as well as sustain their livelihoods; ii) Annual increases in lease fee become incremental burdens on FCSs, which have to mobilize more cash from moneylenders at very high interest rates; and iii) the present leasing system does not provide any special clause for incentive to poor fishermen to pay lease fee on instalment basis or subsidized rate, and mobilizing financial capital is a major challenge for them.

My field investigation recorded that about 75% of resource-rich *jalmohals* of *Hakaluki haor* are leased-in by non-local, non-fishermen investors (Table 3.4), which confirms the underlying high profit-making prospect of the *jalmohals* leasing business. Lack of personal savings or capital of genuine fishers to meet the financial requirements, resource mobilization for them turns into a mechanism of their financial exploitation by the local moneylenders, popularly known as *mohajan*, as they charge a very high lending rate (i.e., 10 to 20% per month and the compounded rate becomes 300-340% per annum). Having no alternatives for obtaining financial support, poor fishers either have to accept the high interest rate of borrowed money from *mohajans* or they have to move away from leasing. A rent-seeking management system, in turn, allows the ruthless exploitation of wetland resources to maximize profits by outsider, non-fishers investors and causes marginalization of local poor fishermen from their traditional user rights to the resource.

The findings of my study have confirmed that lack of institutional capacity augments the marginalization of local poor and vulnerable groups by depriving them of their entitlement rights. Often, the legitimate rights of local resource users are taken away by manipulation and malpractice by politically and financially powerful individuals and groups. It was also observed that relevant formal institutions failed to play an effective role in protecting the interests of local resource users. Also, over time, the disintegration of local institutions has resulted in the aggravation of the process of marginalization and local resource users failed to exert their rights to the resources through the institutional mechanism. An effective structure, both formal and informal, would ascertain the effective implementation of the stated policy of sustainable wetland resource management for ensuring access to and control over resources by marginalized users.

Key Finding 2: Loss of entitlement of local resource users resulting from privatization of commons aggravates unsustainable management of resources

The entitlement of local poor fishermen does provide the right to access and right to use wetland resources. The leasing system does affect the nature of common property types. Common property becomes private property within the rent-based leasing system of *jalmohals* on which local poor fishermen used to apply their usufructs rights. Excludability and subtractability of the commons through the privatization of *jalmohals* does not protect the well-being of local resource users; rather they are excluded from their entitlement to sustain their livelihoods. In the *Hakaluki haor* area, the privatization of *jalmohals* excluded almost all local resource users from their access to and control over wetland resources. Outsider, non-fishermen investors become the most powerful owner (during the leasing period) of *jalmohals* which are under their control as lessee and they apply an unlawful authority on the boundary of the *jalmohals*. Under lease agreement the lessee have the authorization to extract/harvest resources of perennial water bodies, i.e. *beels*. However, they employ their private guards to stop any access to the *haor* area, which is beyond their jurisdiction of the *jalmohals* area.

The rent-based leasing system influenced the lessee to put their maximum efforts for ensuring higher profit margin from *jalmohals*; the aspects of sustainability of natural resources are usually ignored by the lessee. At the operational level, the economic

efficiency-based leasing system presumes bounded and closed economic and social systems and an equilibrical environment. This notion ignores the entitlement of local poor resource users as legitimate stakeholders and allows the exploitation of resources in the *haor* area in a manner that undermines the sustainability of the ecological resources.

Key Finding 3: Local level institutional development, with CBOs as an essential part of participatory planning and implementation, remains critical for sustainable resource management

Community-Based Resource Management (CBRM), as an alternative to the traditional Economic Efficiency Focused approach, has created opportunity for adopting new strategies and options to address conflicts amongst stakeholders. In CBRM, local resource users are engaged in shaping and re-shaping the rules of resource use, by which they become central elements of local level institutional development. The study of seven different Community-Based Organizations (CBOs) revealed that considerations of culture (e.g. societal banning on fishing during breeding season), conventions and norms (e.g. de-watering fishing method was not practiced in the past) or the informal codes of behaviour of users are critical to engage local community in management (Berkes 2008).

The findings of this study also highlight how CBOs can evolve over a period of time in response to access, distribution and sustainability aspects of resource management. The wetland resource management system could be improved by incorporating a diversity of knowledge, having a greater ability to understand problems and risk, learning and adaptation, addressing distributional implications, and devising coping strategy, on which the local community have a role to play with greater efficiency (Agrawal and Gibson 1999; Berkes 2004; Berkes *et al.* 2003; Johannes 2002; Marschke and Berkes 2005; Ostrom *et al.* 2002). However, my study revealed that the participation and deliberation of the local community in the decision-making process were contributory, as they effectively addressed issues and concerns of access to resources, enhancement of resources, livelihood improvement and development of social capital.

The evidence from the CBOs' performance suggests that planning at the local level is more realistic and effective for engaging local resource users in the implementation of development programs for sustainable resource management.

Key Finding 4: Capacity-building is a process of strengthening the ability of the CBOs for effective participation in resource management

If capacity-building of CBOs is structured to enable them to be engaged only in implementing development projects, it is likely that such enhanced ability would be short-lived and would not be sustained. Therefore such efforts should be constituted as a process for developing the skills and capacity of CBOs for effective organizational engagement in resource management, which would generate the reproduction of innovation and continuation of the learning and application processes. Along with them, the capacity-building of CBOs must contribute to enhancing their capability to foster communication, participation, deliberation, relationship building, conflict resolution, improved ability to deal with differences in opinion, crafting rules, and establishing cross-scale linkages for effective engagement in the decision-making process.

Strengthening the capacity of CBOs to participate in political and socio-economic management decisions is a continuous process in which leadership plays a pivotal role. Therefore, the selection of leadership from CBOs is crucial to sustaining CBOs as effective organizations in resource management. With capable leaders, CBOs may become self-supportive, independent entities, rather than increasingly becoming dependent on supportive organizations (such as CNRS, IUCN, Worldfish Center) and thus remaining as weaker institutions (Eade 1997). For instance, in my study, the poor performance of two CBOs was found to be associated with the failure of leadership more than any other institutional factors (Table 4.5). Capacity-building for the effective participation of CBOs must therefore take into account the issue of developing capable leadership to strengthen the institutional capacity of CBOs and sustain them in NRM.

Key Finding 5: NGOs play a vital role as external mediators in engaging diverse stakeholders, and in strengthening the vertical and horizontal linkages of institutions for ensuring access, rights and curving conflicts in CBRM

In my study, NGOs are identified as the most important agents for the development of local level institutions; their activities range from mobilization to participatory planning, decision-making, and collective action. Within the complex rural power structures, the communities of the *Hakaluki haor* area are not institutionalized to

engage them in collective action. Rather, they are segmented and engaged in conflicts over access and equity issues; and some are taking supportive positions with the powerful non-fisher investors for a nominal benefit. NGOs have played a critical role in identifying and mobilizing legitimate stakeholders from the local communities to be involved in three development initiatives in *Hakaluki haor jalmohals* management.

Empowering, capacity-building and sharing of the financial burden of the CBOs were meticulously followed by NGOs to make them effective organizations in a multi-level institutional setting of resource management. NGOs were working as a bridge between CBOs and formal institutions to deal with resource management issues. Field studies have revealed that the facilitation of NGOs, as intermediaries, in the formation and development of CBOs has provided the necessary strength to the local communities to bargain with the formal sector for their access and rights to resources; this is generally not the case in other *jalmohal* management. In many instances, the limited capacity of CBOs for protecting their equity and legitimate rights were augmented by NGOs' participation in the process of decision-making.

Disadvantaged groups of *Hakaluki haor*, particularly the women's groups, were highly motivated and acted very effectively in collective action due to facilitation by NGOs. The institutional development process of NGOs enhanced their capacity to negotiate with formal institutions to implement action plans (for instance, a micro-credit program).

Key Finding 6: Attaining sustainable community-based wetland resource management (CBWRM) requires a multi-dimensional processes

Local communities of *Hakaluki haor* are excluded from the decision-making process and, hence, the EEF approach failed to ensure the access and rights of the poor to resources. My study elaborated that CBWRM within the development initiatives is nested with many attributes, which include institutional arrangement and development, partnership, external facilitation, an empowering, deliberative decision-making process, multi-level institutional linkages, multi-stakeholder participatory governance and legal recognition of the management approach.

How to achieve a successful outcome is linked with the performance of stakeholders at every stage. My study identified that external forces are nested with political and financial power structures and become very strong and active to exclude local communities (i.e. CBOs) from *Hakaluki haor jalmohal* management. A model on achieving sustainable CBWRM (chapter 4, Figure 4.11), developed under the present research, is helpful to clarify the complex processes and structures needed to govern the management system with community involvement. The process-outcome model of my study clearly illustrates the critical aspect of sustainability of CBWRM within the complex power structure and diverse interests of stakeholders. This remains a major challenge in the development paradigm of the management approach.

Key Finding 7: Long-term partnership between formal and local institutions provides a platform for deliberations of local community in the decision-making process to protect their well-being.

The partnership approach is quite innovative and a recent phenomenon in natural resource management. My study revealed critical aspects of partnerships between formal and local institutions that include i) CBOs are capable of addressing the whole spectrum of problems – from a simple problem to complex ones, ii) institutional linkages and understanding allow them to share power and responsibility, and help in minimizing the risk of a failure in co-management or community-based management, iii) linkages (both horizontal and vertical) of institutions provide opportunity for transmitting concerns and interests of local communities to the highest level of the decision-making process, iv) appropriate deliberations structure and process for all relevant stakeholders to be involved in the management system, and v) institutional integration mechanisms enhance coordination and engender the expected outcome of NRM.

However, partnerships through development projects do not necessarily ensure long-enduring institutional partnership arrangements among stakeholders in NRM. The study found that partnerships among GO-INGO-NGO-CBO are effective during the implementation phases of development initiatives (such as, SEMP, CBFM-2 and CWBMP) and also can enhance the well-being of local communities. After completion of the development initiatives, relationships among partners disintegrate or lose vigour, which in turn results in the exclusion of local communities from the decision-making

process. It signifies importance of long enduring institutional linkages beyond the life of the development project for strengthening capacities of CBOs in NRM.

Key Finding 8: Distributional inequities can be minimized by establishing formal ownership of Commons for local resource users

Ownership of the commons remains an unresolved issue, in general in Bangladesh and in particular in *Hakaluki haor*, and it produces conflicts among stakeholders in NRM. My study on this issue reveals perspectives of deprivation, exploitation and distributional inequalities, and the exclusion of local communities from their age-old traditional use of the commons, i.e. access and rights to resources. Over historical periods, the state has extended legal restrictions on access to and control over resources for maximizing government revenues. As a result, the access and rights of local communities have been jeopardized within the context of commons management. *Hakaluki haor* as well as other wetland areas of the country have been designated as *Jalmohals* which provide financial benefit to the government exchequer. They have no longer been *de facto* common property for local communities as these wetlands used to be.

My study revealed that changes in the wetland management policy not necessarily ensure or protect the interests of local poor fishers in terms of access and rights on *jalmohals* rather these processes aggravate the exploitation and deprivation of targeted stakeholders (details are discussed in Chapter 3). In many instances such changes enabled outsider, non-fishermen to capture benefits from new policies. Changes in the wetland management policy do not assist vertical and horizontal institutional linkages so that the issues and concerns of local fishers in the policy milieu need to be considered. Policy changes usually do not reflect the concrete world problems representing the local level critical issues, and therefore, fail to incorporate the critical elements of commons management to facilitate equity and benefits to local fishers. In fact, policy settings do encourage the distributional inequality of the *jalmohals* of *Hakaluki haor*, as non-fisher investors get priority over local poor fishermen due to the objective of higher revenue-earning from *jalmohals*.

It is, therefore, very critical to consider usufruct rights of the local resource users in the policy milieu to re-established their legal ownership on common property

(*jalmohals*), which have been affected by the present leasing system, to address distributional inequities of commons use.

Key Finding 9: As part of the co-management initiated by the formal management system, the multi-stakeholder governance system is vital to sustaining community-based natural resource management in *Hakaluki haor*

Global discourse on community-based or co-management of natural resources has developed opportunities for community participation in the decision-making process of wetland resource management in Bangladesh. Community-based or co-management approaches have been practiced as an experiment (not as fundamental shift in NRM) through development initiatives (i.e. SEMP, CBFM-2 and CWBMP) with the participation of local communities. The transformation of formal institutions for internalizing power devolution and sharing with local communities does not necessarily take place within the scope of the community-based or co-management of natural resources. My experience of examining the SEMP, CBFM-2 and CWBMP provided me with mixed results; however, positive outcomes of the initiatives, particularly the formation of CBOs at local level, have remained outside the main policy process.

In my study, performance of all seven CBOs did not produce same result in terms of the implementation of governance attributes. Four CBOs of my study area, however, did successfully mobilize the communities to get involved in the community-based natural resource management and act on the governance attributes at an expected level. Comparing the two groups, i.e. those who performed positively for the governance attributes and those who did not, the latter has failed to accrue benefits of the community-based management system and fail to protect access and rights of the communities.

It is important note that the community-based management system was not driven by the community demand; rather it has been initiated by the formal institutions (i.e. MoEF, DoF, and DoE). However, this approach able to established linkages among several partners (i.e. INGOs, NGOs, CBOs) to involve them in the decision-making process. This process of involvement of legitimate stakeholders along with the capacity-building and empowering of CBOs does provide a basis to ascertain a minimum level of governance in the decision-making process.

My study revealed that the multi-stakeholder governance approach plays a significant role in establishing horizontal and vertical linkages between the formal and local institutions as well as facilitate a process to forming an institutional system for the deliberations of stakeholders at various levels of the decision-making. Thus, the structure and process of governing the decision-making practice have become inclusive, transparent, accountable, fair and equitable. In case of CBFM-2 and SEMP, organizational associations of CBOs were established, and they acted at the apex level (national committee of wetland management) to represent the communities. This research found out that multi-stakeholder governance approach engenders a mechanism by which the sustainability of community-based or co-management can be ensured, at least in *Hakaluki haor jalmohal* management, in which the initiative from the formal institutions remains the fundamental triggering force.

7.3 Implications of the Findings

In this research, various critical issues of wetland resource management were analyzed to examine the significance of formal and local institutions, the role of various stakeholders, the efficiency and effectiveness of alternative approaches (i.e. community-based management, co-management, partnerships) and the implications of governance toward the sustainable management of natural resource management. How the public policy regime along with institutional approach cause deprivation, exploitation, inequalities and affecting the access and rights of local resource users, have also been analyzed in this research.

The literature on collective action approaches (Agrawal 2002; Baland and Platteau 1996; Berkes 1989; Johnson 2004; Ostrom 1990; Ostrom *et al.* 1994), such as the community-based management or co-management approaches, emphasizes specifically the role of local institutions for ensuring the access and rights of local resource users. The collective action approach is based on common property theory, which stresses the critical issues of substractability and excludability for resource management at the local level. Considering the complexity of natural resource management, such an analysis or interpretation can be regarded too narrow in scope. An

in-depth analysis of both formal and local institutions is helpful to capture the issues and concerns of economic, social, ecological and political aspects of resource management to ascertain the scope for inclusion of local level institutions in the decision-making process. The sustainability of the collective action approach is characterized by the continuous negotiation processes, with formal institutions ensuring the access and rights of local resource users rather than changing the management process within the development initiative. Development initiatives (such as, SEMP, CBFM 2, CWBMP) are necessary to trigger the process of community participation (either community-based management or partnership within a co-management approach) in the decision-making process, and such an approach needs to be incorporated in the mainstream of the policy regime through learning and experience.

This research analyzed some critical issues of the multi-stakeholder governance of resource management to exhibit how various stakeholders as well as institutions can make partnership to develop a common understanding and shared vision to pursue an effective management approach. This approach aims to maintain inclusiveness, equity and fairness, transparency, accountability and responsibility within a strong trust-building process.

In the context of public-private-civil society partnerships, a number of scholars have cautioned about limitations of the single agency, top-down command-and-control bureaucratic management approach in handling ecological, economical and social complexities of resource management (Bavinck 2009; Berkes 2009; Kooiman *et al* 2005; Pierre and Peters 2000). Some other analysts are also critical about operationalizing good governance for ensuring the survival of the world's wetland resources so that they remain productive in the future (Adams 1996; Bene and Neiland 2006; McGlade 2001; Ostrom 1990). My study revealed that operationalizing good governance, particularly in Bangladesh, requires (within the legal regime) the effective involvement of local resource users in the decision-making process, with an arrangement of shared power and responsibility. Failure to provide such opportunities to empower the local resource users would keep any other changes in the management approach ineffective for sustaining wetland resources in Bangladesh.

Though Bangladesh national level studies on wetland resource management have focused on the aspects of access and right to resources, livelihood issues, local level CBO formation and participatory planning (Aguero *et al.* 1989; Thompson *et al.* 1999; Thompson *et al.* 2003; Toufique 1997; 1998), these studies, however, offer limited knowledge and analysis of the critical aspects of the multi-stakeholder governance of wetland resource management. Through participation, deliberations, sharing of power, accountability, transparency, and horizontal and vertical linkages of institutions, multi-stakeholder governance can effectively be ensured for all relevant stakeholders.

In Bangladesh, only a limited volume of primary data and information is usually considered in policy formulation in general, and in changing policies related to natural resource management in particular. For instance, the aspects of equitable sharing of resources and providing access and right to resources, which have a direct bearing on the livelihood of millions of local poor, are often ignored in the policy development process. By examining various management approaches, such as community-based management and co-management, this research found out that through partnership-building and the multi-stakeholder governance approach, the sustainable management of wetland resources can be attained, ensuring the access, rights and entitlement of local resource users, including the poor.

7.4 Qualification of My Research

In general, CBOs and other stakeholders have provided detailed information and data on the impact of wetland resource management policy changes, access and rights to resources, entitlements, effectiveness and/or the failure of various management approaches and lack of governance in resource management. Collected data from the field enabled me to analyze with greater depth the critical issues of local and formal institutional arrangements (vertical and horizontal linkages, power sharing, interaction and coordination), the involvement of local resource users in the management, the participation and deliberations in the decision-making process, and challenges in the sustainability of wetland resource management. They also allowed me to determine how to improve the governance of resource management. However, the proactive involvement

of policy makers, resource managers, and local administrations could have been more productive for addressing research issues which was a challenge for conducting participatory research.

There are limitations to revealing all critical views of the local communities that have been expressed during their discussions within a limited study period. Perhaps, spending longer time with the community would be a better way to understand them precisely from the interconnectedness of the community with social-economic-ecological-political aspects of wetland resources.

7.5 Significance of Theoretical Contribution of the Research

My research makes theoretical contributions primarily in advancing some elements of interactive governance theory. In general, the Theory gives emphasis to diversity, complexity and dynamics in designing governance (Bavinck *et al.* 2005; Kooiman and Chuenpagdee 2005; Kooiman *et al.* 2005). Diversity refers to the variation that exists in a resource (i.e., fishery), complexity to its architecture, and dynamics to its propensity for change (Bavinck and Salagrama 2008; Kooiman *et al.* 2005).

In my study, the role of effective participation of community members, particularly those who are genuine resource users, in the governance of natural resource management is examined, theoretically as well as empirically. Institutionally, it is important to facilitate the effective participation of communities in the decision-making process concerning natural resource use and management to ensure their voices are heard at multiple levels. The means to make resource users' participation more effective, as identified by the study, are sustained institutional partnership, capacity-building at the local level, and implementation of a community-based resource management approach. The critical issues of natural resource governance—the importance of sharing power, authority and responsibility among societal organizations and cross-scale institutional linkages in the management system—are therefore highlighted in the discussion of theoretical discourse.

By taking a deductive approach, various aspects of interactive governance theory have been critically reviewed. The pertinent aspects have included entitlement, learning

and capacity building, accountability, transparency, equity and fairness, networking, and institutional strengthening. A conceptual framework emphasizing participatory resource governance by directly involving the resource users in decision-making has been developed for empirical testing in the context of wetland resource management in Bangladesh. It is argued that, in order to achieve sustainable natural resource management regimes, the effective participation of resource users is essential at multiple levels.

This research has shown how the participation of local institutions through a partnership approach is critically relevant for governance and therefore has to be taken into account by the interactive governance theory. In particular, insights were derived from the analysis of the partnership approach by examining a number of community-based/co-management development initiatives in Bangladesh, which signify the importance of the effective participation of local resource users in decision-making processes. Also, this research has argued in favour of developing institutional partnerships for the effective engagement of community-based organizations with the entire institutional regime, not just as discrete community level institutions. This partnership approach, among GOs, NGOs and CBOs, requires the building of relationships and the sharing of knowledge and information among stakeholders in decision-making. The participation and deliberations of community level organizations were found to be critical elements in decision-making processes, as they provided knowledge, experience and alternatives to the management approach. This research has shown how such local level organizations can act as constituencies for enhancing downward accountability (Baland *et al.* 2008; Bardhan and Mookherjee 2006; Bardhan *et al.* 2008; Bene and Neiland 2006) by establishing cross-scale linkages and transparency through the flow of information, which builds trust among stakeholders. Otherwise, downward accountability is not likely to happen.

This alternative approach regarding the participation of resource users through partnerships, as elaborated in this research, further advances the interactive governance theory. Numerous studies have identified ‘participation’ as being critical for building trust (Folke *et al.* 2005; Lebel *et al.* 2006), for empowering community members (Cooke and Kothari 2002; Holmes and Scoones 2000; Mosse 2002), and for providing

knowledge, experience and alternatives to the decision-making process and management approach (Folke *et al.* 2002; Folke *et al.* 2005; Walker *et al.* 2002). Nevertheless, the existing literature has generally ignored the basic implications of natural resource governance in which participation through partnerships can play an effective role. My research has revealed the significance of the participation of resource users at different scales and levels, and thus adds new dimensions to the prevailing governance theories. The participation of resource users has been identified as a process of capacity building of stakeholders, particularly for local level organizations (e.g., CBOs) in complex social-ecological systems. By furthering knowledge on factors that improve attributes of governance, this research is adding knowledge on how stakeholders can learn to act positively in the multi-level participatory governance approach. This research has furthered the understanding of the institutionalization of stakeholder participation in collective decision-making, as well as of the development of the institutional framework for multi-level participatory governance.

In addition to its contribution to interactive governance theory, my research is adding knowledge to certain aspects of commons theory (Ostrom 1990; Ostrom 2005). My research has advanced knowledge on how institutions, by managing natural resources (e.g., wetland), can influence the efficiency of resource use, equity, fairness and the empowerment of resource users to attain sustainability. The research has enhanced knowledge on how the traditional and customary rights function in relation to formal power structures, resource use, and their impact on the sustainability of wetland resource management. This research has revealed how the formal management regime has increased the marginalization, deprivation and exclusion of local resource users from their access and rights. The involvement of local communities in the decision-making process has led to local level institutional strengthening in commons management (Armitage 2008; Dietz *et al.* 2003; Level *et al.* 2006; Ostrom 2005; Young 2002), thereby counteracting exclusion and marginalization. In particular, this research contributes to the role of leadership (Seixas and Berkes 2010) and bridging organizations (Olsson *et al.* 2004a; Olsson *et al.* 2007) for learning and providing support to local level organizations in the dynamic process of institutional change.

7.6 Implications of the Research for Development Policy

My research has contributed to the advancement of knowledge on sustainable natural resource management (NRM) in general, and wetland resource management in Bangladesh in particular. The study sheds light on the entitlement of local resource users, which facilitates access, use and control over resources under a complex social and power relationship. The study recommends critical policy options that could mainstream community-based/co-management wetland resource management to ensure participation, accountability, transparency, equity and fairness in NRM with a view to increasing the livelihood security of resource users along with ecological sustainability. The study engenders insights for future policy to promote and establish an effective and equitable resource management system that eliminates negative incentives to local resource users.

The case-based study on *Hakaluki haor* also offers insights about the relationship between institutions, resource use patterns, and wetland resource management outcomes in order to formulate policies, action plans and programs that aim to increase empowerment and to build and enhance local institutions for promoting equity of resource distribution and sustainability of the resource base. An in-depth understanding of institutional structures and the determination of interventions can help policymakers with better information so that they can establish real participatory wetland resource management at the ground level.

In addition, the research broadens the scope of management practitioners, researchers, NGOs, and development partners to incorporate effective stakeholder engagement into the management plan and its implementation. This research has shown how critical it is to build the capacity of CBOs and the role of supporting organizations or institutional partners (Berkes 2007; Seixas and Davy 2008) for effective participation in decision-making. The place-based case studies provide lessons learned and best practices to assist stakeholders in group formation, organizational and leadership development, and collective action. This empirical investigation has laid the ground for the future implementation of a community-based sustainable management approach in NRM initiatives. The study has further contributed to the knowledge of critical local and national issues of environmental governance, which are also relevant to the global governance system.

Analysis in this thesis offers insights on the mobilization and capacity-building of resource users, local level institutional strengthening and cross-scale institutional linkages for their effective participation in NRM, which would provide policy guidance to governments for the future implementation of large interactive projects. Specifically, this analysis would be of great help to donors, as well as to international and national NGOs, for selecting partners and institutional mechanisms and for devising the most appropriate implementation approach (i.e. community-based/co-management/partnership) in natural resource development initiatives.

7.7 Further Research Prospects and Scope

In carrying out my study, many issues and concerns of natural resource management have been discussed and identified for further investigation to gain a better understanding of the complex system of resource management. Many of these issues were outside the scope of the present research; however, they need to be pursued for further investigation to achieve an effective and sustainable wetland management.

a) Economic analysis and value of environmental goods and services of wetland ecosystem

Within the scope of my research, an economic analysis of environmental goods and services of *Hakaluki haor* as wetland ecosystems could not be performed. The keen interest of non-local investors in *Hakaluki haor* is indicative of the fact that the economic return on investment from the *haor* leasing is significant. Therefore, an assessment of the economic value of environmental goods and services of *Hakaluki haor* is critical for better understanding of the real value of the *haor* and to convince policy makers, including senior politicians, on the significance of sustainable use of resources as well as devising policy option for conservation of the *haor* to ensure future support to the local community and earn revenues for the state.

b) Economic and social cost of policy changes in wetland resource management

During my research, I observed that policy changes do not necessarily ensure benefits to the local communities in the ways envisaged in the policy (see chapter 3);

rather policy changes acted as the process of marginalization of local communities. An assessment of the economic and social cost of the policy changes would be more prudent to complement my study in undertaking policy decisions or policy changes that have a bearing on entitlement of local resource users and sustainability of the *haor* resources.

c) Ecological process of flooded forest for revitalizing the haor ecosystem

While conducting my study, local community mentioned that flooded forest is the central driver to the *haor* resource generation and productivity including fishery resources. However, very limited research effort has been given to understand the whole dynamics of ecological process of the flooded forest that governed the *haor* ecosystem. Also, this unique ecosystem is not well known at the global level. Therefore, a comprehensive research on flooded forest is essential for sustaining resource generation and productivity of the *haor*.

d) Evaluation of development projects in wetland resource management to capture policy implications

The country has been experiencing implementation of numbers of development projects in the area of natural resource management, more specifically wetland resource management from the early 1980s. These included Community-Based Fisheries Management (CBFM) 1 and 2, Sustainable Environment Management Programme (SEMP), Management of Aquatic Ecosystems through Community Husbandry (MACH) project, Community-Based Sustainable Management of *Tanguar Haor* Programme (CBSMTHP)- phase 1 and 2, Coastal and Wetland Biodiversity Management Programme (CWBMP), Sunamganj Community-Based Resource Management Project (SCBRMP), and list a few more. Evaluation of these mega projects focusing on institutional arrangements, lessons learned, best practices, and barriers could be taken as a research area for providing analysis of trajectory of wetland resource management regime and designing a robust policy in resource management.

7.8 Concluding Comments and Policy Implications

Generally, in Bangladesh, the conceptualization of natural resource management by the state is always based on the objective of maximizing revenues. Management failure (considering present policy options, the institutional framework, management approaches, and the governance structures and processes) is conspicuous from many stakeholders' point of view, more specifically from the local resource users. The participation and deliberations of the relevant stakeholders are absent in the state-governed management approach (SMA). This has been validated by the observation of the present management approaches in *Hakaluki haor*. As a result, the outcome of the present wetland management policy posed many questions and received many criticisms from the relevant stakeholders that justified thoughts on mainstreaming community-based or co-management with a multi-stakeholder governance approach.

My study confirmed that the revenue-generating role of the wetland policy objective strengthens the process of capturing the commons by economically and politically powerful groups or individuals. The SMA approaches were found to be inefficient and fail to encompass the equitable distribution of natural resources among local resource users. They have been continuously excluded from their traditional usufruct access and rights and thus have been marginalized from receiving benefits from the natural resources (see chapter 3 and 4).

A focus solely on the economic aspects of resource management, which is the traditional view of wetland resource management in Bangladesh, fails to encapsulate three other highly significant pillars of resource management, i.e. social, ecological and political aspects (Fig 7.1), on which the sustainability of natural resources is largely dependent.

Natural resource management is considered a complex adaptive system in which economic, social, ecological and political aspects of resource management plays a significant role in ensuring sustainability. The results of the study confirmed the importance of an emerging view of natural resource management, in which all four aspects are recognized as having a critical role in achieving sustainable management practice (Fig 7.1).

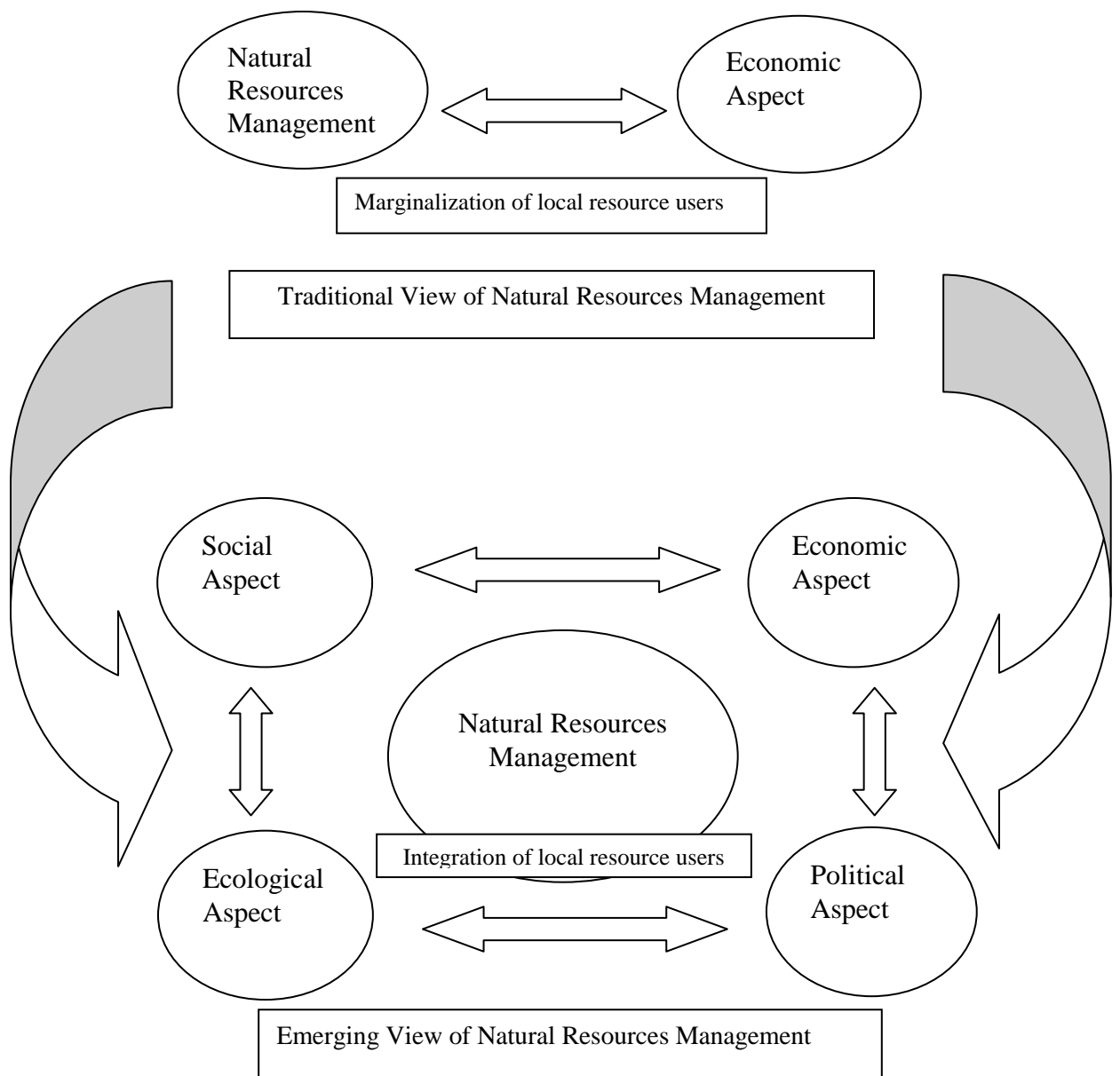


Figure 7.1: Evolution of Natural Resources Management as a Complex Adaptive System

An analysis of the community-based and/or co-management approaches in *Hakaluki haor* resource management strongly supports the application of such holistic approaches in NRM as opposed to the top-down, command-and-control and bureaucratic management system that follows the EEF approach. However, partnerships of CBOs in

the formal management system, capacity-building and empowering are essential elements for such an involvement (see chapters 4 and 5).

It is critical to address the access and rights of the local resource users for devising an alternative management framework to overcome present inadequacy in NRM. Considering the views of diverse stakeholders and the key findings of the study, I have identified the following specific critical issues that will be useful to develop a strong management framework in NRM to address the social well-being of local resource users as well as the sustainability of natural resources:

i) Mainstreaming of Community Based Organizations (CBOs) through legal system

Since the early 1980s, community-based natural resource management has been experimented in different development projects. Although there are examples of failures by CBOs in the resource management, however, with the due institutional mechanism, CBOs are quite capable of taking responsibility for natural resource management, as demonstrated by the SEMP, CBFM-2 and CWBMP. Generally, the lessons learned and the experiences of CBOs involvement in development initiatives are not incorporated into the mainstream of the NRM decision-making process. As a result, any achievement and/or success in the community-based and/or co-management approaches remains confined within the development project for the project life only. Therefore the following three important provisions need to be included in the management framework for mainstreaming CBOs in decision-making process.

a) *CBOs as legal entity*: Existing legal provisions do not recognize CBOs as institutional arrangements for *jalmohal* management and as part of the formal institution to apply authority. Provision for recognizing CBOs as institutional arrangements at the local level in *jalmohals* management must be incorporated in the existing policy regime. Also, this inclusion would specify the legal authority and responsibility of the CBOs, similar to the formal institutions within the management process.

b) *'Apex body of CBOs' to allocate Jalmohals*: On behalf of the MoL the *Upazila* and District Administrations are responsible of leasing of *jalmohals*. Such an arrangement of *jalmohals* management must be changed to ensure multi-stakeholder governance in wetland management. Forming an 'Apex Body of CBOs' at the *Upazila*

and District levels by involving an appropriate number of members from CBOs along with members from relevant formal institutions would be an acceptable option for allocating *jalmohals*. This “Apex Body of CBOs” can also function as a forum for the participation and deliberation of CBOs for decision-making process.

c) Institutional mechanism for capacity-building and strengthening of CBOs: My study confirmed that the participation of communities is limited only to the development projects in which the performance of CBOs is directly related to their capacity-building and empowering. Being excluded from the decision-making process, local communities have lost their capabilities to take management decisions independently, and this signifies the need for capacity-building and strengthening of CBOs. Mainstreaming of CBOs in the formal management system must have designated capacity-building and training programs to strengthen CBOs.

ii) Provision for Multi-stakeholder governance in Natural Resource Management

Top-down, command-and-control, and bureaucratic system of NRM has limited space for multi-stakeholder governance approach. Attributes of governance, such as accountability, transparency, equity and fairness, participation and deliberations, and an information-sharing system, are virtually absent in the state-governed management approach (SMA). Vertical and horizontal linkages of institutions are not in place for sharing experiences, knowledge and feedback to improve management decisions. My study revealed that the SMA often allows the misuse of power, capture of resources only by the elites, overexploitation of natural resources and degradation of the ecosystem, asymmetrical distribution of wealth, and the spread of corruption. In order to establish a participatory, deliberative, accountable and transparent state-governed management approach in NRM, policy provisions should be created to facilitate multi-stakeholder governance in resource management and thereby institutionalize both downward and upward accountability by involving all relevant stakeholders in decision-making process.

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Appendix 1: A Set of Supplementary Research Questions

1. Institutional Aspects in Wetland Resource Management

1. *How are issues of equity and distribution addressed by formal and informal institutions?*
2. *What have been the historical changes in access to resources of local resource users?*
3. *What are the relative dependencies on wetland resources to address livelihood options of local resource users?*
4. *What are the linkages and forms of communication among formal and informal institutions?*
5. *How do wetland policies facilitate marginalization of local resource users from their traditional usufruct rights to resources?*

2. Stakeholders Analysis

1. *What is the nature of conflicts among stakeholders?*
2. *What are key factors that organize stakeholders to participate in the decision-making in wetland resource management?*

3. Stakeholder Participation and Deliberations

1. *What are the processes and structures of deliberation that are culturally relevant for local level decision-making?*
2. *What are the effective ways to include local voices in decision-making?*
3. *What are the ways in which stakeholders' knowledge can contribute to policy making?*
4. *What are the institutional mechanisms to ensure the effective participation of local communities in the decision-making process of resource management?*

4. Multi-stakeholders Wetland Resource Governance

1. *How do resource users perceive their entitlements and the impact of institutions on their entitlements?*
2. *What are the mechanisms that exist in informal and formal institutions to maintain multi-stakeholders wetland resource governance?*
3. *How can stakeholders' capacity for effective participatory governance be enhanced?*
4. *What kinds of catalyst organizations and/or arrangements are needed as mediators to empower local resource users in decision-making process?*
5. *What are the mechanisms of maintaining vertical and horizontal linkages of institutions?*
6. *What changes should be made to ensure effective multi-stakeholder governance in resource management to attain the desired outcomes?*

Appendix 2: Ethics Approval Certificate from the University of Manitoba



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APPROVAL CERTIFICATE

16 April 2007

IUCN - The world Conservation Union,
Bangladesh and Nature Conservation
Management

TO: **S. M. Munjurul Hannan Khan** (Advisor E. Haque)
Principal Investigator

FROM: **Wayne Taylor, Chair**
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2007:005**
**"Community-based Wetland Resource Management and Conservation
in Bangladesh: Building Institutions with Effective Participation of
Stakeholders"**

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Kathryn Bartmanovich, Research Grants & Contract Services (fax 261-0325), including the Sponsor name, before your account can be opened.
- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/ors/ethics/ors_ethics_human_REB_forms_guidelines.html) in order to be in compliance with Tri-Council Guidelines.

Appendix 3: Guide for Focus Group Discussion (FGD)

a) Status of property rights in wetland resource management

1. What are the property rights that exist in the *Hakaluki haor* area?
2. From a community perspective, what are the property rights ignored in the present management system?
3. What are the implications of the absence of property rights in wetland resource management as well as in the community?
4. How does the local community look after property rights within the present resource management arrangement?
5. What type of property rights need to be strengthened for effective community-based wetland resource management?
6. How can property rights be re-established for community-based wetland resource management?

b) Stakeholders in wetlands resource management

1. Who are the key stakeholders in wetland resource management?
2. Who decides on resource use/resource allocation?
3. Who decides the rules for access and restrictions on the wetland resource?
4. Who makes the decision on the limit of subtraction?
5. Who deals with the violation of the rules?
6. Who deals with conflicts among stakeholders?
7. What are the conflict resolution mechanisms practiced by the community?

c) Institutional arrangement in wetland resource management

1. What are the local and national institutions involved in access, use and control over wetland resources?
2. How are the institutional and resource boundaries determined in wetlands?
3. How are collective-choice action rules framed and implemented?
4. How do the local communities ensure monitoring of the commons?
5. What are the conflicts between local rules and national rules, as well as policy, in resource management?
6. What is the level of recognition and acceptance of local or informal institutions by the *Upazila*, District and national government?
7. Are local communities involved in decision-making processes of the *Upazila*, District and national government levels?
8. Are there local, national and international NGOs operating in the area? If yes, what are those organizations, and how are they involved in wetland resource management?
9. How are the concerns of local communities communicated to higher levels of decision-making authority?

10. Are there NGOs helping local communities to communicate their concerns? If yes, in what form?

e) Governance in wetland resource management

1. What are the processes and structures in decision-making at the local and national level institutions?
2. How do various government institutions share power, responsibility and authority with relevant stakeholders?
3. Is there any mechanism in place among formal and informal institutions, for maintaining governance, i.e. accountability, transparency and sharing information?
4. What are the challenges faced by the commons institutions and how have they been dealing with such challenges?
5. How have the issues of equity been addressed by the commons institutions?
6. How can the capacity of local community be enhanced for participatory governance in wetland resource management?

f) Deliberations and Participation

1. What are the processes and structures of deliberations in decision-making?
2. What is the level of participation and what are the factors facilitating or hindering participation of local communities in decision-making?
3. How are the local communities supporting community-based natural resource management initiatives?
4. Has there been any major transfer of power and authority to the local institution?
5. Are there any effects of community-based natural resource management on access to resources by the local communities?
6. What is the collective capacity of the community members to create new institutional arrangements to deal with problems of community-based management?
7. How are the differentiated power relations influenced in the decision-making processes?
8. What are the possible mechanisms for minimizing or resolving complex power relations in resource management?

Appendix 4: Guide for Semi-structured Interview

a) Institutions in Wetland Resource Management

1. What are the local and national institutional arrangements that govern the access, use and control over wetland resources?
2. How are the issues of equity and distribution addressed by informal institutions?
3. What are the historical changes in resource access of local resource users?
4. What are the changes in livelihood options of local resource users?
5. What are the linkages and forms of communication between formal and informal institutions?
6. Do you think any local institution is capable of taking responsibility of *Hakaluki haor* management/ If yes, which one and why?

b) Stakeholders Analysis

1. Who are the key stakeholders in wetland resource management?
2. Who possesses the maximum power in the decision-making process?
3. What are the conflicts among stakeholders in resource management?
4. What are the key factors that organize stakeholders to participate in the decision-making in wetland resource management?

c) Deliberations and Participation

1. What are the processes and structures of deliberation that are culturally relevant for local level decision-making?
2. What are the effective ways to include local voices in decision-making?
3. What are the ways in which stakeholders' knowledge can contribute to policy making?

d) Wetland Resource Governance:

1. How do resource users perceive their entitlements and the impact of institutions on their entitlements?
2. What are some of the equity concerns, how are they being managed and what are some of the effective ways to resolve them?
3. What are the mechanisms that exist in informal and formal institutions to maintain wetland resource governance (accountability, transparency, participation, equity and fairness, and networking)?
4. How can stakeholders' capacity for participatory governance be enhanced?

Appendix 5: Guide for Key informant interview

a) Property rights and access to resource

1. What are the property rights that exist in terms of access, use and control over resources by different stakeholders?
2. What are the effects of missing property rights on access to resources by different resource user groups?
3. How are different resource user groups maintaining their access to resources under the present management systems?
4. What type of property rights needs to be re-established in wetland resource management? Why? And how?
5. What are the practical ways to strengthen property rights for effective community-based resource management?
6. Who are the most advantaged groups and disadvantaged groups in accessing resources? Why?

b) Stakeholder

1. Who are the major stakeholders involved in resource use and management?
2. What are the major resources in terms of both economic and social benefits?
3. Who are the local elites and how are they influencing resource management?
4. Who is responsible for framing the rules for access and restrictions?
5. How are the violations of any rules dealt with in the community?
6. What are the major conflicts among various groups?
7. What are the mechanisms in place to minimize and resolve such conflicts?
8. Which groups are dominating in resource access? How?

c) Institutional arrangement

1. What are the community and government institutions active in access, use and control over resources?
2. What are the local or government institutions who are playing major roles in determining resource boundaries?
3. What are the local institutional arrangements for managing various resources such as, fisheries, reeds, swamp forests, water, etc?
4. What are the institutional mechanisms for framing collective actions rules? And how are these mechanisms implemented?
5. What are the institutional mechanisms in place for monitoring the implementation of bylaws?
6. What are the conflicting rules and policies between informal and formal institutions?

7. How are various levels of government authority, such as, *Upazila*, District and national levels, evaluating and accepting the management systems of the community institutions?
8. How are the voices of local communities communicated at various levels of government authorities?
9. How are the government institutions facilitating community-based wetland resource management?
10. What are the local, national and international NGOs actively involved in wetland resource management?
11. What are the roles of NGOs in facilitating access to resources or other support to the community members?
12. How do you evaluate the leasing system of wetlands? Good, bad, neutral? Why?

d) Institutional linkages

1. What are the mechanisms or scope in place for vertical and horizontal linkages among different government institutions?
2. How are the local/informal institutions maintaining linkages with various government institutions, NGOs and other organizations?
3. How are NGOs communicating with various government institutions?
4. How are informal institutions nested within multiple institutions?
5. What are the relationships of local elites with CBOs, government institutions and NGOs?
6. How can communication between community members and government institutions be improved and enhanced?

e) Governance

1. How are the different institutions making decisions on resource improvement, development initiatives, resource allocation and management?
2. How do various government institutions share power, responsibility and authority with relevant stakeholders?
3. How are the local communities involved in decision-making processes?
4. How are informal and formal institutions maintaining governance, i.e. accountability and transparency?
5. How have issues of equity and fairness been addressed at the community level under differentiated power relations?
6. What are the capacities that need to be enhanced to involve local community in participatory governance?

f) Deliberations and participation

1. What are the processes and structures of deliberations in decision-making?
2. What are the general practices to adapt with new policy and rules?
3. Who are the participants in decision-making processes? And what is the level of participation at multiple scales?

4. What are the factors facilitating or hindering the participation of local communities in decision-making?
5. How are complex power relations undermining the participation of local community members in decision-making?
6. Has there been any major transfer of power and authority to the local institution or community members in resource management?
7. What are the positive effects of community-based resource management in terms of resource entitlement?
8. How are the collective capacities of local communities influencing, managing and enhancing management decisions?
9. How do you value CBOs' involvement in *Hakaluki haor* management as local institutional arrangements?

Appendix 6: List of Workshops Organized during the Research

1. Leasing System of *Hakaluki Haor* and Traditional Use Rights of Local Resource Users
2. Stakeholder Analysis and Role of Different Stakeholders in wetland resource management
3. Institutional Analysis with Stakeholders: Role of Institutions in *Hakaluki Haor* Management
4. Livelihood Options of Local Resource Users and Dependency on Wetland Resources
5. Resource of *Hakaluki Haor* and Use Pattern of Resources among Stakeholders
6. Linkages of Different Institutions in *Hakaluki Haor* Resource Management
7. Experience-sharing of Development Initiatives: SEMP in *Hakaluki Haor* Management
8. Experience-sharing of Development Initiatives: CBFM-2 in *Hakaluki Haor* Management
9. Experience-sharing of Development Initiatives: CWBMP in *Hakaluki Haor* Management
10. Role of NGOs in *Hakaluki Haor* in the Community Mobilization Process and Resource Management
11. Strengthening of CBOs and Establishing Legitimacy in Resource Management
12. Adaptive Co-management and Enhancement of Ecological Goods and Services in *Hakaluki Haor*
13. Sustainability of Resource Management: Suggestions and Recommendations of Stakeholders
14. Sharing of Research Findings: Validation of Research Findings/Outcomes with Stakeholders' Outcomes

Appendix 7: Socio-Economic Survey of the CBOs formed under SEMP/CBFM- 2/CWBM Projects

Form No.

Name of Enumerator: _____ Date: _____

Name of CBO: _____ Mouza: _____

Village _____ Union _____ Upazila _____

1. Identification of households: 1.1 Name of the CBO Member: _____ 1.2 Religion: _____
1.3 Age _____ 1.4 Occupation: Primary _____, Secondary: _____

Religion (code: 1. Muslim, 2. Hindu, 3. Christian, 4. Buddhist, 5. Ethnic) _____

1.5. Residence status (code: 1. Local, 2. Settler): _____

2. Information of Household Members

A. Information of household members

| Sl | Name | Age | Sex (code) | Educ ion | Occupation/Working Status (code) | | Relation with CBO Member (code) | Training Received (Code) | |
|----|------|-----|------------|-------------|--|-----------|--|-----------------------------|--------|
| | | | | (code) | Primary | Secondary | | Type | Source |
| | | | | | | | | | |
| | | | | | | | | | |

[Sex Code: 1. Female 2. Male]

[Occupation/working Status code: 1. Farmer (Own land) 2. Farmer (Own & Sharecropper) 3. Farmer (Lease in/Share cropping) 4. Agri. day laborer 5. Non farm day laborer 6. Full time Fishing, 7. Part time Fishing, 8. Water body leaseholder, 9. Water Body Guard, 10. Fish trading, 11. Livestock rearing (Bathan), 12. Duckery (duck rearing), 13. domestic poultry birds rearing, 14. Domestic livestock rearing, 15. Village doctor/herbal doctor (Kabiraj), 16. Transport laborer, 17. small trade, 18. Remittance from abroad, 19. Handicrafts, 20. service, 21. Boatmen, 22. Domestic work/help, 23. Tailoring, 24. Student, 25. Old/ disable, 26. Unemployed, 27. Nursery, 28. Other (Specify.....)]

[Education code: Actual years of schooling/education completed viz. 1=class one completed; not applicable =99; no education-00]

[Relation code: 1. Self, 2. Wife/husband, 3. Son, 4. Daughter, 5. Father, 6. Mother, 7. Brother, 8. Sister, 10. Daughter in law, 11. Son in law, 12. Brother in law, 13. Sister in law, 14. Grand son, 15. Grand daughter, 16. Grand son in law, 17. Grand daughter in law, 18. Nephew, 19. Niece, 20. Uncle/Father in law, 21. auntie/Mother in law, 22. Cousin (male), 23. Cousin (Female), 24. Lodging/Dependant, 25. Agri- laborer, 26. Servant, 27. Others (Specify)]

[**Training Type Code:** 1. Fish Culture, 2. Fish Processing, 3. Food Processing, 4. Milking Cow Rearing, 5. Beef Fattening, 6. Stitching, 7. Tailoring, 8. Handicrafts, 9. Nursery, 10. Social Forestry, 11. Poultry Birds rearing, 12. Others (specify_____)]

[**Source of training Code:** 1. Government Agencies, 2. NGO, 3. Private Institutions, 4. Local Knowledgeable person, 5. Others (specify_____)]

B. Percent distribution of income of the household in last year by sources

| Time | Fishing | Crop | | Farm day laborer | Non farm day laborer | Trading | Service | Other |
|-------------|---------|------|-------|------------------|----------------------|---------|---------|-------|
| | | Rice | Other | | | | | |
| (last year) | | | | | | | | |

C.1: Do any of your women household members involved in income generating activities (IGA)? (Yes=1, No=2)

C.2: If so, what are the IGAs? _____

C.3: If not, what are the reasons? _____

3. Defecation Habit of Households Members

A. Where did the family members defecate (Type of latrine code)? Wet Season: _____, Dry season: _____

Whether the HH own the latrine? _____ (Yes=1, No=2)

[**Place of defecation:** 1. Water sealed latrine, 2. Pit latrine, 3. Open/hanged latrine, 4. Open field/Bush, 5. Boat/Banana raft (Bhela), 6. Court yard, 7. Others(specify), 9. Not Applicable]

4. Asset Owned by the Households

a. Do you have your own tube well? (Yes=1, No=2) _____

b. No. of houses owned : _____

c. Housing Material of Main Dwelling House (code): Wall____ Roof ____ Floor _____

[**Housing Material Code:** 1.Straw, 2. Catkin Grass, 3.Vetiver grass, 4. Reed (Ikor), 5. Grass (Bhedalya), 6. Jute stick, 7. Bamboo, 8. Wood, 10. Tin, 11. Earthen, 12. Brick/Concrete, 13. Others (specify)]

| d. Fishing gears | | e. Agricultural Tools | |
|------------------|-----|-----------------------|-----|
| Name | No. | Name | No. |
| | | | |
| | | | |

f. Ownership of livestock and poultry birds

| Particulars | Livestock (cow) | Buffalo | Goat | sheep | Duck | Chicken |
|-------------|-----------------|---------|------|-------|------|---------|
| no. | | | | | | |

g. Land ownership (lands operated/ owned by the households) in hectare

| Cultivable lands | | Homestead | | Wetland- raised land (Kanda) | | Pond/ ditch | | Fallow lands | |
|------------------|--------------------|-----------|--------------------|------------------------------|--------------------|-------------|--------------------|--------------|--------------------|
| Area | Types of ownership | Area | Types of ownership | Area | Types of ownership | Area | Types of ownership | Area | Types of ownership |
| | | | | | | | | | |
| | | | | | | | | | |

[Ownership code: 1. Own, 2. Owned but share/rent/lease/mortgage out, 3. Khas (government owned), 4. Share/rent/lease in (not owned), 5. Families common (yet to be divided), 6. Others (specify)]

5. Poverty/ Food security

a. How many days you can run your family with the crops you produce in your lands? (Code) _____
(Code: 1. do not need to buy food stuff from market rather can sell something, 2. can run the family a full year, 3. need to buy often, 4. need to buy frequently/ the whole year)

b. Months of food crisis? _____

c. Reasons of food crisis? _____

| Particulars | Adult | Children |
|---|-------|----------|
| On an average, how many times/day your family members had food during food crisis | | |

d.1 : Did your family members eat any unusual food item during last food crisis [1.yes, 2.no] ☐

d.2 if yes, Name of food items
How many days eaten

| | | |
|--|--|--|
| | | |
| | | |

e. Borrow money or food stuff during peak poverty period

e.1: did you borrow money or food stuff during peak poverty period? (yes=1, no=2) ____, if yes, go to e.2
e.2:

| Particulars | Food stuff | | | Money | |
|-------------|------------|-------|------------------|-------|---------------|
| | Rice | white | others (specify) | Taka | Source (code) |
| Quantity | | | | | |

(Source code: 1. Bank, 2. NGO, 3. Local money lender (*Mohajon*), 4. Neighbours /Friends/relatives, 5. Group/society, 6. Bangladesh Rural Development Board (government agency), 7. Others (Specify))

f. Migration:

f.1. How many members of your households had seasonal migration out during last year : M F
☐ ☐

f.2. Where did they go? (district): _____

f.3 Type of work they did: (male): _____, (Female): _____

g.1 How many of your family member went to abroad for work (e.g. Dubai): M F

g.2 Where did they go (name of Country)? _____ ☐ ☐

g.3 Reasons to go abroad: _____

6. Financial Condition

a. Did you/your HH members take any loan in last 12 months? (yes=1, no=2)____ (if yes, ask next question), (If the loan is taken for buying food stuff, please mention that to 5.e, and if the loan is taken for other purposes, please mention here)

b. How much (Tk.)_____, where from_____, (use source code)

[Source code: 1. Bank, 2. NGO, 3. Money lender, 4. Neighbors/Friends/Relatives, 5. Groups/samity, 6. BRDB, 7. Others (specify)]

c. Reasons for taking loan _____

7. Membership with different Organizations.

| Name of the organization/ NGO | Sl. Number of HH member (Sl. no. from 1.a) | What are the services provided by this organization | Why do you involve with this organization | How long (month) you/ your HH members are involved |
|-------------------------------|--|---|---|--|
| | | | | |
| | | | | |
| | | | | |

8. What economic activities are primarily done by specific members (s) of your family?

| | | | |
|---|---|-----------------------|--|
| Nature of Activities | | | Please record HH members serial numbers from Sl. 3, if no. of respondent is more than 1, please use “,” - coma |
| a. Fishing | | | |
| | Full time fishing | | |
| | Part time fishing | | |
| | Subsistence fishing | | |
| | Dry fish | | |
| | Net making | | |
| | Making Fishing gears | | |
| | Others, specify | | |
| b. Aquaculture | Release of spawn/ transport | | |
| | Providing food and fertilizer in the pond | | |
| | Marketing | | |
| | Others, specify | | |
| c. Fish trading | | | |
| d. Duck farm (collection of snails) | | | |
| e. Bird hunting | | | |
| f. cow, goat, sheep, buffalo, poultry birds (use tick) | | | |
| g. Collection of floral resources from wetland | Reasons | what collected (tick) | |
| | 1. for food | | |
| | 2. for fodder | | |
| | 3. thatching materials (roof) | | |
| | 4. thatching materials (wall) | | |
| | 5. medicinal use | | |
| | 6. to protect village mound | | |
| | 7. Fuel | | |
| | 8. Other specify | | |
| h. Income-generating Activities | | | |
| | Small-scale business | | |
| | Handicrafts | | |
| | Vegetable | | |
| | Others, specify | | |

9. Type of uses of Natural resources

| Particulars | Fish catch | Grass/ reeds | Fuel (swamp tree species) | food (aquatic fruits) | Vetiver | Leafy vegetables | Birds/ Turtle/ Eel | Snails | Others specify |
|--|------------|--------------|---------------------------|-----------------------|---------|------------------|--------------------|--------|----------------|
| a. use/catch/ collected by HH members ((yes=1, no=2) | | | | | | | | | |
| b. Why collect/ catch | | | | | | | | | |

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| (code) | | | | | | | | | |
| c. what types of use (own use)- code | | | | | | | | | |
| d. month of catch/collect (code) | | | | | | | | | |
| e. Where form collect/ catch | | | | | | | | | |
| f. arrangement to catch/ collect (code) | | | | | | | | | |
| g. Availability compared to past (low=1, more=2, equal=3, do not know=4) | | | | | | | | | |

Why collect code: 1. sell/ commercial, 2. consumption, 3. own use, 4. others specify

Own use code: 1. fodder, 2. fuel, 3. fencing, 4. thatching, 5. wood, 6. to protect village mound from wave action, 7. duck rearing, 8. trap for fish, 10. others specify.

Month code: 1. Baishakh (mid April to mid May), 2. Jyastha, 3. Ashar, 4. Sraban, 5. Bhadra, 6. Aswin, 7. Kartik, 8. Agrahayan, 9. Poush, 10. Magh, 11. Falgun, 12. Chaitra (Mid March to Mid April)

Collected from where Code: 1. River, 2. Water body, 3. canal, 4. Kanda (raised land), 5. Swamp forest, 6. others specify

Arrangement code: 1. Open access, 2. catch/ collect secretly, 3. pay toll, 4. share, 5. pay labour, 6. lease, 7. traditional norms/ *de facto* rights, 8. others specify.

10. Issues related to collect natural resources from *Hakaluki haor* by the HH members?

10.1 Name of the water body from where your HH members used to collect natural resources: _____

10.2 Type of ownership of the *beels*: a. lease __, b. *Khas* Collection ____, c. open access _____

10.3: name of the lease holder: _____

10.4 What are the problems you or HH members face during collection of natural resources from the water body?

1. _____ 2. _____ 3. _____ 4. _____

10.5 What are the possible solutions of the issues?

1. _____ 2. _____ 3. _____ 4. _____

10.6 What are the problems faced by the other people in the locality during collection of natural resources from *Hakaluki haor*?

1. _____ 2. _____ 3. _____ 4. _____

10.7 As per your opinion, what are the possible solutions?

1. _____ 2. _____ 3. _____ 4. _____

11. Fuel

| In the last wet season | | | In the last dry season | | |
|------------------------|-------------------------------|---------------|------------------------|-------------------------------|---------------|
| Type of fuel (code) | Collection arrangement (code) | Source (code) | Type of fuel (code) | Collection arrangement (code) | Source (code) |
| | | | | | |
| | | | | | |

Type of fuel code: 1. dry cow dung, 2. Rice bran, 3. wood, 4. dry shrub, 5. straw, 6. bamboo, 7. pit coal (black soil), and 8. leaf, 10. Others---specify

Source code: 1. *Haor*, 2. Village, 3. hillocks, 4. Market, 5. Others- specify

Collection arrangement code: 1. Own, 2. Buy, 3. collected, 4. sharing, 5. Others- specify

12. Communication on environment and biodiversity

12.1 Preferred and effective media for receiving environment, biodiversity and resource management related knowledge (use code, preference can be more than one)

Media code: 1. Poster, 2. folk theatre, 3. folk song, 4. Booklet, 5. leaflet, 6. radio, 7. TV, 8. Demonstration, 9. sharing of results/ impact, 10. Personal contact, 11. Awareness program/ meeting, 12. Video show, 13. Training, 14. discussion with local resource person, 15. Exchange visit, 16. Sign board/ Bill Board, 17. Others – specify.

Appendix 8: The Worlds Bank's four levels of intensity in popular participation

Box 1: The Worlds Bank's four levels of intensity in popular participation

Information-sharing is a form of low-level participation. It helps beneficiaries to understand and perform their tasks better in collective or individual actions. It can have a positive impact on project outcomes.

Consultation: Information together with consultation on key issues with beneficiaries increases the level of intensity of popular participation. It creates opportunities particularly for disadvantaged people to involved, interact and provide feedback to the development agency. From this feedback the agency can take into consideration both upstream and downstream issues in the design and implementation stages.

Decision-making: Higher level of participation intensity may occur when disadvantaged groups have a decision-making role in matters of policy, project design and implementation. Disadvantaged group may take their decision on their own or jointly with others on specific issues.

Initiation action: Intensity of popular participation reaches its peak when people, particularly disadvantaged people, are able to take the initiative. This proactive capacity and confidence of people to move forward is visibly showed qualitative difference from the activities or tasks that they perform with support from external development agency.

Source: Bene and Neiland 2006: Bhatnagar and Williams (1992)