

Role of Microcredit and Community- Based Organizations in a Wetland Area in Bangladesh

By

Mohammed Salim Uddin

A thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfillment of the requirements of the degree of
Master of Natural Resources Management (M.N.R.M)

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

Microcredit has been considered one of the most significant innovations in the field of development in the last thirty years. It provides collateral free financial resources to the poor worldwide. It plays an important role in poverty eradication, socio-economic development, livelihood diversification and women empowerment especially in the developing and under-developed nations. It has contributed positively to the natural resources management by forming social capital, creating alternate income and diversifying livelihoods of the resource dependent rural people. Natural resource management, in general, and fisheries resources management in particular, are currently undergoing a major paradigm shift. In recent years, the notion of government as the only decision-making authority has been replaced by multi-scale, polycentric governance, which recognizes that a large number of stakeholders in different institutional settings contribute to overall management of resources. Improving the management of natural or common pool resources and empowering local communities, community-based management has become a common strategy in the last two decades. Community-Based Organizations are grassroots institutions that involve rural communities in co-management. Several factors influence the functioning and sustainability of these CBOs which contribute to the management of common-pool resources in Bangladesh. To address the complexities of socio-cultural systems and sustainable natural resource management, managers, practitioners, and theoreticians widely rely on social learning. The evidence of social learning is apparent in collaborative participation and group actions where individuals meet, interact, share ideas, learn collectively and take collective decisions. They adjust the management approaches and change their perceptions according to their social learning in natural resources management.

The purpose of the research was to assess the role of microcredit in improving rural livelihoods (mainly fishing households), identify the challenges faced by microcredit institutions, and to explore the process of organizations and obstacles involved in the sustainability of Community-Based Organizations developed by CBFM-2 project in *Hakaluki haor* area. It was intended to explore the evidence of social learning and capacity building efforts related to microcredit and CBFM-2 project intervention in the study area.

The main objective of this research was: to assess the roles of microcredit in improving rural livelihoods with a focus on fishing households and institutional capacity-building. The secondary objectives were: (i) to understand the processes of organization and the challenges that Community Based Organizations (CBOs) face, and (ii) to explore the evidence of social learning pertaining to microcredit and involving CBOs under CBFM-2 project, other local institutions, and fisher households.

A qualitative research approach was followed in this case which was supplemented by quantitative data. Several Participatory Rural Appraisal tools, such as interviews (households) by administering semi-structured questionnaires, key informant interviews, focus group discussions, in-depth case studies, and mini-workshops were used at different stages of the research to attain the objective of the study. Together with local communities and other relevant stakeholders the research purposively selected three CBOs and three microcredit women groups in three different villages of *Hakaluki haor*.

The research findings revealed that microcredit played a significant role in socio-economic development of *Hakaluki haor*, especially household income increment, livelihood diversification, creation of self-employment, poverty reduction and women empowerment though it entrapped few households in vicious cycle of poverty. The research established that CBOs are instrumental and essential for community-based natural resources management through empowering the local communities, and NGOs are important for mobilizing local people, capacity building and providing legal services to the community. It was evident that CBOs faced challenges towards its sustainability due to limited resources and wetland policy changes by the government. The study also revealed the evidence of social learning through microcredit operation and project intervention which changed their perceptions and fisheries management practices. Reforming operational mechanism of microcredit, national wetland leasing policy and legitimating CBOs can remove the challenges of microcredit and help the CBOs to be sustainable. Future research is encouraged to reveal the other issues of microcredit and community-based organizations sustainability.

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DEDICATION

This thesis is dedicated to my beloved late father

Mohammed Fazlul Hoque

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Abbreviations and Acronyms

ASA	Association for Social Advancement
BBS	Bangladesh Bureau of Statistics
BECA	Bangladesh Environmental Conservation Act
BEGCB	Building Environmental Governance Capacity in Bangladesh
BMC	<i>Beel</i> Management Committee
BRAC	Bangladesh Rural Advancement Committee
BRDB	Bangladesh Rural Development Board
CBFM	Community Based Fishery Management Project
CBOs	Community Based Organizations
CBRM	Community Based Resource Management
CIDA	Canadian International Development Agency
CNRS	Center for Natural Resources Studies
CPUE	Catch Per Unit Effort
CWBMP	Coastal and Wetland Biodiversity Management Project
DDT	Dichloro Diphenyl Trichloroethane
DFID	Department for International Development , UK
DoE	Department of Environment
DoF	Department of Fisheries
ECA	Ecologically Critical Area
GO	Government Organization
HHs	Households, often synonymously used for family
IDEA	Institute of Development Affairs
LGED	Local Government Engineering Department
MoL	Ministry of Land
MoYS	Ministry of Youth and Sports
NGOs	Non-governmental Organizations
PAPD	Participatory Action Plan Development
PRA	Participatory Rural Appraisal
SWOT	Strengths Weaknesses Opportunities and Threats
Tk.	Taka (Bangladesh Currency)
UPCD	University Partnerships in Cooperation and Development (Canada)
VCG	Village Conservation Group
WFC	The WorldFish Center

Glossary

<i>Bahumokhi Samobai Samity</i>	Multi-purpose Co-operative Society
<i>Baor</i>	Oxbow lake or dead arms of river
<i>Banchte Shekha</i>	Name of a local non-governmental organization
<i>Bazar</i>	Local market
<i>Beel</i>	Perennial water bodies.
<i>Haor</i>	Saucer-shaped, naturally depressed water basin or river back-swamp
<i>Hogla</i>	<i>Typha sp.</i> Raw material for weaving coarse mat
<i>Jalmohal</i>	Government designated fishery-estate that are leased out for revenue collection
<i>Jubo union samitee</i>	Local youth club
<i>Kandhi</i>	Raised land at the edges of <i>beels</i>
<i>Khash land</i>	Government owned land
<i>Mohajon</i>	Local money lender
<i>Mohila samitee</i>	Women self-help group
<i>Pati</i>	Mat made of natural fibers
<i>Pati-pata/Murtha</i>	<i>Schumannianthus dichotoma/ Clinogyne dichotoma</i> , a rhizomatous shrub used as raw material for weaving <i>Pati</i>
<i>Prochesta</i>	Name of a local non-governmental organization
<i>Purdah</i>	Socio-cultural norm that prevents men, except family members, to have a look at women; veil
<i>Shitol pati</i>	Cool mat, a kind of mat cold by nature and made of pati-pata/murtha
<i>Sungrass</i>	<i>Imperata cylindrica</i> , a tall herb used as a thatching material in rural Bangladesh
<i>Thana</i>	Police station at <i>upazila</i> level
<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>Zamindari</i>	Landlord who collect revenue on behalf of government

CHAPTER ONE



Plate 1: *Hakaluki haor* during monsoon season



Plate 2: Group fishing in *Hakaluki haor*

Chapter One

Introduction: Research Problems and Issues

1.1 Introduction

Microcredit has been considered one of the most significant innovations in the development field worldwide in the last thirty years (Jha and Bawa 2007; Ahlin and Jiang 2008; Hasan et al. 2009). It is the extension of small, collateral-free institutional loans to jointly-liable poor group members (especially women) for their self-employment and income-generating activities (Rahman 1999; Chowdhury et al. 2005; Ahlin and Jiang 2008; United Nations 2010). It has come to occupy a central place all over the globe in providing financial resources to the poor. Borrowers of microcredit lack access to credit otherwise (Grameen Bank 2008a, 2009), their borrowing is an attempt to eradicate their personal poverty (Chowdhury et al 2005; Ahlin and Jiang 2008; Barboza and Trejos 2009; Kotir and Obeng-Odoom 2009), ultimately working towards social development (Mallick 2002; Ahlin and Jiang 2008), the empowerment of women (Hashemi et al. 1996; Mayoux 1998; Kabeer 2001; Chowdhury et al. 2005; Osmani 2007; Omorodion 2007; Kotir and Obeng-Odoom 2009), household economic development, and livelihood diversification (Omorodion 2007; Hossain and Knight 2008; Hasan et al. 2009; Kotir and Obeng-Odoom 2009; Ray-Bennett 2010). Microcredit, as an innovative technique, was initially developed by the 2006 Nobel Peace Laureate, Dr. Muhammad Yunus, founder of the Grameen Bank in Bangladesh. Dr. Yunus established the Grameen Bank in 1983, and this model of microcredit has since been adopted in almost 70 countries worldwide (Rahman 1999; Bayulgen 2008; Hossain and Knight 2008; Haque and Harbin 2009).

1.1.1 Role of microcredit in socio-economic development

Microcredit programs play a significant role in improving the economic status and living standards of households, empowering rural women, creating self-employment, and ensuring better education and healthcare (Hashemi et al. 1996; Rahman 1999; Chowdhury et al. 2005; Haque and Harbin 2009). Usually it is the women in a household that are eligible to get loans, with the conventional assumptions that they are credit-

worthy, and that they are relatively risk-free compared to men. They are also networked with the wage market, and their families may have the potential to escape the punches of poverty (Hashemi et al. 1996; Amin et al. 1998; Rahman 1999; Haque and Harbin 2009). By 1997, microcredit projects had provided loans to 10 million households. By 2003, the number exceeded 80 million and by 2005 was more than 100 million (Jha and Bawa 2007). The microcredit summit campaign target is to reach 175 million by 2015 (The microcredit summit campaign 2010). Under modern organizational models, Non-Government Organizations (NGOs) operating microcredit programs (e.g. Grameen Bank, BRAC, ASA, and other NGOs in Bangladesh and many other countries) receive financial support in the form of grants or loans from international donor organizations (with or without interest) to provide collateral-free loans to poor women in order to improve their livelihood and economic status in the society (Amin et al. 1998; Barboza and Trejos 2009). In Bangladesh more than 1000 NGOs are operating microcredit programs (Chowdhury et al. 2005), and more than 500 are waiting to start a microcredit program. However, many loan-holders face problems in repaying loans and get entrapped in the system. NGOs are also engaged in developing credit-based productive and income-generating projects, mobilizing women at the grassroots, and providing access to supportive services that help reduce extreme rural poverty and empower socially-secluded women (Rahman 1999; Barboza and Trejos 2009).

1.1.2 Role of microcredit in natural resource management

The role of microcredit in the management of common pool resources and environmental conservation measures has not been examined in detail. Microcredit helps diversify livelihoods of the people who are completely or partially dependent on common pool resources for their livelihoods. Anderson et al. (2002) argued that microcredit institutions provide loans to the very poor to develop microenterprise activities, which help increase production and consumption activities, and in turn changes the demand on common pool resources and the technology used to extract resources. Again, microcredit institutions mainly focus on women, who are the primary users of common pool resources in developing countries, thus helping to divert them from using these resources. Simultaneously, this helps build ‘human capital’, the sum of the acquired knowledge, skills, and attitudes that an individual possesses. This represents years of education,

training, and experience, which are converted into wages and economic benefits in the labor force (Gaughan 2002). Human capital in turn strengthens ‘social capital’, the social norms, networks of reciprocity and exchange, and relationships of trust that enable people to act collectively (Armitage et al. 2009); for example, microcredit employs weekly group meetings and group lending techniques. This social capital creates the scope for collective actions like community-based management and knowledge sharing, thus lowering the cost of managing common pool resources (Anderson et al. 2002; Jha and Bawa 2007; Brook et al. 2008).

Considering environmental conservation measures that the microcredit institutions employ directly or indirectly, scholars view it as “green microcredit” or “green credit”, and micro-enterprises developed by green credit are termed as “green micro-enterprises”. “Green microcredit” is a new concept that refers to small-scale loans to develop micro-enterprises that are environment-friendly. It bears three main key themes: “green”, “clean”, and “renewable”. It is assumed that microcredit-based small enterprises (green micro-enterprises) use renewable natural resources and the environment in a sustainable manner for livelihood improvement and diversification (Haque 2006).

1.1.3 Community-based resource management

Natural resource management, in general, and fisheries resources management in particular, are currently undergoing a major paradigm shift. In recent years, the notion of government as the only decision-making authority has been replaced by multi-scale, polycentric governance, which recognizes that a large number of stakeholders in different institutional settings contribute to overall management of resources. Improving the management of natural or common pool resources and empowering local communities, community-based management has become a common strategy in the last two decades. Local knowledge, local institutions, and common property regimes are taken into consideration in this co-management approach (Berkes et al. 1998; Ostrom 1990; Pomeroy and Berkes 1997; Mamun and Haque 2008). The multi-faceted nature of socio-natural systems has drawn attention for wider use of experiential learning to address the complexity of sustainable natural resource management and to promote desirable behavioral change (Muro and Jeffrey 2008). Although the design principles for

community management institutions (Ostrom 1994) and factors linked with sustainable common property regimes, and institutions (Agrawal 2001) have been studied questions arise on how to best initiate such regimes, what the role of participatory planning methods should be (Sultana and Thompson 2004), and also, how to keep the CBOs functional on a long-term basis, thereby reducing the problems related with resource management and its sustainability.

1.1.4 Social learning

Resource and environmental managers and decision makers are increasingly facing problems that are characterized by high degrees of ecological and social complexity, uncertainty and indeterminacy, as well as conflicts over values and interests. Moreover, they are often faced with the need to generate positive change in dynamic social-ecological systems (Berkes et al. 2003; Funtowicz and Ravetz 1993; Gunderson and Holling 2001; Mitchell 2004). To address the complexities of socio-cultural systems and sustainable natural resource management, managers, practitioners, and theoreticians widely rely on ‘social learning’ (Schusler et al. 2003; Keen et al. 2005; Muro and Jeffrey 2008). Miller and Dollard (1941) first defined ‘social learning’ as an institutional process that evolves as individuals observe the behaviour of others, transform it into cognitive representations, and execute the behaviour if it is associated with benefits, rewards or any incentives. Armitage et al. (2009) viewed ‘social learning’ as the collaborative or mutual development and sharing of knowledge by multiple stakeholders through ‘learning by doing’. It is an interactive approach to decision making and problem solving (Woodhill 2004).

Many scholars explored evidences of social learning in collaborative participation and group actions where individuals meet, interact, share ideas, learn collectively and take collective decisions. They adjust the management approaches and change their perceptions according to their social learning in natural resources management (Keen et al. 2005; Steyaert et al. 2007; Muro and Jeffrey 2008; Sims and Sinclair 2008; Marschke and Sinclair 2009). Marschke and Sinclair (2009) defined this learning as ‘instrumental learning’, (i.e. learning pertaining to controlling or manipulating the environment or people, and provide competence in coping with natural variables).

Community-Based Fisheries Management (CBFM) was adopted as one of many possible forms of co-management for better management and protection of fisheries resources in Bangladesh. CBFM is a suitable fisheries management option, which offers the prospect of relief from some of the more negative aspects of a centralized management system (Berkes et al. 1991; Pomeroy and Williams 1994). By developing, testing, and assessing arrangements of user-based (community and group based) fisheries management across the diversity of inland fisheries in Bangladesh, the CBFM-2 project was developed to improve the livelihoods of poor people dependent on aquatic resources. The project duration was five years, from September 2001 to August 2006, funded by Department for International Development (DFID, UK). It was implemented by WorldFish Center, Department of Fisheries (DoF) and Non-Government Organizations (NGOs). Center for Natural Resources Studies (CNRS) was one of the partner NGOs that implemented the project in five clusters of which one was *Hakaluki haor* under *Moulvi Bazar* district (CNRS 2009). In continuation of community-based wetland resource management, CNRS started microcredit program in 1998 aiming to reduce rural poverty, and improving and diversifying livelihoods of wetland resource dependent people, simultaneously restoring and improving environment in many parts of Bangladesh including *Hakaluki haor* area. It started a “green microcredit” program in 2009, focusing on environmental restoration measures and developing “green micro-enterprise” that will use renewable natural resources and the environment in a sustainable manner for livelihood improvement and diversification of dependent poor.

There has been hardly any effort to understand the impacts of microcredit on the sustenance of natural resource management. It is also not clear if lending institutions provide microcredit for green or environment friendly purposes or not. My research was intended to assess the role of microcredit in improving rural livelihoods (mainly fishing households) and related challenges, the scope of shifting microcredit operations to “green microcredit”, understanding the organizing process of relevant community-based organizations (CBOs) and the challenges that CBOs face, and exploring social learning as it relates to microcredit and CBFM-2 project intervention.

1.2 Purpose and objectives of the research

The purpose of my research was to understand how microcredit could help improve rural livelihoods (mainly fishing households), the challenges faced by microcredit institutions, and to the scope of shifting general microcredit programs into green credit ventures. With the help of main objective, I explored the process of organizations and obstacles involved in the sustainability of Community-Based Organizations developed by CBFM-2 project in *Hakaluki haor* area. In assessing the roles of microcredit operations and working with CBOs, I examined the evidence of social learning and capacity building efforts related to microcredit and CBFM-2 project intervention in the study area.

The main objective of this research was:

- To assess the roles of microcredit in improving rural livelihoods with a focus on fishing households and institutional capacity-building.

The secondary objectives are:

- To understand the processes of organization and the challenges that Community Based Organizations (CBOs) face.
- To explore the evidence of social learning pertaining to microcredit and involving CBOs under CBFM-2 project, other local institutions, and fisher households.

With these core and secondary objectives in mind, I examined some relevant issues that cumulatively helped to address the research objectives. Some of the intriguing queries related to: terms and conditions imposed by NGOs in order to qualify for loans; major uses of the credits; scope and nature of investment in green or ecosystem-friendly enterprises; motivations and realities behind green microcredit initiatives; users' perceptions about microcredit in comparison with other rural lending institutions; roles of microcredit in enhancing social dignity and familial income; relationships between NGOs and other informal rural institutions; facilitating roles of microcredit in linking CBOs with cross-scale formal institutions; obstacles to the ways of institutional sustainability; and impacts of microcredit on sustainable uses and conservation of local natural capital.

1.3 Study Area

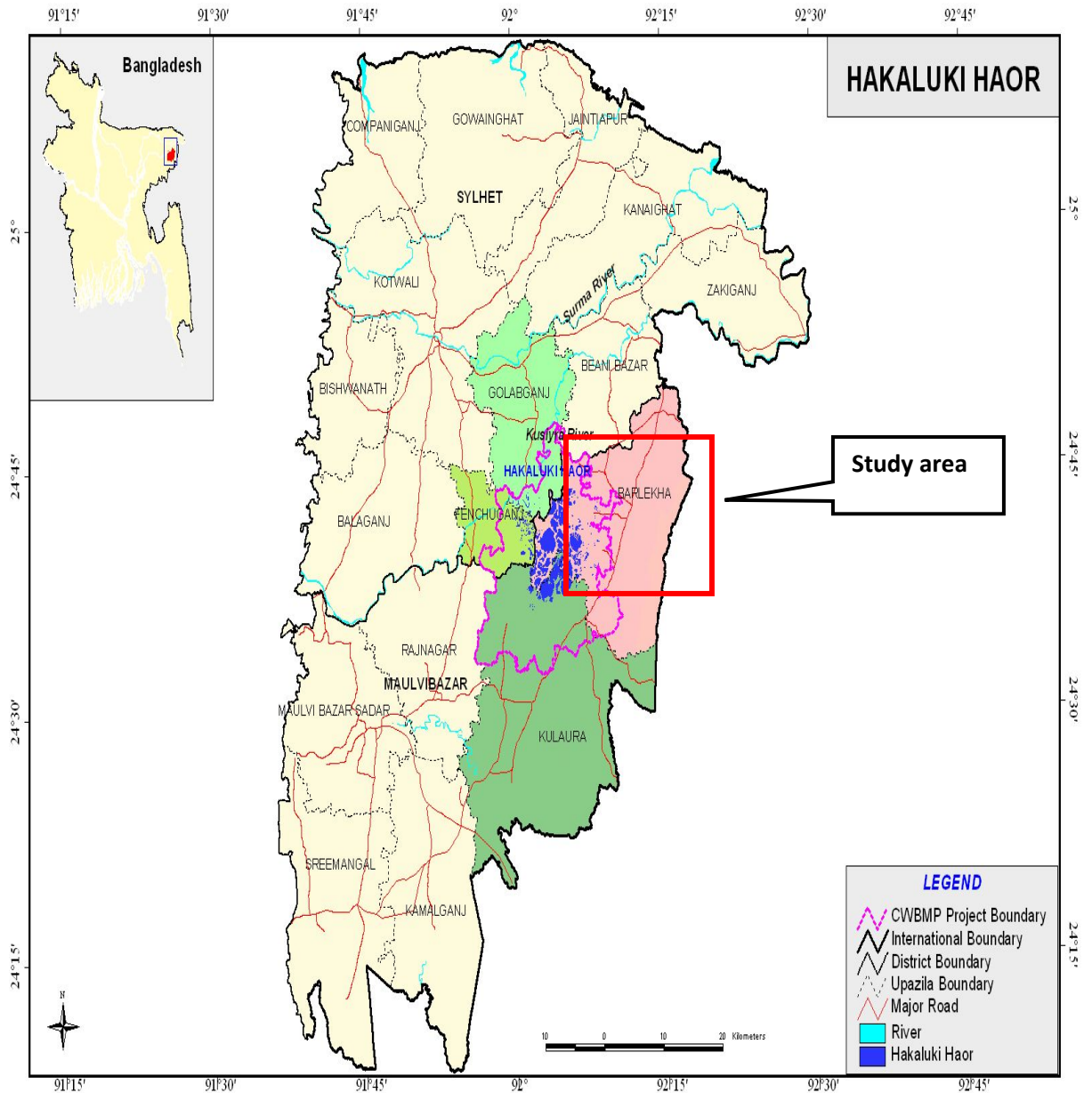
Bangladesh is a land of water and wetlands, with over half of the country comprising floodplains, and the remaining four million hectares being comprised of floodplain wetlands including rivers, floodplain depressions (*Beels* – usually with perennial water), oxbow lakes (*Baors*), and large back swamp areas (*Haors*). The floodplains support around 260 fish species and form a major capture fishery and source of livelihoods for rural people, as they contribute about 46% of all fish consumed (Sultana and Thompson 2007). These wetland ecosystems are very important to the economy and lives of the people of this country, as their livelihoods and subsistence are very much linked with the productivity of wetlands (Mamun and Haque 2008). Fisheries remain an important source of livelihoods and food for the rural poor. About 80% of rural households catch fish for food or sale (Thompson and Hossain 1998). About 60% of animal protein consumption comes from fish and, of this, 80% is from freshwater fish (BBS 2002). In recent times, man-made stresses have pushed the system to the limit of its ability to cope with the overwhelming pressure of fishing by an increasing population. Fish habitats have either been destroyed, altered, or reduced; as a result, fish production keeps declining and, consequently, fish species diversity in the wetlands is at stake. To restore the fish habitats and sustainable production, 1000 water bodies are currently being managed by cooperatives (Ahmed et al. 1997).

Fisheries management in Bangladesh has gone through a process of transformation to meet the increasing demands for sustainable use and conservation along with the optimization of production. Fisheries management is widely considered to be centric; the water bodies are largely controlled by the Ministry of Land (MoL). Only 275 wetlands out of 12,000 were transferred to the Department of Fisheries (DoF) for experimenting with new management formulas, with support from multiple stakeholders including the fishers. In continuation with this management process, Community Based Fisheries Management Phase-2 (CBFM-2) project was developed, and it was implemented by the Department of Fisheries (DoF) of the Government of Bangladesh, WorldFish Center, and NGOs, from September 2001 to August 2006, with the financial support of Department For International Development (DFID), UK. The project location of CNRS-CBFM-2 was *Hakaluki haor* under *Moulvibazar* district, *Halir Haor* under

Sunamganj district, *Pakundia* under *Kishoreganj* district, *Kalihati* under *Tangail* district, *Shalikh*a and *Magura* sub-district under *Magura* district, and *Narail* sub-district under *Narail* district. In the process of such community-participated fisheries management, Community-Based Organizations (CBOs) were created and nurtured throughout the project period so that CBOs can sustain their activities following the exit of the project.

The research focused on a microcredit program and community-based fisheries management initiative at a potential site of *Hakaluki haor*, which happens to be the largest inland freshwater wetland ecosystem in Bangladesh, located in north-eastern Bangladesh between latitude 24°35' N to 24°45' N and longitude 92°00' E to 92°08' E. It is a complex ecosystem, containing more than 238 interconnecting *beels/Jalmahals* (CWBMP 2005; Khan and Haque 2010) with an area of 18,383 ha (45,406 acres) (CNRS 2002). The administrative boundaries of Baraleka/Juri sub-district and Sujanagar/Pabijuri/Kanungobazar unions are under the jurisdiction of *Moulavibazar* district. There are various types of water bodies (seasonal, perennial, large and small) within the *Hakaluki* wetland.

Hakaluki haor used to be rich in wildlife and aquatic resources and covered with swamp forest, but in recent times has become a fast-degraded landscape and is facing increased pressure and threats (Choudhury and Faisal 2005). Such rapid degradation of the wetland ecology is causing devastating consequences for the community people living in, around, and downstream of the *Hakaluki haor*, who, for generations have depended upon the vital functions, services, and benefits of this wetland for their livelihoods. About 200,000 people live around the *haor* (Choudhury and Faisal 2005). All of them, more or less, are dependent on the resources of the *haor* for their livelihoods. As the *haor* floods annually, settlements are clustered along its slightly raised fringes. Because of such threats and rapid degradation of the resources, and in recognition of the urgent need to protect the unique ecology and biodiversity of the *haor*, the Government of Bangladesh has declared *Hakaluki haor* as an "Ecologically Critical Area" (ECA) under the provision of the Bangladesh Environment Conservation Act (BECA) in 1999 (CNRS 2002).



**Figure 1.1: Map of the study area
(CNRS 2009)**

Fisheries and agriculture are the two major livelihoods for local people living in and around the ECA (CNRS 2002). Primary stakeholders of the resources of the *Haor* are farmers, fishers, and collectors of *haor* resources like aquatic vegetation, cow fodder, aquatic animals, and medicinal plants. *Hakaluki haor* ecosystem supports at least 73 species of wetland vegetation, which is nearly half of the national total of 158 species of

vegetation (Choudhury and Faisal 2005). *Hakaluki haor* is considered as one of the four major "mother fisheries" in Bangladesh. More than 100 fish species are available in the *haor*, one third of which are listed as endangered (Choudhury and Faisal 2005).

1.4 Research Plan and Methods

A qualitative research approach (Nelson 1991) was followed in this case and the study was supplemented by quantitative data where possible. Several Participatory Rural Appraisal (PRA) tools, such as interviews (households) by administering semi-structured questionnaires (Angrosino 2002), key informant interviews, focus group discussions (Morgan et al. 2008), in-depth case studies, and mini-workshops were used. Support and assistance was obtained from a locally active non- government organization, 'Center for Natural Resource Studies' (CNRS), Bangladesh. CNRS is an environmental NGO formed in 1993 and is a partner of a UM-CIDA Tier 2 UPCD Program project entitled "Building Environmental Governance Capacity in Bangladesh" (CNRS 2010).

Research plan

The field research took place over a period of 4 months. The research was conducted in 3 phases: stage 1) Scoping and learning-gathering, 2) In-depth field work, and 3) Verification and workshops.

Phase 1: Scoping and learning-gathering (15 days)

Discussions were carried out with the CNRS and *upazila* fisheries officials to select appropriate women microcredit groups and CBOs. For the study, I then verified the pros and cons of the selected women groups and CBOs in the context of my research objectives. I tried to identify potential key informants and had discussions with them. I also gathered and reviewed secondary data from different sources, e.g. CNRS head office and site offices, *upazila* fisheries office, public library, and university libraries, etc.

Phase 2: In-depth field investigation (three months)

After becoming intimate with the community, I started in-depth investigations on the case study using participatory techniques. The households interviews were done with the of women microcredit group (15 households out of 3 women groups from 3 different

villages) and with CBO members (3 CBOs from 3 villages). I also asked many of the background questions to CNRS personnel and Fisheries Divisions personnel. I carried out a household level survey by semi-structured questionnaire with the loan-holder women of the households. The purpose of the survey was to understand the role of microcredit loans: How are households using microcredit? Who is controlling it? What challenges do they face? The survey was repeated twice – once at the beginning of the study and again after two and a half months, using the same households. The sample size was five households from each women group in each village who had used microcredit. I conducted three Focus Group Discussions (FGDs) and several informal meetings with three CBO members (*Padma, Pabijuri, and Shapla*) located in three different villages in *Hakaluki haor*. The main purpose of the FGDs and informal meetings was to understand the process of organization and challenges they are facing upon departure of the CBFM-2 project. I also interviewed ten key informants to collect information on households that I surveyed and CBOs, as well as to cross check the collected data.

Phase 3: Validation, workshop and documentation (15 days)

A workshop was organized with women microcredit group and CBO members in local *Hakaluki High School, Kanungu Bazar* at the final stage of my research, to validate the information and also to seek feedback and views of different stakeholders.

Data analysis and report writing

Information obtained from the field was processed to address the research questions. Microsoft Office Excel was used to analyze the data and Microsoft Office Word was used for report writing.

1.5 Research Significance

Bangladesh is a famous testing ground of microcredit due to its invention and application of a pro-poor development approach. However, there has been little effort to understand the role of microcredit in the sustenance of natural resource management, and in improving and diversifying the livelihoods of the dependent poor. It is not clear if lending institutions provide microcredit for green or environment friendly purposes or not.

Arguably, numerous scientists concur in affirming the existence of local communities and application of experiential learning in natural resource management through the establishment of linkages with different institutions at different levels. These institutions have been dealing with a multiplicity of stakeholders and interests, external actors and internal environmental and social changes. The CBFM-2 is a unique example of co-management learning from Bangladesh. It is necessary to assess the role of microcredit in rural livelihood improvement, to identify the challenges of microcredit, and to examine the performance and challenges of CBOs after the CBFM-2 project completion – including the different actors and processes. It is also important to document the lessons learned from this microcredit mechanism (from local institutions like women groups) and participation in community-based management activities through CBOs in order to conserve the natural resources in the northern part of Bangladesh. This in turn would help to identify the factors required for the desired changes in the participatory management process, microcredit, and the social and administrative mechanisms of community-based resource management efforts.

1.6 Organization of the Thesis

The thesis is organized into seven main chapters. **Chapter One** discusses the background, purposes and objectives, research methods and plan, and the significance of the research. I present a review of literature in **Chapter Two** that puts microcredit's role and community-based resource management in perspective and summarizes the main lessons integral to the purpose of this study. The chapter focuses on the background knowledge necessary for preparing the conceptual and theoretical bases of the research and analysis of its outcomes. **Chapter Three** outlines the study area, household profiles and livelihoods of the study area, the methodological approach to the research, and the various methods and tools used in the study. It discusses the guiding principles, sampling and sources of data collection, conceptual frameworks used, various participatory methods and tools used in collecting data, and the process of analysis following the fieldwork.

Chapters Four to Six present the findings of the study, with **Chapter Four** corresponding to the main objective (objective one), and **Chapter Five and Six**

corresponding to the secondary objectives (objectives two and three). **Chapter Four** begins with the role of microcredit in socio-economic development; it then presents the analysis of users and usage patterns of microcredit, operational mechanism by CNRS, preferences on use, and benefits and challenges of microcredit in the study area. This chapter concludes by discussing the possibility of green microcredit and the role of microcredit in women empowerment and poverty reduction.

Chapter Five begins with the introduction and overview of CBOs in *Hakaluki haor* area. It then discusses the triggers, roles, and activities of CBOs in fisheries management. It concludes with the analysis of the major obstacles in the sustainability of CBOs' activities. **Chapter Six** focuses on the evidence of social learning as it relates to the microcredit program and the involvement of community-based management activities under the CBOs which developed by CBFM-2 project.

Finally, **Chapter Seven** provides a synthesis of the key findings discussed in earlier chapters, along with the overall conclusion, and a few recommendations and policy options for further improvement in microcredit operation and wetland resource management in *Hakaluki haor* area.

Chapter Two



Plate 3: Community-Based roadside plantation



Plate 4: A CNRS microcredit loan holder weaving a bed-mat (*Pati*)

Chapter Two

Literature Review

2.1 Microcredit

Microcredit has created enormous interest among development practitioners and policy-makers in many parts of the world. It has also got wide support from aid agencies, governments, non-governmental organizations (NGOs), and the public at large. Simply, microcredit means small loans made to poor households to finance small-scale entrepreneurial activities (Abed 2000; Chowdhury et al. 2005; Grameen Bank 2008a, 2009). Different scholars defined microcredit differently; the definition of microcredit that was adopted in the Microcredit Summit held in Washington, D.C., 1997 is that microcredit programs extend small loans to very poor people for self employment projects that generate income, allowing them to care for themselves and their families (Grameen Bank 2001). According to Rahman (1999) and Chowdhury et al. (2005), microcredit is a Grameen Bank innovation, defined as an extension of small amounts of collateral-free institutional loans to jointly-liable poor group members for their self-employment and income-generating activities.

Microcredit has come to occupy a central place all over the globe in providing financial resources to the poor and changing their livelihoods. These pro-poor borrowers lack access to formal loans or credit (Grameen Bank 2008a, 2009). Consequently, microcredit is playing a significant role in eradicating poverty, social development, women empowerment, household economic development, and livelihood diversification (Omorodion 2007; Ahlin and Jiang 2008; Hossain and Knight 2008; Hasan et al. 2009; Kotir and Obeng-Odoom 2009; Ray-Bennett 2010). It is an innovative technique that was initially developed by 2006 Nobel Peace Laureate Dr. Muhammad Yunus, founder of the Grameen Bank in Bangladesh. Dr. Yunus established the Grameen Bank in 1983, and this model of microcredit has been adopted in almost 70 countries worldwide (Rahman 1999; Bayulgen 2008; Hossain and Knight 2008; Haque and Harbin 2009).

2.1.1 The target group and the uses of microcredit

Microcredit is the dispersion of small-scale financial services such as credit, savings accounts, and insurance to poor rural landless, disadvantaged women, marginal farmers, and wage laborers, who largely depend on selling their labor for living (United Nations 2010). The microcredit inventing institution, Grameen Bank, provided microcredit loans for both men and women initially, but since the mid-1980s it has been focusing primarily on women due to problems with recovering loans from men (Rahman 1999). Dr. Muhammad Yunus, the Grameen Bank founder, argued that targeting women for microcredit can reduce poverty in a woman's family as well as her village. He also assumed that microcredit improves the economic status of the borrowers, and results in better education and healthcare of the whole family (Haque and Harbin 2009). Now, most of the microcredit programs and all microcredit lending NGOs in Bangladesh target women, based on the view that they are more likely than men to be credit-constrained, have restricted access to the wage labor market, and have an inequitable share of power in household decision making. They are also credit worthy.

The majority of rural women are not only poor but also caught between two very different domains: one determined by their socio-cultural condition that confines their activities inside homesteads, and the other shaped by increasing landlessness and poverty that forces them outside into wage employment (Sultana and Thompson 2008). Many scholars have varying opinions as to why only women are getting microcredit; Rahman (1999) argued that woman's contributions to their family welfare is greater than man's. The hypothesis is that woman's priority is to invest her earnings in her children rather than spending much on household necessities. Arguably, lending to women and increasing their earning brings more qualitative benefits to family welfare than the earning of men. It is also evident that lending to women is perceived as an effective way to assist poor women in attaining their socio-economic empowerment in the larger society (Yunus 1994; Rahman 1999; Osmani 2007; Hossain and Knight 2008).

Use of borrowed loan depends upon several factors, like family need, income-generating projects, or family decision. Sen (1990) and Rahman (1999) argued that households in rural Bangladesh operate as a cooperative unit – women usually pour their loan in it and it is very difficult to identify the exact loan user and usage patterns.

Hashemi et al. (1996) and Goetz and Sen Gupta (1996) found several uses of credit loans such as poultry, sericulture, fish culture, livestock and milking cow rearing, homestead cultivation, paddy cultivation, paddy husking, house repairing, leasing and buying paddy lands, and buying boats and rickshaws. Loans were also used for buying transport vehicles, fishing equipment, and river crafts (Anderson et al. 2002; Hossain and Knight 2008).

2.1.2 Role of microcredit

Globally, microcredit has become a major technique in the last three decades in providing collateral-free loans to the poor. It is playing a significant role in alleviating poverty (Chowdhury et al. 2005; Ahlin and Jiang 2008; Barboza and Trejos 2009; Kotir and Obeng-Odoom 2009), socio-economic development (Mallick 2002; Ahlin and Jiang 2008), women empowerment (Hashemi et al. 1996; Mayoux 1998; Kabeer 2001; Chowdhury et al. 2005; Osmani 2007; Omorodion 2007; Kotir and Obeng-Odoom 2009), household economic upliftment, and creating alternative livelihoods (Omorodion 2007; Hossain and Knight 2008; Hasan et al. 2009; Kotir and Obeng-Odoom 2009; Ray-Bennett 2010).

2.1.2.1 Microcredit in poverty reduction and socio-economic development

Microcredit is playing a significant role in socio-economic development, especially poverty reduction, by improving households' economic status, increasing living standards, empowering rural women, creating self-employment, and ensuring better education and healthcare (Hashemi et al. 1996; Rahman 1999; Chowdhury et al. 2005; Haque and Harbin 2009). It provides small loans to women to develop small scale enterprises at the household level – by 1997; microcredit projects had provided loans to 10 million households. The number exceeded 80 million by 2003 and was expected to reach more than 100 million by 2005 (Jha and Bawa 2007).

Non-Government Organizations (NGOs) in Asia, Africa, and Latin America are the largest providers of microcredit to the following sections of society: rural landless, disadvantaged women, marginal farmers, and wage laborers, all of whom depend largely on selling their labor for a living. In many countries, the poor have little or no access to

institutional credit because they have no assets that can be used as collateral. Microcredit has emerged in those countries as a potential instrument to alleviate poverty and improve the access of the poor to financial services. Such credits, which are otherwise unavailable to the poor or available only at exorbitant terms from moneylenders, enable poor households to undertake productive economic activities and provide an opportunity to escape the shackles of poverty. Against this background, microcredit programs have expanded rapidly in the low-income countries and have become more than a poverty reduction strategy. Because they are attractive to donors, they have helped many NGOs to build a financially sustainable pool of independent working capital and distribute it to the ultra-poor of the society (Abed 2000).

In Bangladesh, there has been unprecedented growth of microcredit organizations in the last three decades. There are nearly 1,000 microcredit organizations registered in Bangladesh with approximately 13 million participants. Bangladesh has provided models (of recognized global significance) of microcredit in areas such as scale of operation, modes and practices of microcredit, alternative models of wider financial services, sustainability programs, and empowerment of women (Abed 2000). Natural disasters such as floods, cyclones, and other disturbances adversely affect the lives of poor households in rural Bangladesh. Crop loss, damage to houses or livestock, and post-disaster illness are some of the direct consequences of these natural catastrophes. It is often believed that microcredit program intervention at the grassroot increases the ability of the poor to deal with crises. The existing evidence suggests that microcredit programs in Bangladesh have a positive impact on the participants with respect to material well-being, reduction in seasonal vulnerability, and a better ability to deal with crises (Mustafa et al. 1996; Rahman 1999; Chowdhury et al. 2005; Hossain and Knight 2008). It is argued that microcredit programs help reduce the vulnerability of the poor by assisting them to build assets, and by providing emergency assistance during natural disasters. At the same time, it is recognized that the impact of credit programs on poverty and economic vulnerability could be enhanced by linking credit schemes with other financial interventions such as savings and insurance policies, legal education, and food relief (Zaman 1999).

Table 2.1: Top 25 purposes of Grameen Bank Microenterprise loan for women in 2009
(1 US \$ = 67 Taka)

Serial No.	Activity Name	Number	Amount in Taka
1	Grocery shop	55,606	1,588,986,102
2	Milch cow	60,855	1,390,339,353
3	Rice/Paddy trading	47,575	1,242,771,859
4	Cow fattening	60,316	1,058,233,831
5	Other business	36,049	643,723,678
6	Vegetables trading	24,672	534,255,081
7	Land lease	23,176	486,289,690
8	Paddy cultivation	22,613	472,045,225
9	Plantation	14,479	389,810,426
10	Cloths trading	13,637	389,378,375
11	Bamboo works	14,242	377,291,379
12	Chicken trading	11,820	300,145,925
13	Stationery shop	9,966	295,617,260
14	Pisciculture	12,411	294,827,233
15	Fish trading	10,411	276,726,685
16	Vegetables cultivation	11,513	242,492,782
17	Medicine shop	6,974	240,338,373
18	Rickshaw	8,973	212,947,040
19	Poultry raising	9,428	212,860,484
20	Goat	6,640	187,857,389
21	Paddy husking	7,733	184,802,281
22	Bullock	10,264	184,666,984
23	Cloths shop	6,422	171,073,971
24	Farming	6,799	168,909,937
25	Pulse trading	6,928	167,344,851

Source: Grameen Bank, 2011

The development of the microcredit program in Bangladesh has emerged as a major strategy to serve a dual purpose – to alleviate poverty and to reduce unemployment, both of which continue to pose as major issues to the economic and social development in the country. More than 80% of people of Bangladesh live in rural areas and its economy is based on agriculture. Huge population growth, poverty, and unemployment are the country's major problems. Under these circumstances, microcredit programs have contributed to the productivity of the rural poor through micro-enterprises, creation of self-employment, and human capital development – all of which alleviate poverty. There are many governments and NGOs that are active in providing microcredits to the poor. However, NGOs are more active than government

organizations, like Grammen Bank, ASA, Proshika, BRAC, and some community-based organizations lead by CNRS. The microcredit practice of NGOs is basically limited to granting small credit (about US \$20 to \$100) to support micro-enterprises like poultry, livestock rearing, small verities shops, tea stall, handicrafts, handloom, transport van, fisheries, and small scale agriculture. The major aim is to introduce poor people to small income generating activities, otherwise known as micro-entrepreneurships. As a result, the poor people become directly involved in the business of manufacturing goods, producing for domestic as well as international markets (Alam and Miyagi 2004).

2.1.2.2 Microcredit in natural resource management

Microcredit is playing a positive role in natural resource management. It is diverting the natural resources dependent rural people to alternative livelihoods. Anderson et al. (2002) argued that microcredit institutions provide loans to the very poor to develop microenterprise activities which help to increase production and consumption activities, and in turn changes the demand on common pool resources and the technology used to extract resources. As mentioned previously, microcredit institutions mainly focus on women, the primary users of common pool resources in developing countries, and thus help to divert them from using common pool resources. Simultaneously, this helps to build ‘human capital’, the sum of the acquired knowledge, skills, and attitudes that an individual possesses. It is an individual characteristic representing years of education, training, and experience, which is then converted into wages and economic benefits in the labor force (Gaughan 2002). Human capital in turn strengthens ‘social capital’ – the social norms, networks of reciprocity and exchange, and relationships of trust that enable people to act collectively (Armitage et al. 2009) – as microcredit employs weekly group meetings and group lending techniques. This social capital creates the scope for collective actions, like community-based management, knowledge sharing and lowering the cost of managing common pool resources (Anderson et al. 2002; Jha and Bawa 2007; Brook et al. 2008).

Considering environmental conservation measures that the microcredit institutions employ directly or indirectly, scholars view it as “green microcredit”, and micro-enterprises developed by green credit are termed as “green micro-enterprises”.

“Green microcredit” is a new concept that refers to small-scale loans to develop micro-enterprises that are environment-friendly. It bears three main key words: “green”, “clean”, and “renewable”. It is assumed that microcredit-based small enterprises (green micro-enterprises) use renewable natural resources and the environment in a sustainable manner for livelihood improvement and diversification (Haque 2006).

2.1.2.3 Microcredit in women empowerment

Microcredit programs are being used as a means to reach the masses of poor women borrowers, making a significant contribution to the alleviation of global poverty and upgrading women’s economic, social, and political empowerment (Mayoux 1998; Hossain and Knight 2008). Evaluations of microcredit in women empowerment have been divided into two parts, with some evaluations claiming extremely positive results and others suggesting that microcredit leave women worse off than before (Kabeer 2001). But different scholars argued differently in setting indicators for evaluating women empowerment. Scholars like Goetz and Sen Gupta (1996) used a five point index of managerial control over loans as their indicator of empowerment. Again, Pitt and Khandker (1995) analyzed the impact of microcredit programs on a number of decision-making outcomes. Hashemi et al. (1996) explored the impact of credit on a number of indicators of empowerment: (i) the reported magnitude of women’s economic contribution, (ii) their mobility in the public domain, (iii) their ability to make large and small purchases, (iv) their ownership of productive assets, including homestead land and cash savings, (v) freedom from family domination, including the ability to make choices concerning how their money was used, a say in decisions relating to the sale of their jewellery or land, or to taking up outside work, (vi) political awareness and participation in various political actions, and (viii) a composite of all these indicators.

Numerous scholars found positive indicators of women empowerment by microcredit involvement. Osmani (2007) found a significant positive effect on women’s bargaining power within the household, as they are contributing to their family income, which immediately raises their self-esteem in the eyes of others. Scholars like Pitt and Khandker (1996), Hashemi et al. (1996), Rahman (1999), Kabeer (2001) and Hossain and Knight (2008) claim to have found supporting evidence for women empowering effects,

especially with respect to income, family decisions, schooling children, health and sanitation, and public dealing. However, Goetz and Sen Gupta (1996), Ackerly (1995), and Montgomery et al. (1996) found contrary effects and doubted that women were really being empowered.

2.2 Community-Based Resource Management

Community-Based Resource Management (CBRM) has become a common strategy for improving management of natural or common pool resources and empowering local communities in the past two decades; a CBRM approach takes into consideration local knowledge, local institutions, and common property regimes (Berkes et al. 1998; Ostrom 1990; Pomeroy and Berkes 1997). Scholars like Kellert et al. (2000) defined CBRM as a commitment to involve community members and local institutions in the management and conservation of natural resources, which defends and legitimizes local indigenous resources and property rights. Community-based management by its nature is participatory. The participation of the local people and incorporation of their views, opinions, and goals must be taken into account when managing resources under a community-based program. The main arguments of community-based management are that communities recognize that they have a long-term need for the resources they use and will manage them for long-term benefits; if communities are involved in conservation and management then the benefits they receive create incentives for them to use and manage resources more sustainably; and that communities have a closer association with the resources they use and therefore possess a great deal of practical knowledge about the resources and the ecosystems associated with them (Agrawal and Gibson 1999).

Nations have legal rights over their natural resources. In developing countries, however, the existing legal framework and political institutions are either non-existent or inefficient at monitoring and controlling access to these natural resources (Posey 1998). Historical evidence shows that communities world-wide have created, maintained, and adapted institutions in order to manage common property resources (Feeney et al. 1990; Ostrom 1990). For the sustenance of these natural resources, sometimes the government hands-over management authority to the local community-based institutions. Community-based institutions remove bureaucracy, thereby addressing the problems

associated with ineffective government management. Community-based resource management also holds the potential to defend and legitimize local property rights. By granting communities the authority to manage specific resources or specific geographic areas, the claim to communal ownership of the resource becomes stronger and more legitimate. In turn, by further legitimizing a community's ownership of resources or a specified region, the community is then presented with greater incentives to manage these resources in a sustainable fashion as opposed to exploiting the resources and maximizing their individual profit over the short-term (Senyk 2006).

Community-based conservation and resource management programs are also perfectly situated to take advantage of local ecological knowledge. Since community-based programs are organized and run by local people, traditional values and local ecological knowledge can be incorporated into the conservation or resource management programs at a fundamental level. While the value of traditional and local ecological knowledge is beginning to gain wider recognition, programs which originate from governments or NGOs tend to rely on scientific knowledge and the opinions of recognized experts. In contrast, when development or conservation programs are implemented by the community, these projects are more likely to incorporate local knowledge as the community members who possess this knowledge are also the people designing the project.

There is some debate currently underway in academic circles about whether or not community-based conservation/management actually works to meet conservation and development goals (Kellert et al. 2000; Barrett 2001). Scholars like Berkes (2004) argued that asking whether community-based conservation works is the wrong question. Sometimes it works and sometimes it does not, but it is more important to learn about the conditions underlying whether it works or not. He also points out that there are a number of interdisciplinary research subfields – such as common property, traditional ecological knowledge, environmental ethics, political ecology, environmental history, and ecological economics – which have made contributions towards understanding the conditions under which community-based management works. These research subfields have yielded lessons for community-based conservation, including: the importance of cross scale conservation, adaptive co-management, the question of incentives and

multiple stakeholders, use of traditional ecological knowledge, and developing a cross-cultural conservation ethic.

2.2.1 Community-based organizations (CBOs) in resource management

Community-Based Organizations (CBOs) are grassroots organizations with broad socio-economic objectives and managed by the members on behalf of the members (Edwards and Hulme 1992). They are perceived as being a representative body of the local community and not necessarily affiliated to a political group. CBOs are often treated as the only organizations that the local poor feel they own, trust, and can rely upon (Datta 2005). These organizations get a majority of the local people involved in their functioning processes, and leadership is created from within; members usually belong to the same socioeconomic class – thus idealized as important bodies for local institutional arrangement. CBOs have been considered as a major tool for Community-Based Resource Management (CBRM) worldwide for a long time. Community-Based Organizations (CBOs) in the *Hakaluki haor* area were created under Community-Based Fisheries Management projects and nurtured throughout the project period so that CBOs could sustain their activities following the exit of the project. In the *Hakaluki haor* area, CNRS formed 14 “NGO-led” CBOs during the CBFM-2 project phase comprised of representatives from different stakeholder groups in order to implement actions to address their common priority needs, particularly in fishery management, and then supporting poorer fishers with livelihood and resources management training and credit.

2.2.2 Fishery resources in Bangladesh

The four million hectares of inland water bodies and floodplains in Bangladesh are among the world’s richest and most complex fisheries. These rivers, *beels* (floodplain depressions usually with perennial water), *baors* (oxbow lakes), *haors* (large deeply flooded depressions), and floodplains support some 260 fish species (Rahman 1989). However, a recent review found that fish consumption fell by 11% between 1995 and 2000, and estimated that inland capture fisheries catches had fallen by 38% between 1995 and 2002 (Muir 2003). Roads, embankments, drainage, flood control, and natural siltation, along with overfishing, are commonly cited as causes of declining fish resources (Ali 1997; Hughes et al. 1994). In Bangladesh, about 44% of the 834 people per km²

have an energy intake of less than 2,122 kcal per person/ day (BBS 2002), and based on income and human poverty indicators some 35–47% of the population were poor in 2000 (GPRB 2005). The incidence of poverty in households dependent on natural resources is much higher than the overall national average (BBS 2002). Fisheries remain an important source of livelihoods and food for the rural poor. About 80% of rural households catch fish for food or sale (Thompson and Hossain 1998). About 60% of animal protein consumption comes from fish, and of this, 80% is from freshwater fish (BBS 2002). Past policies encouraged flood control and drainage (for rice production) and pond aquaculture. Ostensibly both practices have increased national food security – for example, official estimates of fish production increased by 85% between 1991 and 2000 (Muir 2003) – but the reality for the rural poor is more complex. Small fish can still be caught freely by the rural poor in floodplains during the monsoon, whereas farmed fish must be bought. Also, as small fish are eaten whole they are better sources of micronutrients than farmed species (Thilsted et al. 1997; Thompson et al. 2002).

2.2.3 Development of community-based fisheries management in Bangladesh

The fisheries of Bangladesh became state property under the jurisdiction of the Ministry of Land (MOL) after the abolition of the *Zamindari* system through the East Bengal State Acquisition and Tenancy Act in 1950. Over half of Bangladesh comprises floodplains, and the remaining area of about four million hectares of floodplain wetlands form a major capture fishery (Ali 1997) and source of livelihoods for rural people – these wetlands contribute about 46% of all fish consumed (Department of Fisheries 2000). A significant part of the inland fisheries is now divided into 13,003 bodies called *jalmahals* or fishery estates. The MoL continued with the colonial policy of leasing out fishing rights in water bodies to the highest bidder (for 1-3 years) with the intention of raising revenue. Most fisheries have been leased to the highest bidder, preferably to cooperatives. However, in the process of competition, control became concentrated to a handful of rich/influential persons. The lease-holders usually sub-lease to as many fishers as they found to ensure a greater profit than leasing fees (Sultana and Thompson 2000).

Institutional arrangements for better fishery management and for stakeholder participation have also received limited attention in the past. Since the 1980s this has changed, at least on a pilot scale, and initiatives to empower fishing communities and

enable them to make management decisions themselves for sustainable use of these fisheries have moved forward through community-based projects, including the experience reported here. Property rights in these floodplains are complex and are critical to understanding poverty among fishers and approaches to community empowerment and fishery co-management in Bangladesh. Seasonally flooded land is mostly privately owned and cultivated, but during the monsoon in the moderate- to deeply-flooded lands, usually anyone from the surrounding villages (including the poor) can fish provided this does not damage crops. In the dry season, water and fish left stranded in ditches become the property of the ditch owner. However, larger permanent water bodies including rivers and *beels* (depressions in the deeper parts of the floodplain) form the more valuable components of the overall fisheries and are government property divided up into about 12,000 *Jalmahals*. The fishing rights in *Jalmahals* have historically been managed by the Ministry of Land for revenue generation. They have been leased out to the highest bidder for three years; usually this means they are controlled by wealthy and influential lessees who then hire traditional professional fishers to catch fish for them or charge those fishers tolls.

The government of Bangladesh has attempted to reverse this pattern. In the 1970s a preference for leasing *Jalmahals* to fisher cooperatives was established, and from 1986 onwards the New Fisheries Management Policy (NFMP) piloted licensing of individual fishers in about 270 *Jalmahals*. However, these policy changes had little impact since fisher cooperatives tend to be under the patronage of moneylenders and *de facto* lessees who pay for the lease, while the decision on who received licenses was also controlled by the cooperatives and therefore indirectly their patrons (Ahmed et al. 1997). In parallel with these changes in fisheries management, development in related rural sectors has been undergoing similar changes in emphasis, although this has not necessarily been translated into actions yet. For example, the maintenance of remaining wetland areas is now part of the National Water Policy (Habib 1999), although there is a risk of continued small-scale projects draining smaller wetlands. Moreover, participatory planning of water management projects has been part of government policy and practice for several years (FPCO 1993; MWR 2001) and local user committees are supposed to be established within water management projects. In the environment sector there are also pilot projects

for community-based management of wetlands. More generally there is increasing emphasis, mainly from donors, on improved governance, decentralisation, and devolution of power, but reforms have been slow to come (Thompson et al. 2003). This process of community-based fisheries management (CBFM) that was initiated in the mid-1990s in Bangladesh is continuing with the support of NGOs to solve any problems that arise (Ahmad 2003).

2.2.4 Present status of Community-Based Fisheries Management (CBFM) in Bangladesh

Community-Based Fisheries Management (CBFM), as one of many possible forms of co-management, is being increasingly proposed as a suitable fisheries resource management option for Bangladesh, which offers the prospect of relief from some of the more negative aspects of a centralized management system (Berkes et al. 1991; Pomeroy and Williams 1994). As a remedy to problems created by other management arrangements, the focus of CBFM is more on the direct involvement of resource stakeholders in the planning and control of resource use, offering the potential for improving resource sustainability. Furthermore, recent endorsements by International bodies regarding the need for greater support to small-scale fisheries to move towards participatory management provide legitimate grounds on which to convince the country to introduce and implement the CBFM approach, given the scale of employment and income provided by such fisheries and their role in food security. The potential to increase the present fish catch of the country is great if its vast open water areas were to be managed with a participatory approach under the leadership of the DoF. Community-based management of fisheries is expected to result in greater security of access and cooperation leading to enhanced sustainability of the resource, more equitable distribution of benefits, improved conflict resolution among fishers, enhancement of fishers' status in relation to other stakeholders, sharing of information between co-managers, and higher levels of voluntary compliance in Bangladesh (Pinkerton 1989).

The Community-Based Fisheries Management (CBFM) projects in Bangladesh funded by the Ford Foundation (CBFM-1) and the UK Government's Department for International Development (DFID) (CBFM-2) aimed to promote the sustainable use of inland capture fisheries by empowering fishers' communities to manage their own

aquatic resources. The first phase of the Community-Based Fisheries Management (CBFM) project was implemented during 1994-1999. After a two-year gap the community-based fisheries management project phase two (CBFM-2) started in September 2001 and closed in March 2007, and is implemented by the WorldFish Center working with 13 NGO partners and the Department of Fisheries (World- Fish Center 2003). The project aims to develop and test institutional arrangements for improved fisheries management involving the Government of Bangladesh, community-based organisations (CBOs), and fishing communities, and has involved 115 water bodies (rivers, lakes and floodplains). Most water bodies are administered by government, and through the project, fishing rights are reserved for communities represented by their CBOs. Thus, it involves a community-based co-management approach, with decision-making devolved to the CBOs, which are formally recognised and advised by government. Participatory Action Plan Development (PAPD) was used in 18 areas covering 42 water bodies, mainly by the Center for Natural Resources Studies (CNRS), and also by the WorldFish Center working with three other NGOs: *Banchte Shekha*, Caritas, and Efforts for Rural Advancement. After undertaking PAPD, the NGOs formed CBOs comprising representatives of the different stakeholder groups to implement actions to address their common priority needs, particularly in fishery management, and then supported poorer fishers with training and credit. In the other sites (non-PAPD) the NGOs used their own approaches: reconnaissance studies and often some form of Participatory Rural Appraisal to form savings groups among their target population (essentially fishers) who then received training and credit. The NGOs based membership of the CBOs on these groups or their representatives, and helped the CBOs plan fishery management activities, usually without discussion with the wider community (Sultana and Abeysekera 2008). The proposed research site, *Hakaluki haor*, is an area of CBFM-2 project sites in the *Moulavibazar* district. The research will be conducted by partner NGO – CNRS Bangladesh – in three CBOs of that area.

2.3 Social Learning

Resource and environmental managers and decision-makers are increasingly facing problems characterized by high degrees of ecological and social complexity, uncertainty and indeterminacy, and conflicts over values and interests. Moreover, they are often

faced with the need to generate positive change in dynamic social-ecological systems (Berkes et al. 2003; Funtowicz and Ravetz 1993; Gunderson and Holling 2001; Mitchell 2004). Addressing these complexities of socio-cultural systems and sustainable natural resource management, managers, practitioners and theoreticians widely rely on ‘social learning’ (Schusler et al. 2003; Diduck, 2004; Folke et al. 2005; Keen et al. 2005; Muro and Jeffrey 2008). Miller and Dollard (1941) first defined ‘social learning’ as an institutional process that evolves as individuals observe the behaviour of others, transform it into cognitive representations, and execute the behaviour if it is associated with benefits, rewards or any incentives. Armitage et al. (2009) viewed ‘social learning’ as the collaborative or mutual development and sharing of knowledge by multiple stakeholders through ‘learning by doing’. It is an interactive approach to decision-making and problem solving (Woodhill 2004).

Interest in social learning is new in Bangladesh. In many countries however, has taken hold in resource and environmental governance. Scholars from the domains of human resources and knowledge management have extended the sphere of application for social learning beyond the psychological level to investigate how groups and social organizations learn through interaction and collaboration (Davis and Witte 1996; Baron et al. 2003). Many scholars explored evidences of social learning in collaborative participation and group actions where individuals meet, interact, share ideas, learn collectively and make collective decisions. They adjust the management approaches and change perceptions accordingly in natural resources management (Keen et al. 2005; Steyaert et al. 2007; Muro and Jeffrey 2008; Sims and Sinclair 2008; Marschke and Sinclair 2009). Marschke and Sinclair (2009) defined this learning as ‘instrumental learning’, i.e. learning pertaining to controlling or manipulating the environment or people and which provides competence in coping with natural variables.

Chapter Three



Plate 5: Researcher conducting a household interview



Plate 6: Researcher with participants in the result sharing workshop

Chapter Three

Study Area, Household Profile and Methods

3.1 Introduction

The management system of the largest freshwater wetland of Bangladesh, *Hakaluki haor*, is very complex due to active involvement of multi-stakeholders, cross-scale government, and non-government organizations as well as different management regimes over time for different interests. It undergoes top-down, command and control, restricted leasing, and community-based management approaches from its pre-colonial British era to present (Khan and Haque 2010). But, fisher community empowerment and involvement in management of *Hakaluki haor* resources were started in the CBFM-1 project phase (1994-1999) and were continued by several government projects funded by donors and supported by different NGOs. Different projects formed different CBOs and development initiatives. My research analyzed the role of microcredit in improving household economy, livelihood diversification, and social empowerment. I assessed the post-project sustainability and organizing capability of CBOs developed by the CBFM-2 project, and finally explored the social learning through microcredit institutions, project interventions, and community-based fisheries management.

This chapter explains the approach and methods applied in this case study to undertake the investigation and to address my research objectives. It describes the significance and usefulness of various research methods in order to justify the application of the methodology for collecting the data and information required for the research. Later, I discuss the detailed research methods, including the field research techniques and sources of data, and then the data analysis process and mini-workshop for verification. I also outline several fundamental and specific research questions which guided the study and addressed the objectives. This chapter also describes the social settings of my study site, *Hakaluki haor* – especially household profiles – to understand the socio-economic aspects of the local people. Finally, a research timetable with the research phases is presented.

3.2 Study Area and Justification for its selection

3.2.1 Regional context: Bangladesh

Bangladesh is a South Asian country located between latitude 20° 34' and 26° 39' north and longitude 80° 41' and 92° 41' east. It is bordered by India to the west, north, and northeast, Myanmar to the southeast, and the Bay of Bengal to the south. It is a small riverine developing country which covers an area of 144 thousand square kilometers (Hossain et al. 2006) with a population of 160 million in 2009 (Wikipedia 2010).

Bangladesh is the home ground of microcredit development and implementation. It is used as a major tool for poverty alleviation, livelihood diversification, socio-economic development, self-employment, and women empowerment in Bangladesh. Several international, national, and local NGOs are providing loans to the poorest women to engage them in productive wage earning. Many environmental NGOs also provide loans to create alternative livelihoods for the natural resource-dependent people in order to save the natural resources and for environmental conservation in Bangladesh.

The four million hectares of inland water bodies and floodplains in Bangladesh are among the world's richest and most complex fisheries. In recent times, man-made stresses have pushed the system to the limit of its ability to cope with the overwhelming pressure of fishing by an increasing population. Fish habitats have either been destroyed or reduced and, as a result, fish production and species diversity of wetlands has decreased. To restore the fish habitats and sustainable production 1000 water bodies are currently managed by cooperatives (Ahmed et al. 1997). In continuation of this management process the Community-Based Fisheries Management Phase-2 (CBFM-2) project was developed, and it was implemented jointly by CNRS, local partner NGOs, World Fish Center, and the Government of Bangladesh Department of Fisheries (DoF) from September 2001 to August 2006 with the financial support of the Department For International Development (DFID), UK. The CBFM-2 project was developed to improve the livelihoods of poor people dependent on aquatic resources by developing, testing, and assessing arrangements of user-based (community- and group-based) fisheries management across the diversity of inland fisheries in Bangladesh.

3.2.2 Local Context: Study site *Hakaluki haor*

Hakaluki haor, the largest inland freshwater wetland ecosystem in Bangladesh, is located in the north-eastern part of the country. It is a complex ecosystem, containing more than 238 interconnecting *beels/Jalmahals* (CWBMP 2005; Khan and Haque 2010) with an area of 18,383 ha (45,406 acres) (CNRS 2002). Administratively, *Hakaluki haor* falls under the jurisdiction of two Districts (Moulvibazar and Sylhet) and five *Upazilas* (sub-districts) – *Kulaura, Barlekha, Fenchugonj, Juri, and Golapgonj* (Khan and Haque 2010). There are various types of water bodies (seasonal, perennial, large, and small) within the *Hakaluki* wetland. *Hakaluki haor* was an integral part of the CBFM-2 project. In the process of such community-participated fisheries management, Community-Based Organizations (CBOs) were created and nurtured throughout the project period so that they could sustain their activities following the exit of the project. Based on the practical situations, CBOs may fall under several categories: (i) demographic (a caste-based Hindu CBO vs. a Muslim CBO), (ii) type of water body (CBOs representing either seasonal and perennial water bodies), (iii) different phases of the project (CBOs in CBFM-2), and (iv) gender angle (male vs. female dominated CBOs).

Hakaluki haor once was rich in wildlife and aquatic resources and covered with swamp forest, but in recent times has become a fast-degraded landscape and is facing increased pressure and threats (Choudhury and Faisal 2005). Such rapid degradation of the wetland ecology is causing devastating consequences on the community people living in, around, and downstream of the *Hakaluki haor*, who, for generations have depended upon the vital functions, services, and benefits of this wetland for their livelihoods. About 200,000 people live around the *haor* (Choudhury and Faisal 2005). All of them, more or less, are dependent on the resources of the *haor* for their livelihoods. As the *haor* floods annually, settlements are clustered along its slightly raised fringes. Due to such threats and rapid degradation of the resources and in recognition of the urgent need to protect the unique ecology and biodiversity of the *haor*, the Government of Bangladesh has declared *Hakaluki haor* as an "Ecologically Critical Area" (ECA) under the provision of the Bangladesh Environment Conservation Act (BECA) in 1999 (CNRS 2002). Fisheries and agriculture are the two major livelihoods for local people living in and around the ECA (CNRS 2002).



Figure 3.1: Location of CBOs in *Hakaluki haor* area
(Source: CNRS, 2009)

Primary stakeholders of the resources of the *haor* are farmers, fishers, and collectors of resources from the *haor* like aquatic vegetation, cow fodder, aquatic animals and medicinal plants. The *Hakaluki haor* ecosystem supports at least 73 species of wetland vegetation, which is nearly half of the national total of 158 species of vegetation (Choudhury and Faisal 2005). *Hakaluki haor* is a critical habitat and breeding ground for fish and other aquatic species and is considered as one of the four major "mother

fisheries" in Bangladesh. More than 100 fish species are available in the Haor, one third of which are listed as endangered (Choudhury and Faisal 2005). The *Hakaluki haor* wetland has been subject to severe degradation and loss, and this significant decline in resources has affected the livelihoods of those dependent on the wetlands.

3.3 Household profile and livelihoods of the Study Area

The villages that I studied – *Boromaidan*, *Pabijuri*, and *Murshibadkura* – falls under the *Baralekha upazila* (sub-district) under the jurisdiction of the *Moulvibazar* district of Bangladesh. *Baralekha upazila* has 12 unions (village-level administrative unit) and 320 villages comprised of 33,006 households, the total population is 233,720, and the literacy rate is 34.6% (BBS 2010). To explore the role of microcredit in livelihood improvement and income generation I selected three women groups, as only women were eligible to get loan from CNRS. As a result, all of my respondents in the household survey were women. Most of the respondents (33%) were within the age class of 41-50 years and only 7% were from the 60+ age class. The reason why the 41-50 years age class was the dominant one is because NGOs favored providing loans to more rooted and stable recipients in the village. Moreover, 27% and 20% of respondents were within the age classes 21-30 and 51-60 years respectively (Figure 3.2).

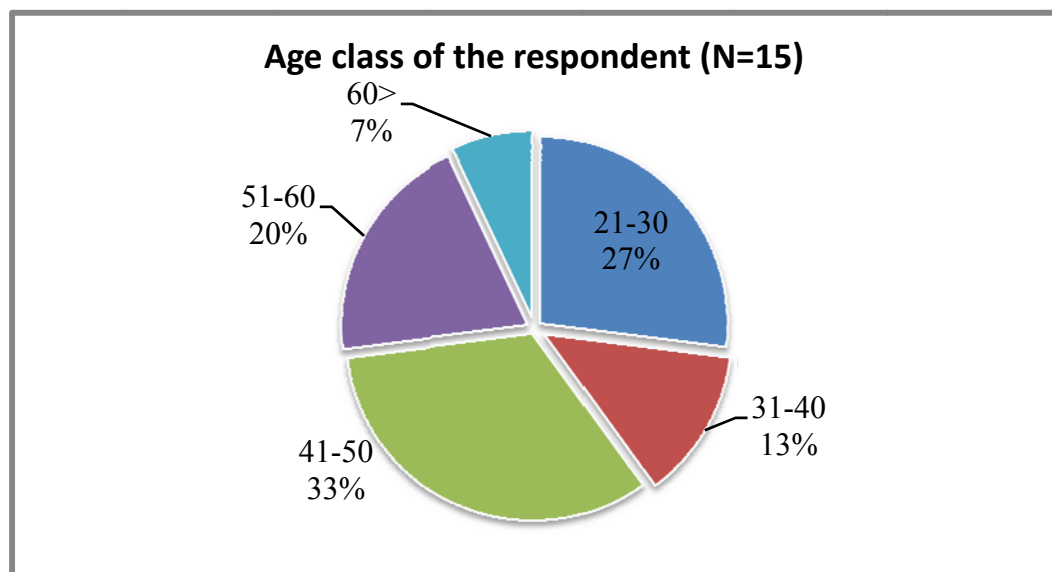


Figure 3.2 Age class of the respondent

Both Hindu and Muslim communities were found in my study. Most (60%) of the women were Muslim and rest (40%) were Hindu (Figure 3.3).

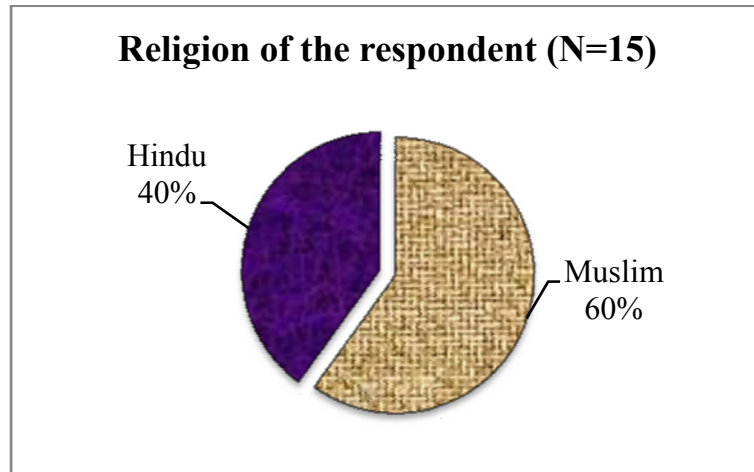


Figure 3.3 Religion of the respondent

After analyzing the occupations of the respondents, I found most of the women (67%) were housewives (this reflects the traditional occupation of most women in Bangladesh) and 27% were engaged in small-scale cottage industries (Figure 3.4). All women engaged in small-scale cottage industries were found in the village *Pabijuri* which is surrounded by *haor* and a good source of raw materials, especially *Pati pata*.

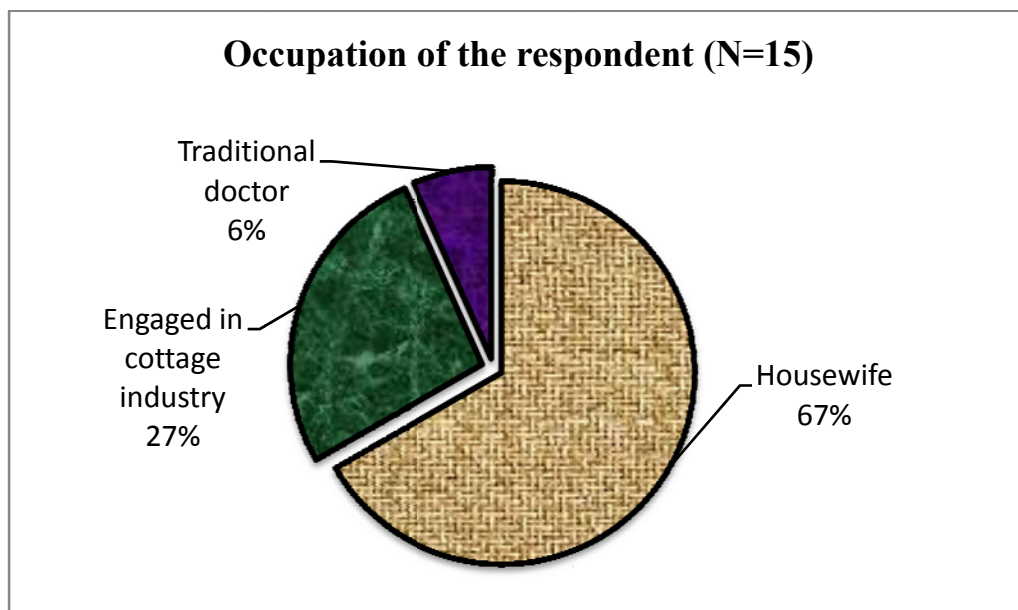


Figure 3.4 Occupation of the respondent

Households (15) that I studied in three villages of *Hakaluki haor* were found to be female-dominant with an average family size of 5.67 and males comprising 47.67% (41), and females comprising 52.33% (45) of households. This shows more population growth and unawareness of family planning and birth control among the members of the society. Another main reason I found for the huge population growth is poor educational status of the females. 60% respondents were illiterate (i.e. do not know how to write their names) and only 13% and 27% passed the secondary and primary education levels, respectively (Figure 3.5). It is believed in the traditional Bangladeshi society that female education is the base of their family and future generation's education, because family is the best institution for early education. A low rate of female education has profound impacts on household literacy, resources management, health and sanitation, population growth, and income generation. From analyzing the educational status of households' family members, it was evident that 45% were past their primary level (basically the young members of the households), 34% were illiterate, and only 1% had a graduate and post-graduate degree (Figure 3.6). I found only one family out of 15 who were all educated and had graduate and post-graduate level education.

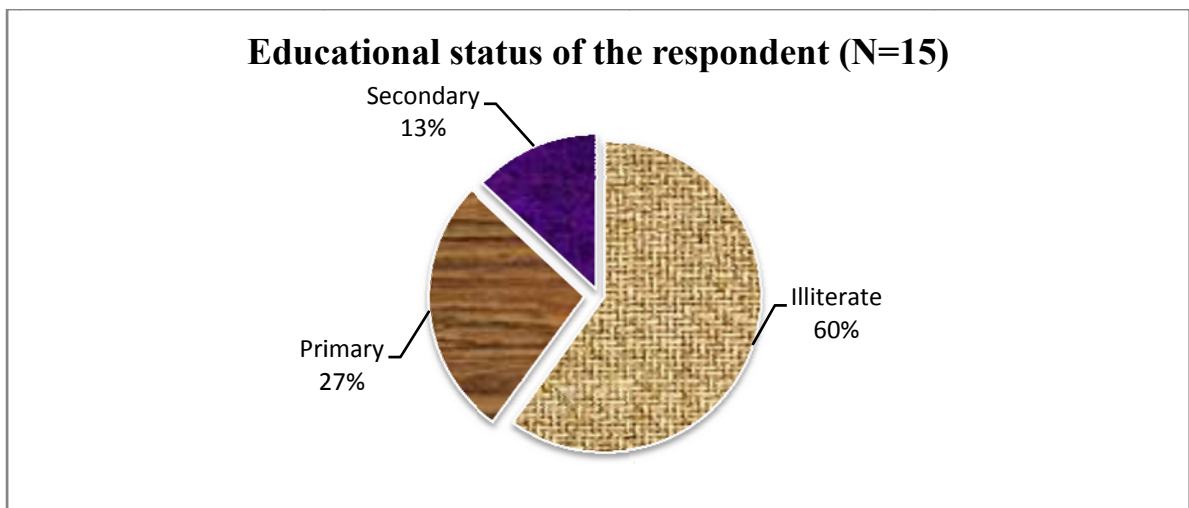


Figure 3.5 Educational status of the respondent

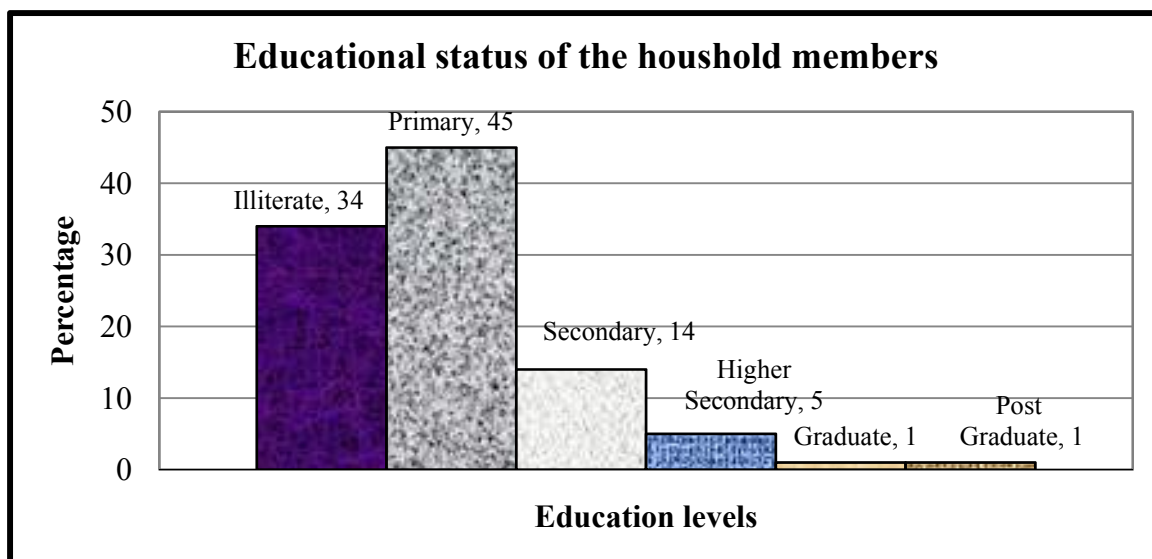


Figure 3.6 Educational status of the household members

I found very poor housing conditions in the households that I studied. Most of the households (33%) were made of *sungrass* (as thatching material) and mud (as wall), and 27% were made of tin (CI sheet) and bamboo. Only 20% of households were made of *sungrass* and bamboo and were semi-buildings (roof is made of CI sheet and wall is from brick) (Figure 3.7). Very poor housing conditions reflect the very poor economic conditions of the households.



Plate 7: A women with her hand-made fishing gear

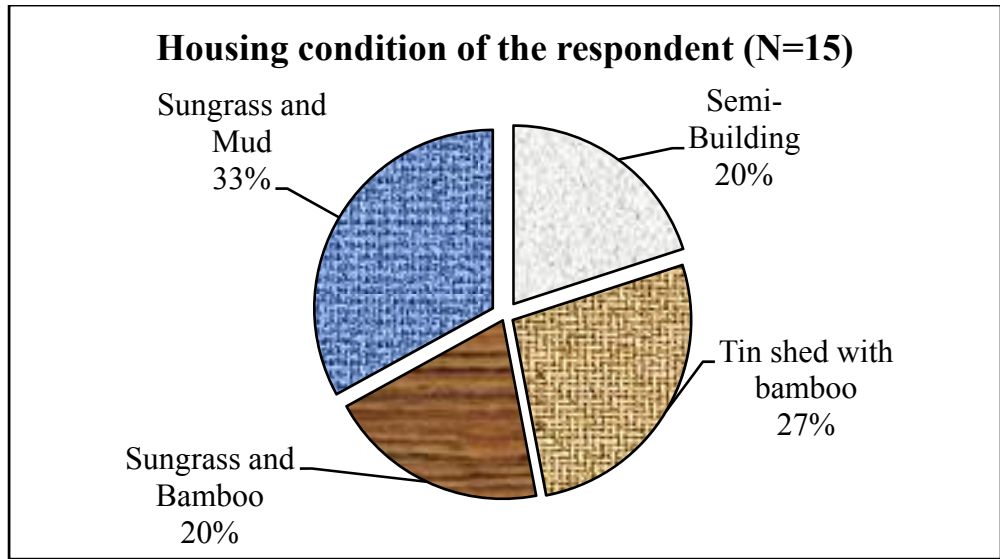


Figure 3.7 Housing condition of the respondent



Plate 8: A microcredit women group member with her house

3.4 Detailed Methodology

A qualitative research approach (Nelson 1991) was followed in this case study supplemented by quantitative data as required. Several Participatory Rural Appraisal (PRA) tools such as interviews (with semi-structured questionnaires) (Angrosino 2002), key informant interviews, focus group discussions (Morgan et al. 2008), and mini-workshops were used to pursue the research objectives. PRA has been considered very appropriate for its primary goal of promoting real participation and empowerment of people. The methods for data collection were used based on their adaptability to the PRA approach, the complexity of the CBOs, and the research objectives. With an interest in promoting real participation, trying to understand a complex socio-economic system, and extreme relevance of the local people in building this knowledge, research took place in the community. Serious efforts were made to involve and have close contact with persons involved directly and indirectly with CBOs and microcredit. Here, I will describe other aspects of the research such as the way data was verified, the role of the researcher, and the activities involved in each of the phases of the research project.

3.4.1 Participatory Rural Appraisal (PRA)

PRA is one of the important approaches and methods most used in rural development. It has been defined as a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions and to plan and act (Chambers 1994). It is more than the provision of a number of techniques to apply in promoting rural development. Its ultimate goal is the promotion of real participation and empowerment of the people. The techniques that are commonly used in PRA are semi-structured interviews, focus group discussions, participant observation, diagramming and visualizations, ranking and scoring exercises, oral histories, ethnobiographies, seasonal calendars, and structured interviews, etc. The PRA approach involves research controlled by participants, therefore community members rather than academics drive the research process.

The research conducted in this study had some pre-established objectives and suggested methodologies to achieve them. Support and assistance of this research was obtained from a locally active non-government organization – the ‘Center for Natural Resource Studies’ (CNRS), Bangladesh. CNRS is a partner of the UM-CIDA Tier 2

UPCD Program project entitled “Building environmental governance capacity in Bangladesh”. To achieve real participation and empower the local people by facilitating a process useful to them, the researcher consulted with the CNRS and Fisheries personnel to select the right kind of women groups, CBOs, and their participants. The researcher then verified the pros and cons of the women groups and CBOs in the context of the research objectives. The description of *Hakaluki haor*, women groups, and CBOs indicated that the local people have a long-standing process of participation, microcredit facilities, and empowerment taking place, which leads institutional capacity building of that area. Based on local socio-economic conditions and local informal organizations, the researcher considered semi-structured interviews or dialogs, focus group discussions, key informant interviews, mini-workshops, and secondary sources of data to be the most appropriate techniques to use for this research. The adoption of more than one technique made it possible to reach as many diverse participants as possible, to be flexible to the conditions present in the field, and to verify information through triangulation.

3.4.2 Data Collection Procedures

The primary actions of this research involved holding meetings with the CNRS officials, women group, CBOs members, and stakeholders of microcredit to receive their inputs on the research objectives, to verify the way research was to be conducted, to identify how and when the research outcomes were to be shared, and most importantly to receive their approval to conduct the research.

3.4.3 Semi-structured interviews

In research, sensitive and thoughtful interviewing yields fruitful results and understanding. According to Pretty et al. (1995), semi-structured interviewing is a guided conversation in which only the topics are predetermined and new questions or insights arise as a result of the discussion and visualized analysis. In semi-structured interviews the context, the participants, the way the interview is conducted, and when it takes place are as important as the questions themselves.

To conduct semi-structured interviews researchers need to be self-critical, aware of biases, open, and a good listener and observer. They also need prior preparation, the use of an interview guide or checklist, use of different visual tools to encourage

participation and dialog, to be an attentive listener and humble, to assess and judge responses, and to record responses and observations (Pretty et al. 1995). I used semi-structured interviews in household interviews, key informants interviews, and focus group discussions. In household interviews, I selected three women's groups purposively in three different villages (*Boromoidan, Pabijuri, and Murshibadkura*) formed by CNRS for microcredit operation; I interviewed five households from each women's group twice and at two and a half months apart. Sampling was done purposively.

3.4.4 Focus Group Discussions

Discussion with the local people and stakeholders, acting the researcher as a facilitator is considered important technique for data collection. Focus group interviewing is a strategy that aims to generate discussion and interaction within small groups of local people. Normally, these groups range in size from six to twelve individuals. Through discussions, the researcher attempts to learn about conscious, semiconscious, and unconscious psychological and socio-cultural characteristics and processes within groups. These focus group discussions are different from the consultation and other discussion meetings that the researcher facilitates throughout the research process (especially at the beginning and ending). The participants primarily share their experiences and information with the researcher.

Grenier (1998) mentioned that the truthfulness of the information and the speed of generation are higher when they come from groups. It also helps to identify key knowledgeable persons and explore the limitations provided by the power relationships among participants. Focus Group Discussions were considered an adequate technique to use in women's groups and CBOs. The structure and management activities of the women's groups and CBOs made it particularly relevant to hold discussions with the stakeholders involved in the CBOs. I did three focus group discussions in three different CBOs from three different villages of the *Hakaluki haor* area; both women from the microcredit group and members of CBOs were present in each focus group discussion. All CBOs were selected purposively.

3.4.5 Key informant interviews

Key informant interviews are qualitative in-depth interviews with people who know what is going on in the community. The purpose of key informant interviews was to collect information from a wide range of people including community leaders, professionals, or residents who have firsthand knowledge about the community. These community experts, with their particular knowledge and understanding, can provide insight on the nature of problems and give recommendations for solutions. Before selecting key informants it is important to map out the population of interest, or target population. This target population could include all community residents living in a particular area, or could be a particular portion or group within that geographical region (such as a racial/ethnic minority, adolescents, or women). Once the researcher identifies the target population he can better brainstorm possible key informants who are knowledgeable and closely linked to the research interest.

This technique was very appropriate in my study to understand the motivation and beliefs of community residents on a particular issue, to get information from people with diverse backgrounds and opinions, and be able to ask in-depth and probing questions. I did ten key informant interviews with a semi-structured questionnaire; this helped me to get more candid or in-depth answers because sometimes the focus group dynamic prohibited me from candidly discussing sensitive topics or getting the depth of information I needed. Sometimes the group dynamic can prevent some participants from frankly voicing their opinions about sensitive topics. Therefore, I obtained their in-depth ideas, solutions, and overall opinions regarding sensitive topics and problems associated with microcredit operation, CBOs operations, sustainability, and organizational capability.

3.4.6 In-depth case study

Case study is an important tool to explore the success and failure of a mechanism, institution, or organization. I did seven case studies to analyze the role (both success and failure) of microcredit at the household level and CBOs' (formed by CBFM-2) organization and sustainability. A case study portrays the reality of a society.

3.4.7 Mini-workshop

Mini-workshops are a common educational format for transmitting information with active participation of the target population. The researcher aims to provide to the community a primary report of the research outcomes in their preferred form of presentation; this could be by holding meetings or by mini-workshops, both of which would be useful in the analysis and verification of data. I arranged one mini-workshop, with the help of CNRS, women's groups, and CBOs members, to verify my data and disseminate research findings to the targeted community.

3.4.8 Secondary data sources

Collection of data from secondary sources is also important in research. Government agencies, Non-Government Organizations (NGOs), and researchers have documented the activities and other related processes in the CBOs of *Hakaluki hoar* wetland areas in the form of project reports, evaluation reports, and research papers. Several books, libraries, reports, and the internet were used as a source of secondary data. Data gathered from secondary sources helped to write the thesis and supplement the research outcomes.

3.4.9 Research plan

The research was conducted over a period of four months from June to September 2009. The research was conducted in 3 phases: 1) Scoping and learning-gathering, 2) In-depth field work, and 3) Verification and workshops.

Phase 1: Scoping and learning-gathering (first 15 days in June 2009)

Discussions were carried out with the CNRS and Fisheries personnel to select the right kind of CBOs and women microcredit groups. I then verified the pros and cons of the proposed CBOs and women groups in the context of the research objectives. I tried to identify potential key informants and had discussions with them. I also gathered and reviewed secondary data from the different sources available.

Phase 2: In-depth field investigation (three months mid of June to end of September 2009)

After becoming intimate with the community, I started in-depth investigations on the case study using participatory techniques. The main surveys were done with women

holding loans and CBO members. I asked many background questions to CNRS personnel and Fisheries Division personnel. In addition to this I carried out 15 household-level surveys with the loan-holder (member of women microcredit group) of the respective households. The purpose of the surveys was to understand the households' use of microcredit and livelihoods benefits. The survey was repeated twice, once at the beginning at the study and once after two and a half months, using the same households. The sample size was five households who have used "microcredit", that is households who had borrowed money to carry out activities related to resource management, environmental restoration, and other activities directly improving livelihoods.

Phase 3: Validation, workshop and documentation (at the end of September 2009)

A mini-workshop was organized with the active participation of women from women's microcredit groups, CBO members, and CNRS field staff to inform them about primary findings of my research, to validate the information, and also to seek feedback from different stakeholders.

3.4.10 Data analysis and report writing

I analyzed the data and information using different software like Microsoft Excel and Microsoft Word, and categorized data in the light of research objectives.

Chapter Four



Plate 9: Microcredit women group weekly meeting



Plate 10: A loan holder bought cow and goats for rearing

Chapter Four

Assessing the role of microcredit

“We had no money to do something when my husband came back home from Kuwait during the Gulf War 1991. We were passing our days living from hand to mouth, but it was changed when I got loan from CNRS in 2005. I invested my first loan to my husband’s pharmacy (Homeopathy) to buy medicine. He was a homeopath doctor (traditional) and practiced well. I also learnt from him and started practicing at home. After that, my family members are doing well and my children are regular in school. I invested most of my loans (Tk.35,000) in his pharmacy. Now in 2009, we are very happy, gross family income increased several times (Tk. 8,000 to Tk. 40,000/ Yr.) and we’re planning to settle in town for better life...”

Gouri Rani Biswash, 45, President,
Murshibadkura Mohila Samitee, Hakaluki haor

4.1 Introduction

The above quote tells the role of microcredit in household economy and poverty alleviation in Bangladesh. Microcredit is essentially the dispersion of small collateral-free loans to groups of jointly liable borrowers (mostly women) in order to foster income-generating activities and poverty reduction through enhancing self-employment (Chowdhury et al. 2005; United Nations 2010). Microcredit programs, aimed at the poor in rural communities in Bangladesh, have come to occupy a central place in poverty alleviation (Chowdhury et al 2005; Ahlin and Jiang 2008; Barboza and Trejos 2009; Kotir and Obeng-Odoom 2009), economic and social development (Mallick 2002; Ahlin and Jiang 2008), women empowerment (Hashemi et al. 1996; Mayoux 1998; Kabeer 2001; Chowdhury et al 2005; Omorodion 2007; Kotir and Obeng-Odoom 2009) and household livelihood diversification (Omorodion 2007; Hossain and Knight 2008; Kotir and Obeng-Odoom 2009; Ray-Bennett 2010).

The objective of this chapter is to examine the role of microcredit in the livelihoods of the floodplain fishers. It is evident from the study that livelihood improvement largely depends upon the selection of a viable project and wise use of the credit money. This chapter begins with the characteristics of a microcredit loaners followed by issues such as uses of credit money, preference of microcredit over other sources, impacts of microcredit in households’ monthly income, and problems faced by

the borrowers in repaying their installments. I focused on the demographic structure of the studied community and problems in multiple borrowing (taking loans from different money-lending organizations and local money-lenders at the same time). Here, I also discussed the relationship between women, microcredit, and *haor*-based natural resource management as well as the issue of capacity building and the need to shift from the conventional form of microcredit to green microcredit.

4.2 The users and the uses of microcredit

Microcredit, extending much-needed small loans for income-generating activities to the poor predominantly in developing countries of the world, is viewed as a major tool for rural economic growth, community empowerment, and development (Hashemi et al. 1996; Anderson et al. 2002). The utilization of the borrowed money depends upon several factors which include the selected project, owner's family decision, level of needs, and efficiency in uses and consequent success in income generation. All the microcredit lending Non-Government Organizations (NGOs) including the Center for Natural Resources Studies (CNRS) approve small loans (Tk. 3000 to 7000 for 1st loan) to individual members of the group for investment in productive activities. Borrowers must invest their loans themselves within a few days of loan acceptance and start their installments payment on the second week either from their household income or profit earned from their investment. Many microcredit institutions like Grameen bank and CNRS supervise the borrowers' use of loans in income-generating activities.

4.2.1 Who is getting microcredit?

Microcredit is the sustainable supply of small-scale financial services such as credit, savings accounts, and insurance to poor rural landless, disadvantaged women, marginal farmers, and wage laborers, all of whom largely depend on selling their labor for living (United Nations, 2005). Worldwide, microcredit programs have come to occupy a central place in providing financial resources to the poor, i.e. the poverty-stricken borrowers who are unable to obtain any access to credit (Grameen Bank 2008b; 2008c). Microcredit, as an innovative technique was initially developed by Dr. Muhammad Yunus, founder of the Grameen Bank in Bangladesh. Dr. Yunus established the Grameen Bank in 1983, and this

model of microcredit has been adopted in almost 70 countries worldwide (Hossain and Knight 2008). From its inception, Grameen Bank provided microcredit loans for both men and women, but since the mid-1980s it has been focusing primarily on women (Rahman 1999). Now, most of the microcredit programs and all money-lending NGOs in Bangladesh target women, based on the view that they are more likely than men to be credit-constrained, have restricted access to the wage labor market, and have an inequitable share of power in household decision-making. They are also subject of good credit risk. For example, Pitt and Khandker (1998) found that the flow of consumption expenditure increases 18 taka for every 100 taka borrowed by women, but only 11 taka for every 100 taka borrowed by men. The majority of rural women are not only poor but also caught between two very different domains: one determined by their socio-cultural condition that confines their activities inside homesteads and the other shaped by increasing landlessness and poverty that force them outside into wage employment (Sultana and Thompson 2008).

Many scholars describe differently why only women are getting microcredit. Rahman (1999) argued that women's contribution to their family welfare is greater than men. The hypothesis is that women's priority is to invest their earnings in their children rather than spending much on household necessities. Arguably, lending to women and increasing their earning brings more qualitative benefits to family welfare than the earning of men. It is also evident that lending to women is perceived as an effective way to assist poor women in attaining their socio-economic empowerment in the larger society (Yunus 1994). Rahman (1999) mentioned two types of transcripts for targeting women in the microcredit program – one is public transcript and another is hidden transcript. The public transcript is based on two major objectives: (i) to give women access to credit for increasing their earning capabilities and bringing faster improvements in the household socio-economic conditions and (ii) to organize women into groups for raising their collective consciousness, strengthening their group solidarity through weekly meetings, and assisting them in attaining a greater socio-economic empowerment in society. The hidden transcript is reflective of bitter experience with men in loan recovery. The NGOs that dealt with male borrowers previously claimed that it was very difficult to

work with male borrowers, they were not regular in meeting, they were arrogant, and they usually argued with bank workers – sometimes threatening them.

In my study area, CNRS is providing loans to the women as per the Grameen bank model except for the interest rate. CNRS is an environment-activist NGO working for the sustainable use of natural resources and environmental conservation in the *Hakaluki haor* area. CNRS targets women for their general loans assuming that women are the primary user of the natural resources. It targets those households who are interested in sustainable natural resource management, especially those who participate in the Community Based Organizations (CBOs) and are involved in CNRS activities. The other notion of targeting women is that creation of alternative income-generating activities, generation of awareness about the resource uses, and socio-economic empowerment of the disadvantaged women in the *Hakaluki haor* area may ultimately reduce the pressure and dependence upon natural resources use.

4.2.2 Who uses the loans?

In the study villages, women receive loans at the bank or office of the microcredit institutions (like CNRS), but the decision of using the loans largely depends upon the male member of the family (husband or sons) (See Figure 4.1). Women borrowers bring loans to their household economy and household members use the loans according to the household priorities (Rahman 1999). In rural Bangladesh the household operates as a cooperative unit and pouring women's loan into this unit makes it difficult to provide an exact account of the real users of loan (Sen 1990; Rahman 1999).

From the study, it is evident that the household head controls and decides how to use the loans. Figure 4.1 shows that men (husband and son together) are users of more than 64% of women's loans, while the borrower women themselves can exclusively decide only in 17% of cases – interestingly most of these self-decidors were widows. At the initial level of microcredit operation by NGOs and government, almost all women's loans were controlled by the male member of their family (Goetz and Sen Gupta 1996). Rahman (1999) also found similar results in his study where more than 60% of loan users were men.

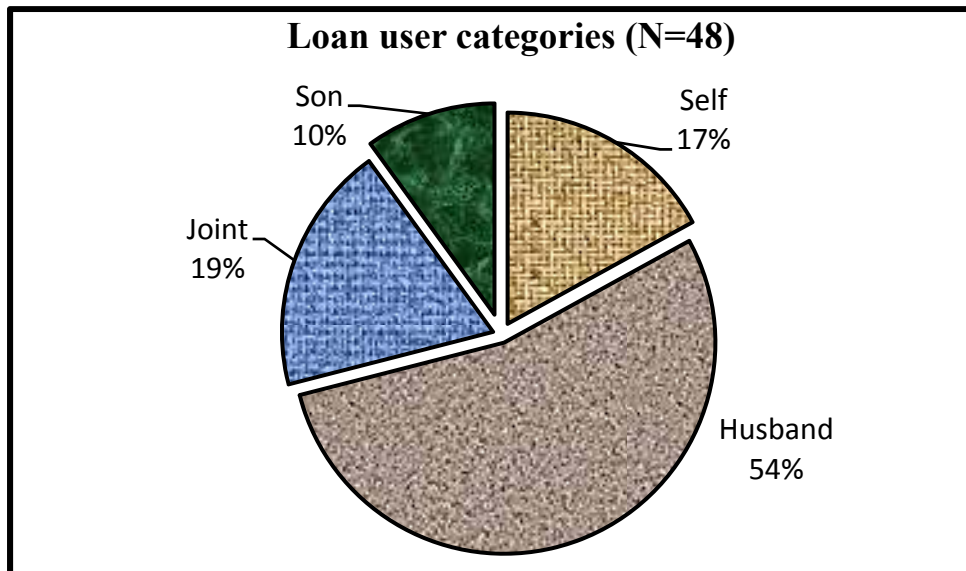


Figure 4.1: Women's loan users

4.2.3 Patterns of the uses of loan

In general, microcredit loans are used for productive and green purposes. Hashemi et al. (1996) and Goetz and Sen Gupta (1996) found several uses of credit loans such as poultry, sericulture, fish culture, livestock and milching cow rearing, homestead cultivation, paddy cultivation, paddy husking, house repairing, leasing and buying paddy lands, and buying boats and rickshaws. In the study villages, borrowers use their loans in individual's household economic necessity rather than project purposes. I recorded 25 purposes of loan use and categorized them into two categories: (i) General purposes (G) and (ii) Productive and Green purposes (PG) (Table 4.1).

4.2.3.1 General purpose loans

The general purpose category includes investing money in small business – stationary shops, tea stalls, vegetable shops, pharmacies (Homeopathy), fish business – as well as in the repair or construction of houses, leasing or buying paddy land, medical treatment, marriage ceremony of daughters, sending sons to middle-east for wage-earning, small scale cottage industry, house hold consumption, and educating children.

Table 4.1: Households loan amount and purposes of uses

HHs code	Loans (Taka)						Purposes
	1 st	2 nd	3 rd	4 th	5 th	6 th	
B1	6000	6000	-	-	-	-	1. Buying fishing net- PG 2. Buying small fishing boat- PG
B2	6000	6000	8000	-	-	-	1. Invest in small-scale fishing business- G
B3	5000	6000	8000	-	-	-	1. Buying fishing net- PG 2. Buying small fishing boat- PG 3. Invest in small-scale fishing business- G
B4	5000	6000	-	-	-	-	1. Invest in fisher group to buy large fishing net and boat- PG
B5	5000	6000	10,000	10,000	-	-	1. Buying fishing net- PG 2. Invest in small-scale fishing business- G 3. Leasing agricultural field and fish pond - PG 4. Sending son to middle-east for Wage-earning- G
M1	5000	6000	9000	15,000	-	-	1. Invest in pharmacy (homeopathy)- G 2. Invest in fish culture- PG 3. Sending son to middle-east for Wage-earning- G 4. Spend for the education of children- G
M2	5000	6000	7000	-	-	-	1. Invest in fisher group to buy large fishing net and boat- PG 2. Paid loans in grocery shop- G 3. Repairing house- G
M3	3000	5000	6000	8000	10,000	-	1. Buying fishing instruments (fishing baskets, traps and threads)- PG 2. Buying small fishing boat- PG 3. Buying <i>pati-pata</i> (<i>Clinogyne dichotoma</i>) for weaving <i>pati</i> (mat made of natural fibers)- PG and medical treatment- G 4. Buying cow for rearing- PG 5. Buying goats, ducks and hens - PG
M4	6000	7000	-	-	-	-	1. Buying small fishing net and boat- PG 2. Buying a cow- PG
M5	3000	5000	6000	7000	-	-	1. Invest in small departmental

							store- G 2. Buying cow- PG 3. Buying fishing boat- PG 4. Spent in daughter's marriage- G
N1	3000	4000	5000	8000	10,000	15,000	1. Invest in vegetable shop in local market- G 2. Leased agricultural land and vegetable gardens- PG 3. Buying saplings for plantation- PG 4. Buying cow and goats- PG 5. Spent for house repairing- G 6. Buying paddy field- PG
N2	3000	5000	-	-	-	-	1. Invest in small tea stall in local market- G 2. Buying <i>pati-pata</i> and spent in paddy cultivation- PG
N3	3000	5000	8000	-	-	-	1. Buying <i>pati-pata</i> - PG 2. Invest in small-scale <i>pati</i> business- G 3. Leased agricultural land for paddy cultivation- PG
N4	5000	6000	-	-	-	-	1. Invest in small-scale fish business- G 2. Buying small fishing net and old small fishing boat - PG
N5	5000	6000	8000	-	-	-	1. Buying small fishing boat- PG 2. Invest in fish business- PG 3. Buying a cow for rearing- PG

Note: **G** = General purpose, **PG** = Productive and Green purpose

From the research, I found that in the general category, 60% of borrowers (households) used loans for small business (which includes 12 of the 25 uses in the general category), followed by 13% using the loans for repairing their houses and sending their sons to the middle-east for wage-earning (Table 4.1). In the study area, borrowers qualified for and received multiple loans from CNRS and used these loans for different purposes under both the general, and productive and green purpose categories. For example household B5 (Table 4.1) received four loans from CNRS and used two loans each for general purposes (small business and sending son to the middle-east) and two for productive and green purposes (buying fishing nets, leasing agricultural land and fish pond).

4.2.3.2 Productive and green purpose loans

Productive and green purposes include projects that produce vegetables, necessary goods and services, use renewable natural resources and the environment in a sustainable manner for livelihood improvement and diversification, and income generation. In my study I found 13 purposes out of 25 which were considered productive and green. Those included: planting saplings in the home garden or *khash* land; organic vegetable gardening without using any pesticides or insecticides; rearing livestock (cows, goat, hens, and ducks); paddy cultivation; fish culture (except the exotic species considered “aggressive in nature” and a threat to native species); fish stocking (without use of DDT and other banned chemicals to clean fish ponds); investing in fisher groups for leasing *beels*; mat weaving (*Cyperus* sps. (*‘Murtha’*), *Typha* sps. (*‘Hogla’*), *Clinogyne dichotoma* (*‘Shitol pati’*)); and purchase of fishing craft and gear, big boats, big nets, except “current jal”, “mosquito net”, or other nets banned by state law or nets that are harmful for fish diversity and conservation (Table-4.1). Research revealed that the highest number of borrowers (53%) used their loans for buying fishing gear, 33% used them for buying and rearing cows, and 27% used them for buying small fishing boats and leasing agricultural lands.

4.3 Microcredit operational mechanism of CNRS

CNRS followed the loan delivery and implementation system of Grameen bank and other microcredit organizations (except their interest rates) since the onset of its own microcredit program in Bangladesh in 1998. CNRS has divided its branches into two sub-branches: (i) program and (ii) microcredit. The program sub-branch is responsible for ongoing project activities (CBFM-2, CWBMP) and the microcredit sub-branch operates microcredit activities only. Each sub-branch has a different staff setup.

At the beginning of a microcredit operation, the zonal manager (head of three or more microcredit sub-branches at the district level) receives funds from the head office and then disburses them to the unit manager (sub-branch head) according to their requirements. The unit manager and supporting staff visit the targeted village to form the women’s self-help group or *Mohila Samitee*. There are at least 10 members in a women’s group; all women may not receive loans but their membership is sought to provide collateral to the borrowers. After the formation of a women’s group, they form a

managing committee and 5-member group. In each 5-member group there is a president, secretary, and cashier. For my research, I studied three women’s self-help groups (*Mohila Samitee*). The studied women’s groups’ name, existing membership, and formation year are furnished in Table 4.2.

Table 4.2: Studied women groups name and existing members

Name of the <i>Mohila Samitee</i>	Existing membership	Formation date
<i>Nunua Mohila Samitee</i>	24	June 2003
<i>Boromoidan Mohila Samitee</i>	25	April 2006
<i>Murshibadkura Mohila Samitee</i>	19	June 2003

Then group members fill in a form for membership and submit a proposal stating the purpose and objective of the loan. The projects of the credit groups are evaluated on the grounds of organizational capacity,

Box 1: CNRS Terms and conditions for getting loan

- Member of a women group (at least 10 in each group)
- Must be female, age between 18-55 years
- A suitable project
- Permanent resident of the CNRS microcredit area
- Photo with husband/ father/legal guardian
- Loan must be payback by weekly instalment, within 40 weeks
- Interest rate 12%, Savings Tk.20/week
- 1st Loan Tk.3000-6000 (CAD\$ 50-90) (1CAD\$=TK.67)
- Borrower, president of the group and guarantor (for married women-only husband, for unmarried-father/brother) must sign in the proposal.
- Loan will be disbursed after 4 weeks of membership
- 5% or 10% of 1st loan will be kept as savings
- More than 60% attendance is must in each weekly meeting
- Loan cannot be used in buying destructive fishing nets, pesticides, insecticides, land, timber business and marriage ceremony of daughter or son.

feasibility, and to some extent on the degree of relevance to sustainable resource management.

Upon approval of the proposal, the loan is granted and money is dispersed to the applicants with some written directives and orientation by CNRS. The orientation involves advising the women on how they can use their money for productive and income-generating purposes, and the written directives state what the loans can and cannot be used for. In a four-week training program, members of the women group learn how to write their names, basic level of bookkeeping, management, organization, and

how to use the money in productive ways. Some days they also visit a few successful demonstration plots or projects to learn from the field. There is a discussion about individual projects and CNRS staff offer suggestions on how to improve them and how this might be useful information to apply to the recipient's own project.

For admission each member has to pay Tk. 45 as one-time admission fee; within this amount Tk. 5 is charged for issuing a passbook and Tk. 20 goes to the group savings fund. Each member is bound to pay Tk. 20 for savings each week within their tenure of installment repayments. CNRS provides 6% interest for their saving money. It takes four weeks after submission of a project application to receive a loan – usually the members receive it at the end of fourth week or early fifth week. No installment is due on the very first week after getting the loan; however, they have to start repaying the loan through installments starting the following week. Each member is bound to repay the loan within 40 weeks/installments at a 12% interest rate (Box 1). The loan is provided on a one-year basis and money is reimbursed through installments at subsequent weekly meetings. The CNRS staff (women) meets with each group every week to collect installments. Group meetings are usually held in an office or house (during rainy season) or yard that is centrally located within the village. The CNRS staff collects the installment money and writes the transaction in a log book which is signed by all members. Throughout the duration of the loan, CNRS staff evaluates and monitors the borrower to ensure she is using the loan in productive and prescribed ways, and assesses the possibility of future loans. For approving future loans, CNRS staff try to persuade the borrowers to invest in environment friendly and alternative income-generating activities in order to reduce pressure on *Hakaluki haor* (e.g. planting sapling, vegetable gardening, nursery raising, fish culture, poultry farming, livestock rearing etc.). CNRS also provides training to the individual borrowers according to their respective projects.

4.4 Why women prefer microcredit rather than other sources of loans

Providing financial services to the poor is one of the many ways to help increase their incomes and productivity and make them self-reliant. In many countries of the world, traditional financial institutions have failed to provide this service to the poor. Microcredit (or microfinance) and different forms of co-operative programs have evolved to fill this gap. The main purpose of the microcredit program is to help the poor become

self-employed and engage in alternative income generation, thus reducing poverty. In my study area, there are several formal (bank, government, and non-government) and informal or non-formal (relatives, money lenders or *Mohajon*, non-registered co-operatives, etc.) financial organizations. During my research, I asked the individual households and the CNRS microcredit borrowers why they prefer microcredit over other sources of loans. In response, most of them told me they prefer microcredit because it is without collateral and easy to access. Below is a discussion about the main points related to preference of microcredit over other sources of loans.

No collateral

Lack of collateral, savings, and capital creates difficulties for most of the poor people in the *Hakaluki haor* area – they struggle to get a job, invest in farming and non-farm purposes, become self-employed, and to change their livelihoods and undertake productive employment-generating activities (e.g. farming, small scale business, cow rearing, poultry, fish culture, and small scale cottage industries). Access to credit from most commercial banks and non-formal money lenders (*Mohajon*) is difficult because physical collateral is usually required. One hundred percent of households (microcredit-borrower women) argued that lack of collateral is one of the main reasons for choosing microcredit. Although some informal institutions (non-registered co-operatives, relatives, and social groups, etc.) provide loans without collateral, they only occasionally meet the financial needs of rural households and sometimes put forward a host of conditions that are difficult to comply with.

Low interest rate

High interest rates are another important factor inhibiting access of poor rural households to formal money-lending organizations (i.e. banks) and subsequent investments in productive income generating activities. Eighty-seven percent of households in the study area stated that they preferred CNRS microcredit due to the low interest rate; they said they would even switch from one NGO to another if it meant getting an even lower flat interest rate. It was revealed that a few households switched from Grameen bank to CNRS due to the lower interest rate of the latter; Grameen bank provides loans at 20% (but advertised 15%) and CNRS at 12% interest rate. Commercial banks provide loans at

15-18% with collateral and local money lenders provide them at 120% with or without collateral.

NGOs provide training and advocacy

There are five NGOs operating microcredit in my study area: Grameen bank, CNRS (Center for Natural Resources Studies), BRAC (Bangladesh Rural Advancement Committee), BRDB (Bangladesh Rural Development Board), and ASA (Association of Social Advancement). Most of them provide training and technical support to the borrowers to effectively use their loans for income generation. CNRS provides training to their microcredit borrowers on cow fattening, livestock management, home gardening, small scale enterprise development, fish culture and management, leadership development, conflict resolution, vegetable farming, improved burner manufacturing, tree plantation, nursery raising, and microcredit management, etc. My research showed that 70% of the households preferred the CNRS microcredit program as it provides training and advocacy programs that help them to decide how to use the loan money, and to select viable projects for livelihood improvement and income diversification.

Easy access

People of the *Hakaluki haor* area lack knowledge about loan processing and repayment. There are several bureaucratic processes in getting loans from government organizations (e.g. BRDB) and formal financial institutions (e.g. banks), but the local people are not familiar with these procrastinating processes. They need to go to the formal financial institutions for processing loans, but the communication system is not good enough to go to the *upazila* (sub-district) where most of the formal institutions are located. On the contrary, microcredit lending NGOs are more conveniently positioned and easy to access for the loans. Usually NGO staff frequently visit villages and find out who the potential loan borrowers are; they then discuss suitable projects with the proponents and do the necessary work to approve the loans. One hundred percent of households in my study area opined that it is very easy to access and process loans from NGOs compared to any other government and commercial organizations in their locality.

Lack of information and awareness of other formal sources

People of the *Hakaluki haor* area do not know what types and size of loans would be approved by government organizations and commercial banks. Those financial organizations do not arrange any information sessions or workshops for disseminating information regarding loan provisions for the rural people. Mainly the elite people get loans from the bank and they do not want to share their way of getting these loans. In contrast, NGOs arrange workshops and meet people door to door to involve them in microcredit program. Any village woman who gets a loan from an NGO shares her experience with relatives and neighbors about the ways of getting such loans. This exchange of information makes NGO credit programs more popular and reliable to the poor households.

Pro-poor procedures and small weekly installments

NGOs operating microcredit programs in the *Hakaluki haor* area collect weekly installments from women groups from their own villages; this practice helps save women's time and allows rural women to continue their regular household works. Notably, this practice of installment collection is especially preferred by Muslim women who observe *Purdah* (a socio-cultural norm that prevents men, except family members, to have a look at women) as their movement is confined within the village only. CNRS employed female staff who had easy access to the women groups in compliance with the socio-cultural constrictions. Women shared all types of happiness and sorrows and household affairs with the female staff. Another reason for preferring microcredit to other sources of loans is that the weekly installment is a small amount which can be conveniently managed by the borrowers. However, weekly installments may be high if the loans are big, and this could be difficult for the borrowers to pay.

4.5 Benefits of microcredit: Increase in monthly income

Microcredit providing the poor with access to financial services is one of many ways to help increase their income and productivity. Many studies have attempted to measure the benefits of microcredit in terms of income, employment, and other socioeconomic outcomes (Hulme and Mosely 1996; Khandker 1998). Microcredit programs could benefit society overall by overcoming the liquidity, consumption smoothing, and

unemployment problems associated with highly imperfect credit markets. The impacts could be so large that the social benefits exceed the social cost of program placement, even for microcredit programs that are not viable without the sustained support from the government, NGOs, and donors (Khandker 1998). Here, I measured the benefits of microcredit on the basis of income increment, social learning, and employment status.

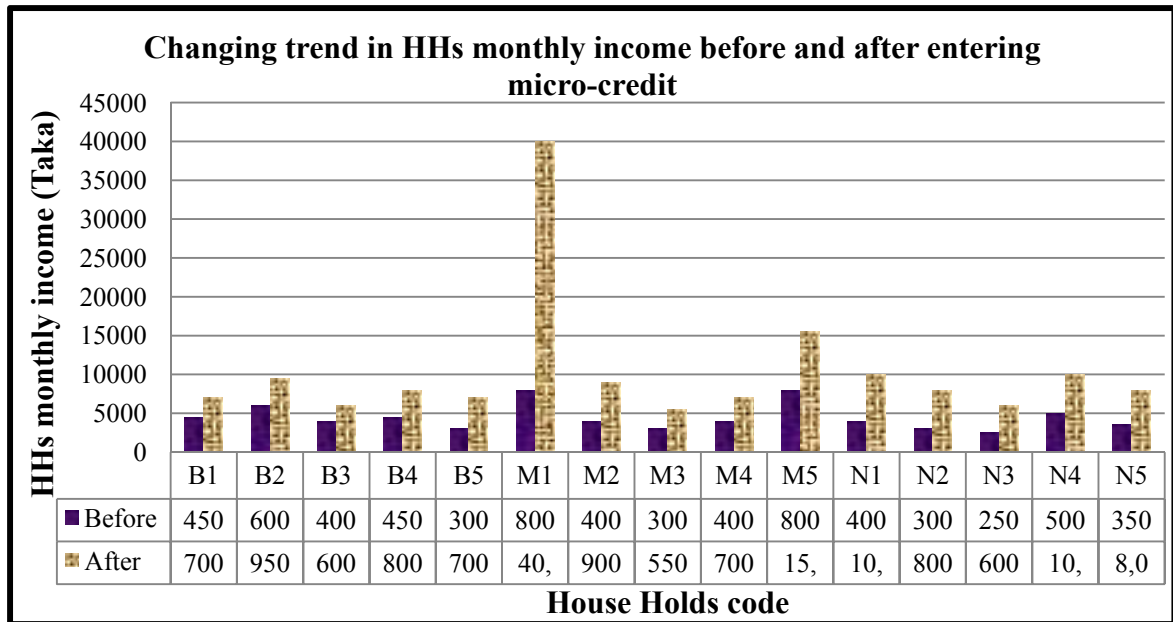


Figure 4.2: Changing pattern of HHs monthly income after participating microcredit program

The poor households were involved in the CNRS microcredit program with the expectation that borrowing would increase their income and sustain self-employment. Whether participation does in fact reduce poverty and help increase income and employment on a sustained basis can be measured directly. Change in income is the direct and major indicator of microcredit impact. In my study, I assessed the impact of microcredit by measuring household income change before and after being involved in the microcredit program. I used loan application forms submitted to CNRS for calculating the base income (applicant has to write the gross family income in the application form) and calculated their income difference before and after in microcredit operation. I found income increases in 100% of households over a varying period after entering microcredit program. Here household income is calculated grossly, including total income by all family members in a single household. My study explored household

M1, that which showed the highest gross income increment from Tk. 8,000 to Tk. 40,000 (US \$1= Tk.69) (Figure 4.2).

Upon analyzing the income increment of household M1, I found that the woman entered the CNRS microcredit program in 2005; at that time her husband was a traditional doctor (Homeopathy) and practiced in a thatched roof small shop in the local market. But her husband was not practicing well due to lack of investment in his pharmacy (usually homeopathic doctors have to supply all medicines to the patients as part of treatment). After receiving her first loan of Tk. 5000, this woman gave the money to her husband to buy homeopathic medicine and to run his pharmacy. When he invested this money in his pharmacy, his income started increasing. By that time her three sons were studying in three different academic institutions. In 2009, her two sons entered into jobs, one in a commercial bank after completing graduation (M. Sc.) and another one in the Middle East. Her third son continues his study. She invested all her loans successively in their pharmacy business which helped to run the family and supported the study of her sons. At present, her gross family income is more than Tk. 40,000. She reported that the loan from CNRS helped her family in many ways to run her family and business, and educate her sons and increase the familial income. Household N3 had the lowest income (Tk.2500) before getting connected to microcredit but her present household income is Tk.6000, revealing >200% increment (Figure 4.2).

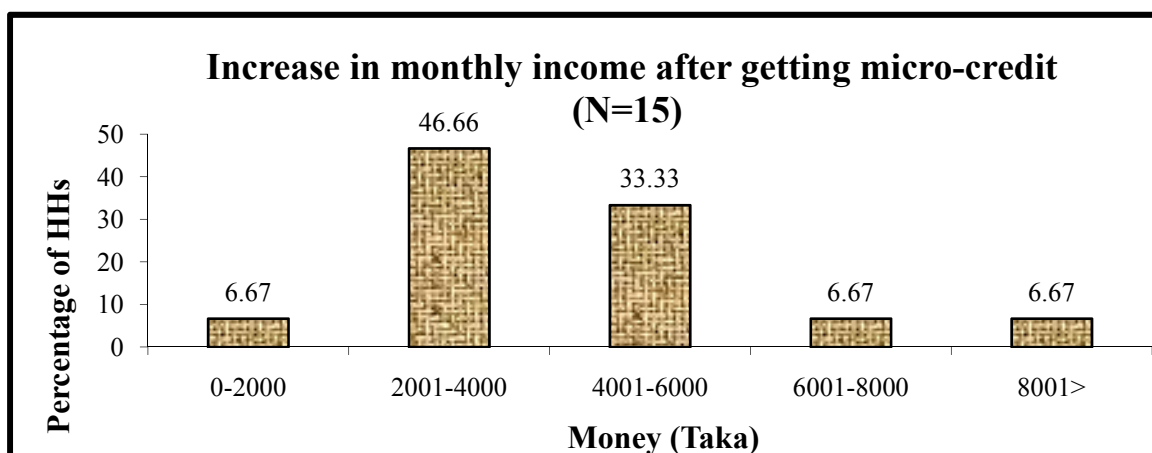


Figure 4.3: Increase in monthly income after receiving microcredit from NGO

From figure 4.3 it is evident that 46.66%, 33.33%, and 6.67% of households' monthly income increased by Tk. 2001-4000, Tk. 4001-6000, and Tk. 8001+, respectively.

In my study, I found many factors influencing the increment of a household's monthly income. Most of the family members in my study villages are involved in fishing, small business, and agricultural farming. It is difficult for them to figure out their exact monthly income, but in response to questions regarding monthly income, they told me about their monthly expenditures. Using a back calculation of monthly expenditures and savings/lending, estimated figures of income were worked out. Again, there is a trend of seasonality in income and expenditure. Whatever the people earn, they end up spending on living expenses and medication. Figure 4.2 reveals households' increase in monthly income that is apparently connected to microcredit programs. But the fact is that, before entering into the microcredit program, their living expenses, daily wages and price of their selling commodities were less, resultantly their household incomes and expenditures were less. However, with an escalation in price of all products, a wage and consumer goods, their monthly expenditure too goes up simultaneously.

4.5.1 How microcredit increases monthly income

CNRS loans are provided for a wide range of purposes. In fact they contribute to projects representing almost every sector of the local economy. From my study, I found that loans were used for starting small business, fish business, buying fishing nets and boats, livestock rearing, leasing paddy land and cultivation, sending sons to the middle-east for wage-earning, repairing houses, planting saplings, medication, and buying necessary commodities. In this section I will briefly discuss how microcredit plays an important role in increasing monthly income by investing loans in several general and productive purposes.

Investing in small business

In my study, four households invested their multiple loans in small businesses (e.g. vegetable shop, tea stall, small departmental store, and pharmacy). Male members of households run the business and women administer the loans. This question arises: how do the small businesses increase monthly income? All the small businesses run by the households are profit-oriented.

I found that household N1 borrowed their first loan of Tk. 3000 in 2003 and invested the money in a vegetable shop (buying vegetables from the farms and villagers

who bring their produce to the market for selling) managed by her eldest son in the local market. At that time the monthly income from the vegetable shop was around Tk.1500-2000 and gross family income was Tk.4000/month. In 2009 the total capital of that vegetable shop turned to Tk. 66,000 (Tk.56,000 was borrowed by the buyers and Tk. 10,000 was running capital); the monthly income enhanced to Tk.6000-10,000 (Tk. 6000 in the dry season and Tk. 10,000 during the monsoon); and gross family income escalated to Tk.10,000/month. It is evident that most of the small businesses performed well and the owners were financially solvent. Through increases in their monthly income, their purchasing power also increased; subsequently their children had better access to school, health facilities, and sanitation.

Livestock and poultry rearing

Livestock (cow, goat, hen and duck) rearing is another profitable venture of microcredit. I found 5 households out of 15 that used their loans for buying cows, goats, hens, and ducks. My respondent M3 spent her fourth loan of Tk. 8000 for buying a cow. After one year, the cow gave birth to a calf and she started selling milk to the neighbors at Tk.30/Kg and could earn Tk.120 daily. The cow continued to give birth to calves every year and after three years her total capital from rearing cows was around Tk.30,000 (approximately). Her household income was Tk. 3000/month, but after availing microcredit she could earn around Tk.5500/month by making proper use of the loans. Similar cases were observed in households involved in rearing goats, hens, and ducks in my study area.

Fish business and buying fishing net and boat

My study villages were dominated by fishers. I found that 11 households out of 15 used their loans for buying fishing nets, boats, and fishing instruments (traps, threads, and baskets), and also invested in group-based economic ventures and small scale fish businesses. Fish businessmen purchase fish from harvesters (fishers) in the *beel*, and then bring them to the local or urban markets for sale at higher prices. Fisher groups are usually composed of 6-8 members – the main objectives of forming such groups are to raise funds for leasing big *beels*, and to buy big fishing nets and boats. Fishing is continued even in the absence of any member due to sickness or business and the earning

is shared equally among all members. Many households initially had to rent fishing crafts and gear; following the purchase of equipment, fishers could catch fish at their own convenience and subsequently there was an increase in their incomes.

Leasing and cultivating paddy land

Rice is the staple food for the people of that area and paddy cultivation is a profitable occupation due to its demand in the market and home consumption. I found that 4 households out of 15 were involved in leasing paddy fields and cultivation. Those households have no paddy field of their own and are hence dependent on the landowners; they have to share half of their crop with the field owner. Now, households have the tendency to lease out paddy fields using their loans from NGOs. By doing so, they can ensure their food security and increase income. In some cases the lease-holders become the owner of that paddy field if the original owner of the land failed to pay back their loans (because

Box 2: Case study 1: Success of microcredit

Gouri Rani Biswash, age 45, education level SSC, a housewife cum traditional village doctor (Homeopathy) living with her husband and three sons in village *Murshibadkura, Hakaluki haor* area. Her husband Manik Chad Biswash, 55, was a nominal school teacher and traditional village doctor (Homeopathy learnt from his father) when she married him. In 1985 her husband went to Middle-East (Kuwait) for better wage-earning resigning from his school job. Her family was running moderately with husband's income, but Gulf War in 1991 brought curse in her family, her husband returned home without any money and they were passing miserable life living from hand to mouth. At that time her husband started his old traditional homeopathy practice but earning was very low due to lack of fund to buy medicine. Children were not regular in their school. In 2005 she got herself involved in CNRS microcredit program and took Tk. 5000 as her first loan. She invested her money to buy homeopathic medicine for her husband's pharmacy. After starting pharmacy in 2005 her monthly household income was Tk. 8000 and children were regular in their school. She was very aware and devoted about her children's education. In 2008 she borrowed Tk. 100,000 from BRAC to send her 3rd son in Middle-East (Qatar) for wage-earning. Up to 2009 she took 4 loans Tk. 35,000 from CNRS and invested all money to their pharmacy. Presently, her eldest son completed his graduation and doing a very banking job and earning more than Tk. 25,000/month, 2nd eldest son studying in a Master's program and 3rd son sending money from Middle-East. In 2009 her family's gross income was more than Tk. 40,000 and leading a very happy life. In the meantime, she elected as president of their women microcredit group and got membership in various social and cultural organizations. Now, she is planning to settle in town (for better life) and not interested in getting loans anymore. Her family is now treated as one of the topmost elite in their locality, everybody knows and respects them.

the loan eventually multiplies due to compound rate of interest, roughly 120%).

Tree plantation and vegetable gardening

Tree plantation and vegetable gardening are considered green and productive ventures. These activities help in environmental conservation and improvement, alongside income generation. In my study, I found that household N1 spent Tk.3000 for planting 300 saplings (Tk.10 for each) in their home garden and elevated land. The woman borrower is expecting Tk.300,000 after 8-10 years from selling the trees. She also cultivates vegetables in her home garden and elevated land for her own household consumption, and sometimes sells the produce to the neighbors.

She told me that planting saplings is comparable to insurance, if she needs money anytime for any emergency she can meet the need by selling trees.

Box 3: Case study 2: Success of female entrepreneurs

An exemplary case of female entrepreneurship is Hamida Begum, age 30, education level primary, a widow living in village *Murshibadkura, Hakaluki haor* area. Her husband Saydur Rahman was working in Middle-East (Saudi Arabia) at the time of their marriage, but he (her husband) died in 1999 at the very early stage of their conjugal life leaving a new born boy baby. After the sudden death of her husband Hamida came back to his parent's house with her baby and she had no property. Her father was an age old person with a meager earning from his daily labor. Hamida was treated as a burden to their family. In 2005 she learnt about CNRS microcredit program and took her first loan Tk. 5000. She invested the money in *saree* (a long cloth usually worn by Bangladeshi women) business at village level from door to door. She bought *sarees* from *upazila* (sub district) level market in wholesale price and sell in the village at retail price. Before starting her *saree* business she was totally dependent upon her father's family as she had no income. Up to 2009 she borrowed 4 successive loans from CNRS worth Tk. 33,000. From 2008 she started weaving *pati* (floor mat) and working as a seasonal labor (Agricultural labour) to supplement her income. In 2009 her monthly income is about Tk.3500 (Tk.2000 from *saree* business, Tk.1000 from *pati* weaving and Tk. 500 from working as a daily labor). Now her 10 years old only son goes to school regularly and studying at level 3 in a *Madrasha* (Arabic school), she spent Tk. 500 for her son's educational purpose. She built a house for her own use on her father's land and gardening vegetable for household consumption. Presently, she had Tk. 8000 as a capital to run her business and Tk. 3500 savings in CNRS. In the meantime she is elected as president of their microcredit women group and feels honored as many village women come to her for consultation and recommendation for getting loans. Now, Hamida has a successful business which brings moderate income to lead her single family without depending on her parents. Her future plan is to expand her business in large scale and educate her only son, as he (son) is the hope for her future.

Buying raw material (murtha), weaving pati (mat) and its business

Weaving *pati* (floor mats) is the common and popular cottage industry in the *Hakaluki haor* area. *Murtha* (*Clinogynae dichotoma*) is an excellent material for floor-mats (*Pati*), and is extensively used by all categories of people. This is also exported by the cottage industries as a finished product. I found that 3 households out of 15 were involved in weaving *pati* and its accompanying business. Usually women weave *pati* but men also do it when they are unemployed and of old age. Households invest their loan money in buying *pati-pata/murtha* in the field where it grows, and then they cut and sell it in bundles or use it for weaving *pati* themselves. I found that one household, N3, bought two bundles of *pati-pata* for Tk. 100; with this she can make two *pati*, each worth Tk.250-300 in the market – so she can earn Tk.500-600 from investing Tk.100 and using her own labour. The *pati* business is a profitable one; people involved in it buy *pati* from villages at lower prices and sell in the town (or *upazila*) level market at higher prices. Value addition and painting on *pati* increases their worth (to even more than Tk. 2000) to a higher margin than the ordinary ones (which are worth Tk.300-500).

4.6 Challenges of microcredit: Multiple borrowing

“More loans bring more problems, we have to pay instalment three times a week but it is very hard to manage money for all instalments and to meet household expenses. Sometimes we have to sleep without food but bound to pay the instalments. To manage instalments and buy food we end up borrowing from moneylender and other NGOs, culminating us in poverty trap...”

Nitesh Biswash, 50, member
Murshibadkura Mohila Samitee
Hakaluki haor area

Despite the success of microcredit lending organizations like CNRS in delivering loans, and the resulting improvement in livelihoods and change in socio-economic condition of the poor women’s households, my findings revealed that there are still few borrowers who become vulnerable and trapped by the system. Some of them fall in the “vicious circle of poverty” permanently. CNRS staff and peer group members inflict an intense pressure on borrowers for timely repayment. Many borrowers repay their installments by recycling their existing one and getting new loans from different NGOs; this considerably increases borrowers’ debt liability. The institutional debt-burden on individual

households in turn increases anxiety and tension among household members, and as a result they are too busy to managing their installments rather than thinking about their food security.

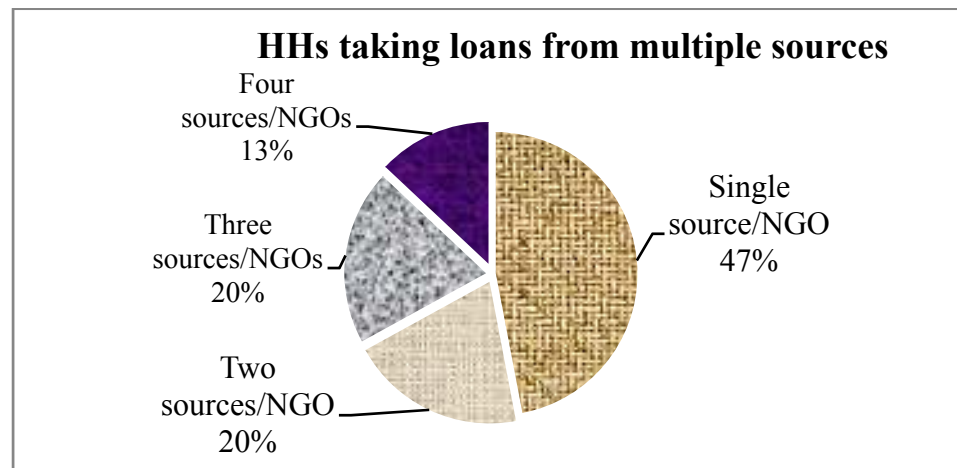


Figure-4.4: Multiple borrowing

The study revealed that 47% of households took loans from a single NGO, 20% received loans from 2-3 NGOs, and 13% took loans from four NGOs respectively at one time (Figure 4.4 and 4.5). Multiple borrowing and failing the repayment of installments by the poor borrowers is a problem in my study area. But such borrowing is not necessarily a problem, as it is may be context specific. For example a family takeout a second loan from a different NGO for a purpose that is different from the first loan. In most cases people took a second loan to repay the first loan. It is generally expected that more loans bring more money and more money brings more income or solvency, but this would completely depend upon productive use of those multiple loans. However, the study revealed that most of the households that took loans from three or more NGOs fall in the poverty trap. They borrow from where ever they can get loans to manage the installments and household expenses.

My respondent M2 borrowed from three NGOs at the same time; she mentioned that she received the first loan from CNRS with which her family bought a small fishing boat and net. Her family was running smoothly and paying the installments regularly, but during the monsoon a sudden flood swept away their boat and net, and then her family members were not able to go fishing. No fishing meant no earning, so to pay the installments and to buy another fishing net and boat her husband borrowed Tk.8000 from

the local moneylender at 120% interest rate. After this they were passing their days from hand to mouth and sometimes with starvation (Figure 4.5).

It was very difficult for this respondent's family to manage both interest from the moneylender and installments for CNRS. She then decided to get a loan from Grameen bank to solve their money problems. But that money was used to repair their house so she took another loan from BRAC. The result was she took three loans from three different NGOs and her husband borrowed from a local moneylender. Finally they were too busy to manage their weekly installments; sometimes they went to bed with little or no food. Now all the family members are trying to escape from loans, and they realize that more loans do not bring more income –

they bring more poverty and tension.

Box 4: Case study 3: Failure of microcredit

Mayarun Begum, age 52, no formal education a housewife living with her family consisting of 7 members in village *Pabijuri, Hakaluki haor* area. Her husband Mohammed Alauddin, age 56 is a fisherman; usually catch fish in rainy season and run small scale fish business during dry season as he has very limited scope to catch fish as water bodies dried up. During fishing he rents a small boat for Tk.40/day and uses two small fishing nets. Mayarun is passing her days with a big family and living from hand to mouth as her husband's income was very low. Aiming to increase her family income she started borrowing loans from CNRS in 2003. Her husband spent her first two loans (Tk.3000 and Tk. 5000) for buying fishing net and repairing house. In 2006 and 2007 she took another two loans Tk. 7000 and Tk. 8000 and invested in fish cultivation in their own ponds. But sudden huge flood flooded her ponds and removes all fishes as a result she felt into poverty trap; she was bound to borrow another loan from Grameen bank to continue her weekly instalments. Now her family needs to manage two instalments in a week which fall them very hard situation, they had to go to bed less or no food and medication. Aiming to overcome the situation Mayarun again borrowed Tk. 10,000 from CNRS in 2008 and bought 60 ducks for rearing. After three months of duck buying a sudden disease attacked the ducks and 53 ducks were died within a few days she fall in debt. Then her husband borrowed Tk. 5000 from local moneylender with 120% interest to continue the instalment to CNRS and Grameen bank. Now they are passing a very measurable life with or without food in a day. She is determined not to invest money in future to any kind of fish culture and livestock rearing, just trying to finish her instalments and she will not borrow any loans in future as it brings curse for her family.

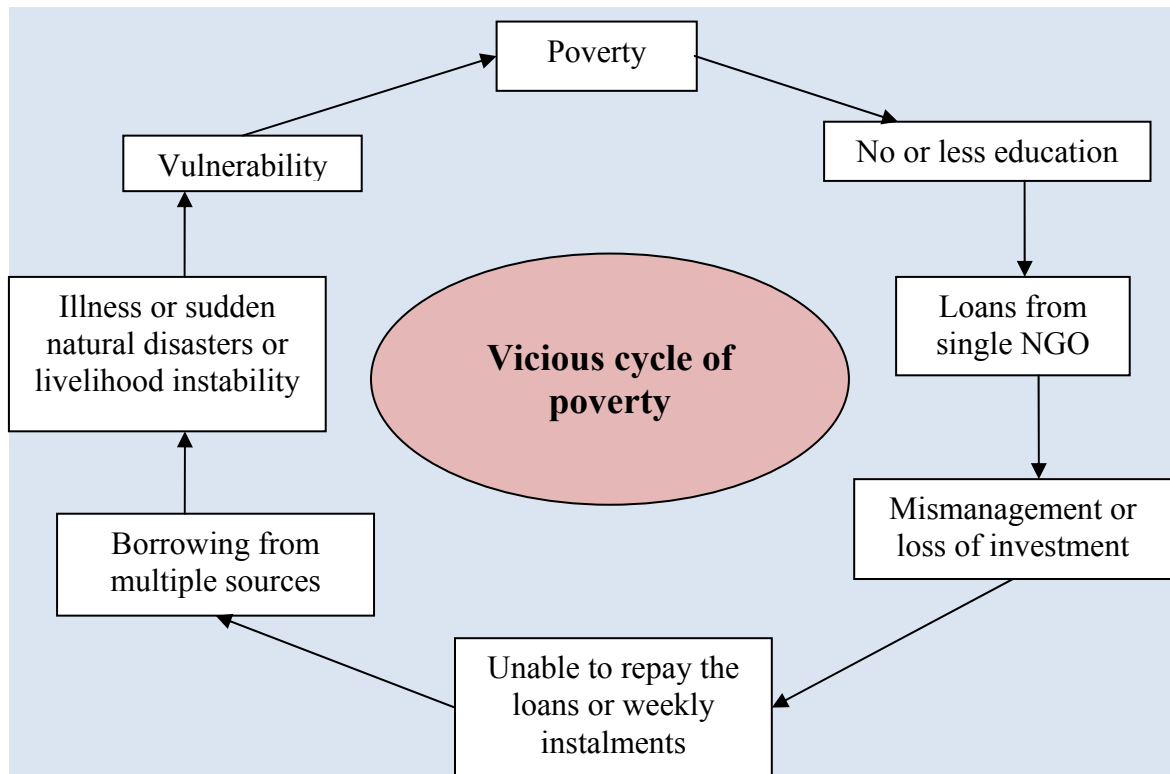


Figure 4.5: Vicious cycle of poverty due to multiple borrowing (this is a composite diagram, based on several actual cases)

4.6.1 Problems in repaying loans

One of the most unusual features of most microcredit contracts is that repayment must start nearly immediately after disbursement of the loan. In a traditional loan contract with more formal financial institutes, the borrowers get the money, invest in business, and then repay in full with interest at the end. But in the CNRS model, weekly installments are calculated by adding up the principal, interest, and savings due and dividing the total by 40, and weekly collections start just after the second week of disbursement. The more striking thing is that the repayment process begins before investments bear fruit, so weekly repayments necessitate that the household has an additional income source on which they can depend. Thus, insisting on weekly repayments means that CNRS and other microcredit institutions are lending partly against the household's steady or diversified income streams, not just the targeted projects. In my study I asked the borrowers if they faced any problems in paying their weekly installments. In reply, 73% of households told me that they face problems in repaying weekly installments and 27%

said they do not. The degree and nature of problems vary from house to house, borrower to borrower. Most of the households involved in fishing face problems during dry season (November to March) as their catch per unit effort (CPUE) goes down sharply with a decline in water column. Seasonal workers and multiple borrowers face severe problems due to little scope of work throughout the seasons and it is very difficult to manage money for installments every week. As mentioned previously, the households that invest money in buying cows, paddy cultivation, vegetable gardening, and tree plantation face problems in repaying installments as it takes a long get a return on their investment. In this case households manage their money by drawing on other sources of income or through close monitoring of their daily expenses.

In general, effective monitoring of the use of loans is weak (Mokhlesur Rahman, pers.com.). It was evident from the research that due to lack of proper monitoring and selection of suitable projects for microcredit-lending by NGOs, contributes to some households falling into a poverty trap. Most of the NGOs are doing business: just giving loans and collecting installments. However, NGO staff as learn from their lending experiences, they have ample scope making changes in their knowledge, attitude and practice on environmental and social issues.

4.7 Role of microcredit in poverty reduction in the *Hakaluki haor* area

The appropriateness of microcredit as a tool for poverty reduction depends on local circumstances. Poverty is the result of low economic growth, high population growth, and extremely unequal distribution of resources. The proximate determinants of poverty are unemployment, low income, and low productivity of the poor. When poverty results from unemployment, reducing poverty requires creating jobs; when poverty results from low productivity and low income, reducing poverty requires investment in human and physical capital to increase workers' productivity. In Bangladesh, poverty is caused by lack of both physical and human capital. So, the best way to reduce poverty is to deal with both problems: increasing productivity by creating employment and developing human capital (Khandaker 1998).

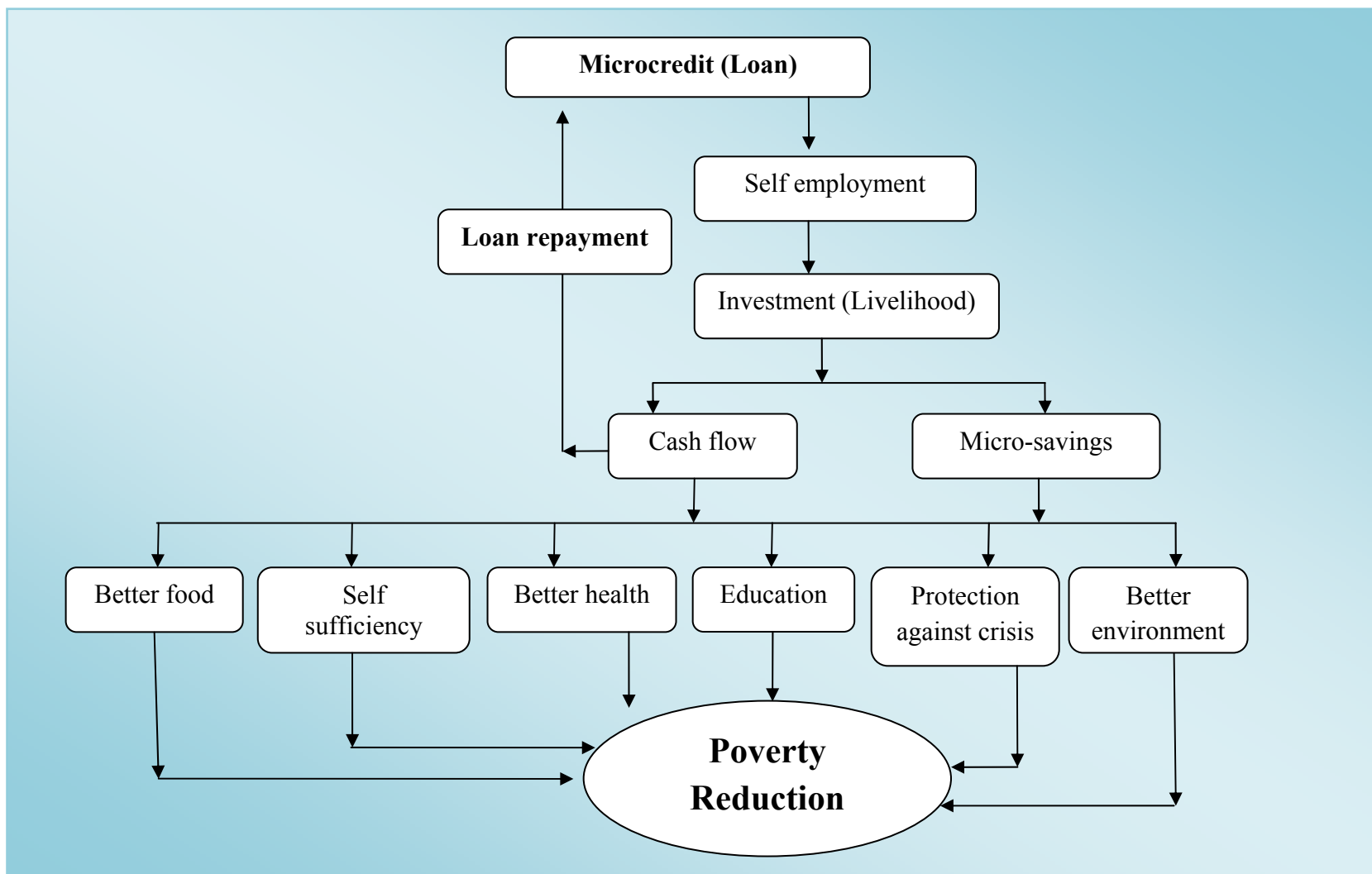


Figure 4.6: Role of microcredit in poverty reduction in the *Hakaluki haor* area

Lack of capital and savings make it difficult for many poor people who want jobs in farm and non-farm sectors to become self-employed and to undertake productive income-generating activities. Due to lack of physical collateral the poor have very limited access to formal institutional credit. Here, microcredit plays an important role in reducing poverty by providing collateral-free loans to the poor and directing them to generate self-employment and income generation. In my study area, four more NGOs are operating a microcredit program involving poor women. Women are getting loans, but most of the loans are used by the male members of their family. Most of the people in the *Hakaluki haor* area directly or indirectly depend upon *haor* resource for their livelihoods. In my study most of the households bought fishing nets and boats or invested in fishing businesses with their loans. Some invested in other small business, livestock rearing, tree plantation, paddy cultivation and small scale cottage industries which allowed them to be self-employed and generate income. Upon using loans for various purposes, their household economy runs smoothly, this brings cash flow and micro-savings for them. From the cash flow they are repaying their loans and increasing their capital. More capital and cash flow increases income, and an increase in income increases household purchasing power, schools their children, and results in better food and health (Figure 4.6). Additionally, savings and better income save them from unwanted crises (medical treatment, sudden flood, and small or no catch, etc.). When families improve their condition and become self-reliant then they are more likely to be involved in an environmental stewardship program. They plant saplings using their household income and reconsider how many fish they catch and whether or not to take them from their fish sanctuary in the dry season.

4.8 Green microcredit

Green microcredit refers to small-scale loans to develop micro-enterprises that are environmental-friendly. It bears three main key words: “green”, “clean”, and “renewable”. It is assumed that microcredit-based small enterprises will use renewable natural resources and the environment in a sustainable manner for livelihood improvement and diversification. But general microcredit programs of all the micro-finance institutions provide loans for livelihood improvement and income generations with no concern about the environment.

4.8.1 Shifting from general microcredit to green microcredit

Green microcredit is a new concept and approach where microcredit will be used only for environment-friendly projects e.g. (a) tree plantation, (b) green farming, (c) nursery raising, (d) bird rearing, (e) bio-gas plants, (f) composting, (g) livestock rearing, (h) fish culture, and (i) agro forestry, etc. In *Hakaluki haor*, CNRS operates its microcredit activities parallel to resource management work, targeting communities that depend chiefly on wetland resources. Using green microcredit programs, CNRS aims to recreate a self-sustaining habitat in *Hakaluki haor* based on a balanced perspective of the relationship between natural resources and the legitimate needs of people. This green project is also focused on building social capital to make the credit program successful. The development of green-microenterprises requires the integration of income generating entrepreneurship through micro-business with support of environmental and biodiversity conservation.

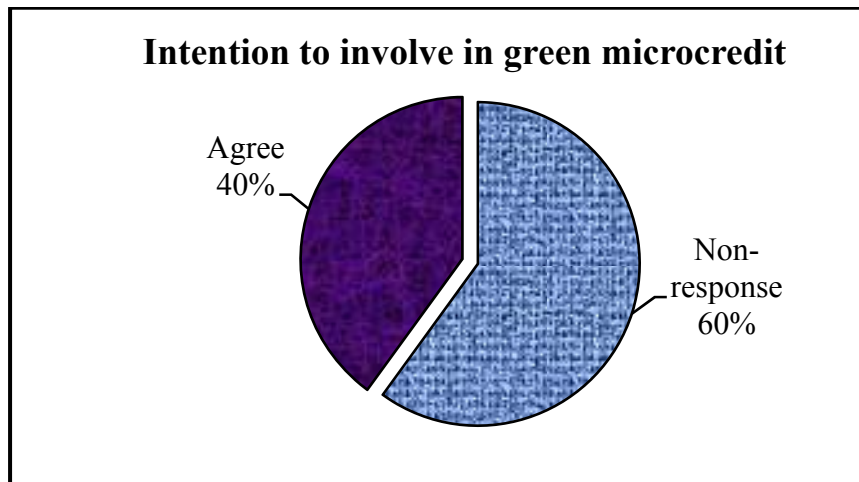


Figure 4.7: Intention to involve in green microcredit

Shifting from a general microcredit program to a green microcredit program requires scaling up the targeted community, selecting profitable and suitable projects with the site, institutional setup, and a strong project-oriented training program. During my study I asked the microcredit borrowers what they know about green microcredit whether they wish to join that program. I found that 60% of households had no response about green microcredit and green projects but after a short briefing 40% agreed to join (Figure 4.7).

From my study and the green microcredit workshop (held on 1-3 October, 2009, at *Koitta, Manikgonj*, Bangladesh) I found that people are concerned about such things as project selection, loan size, repayment starting time, and whether a project will be a single or group project. For a large project, women want to include men, as it would be difficult for them to manage all sides of the project. But, in group work leadership and trust is an acute problem because money is involved. In the *Hakaluki haor* area, small scale cottage industry (*pati* weaving, fishing basket making) development, livestock rearing (cow, poultry, ducks, and birds), fish culture, bio-gas plants, composting, and water tolerant tree plantation may all be viable projects. But before starting their projects people should be trained accordingly.

4.8.1.1 Initiation of green microcredit and present status

Building Environmental Governance Capacity in Bangladesh (BEGCB) project, funded by the Canadian International Development Agency (CIDA) through Association of Universities and Colleges in Canada (AUCC) and led by Natural Resources Institute (NRI), the University of Manitoba conceived the idea of launching 'green microcredit' as one of its major project components. Natural Resources Institute assigned its partner NGO CNRS in Bangladesh to launch and operationalize the green microcredit schemes. CNRS select twenty green projects to operationalize by the year 2011 so that their impacts can be visible within the BEGCB project period until March 2013. According to their plan CNRS start five green projects since January 2010 at two field sites, one located at *Borolekha upazila*, my research site, and another at *Magura* District.

With a view to implement these schemes, CNRS formed women saving groups and CBOs in both the project areas. After group formation, it called for business or enterprise development plans from these CBOs - expressing interest to undertake appropriate (green) venture. Four individual members from four different CBOs and a group of five members from another CBO came up with their project proposals encompassing village based micro-entrepreneurial and agro-farming activities. The proposal development was a result of consultative meeting among the CBO members and was then facilitated by CNRS site manager. CNRS scrutinized all the submitted applications and had financial and technical feasibility studies of the ventures. It also had

an assessment on the asset base and monthly income of each applicant. After the physical inspection on the proposed project sites and facilities CNRS supervisors finally approved the respective projects and started disbursement for the initial activities for all the five projects from January 2010.

The operational mechanism of these microcredit schemes is also atypical-the initial loan amount is comparatively higher than typical microcredit loan. Moreover, BEGCB did not disburse mere loan rather extended 'technical grant and assistance' for the capacity building of the borrower groups. The loan repayment instalment for the project is monthly basis and that starts after two months (grace period) of the project's inception. Monthly instalment is the scheduled repayment that includes one tenth of the loan amount plus 12% service charge on it which starts after two months (grace period) of the project's inception.

Nanua Mahila Samity (women cooperative), *Hakaluki haor* area has undertaken two projects, project-1: Organic Agro-farming and project-2: Shital pati enterprise by Murta-indigenous cane. Project 1 is a group based project where five group members together took loan for dual purpose i.e. rearing cows and cultivating organic vegetables. With the objectives of becoming self reliant through livelihood generating activities that are environmental friendly. Though the group had prior experience on such activities but lacked improved skills. They were motivated to undertake the schemes and subsequently trained as they were convinced that these green projects would contribute to their earnings apart from environmental improvements. The CNRS-BEGCB hired experts imparted training and conducted awareness sessions to the *Nanua Mahila Samity* (women cooperative) members on awareness building on environmental friendly farming, organic cultivation methods for vegetables, gender and green microcredit.

From the field evaluation report of CNRS regarding these two green projects by *Nanua Mahila Samity* showed that they made Tk. 3150 (CAD\$ 45) profit within four months from January to April 2010 after launching their projects. They were expecting a gross profit Tk. 67,950 from project-1 and Tk. 26,025 from project-2 as their first year outcome. So, it is evident that green microcredit projects in Bangladesh are creating employment, improving and diversifying rural livelihoods and simultaneously

ameliorating environment though it has few challenges. It is also providing ecological goods and services to the nation.

4.8.2 Microcredit: Women's empowerment and resource management in *Hakaluki haor*

Empowering women is aiming to inspire women with the courage to break free from the chains of limiting belief patterns and societal or religious conditioning that have traditionally kept women suppressed and unable to engage in business, access the market, and deal with outer world activities. Microcredit programs are being used as a means to reach the masses of poor women borrowers, making a significant contribution to the alleviation of global poverty and upgrading women's economic, social, and political empowerment (Mayoux 1998). Most recently, evaluations of microcredit in women empowerment have been divided into two parts, with some evaluations claiming extremely positive results and others suggesting that microcredit leave women worse off than before (Kabeer 2001). But different scholars argue differently in setting indicators for evaluating women empowerment. Scholars like Goetz and Gupta (1996) used a five-point index of managerial control over loans as their indicator of empowerment. Again, Pitt and Khandker (1995) analyzed the impact of microcredit programs on a number of decision making outcomes. Hashemi et al. (1996) explored the impact of credit on a number of indicators of empowerment: (i) the reported magnitude of women's economic contribution, (ii) their mobility in the public domain, (iii) their ability to make large and small purchases, (iv) their ownership of productive assets, including homestead land and cash savings (v) freedom from family domination, including the ability to make choices concerning how their money was used and a say in decisions relating to the sale of their jewellery or land or to taking up outside work, (vi) political awareness and participation in various political actions, and (viii) a composite of all these indicators.

In my study I assessed women's empowerment by setting a few indicators: (i) women's control over loans (ii) contribution to the household decision making (iii) position in the home and reduction of violence against women (iv) increase in a household's monthly income, and (v) sending children to school.

(i) Women control over loans

In patriarchal Bangladeshi society males always dominate females on use of money wherever they are coming from. In figure 4.1 I showed the loan using categories of women at the household level – women were using their loans by themselves 17% of the time and jointly with their husband 19% of the time. That means women can control their loans 36% of the time. In another study, Rahman (1999) found only 10.83% of loans were controlled by women. In comparison with my study, this definitely shows that women have more control over their loans than previously thought; it might be due to regional variation. In my study I found that at the beginning of their involvement in microcredit programs women have very limited or no control over loans; instead male members of their households – mainly husbands – control their loans.

(ii) Contribution to the household decision making

In this study household decisions were usually made by the male member of the family. In my study I asked the women loan borrowers about who makes the family decisions and whether the males share with them. I found that 47% of households' decisions were made jointly – in most of these cases husband and wife make the decisions, and in the absence of a husband the eldest son makes family decisions along with the women. In the rest of the households (53%) the decisions were made absolutely by the male, the husbands of loan borrowers. From an analytical point of view it is encouraging that women are coming forward and contributing more to household decisions than previously.

(iii) Position in the home and reduction of violence against women

Women having little or no power in the home and violence against women are widespread in the rural societies of Bangladesh. The patriarchal ideology, i.e. women's absolute dependency on men, makes them vulnerable to violence and powerless in society. In my study it was revealed that most of the female loan borrowers (wives) were in a better position in their family than before entering into the microcredit program. The women explained that male members (husbands) of their family were more caring, and stopped or reduced verbal aggression and physical assault to them once they brought

loans into the family, as compared to before. Microcredit can thus be used as a means of changing male attitudes and behaviors towards the women of their households.

(iv) Increase in household's monthly income and sending children to school

Female financial contribution to their family uplifts their status within the family as well as in society. In figure 4.2 and 4.3 I showed the changing patterns and increase in households' monthly income after entering into the credit programs. An increase in monthly income (due to both women and men using loans for income generation) increases the purchasing power of a family and simultaneously uplifts a women's status within that family (as she is the one that borrowed the money). An increment in household income brings happiness and makes a family solvent; this in turn brings more awareness and the ability to educate children. Women are always thinking about their children's betterment and wishing them well, and a smooth household economy helps her to send her children to school. In my study I found more increment in household income leads to more attention on children schooling and family awareness about education.

From the above discussion it is clear that women are being empowered by microcredit programs – though there are some opposite opinions. In some cases microcredit brings more violence to a household and to loan centers, as it is operated by “group lending social collateral” or a “social capital” system. Whenever household earning is limited or less due to failed business investments (such as floods or natural disasters damaging crops, run-away boats or lost fishing nets, and a subsequent change in livelihoods), households face severe problems in managing their weekly installments. In these situations women may force their husbands or male members of the family to manage installments from anywhere, spurring violence and humiliation against these women.

Women in developing countries are the primary users of common pool resources and are more prone to conserve local natural resources for subsistence use than men, who are more interested in using these resources for economic and household reasons (Anderson et al. 2002). Women in developing nations have often shown local innovativeness and grounded knowledge of the practices in which they are primarily involved. These include seed storage, collection and processing of wild and wetland plants or fodder or grains, family healthcare, health of cattle, and marketing of vegetables

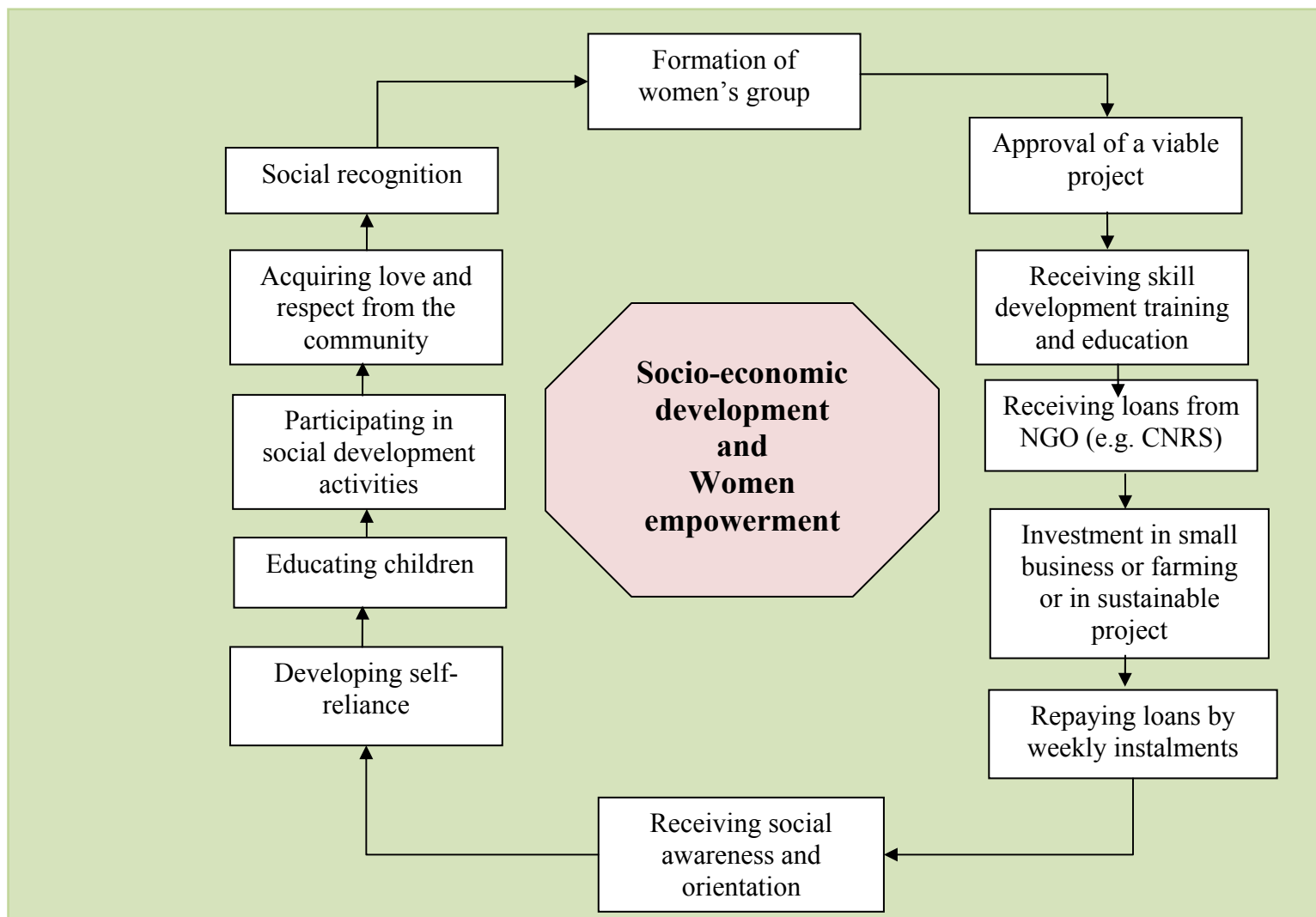


Figure 4.8: Sampled household's socio-economic upliftment and women empowerment

and other natural products. These indigenous knowledge-based coping and livelihood strategies are adaptive and more significant in sustaining and improving their lives as well as their families (Gupta 1991). But, 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). In my investigation I found most of the households are completely or partially depended upon *Hakaluki haor* resources for their livelihoods. Women play a significant role in the resource management of that area, i.e. in collecting fodder, medicinal plants, catching fish, processing fish, husking paddy, vegetable cultivation, fuel wood collection, planting and nursing paddy within *haor* area, and marketing fish, etc. But, these management roles are not recognized by the local and formal institutions. In most of the development and management programs by international agencies, government or NGOs have the provision to engage women, but male dominant "patriarchal Bangladeshi society" limits the active participation of women. Many NGOs like CNRS are playing an active role in socio-economic development by empowering women and involving them in local level natural resource management; they do this by providing microcredit and training in various aspects (nursery raising, tree plantation, handicraft and small scale enterprise development, livestock rearing, organic vegetable gardening, compost preparation, bio-gas plant development, improved burning, and manufacturing, etc (Figure 4.8). But, presently all micro-enterprises are at the individual level. As microcredit forms village women's groups in *Hakaluki haor*, these women's groups are capable of collective management of natural resources of that area.

4.8.3 Conclusion

In this chapter I argued that there are important connections between CNRS microcredit programs, rural livelihood diversification, women empowerment, poverty reduction, and natural resource management (in particular, common pool resources). The key findings in light of my major objective (objective one) are:

- I explored the CNRS target groups, loan mechanisms, loan using patterns (Green and productive, and general purposes), and preferences of microcredit over other sources of loan in the *Hakaluki haor* area.

- I explored the role of microcredit in household monthly income increment, diversifying rural livelihoods, women empowering, and poverty reduction in my study area.
- I also explored the challenges of microcredit – how poor borrowers’ families become entrapped by the system and face problems in repaying loans.
- I provided some thoughts about shifting to green microcredit from general microcredit.

Microcredit is not a central theme of CNRS mandates, but it is a strategy within natural resource management work, as it contributes to poverty alleviation, local livelihood diversification, and community mobilization. CNRS microcredit programs in the *Hakaluki haor* area have important potential for synergy with more focused motivational programs, capacity building potential for environmental stewardship and livelihood diversification activities, to sustainable management of common pool resources. Similarly, it has ample scope for women empowerment, creating social safety nets, and building social capital through its women forum and Community-Based Organizations (CBOs). Further research is encouraged to compare the impacts of microcredit on loan borrowers and non-borrowers in the *Hakaluki haor* area.

Chapter Five



Plate 11: A fisher with small fishing boat in *Hakaluki haor*



Plate 12: A CBO president busy with fishing

Chapter Five

Community-Based Organizations and their Challenges

5.1 Introduction and overview

Community-Based Organizations (CBOs) are grassroots organizations with broad socio-economic objectives and are managed by the members on behalf of the members (Edwards and Hulme 1992). They are perceived as being a representative body of the local community and not necessarily affiliated to a political group. CBOs are often treated as the only organizations that the local poor feel they own, trust, and can rely upon (Datta 2005). These organizations get the majority of the local people involved in their functioning processes, leadership is created from within, and members usually belong to the same socioeconomic class – thus they are idealized as important bodies for local institutional arrangement. CBOs have been considered a major tool for Community-Based Resource Management (CBRM) worldwide for a long time. CBRM has become a common strategy for improving management of common pool resources and empowering local communities in the past two decades, taking into consideration of local knowledge, local institutions, and common property regimes (Berkes et al. 1998; Ostrom 1990; Pomeroy and Berkes 1997). Scholars like Kellert et al. (2000) argued that CBRM, as a commitment to involve community members and local institutions in the management and conservation of natural resources, can defend and legitimize local indigenous resources and property rights.

Community-based management by its very nature is participatory. The participation of the local people and incorporation of their views, opinions, and goals must be taken into account when managing resources under a community-based program. The main arguments of community-based management are that communities recognize that they have a long-term need for the resources they use and will manage resources for long-term benefits. If provisions are made for their involvement in conservation and management, then the benefits they receive create incentives for them to use and manage resources more sustainably. Also, the resource users have a closer association with the

resources and, therefore, possess a great deal of practical knowledge about the resources and the ecosystem associated with (Agrawal and Gibson 1999).

The objective of this chapter is to understand the organization process of CBOs and the challenges they face. The chapter starts with a brief overview of the CBOs that I studied, followed by the triggers of the CBO formation, relationship of household economy with CBOs and NGO activities, *modus operandi* of CBOs, and the Strength-Weakness-Opportunity-Threats (SWOT) analysis of the CBOs. I will then focus on the role of CBOs in fisheries management and discuss the role of NGOs in livelihood diversification and educating local people of the studied villages. Finally, I will conclude the chapter by discussing the major obstacles towards the sustainability of the CBOs.

5.1.1 Community Based Organization in the *Hakaluki Haor* area

Community-Based Organizations (CBOs) in the *Hakaluki haor* area were created under the Community-Based Fisheries Management Phase-2 (CBFM-2) project and nurtured throughout the project period so that CBOs can sustain their activities following the exit of the project. In the *Hakaluki haor* area, CNRS formed 14 “NGO-led” CBOs comprising representatives from different stakeholder groups in order to implement actions to address their common priority needs, particularly in fishery management, and then to support poorer fishers with livelihood and resource management training and credit. During my research, I analyzed the performance of the CBOs pertaining to self-organization with observations on their overall present activities (management and operational), and problems faced by them following phase-out of the CBFM-2 project and issues relating to sustenance of the CBOs.

5.1.1.1 Objectives and purposes of the CBO formation

The main objective of CBO formation is to involve the local stakeholders in sustainable management of wetland resources in *Hakaluki haor*; create awareness about the importance of fisheries resources, environment, and legal rights; provide training on livelihoods improvement, and rural development; and collective action to achieve development goals at the grassroot. The purposes of CBO formation are similar to those of the co-operative. According to their constitution the purposes of CBO may be summarized as follows:

- CBO members will receive training and education on the principles and values of the co-operative so that they can lead a co-operative-based planned life and help each other.
- Members will raise capital by their regular micro-savings and micro-assets to become self-reliant individually and collectively. And the capital will be utilized for their socio-economic development and social safety-net.
- Members will be trained on the collection, supply, and uses of modern equipment for certain kinds of farming and production. Skill development for product processing and marketing, micro-industry establishment, and proper planning and implementation methods are also included in the training agenda.
- Lands will be collected from government *Khas* lands or other fallow lands for product processing by single or joint management of CBO members.
- Networking will be done with the national and regional level co-operatives to play an active role in the national co-operative movement.
- Profession-based commercial and economic development projects will be developed and implemented to create new jobs, develop human capital, increase income, and reduce poverty.
- Members will participate in national literacy, family planning, health and nutrition, livestock development and conservation, and environmental conservation movements with the help and support of local government, semi-government, NGOs, foreign donor agencies, and social welfare organizations.
- Different projects such as house construction, transportation, small-scale cottage industry development, handicrafts, and poultry and livestock rearing will be taken on for the betterment of the members as well as the organization.
- Provide loans to the members, and help to produce commercial products and marketing.
- Establishment of small-scale industry, managing raw materials, and marketing of products home and abroad.
- Encouraging the members to lead a simple pious life, save and reduce unnecessary costs, educate themselves and their children, cultivate fallow lands,

and to become involved in developing modern road communication systems, public health, and rural development works.

- To help members become self-reliant and establish single or joint venture industries, and to encourage them to maintain a friendly work environment, thereby building trust among each other.

5.1.1.2 Legal status, structure and activities

CBOs in my study area are legally recognized by the district level co-operative office on behalf of the government. The CBOs I studied, *Shapla* and *Padma*, were registered in 2004 and *Pabijuri* was registered in the year 2005 with the technical support of CNRS (Table 5.1). They are getting institutional and field level support from different Government Organizations (GOs) like the Department of Environment (DoE), the Department of Fisheries (DoF), and different international and national Non-Government Organizations (NGOs) like the World Fish Center (WFC), CNRS, IDEA and PROCHESTA. The number of CBO members varies from 18-21, and this shows gender biases because in most cases female members are limited to 2-4 (Table 5.1). Each CBO is operated by a six-member executive committee consisting of a president, vice-president, secretary, treasurer, and two general member posts – but all are male.

All CBOs in my study area performed regular operational and managerial activities during the project period (CBFM-2, 2001-2007) with the support of locally active partner NGOs, but their activities decreased dramatically in the post-project period – indicating the poor sustainability of those CBOs. Moreover, most of the active members of the CBOs switched to other CBOs (such as the Village Conservation Group (VCG) formed by the Coastal and Wetland Biodiversity Management Project (CWBMP) and local fisher's forum) for greater benefits and to take advantage of relationships and networks with new project personnel to lease *beels*. Resources and management activities of the studied CBOs are discussed in Table 5.1 and 5.2. CBO members can manage their *beels* in a sustainable way but they have a big dilemma regarding ownership over their *beels*, as the lease already expired in 2009 and no official steps were taken towards extension of the lease of the *beels* (although they applied for further extension). A detailed discussion on leasing problems follows in section 5.5.

Table 5.1: Community-Based Organizations and their resources in the study area

CBOs	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>
Legal name	<i>Shapla Samaj Vittik Bahumokhi Samabai Samittee Limited</i> (“ <i>Shapla</i> ”)	<i>Padma Samaj Vittik Bahumokhi Samabai Samittee Limited</i> (“ <i>Padma</i> ”)	<i>Pabijuri Samaj Vittik Bahumokhi Samabai Samittee Limited</i> (“ <i>Pabijuri</i> ”)
Registration year	2004	2004	2005
Institutional linkage	DoE, DoF, WFC, CNRS, IDEA, PROCHESTA	DoE, DoF, WFC, CNRS, IDEA, PROCHESTA	DoE, DoF, WFC, CNRS, IDEA, PROCHESTA
Resources			
Membership	20 men and 2 women	21 men and 4 women	18 man and 2 women
<i>Beels</i> and area	<i>Gimara</i> and <i>Makri beels</i> , 0.61 ha	<i>Padma beel</i> , 15.95 ha	<i>Pabijuri</i> and <i>Ramer kuri beels</i> , 3.42 ha
Number of boats	2	2	2
Fish sanctuary	1	2	2
Plantation and flooded forest conservation	Road side 4000 saplings	Road side 4000 saplings, wetland 1000 saplings and 4.05 ha flooded forest	Road side 2000 saplings
Endowment fund	Tk. 50,000	Tk. 50,000	Tk.50,000
Community center	No	Yes	No

Source: CBOs constitution book and focus group discussions

All studied CBOs failed to manage most of their plantation programs due to lack of ownership. CBOs planted saplings on the roadside, but the legal owner of that land and those trees is the Local Government Engineering Department (LGED). CBOs like *Shapla* planted 4000 saplings on the roadside in 2006 (Table 5.1) and cultured them for one year by hiring plantation guards, but stopped management of these roadside plantations when they failed to get ownership of the plants from the LGED. As a result, young trees were either cut down by illegal cutters for fuel wood, or swallowed by cattle. I found only 120-150 live saplings during my study in 2009 (Table 5.2).

The success of community-based resource management largely depends upon the active engagement of the resource users in the decision making process as well as the implementation of those decisions (Campell and Thompson 2002; Ostrom et al. 2002 and Berkes 2004). In ensuring sustainability of the CBOs it is important to analyze their activities, management strategies, and co-management implications. It is very important

Table 5.2: Management activities of Community-Based Organizations in the study area (more details on fisheries management is on Table 5.5)

Resource management	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>
Beel management	Excellent	Good	Excellent
Plantation and afforestation	Fail	Fair	Fail
Fisheries management	Good	Good	Very good
Wildlife conservation	Fair	Fair	Good
Co-management			
Participation	Good	Good	Very good
Resource status	Fair	Fair	Good
Legitimacy	Medium	Medium	High
Savings	Good	Poor	Good
Microcredit operation	Good	Poor	Good
Endowment fund management	Poor	Poor	Good

Source: Combined results from three focus group discussions and workshop (Place: *Boromoidan*, *Pabijuri*, *Murshibadkura* and *Hakaluki* High School, Dated: 01/07/2009, 02/07/2009, 03/07/2009 and 04/09/2009, N=13, 15, 12 and 17 respectively)

to improve their management strategies by incorporating local knowledge, understanding the problems and probable risks, learning and adaptation, and finally, coping with the uncertain situations (Agrawal and Gibson 1999; Berkes 1989; Ostrom et al. 2002; Berkes 2004; Berkes et al. 2003; Marschke and Berkes 2005). In my study, I analyzed the management activities and co-management implications (Table 5.2) of the CBOs to examine the process of self-organization and sustainability. In later parts of this chapter, I discussed in detail about fisheries management activities by the CBOs and their impacts.

From the analysis, it is evident that co-management implications for all the CBOs are overall good, though with varying results. Participation by members in co-management activities was found to be favorable in the cases of *Shapla* and *Padma*, but very promising in the case of *Pabijuri*. Microcredit operations and savings were found to be in good shape in the cases of *Shapla* and *Pabijuri*, but poor in the case of *Padma*. I found the CBO *Pabijuri* to be managing their endowment funds better than others. Among the three CBOs, *Pabijuri* was found to be more efficient in management activities as compared to *Shapla* and *Padma*. The question then arises: why is the *Pabijuri* CBO in better shape than the other CBOs? The reason is that members of the *Pabijuri* CBO comprise both Hindu and Muslim influential leaders, and there is a great deal of understanding between the executive body and general members; also the leadership

quality of the president is reliable and trustworthy. On the other hand, a lack of interest in activities and leadership conflicts were apparent in the *Shapla* and *Padma* CBOs.

5.2 Triggers of CBO formation

The major objective of CBO formation is to engage grassroots resource users in managing wetland resources as well as empowerment and socio-economic development of the community. During my study, I asked the CBO members what the triggers of CBO formation were and what their involvement was in the CBO activities. In response, almost 100% of the CBO members told me that economic benefits and access to the natural resources base triggered them to form and get involved in CBOs (Table 5.3). It should be mentioned here that most of the people in the *Hakaluki haor* area live below the poverty level; their earning is very little and they are excluded from most of the civic facilities. That is why gaining economic benefits and ensuring access to the wetland resources are major concerns to them. Their expectation from their involvement with the CBOs is that they will get more economic benefits from it which will ultimately uplift their life style and help them to lead a happier and healthier life.

Attributes like local management of the natural resource base, social solidarity, cultural protection, and linking with outside institutions also triggered them to be involved in CBOs (Table 5.3), which cumulatively enabled them to sustainably manage the resources. However, CBO members could reap low benefits from capacity building, political space and empowerment, and recognition from outsiders (Table 5.3) as they are less aware of those benefits due to illiteracy and lack of practice. They were not familiar with concepts like ‘capacity building’, ‘political space’, and ‘empowerment’; however, after explaining the meaning of those concepts, they showed interest in them. They thought that their capacity in managerial activities and other dealings improved and they were receiving more recognition from outsiders than before. However, they considered themselves not fully empowered because they need help from NGOs and GOs in several aspects of their management activities, including leasing *beels* and setting priorities.

Table 5.3: Benefits and objectives of CBO formation in the three CBOs in *Hakaluki haor*

Benefits and objectives	<i>Shapla</i> N=13	<i>Padma</i> N=12	<i>Pabijuri</i> N=15
Economic benefits	100%	100%	93%
Access to natural resources base	100%	92%	100%
Social solidarity (sense of belonging to the community)	69%	92%	87%
Local management of the natural resources base	92%	83%	93%
Link with external institutions	77%	83%	93%
Link inside local institutions	85%	67%	47%
Cultural protection	46%	75%	87%
Social recognition by outsiders	46%	67%	67%
Political space and empowerment	54%	67%	60%
Capacity building	46%	75%	67%

Note: N is the number of CBO members present at the workshop and focus group discussions, Source: Combined results from three focus group discussions and workshop (Place: *Boromoidan*, *Pabijuri*, *Murshibadkura* and *Hakaluki* High School, Dated: 01/07/2009, 02/07/2009, 03/07/2009 and 04/09/2009, N=13, 15, 12 and 17 respectively)

How CBOs help household economy

CBOs in the *Hakaluki haor* area are playing an important role in improving the household economy and social safety net. CBOs were formed by the local people (men and women) based on their villages by NGOs. CNRS organized the local people and formed CBOs in different project phases such as: CBOs in CBFM-2, VCG (Village Conservation Group) in CWBMP and village women groups for microcredit operations. Through the CBOs, only members can be directly involved in the management activities of different projects. They received training on management of resources, livelihood improvement and diversification, purposive use of general loans and microcredit money (which ultimately increase their monthly income), awareness on child education, and health and sanitation (Figure 5.1). Being involved in the management activities of different projects through CBOs, members were able to improve their livelihoods and earn more; they also enjoyed relatively better social recognition. All these led to a sense of competition among the local people to be involved in the CBOs. They also became adept enough to mingle with institutional networks by switching from one CBO to another in order to derive more benefits. Such an opportunistic aptitude helps improve

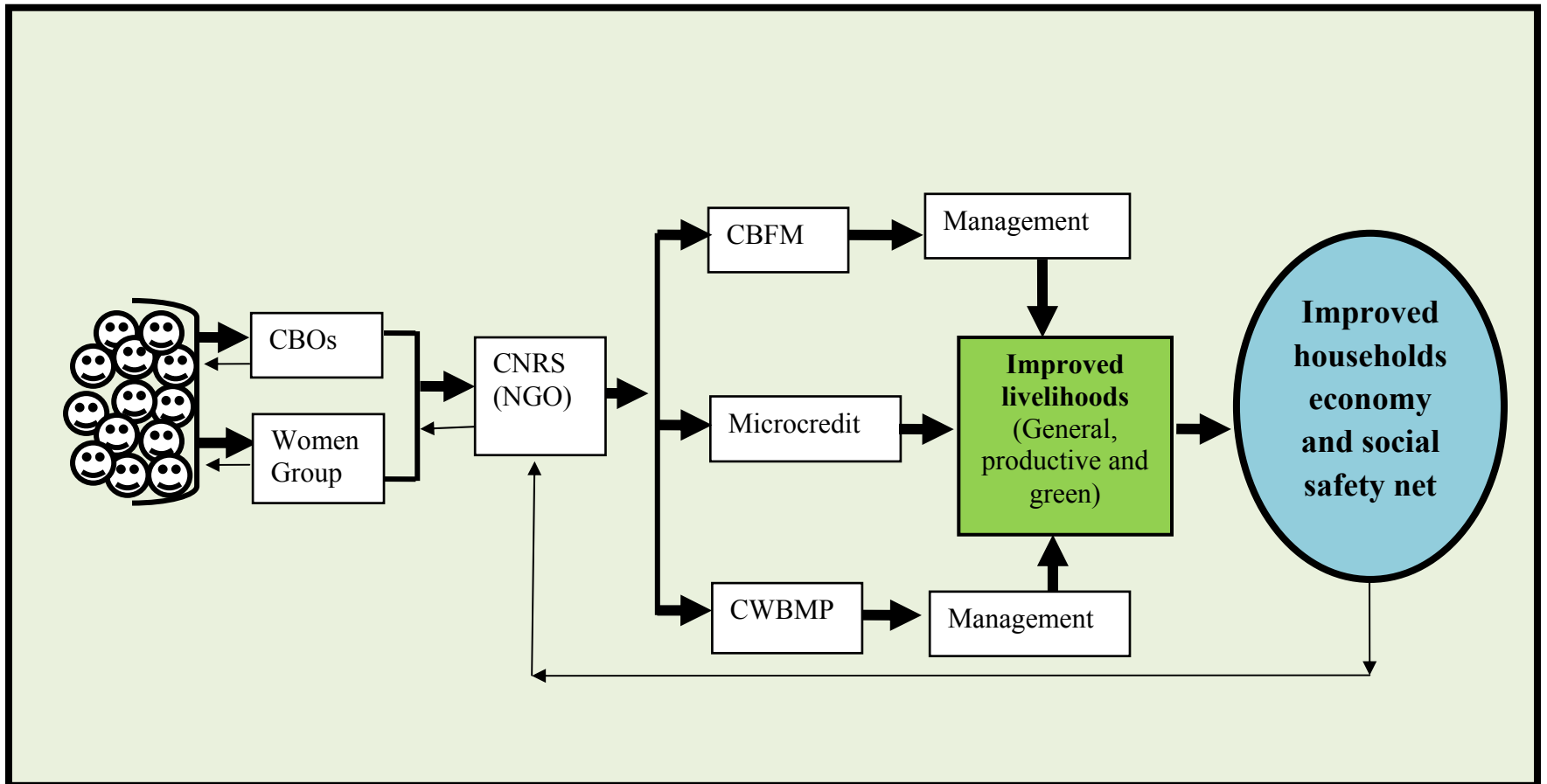


Figure 5.1: Relationship of household economy with CBOs and NGO activities

the household economy and ensure a social safety net (details in chapter 4) for a certain section of the community, though not necessarily benefitting all the members of the community (Figure 5.1).

5.3 How the CBOs work

The functioning and success of the CBOs depend on a host of attributes. Some of these are: access to *beels* through direct legal sanction, networking ability of the leaders, experience of the leaders in handling and bargaining with government institutions for the leasing process, homogeneity and level of awareness of the members, economic return from the CBO, peer pressure and democratic exercise within the CBOs, etc. Primarily, it is the leadership dynamics of the portfolio-holders of the CBOs that determine the overall success or failure of the CBOs. Discussion of this section will be limited to the strength and weaknesses of the CBOs.

Strengths of the CBOs

Among the three CBOs dealt with, only *Padma* had the advantage of succeeding in the complicated leasing process directly from the government. Because of the strategic importance of the location of the leased-out *beel*, the committee got involved in a host of projects funded by different donors. *Shapla* and *Pabijuri* got a lease from a local youth club (*Jubo unnoion shongho*) that obtained leases directly from the government. Though the *Shapla* and *Pabijuri* CBOs had to pay a surplus amount of money for obtaining a lease from secondary sources, they had the added advantage of enjoying socio-political influence of the bidders, and consequently they developed networks and relationships with government agencies. The diversity of the community composition plays a critical role in the cohesion of CBOs. The *Padma* and *Shapla* CBOs comprised solely Muslim members; this homogeneity of membership belonging to same faith theoretically had the advantage of minimizing conflicts and developing consensus over certain issues related to *beel* resource management. In reality, a process of consensus development and conflict mitigation over resource management issues did not happen. However, in the case of the *Pabijuri* CBO, the committee comprised locally influential leaders from both Hindu and Muslim communities. The diversity in the composition of membership contributed to

Table 5.4: Strength Weakness Opportunity and Threat (SWOT) analysis of the studied CBOs

Strength	Weakness
Shapla: Cohesive, less intra-conflict, legal recognition, plan of regular activities, organizational setup, posing own building, involve single community (Muslim), same cultural and social believes in the initial stage of the organization	Shapla: Inability to manage lease of <i>beel</i> directly from government, work in socially conflicting situation, dealing with most vulnerable ultra poor community, lack of fund and savings, small representation from the society and leadership conflict.
Padma: cohesive, organizational setup, legal recognition, plan of regular activities, owning <i>beels</i> by direct lease, involve single religious community (Muslim), same cultural and social believes	Padma: Dealing with most vulnerable ultra poor community, small representation from the society, less economic incentives, lack of funds and savings, and mistrust regarding fund management.
Pabijuri: Cohesive, less conflict, strong leadership, legal recognition, plan of regular activities, organizational setup, regular meeting, and strong understanding.	Pabijuri: Inability to manage lease of <i>beels</i> directly from government, work in socially conflicting situation, multiple religious communities (both Hindu and Muslim), dealing with most vulnerable poor community, less economic incentives, lack of funds and savings and small representation from the society.
Opportunities	Threats
Shapla: Scope of involvement in future intervention, good reputation and linkage with formal institutions (GO and NGOs), ability to involve in project and management activities	Shapla: Possibility of mistrust and conflict over leadership, influence of remittance earners, limited scope of administrative support, unsustainability of CBO activities, loss of interest in participation and unforeseen political influence and social nuisances.
Padma: Scope of involvement in future interventions, good reputation and linkage with formal institutions (GO and NGOs), ability to involve in project and management activities	Padma: Possibility of mistrust and conflict over leadership, influence of remittance earners, limited scope of administrative support, unsustainability of CBO activities, loss of interest in participation and unforeseen political influence and social nuisances.
Pabijuri: Scope of involvement in future intervention, good reputation and linkage with formal institutions (GO and NGOs), ability to involve in project and management activities, involve in small scale enterprises.	Pabijuri: Possibility of mistrust and conflict over leadership, influence of remittance earners, limited scope of administrative support, unsustainability of CBO activities, loss of interest in participation and unforeseen political influence and social nuisances.

building awareness among members and developing a sense of leadership qualities among the portfolio holders, thus adding to the potential and functioning of that CBO. The portfolio holders of this CBO were trusted by the general members.

Weaknesses of the CBOs

The government's misleading *jalmahal* Policy *beel* rent-seeking leasing is a causative factor for which CBOs fail to get direct leases from the government. Also, (1) there is a general lack of operational funds among CBOs in the *Hakaluki haor* area. During the project period, CBOs failed to raise enough savings to lease *beels* by open bidding and then continue their operational and management activities; this decreased their sustainability. (2) Another common weakness is that all CBO members are very poor; they need economic incentives and regular earnings to feed their families. As the CBFM-2 project phased out, the flow of financial support from the government and donor agencies collapsed, the working relationships faded, project personnel were withdrawn, and government officials showed reluctance to sustain the CBOs after project completion because they have no official responsibility to do so. All these had negative impacts on their interests in CBO activities. (3) Leadership conflict became more prevalent in the *Shapla* CBO than in the *Pabijuri* and *Padma* CBOs due to the strategic importance and social significance of the CBO in the former area. The CBO *Shapla* has a community center located in the *Kanongo bazaar* (a local market) which focused on the community. Mistrust was found among the CBO members for using their savings and loans in the CBO *Padma*.

From the SWOT analysis, it is evident that through several project interventions CBOs are now skilled enough to become readily involved in future project activities. Various training on project development and wetland resource management made the CBO members capable of dealing with the GOs, NGOs, and other non-formal organizations; this competence could be considered human capital for further development initiatives in resource management in the *Hakaluki haor* area.

5.4 Roles of CBOs in fisheries management

Community-based organizations are playing an effective and efficient role in fisheries management in the *Hakaluki haor* wetland. With the help of partner NGOs (i.e. CNRS), through several meetings and reviews, each CBO has developed a management plan for each year. A group management approach was adopted to monitor the CBO-leased *beel*. The *Beel* Management Committee (BMC) was formed with members coined from the CBO members who were responsible to monitor the *beel* and prevent all illegal and destructive fishing in their *beel*. The major outcomes of the CBFM-2 project were the establishment of a few local fisheries management rules, norms, and culture by the local fishers themselves. They established a fish sanctuary to stock fish during winter and enforced a closure period during the fish breeding season (Table 5.5). All fishing activities are prohibited and there are strict restrictions on access and gear use during the closed period in the *beel*. Some CBOs stocked fingerlings; I found CBO *Pabijuri* doing this for future fish production. However, during my verification of CBOs' fisheries management activities I found controversial opinion from the Upazila (Sub-district) fisheries officer. He mentioned to me, “*actually they (CBO members) are not maintaining any closure period and fish sanctuary, and they now keep catching all fishes in their nets what they usually did not do during the project period*”. His comment was verified by other community members in my key informant interviews. Most of them opined that they are still maintaining their previous practices but with little interest, and sometimes they are violating the local rules to ensure a basic level of livelihood.

CBO members informed me that they took several initiatives to improve the fish habitat; they usually excavated mud from their *beel* in dry seasons when most of the water bodies dried up; they also construct dykes and apply fertilizer each year. They go fishing in a team and share their income equally among the members. Participation in the team is mandatory (every member will be included in one team). All the CBO members share their profits or losses as accrued to operate their regular (i.e. leasing, meeting) and fishing activities (i.e. guarding, buying fishing nets and boats, habitat improvement, fertilizer application, etc.). The major drawback of the CBOs in *Hakaluki haor* is that members lost their interest to arrange and attend regular meeting, as they consider it fruitless to sit together and plan for future actions for resource management. Again, there

is no follow-up from any agency, government or non-government, following exit of the CBFM-2 project. Instead of sustaining the CBOs that already passed through critical stages of organizational growth, fishers creep around opportunistically for material benefits from other projects.

Table 5.5: Roles of Community-Based Organizations in fisheries management

Activities	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>
Developed management plan	√	√	√
Regular monitoring of the <i>Beel</i>	√	√	√
Stocking of fingerlings	×	×	√
Enforcement of closure period	√	×	√
Habitat improvement	√	√	√
Establishment of fish sanctuary	√	√	√
Regular fish harvest (except closure period)	√	√	√
Regular meeting	×	×	×
Sharing profit/loss	√	√	√

Source: Combined results from three focus group discussions and workshop (Place: *Boromoidan*, *Pabijuri*, *Murshibadkura* and *Hakaluki* High School, Dated: 01/07/2009, 02/07/2009, 03/07/2009 and 04/09/2009, N=13, 15, 12 and 17 respectively)

The major objective of the CBFM-2 project was to develop and test community-based fisheries management approaches and assess the impacts of interventions, ensure long-term sustainability in aquatic resource management, and to engage local communities in managing larger fishery and wetland systems. The CBFM-2 project allocated limited numbers of water bodies to fishers' groups through institutional collaboration with government; however the project could not bring forth much-needed institutional reform and changes in policy for sustainable fisheries resource management. It is the absence of transparent and accountable policy, rent-seeking orientation of the land administrator, power gaps among government bureaucracies (Note: fisheries departments occupy relatively weaker positions among different government departments), power play among the leaseholders, corruption, absence of follow-up by the concerned officials, lack of commitment and solidarity among community members, etc. that singly or synergistically hinder sustainable functioning of most of the CBOs. An analysis of the impacts of the CBFM-2 project reveals both optimistic and pessimistic scenarios for the CBOs. Based on a series of focus group discussions with key informants

and participatory assessment of the CBOs, common sets of indicators were developed and each CBO was evaluated by its members (Table 5.6). Many of the indicators of sustainability show erosion over time: the CBOs lose their connections with cross-scale institutions, they hardly maintain horizontal relationships among CBOs, and many CBOs end up with conflicts over financial management. For co-management to be effective, and to ensure empowerment of the fishing community, sufficient actions are needed for sensitization, awareness building, and organizational capacity building. During the project period, government and supporting NGOs could not transform the CBOs into functional and economically viable organizations because economic activities and distribution of benefits among participating members are required to sustain the CBOs.

Table 5.6: Impacts of Community-Based Fisheries Management projects on CBO members as assessed through focus group discussion and participatory assessment

Empowerment indicators	CBOs		
	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>
A. Social and institutional indicators			
A1. Social inclusion: size of CBO members (% of total households of the village)	+++	+++	+++
A2. Awareness level of general members on social issues	+++	++	+++
A3. Functioning of CBOs (regular meeting, participation, decision making, sharing of information, bookkeeping, transparency, accountability, conflict management)	++	+	+++
A4. Quality of CBO leaders (honesty, sincerity, dedication, social acceptance, participation in social events, accepting other members opinion in decision making)	++	+	+++
A5. Plan and vision of CBO (ideas, vision, development plans and steps taken)	++	+	+++
A6. Democratic environment (application of democratic principles, election process, transparency, general members participation in decision making, etc.)	++	++	++
A7. Organizing community meetings; discussing issues related to organization, social and religious; sharing information and documentation	+	+	+
A8. CBO members represented in local, <i>upazilla</i> , district and national level institutions	+	+	+
A9. Degree of interactions between CBOs and higher level institutions	+	+	+
A10. Common/collective/joint programs with other CBOs	-	-	-
A11. Linkage between CBOs and Government Organizations	+	+	+

A12. Linkage between CBOs and CNRS (participation of NGO in CBO-based activities etc.)	+++	+++	++++
B. Economic indicators			
B1. Savings (amount, regularity, quality of account keeping and utilization)	+	+	+
B2. Grant mobilization by CBOs for organizational/community welfare	+	+	+
B3. Percentage of people taken loan from micro-finance institutions	+++	+++	+++
B4. Level of diversification and households income increase	+++	++	++++
B5. Percentage of CBO members trained (by project) and involved in alternative income generation	+++	++	+++
C. Resource management			
C1. Participation of CBO members fisheries resources and habitats management	++	+	+++
C2. Awareness about conservation and sustainable use of resources	++	++	+++
C3. Level of awareness about fish acts, regulations and administrative orders	++	+	+++
C4. Village level initiative and activities for the implementation of village action plan for conservation and management of natural resources	++	++	+++
C5. Extent to which CBO members are aware of decisions /action plans prepared by NGO	+++	++	+++

(Scale: + = Minimum, ++ = Progressing, +++ = Moderate, ++++ = Satisfactory, +++++ = Sustainable/Excellent)

Role of NGO in livelihood diversification

I discussed the role of NGOs (i.e. CNRS) in microcredit operation and rural household income increment in Chapter 4. Here I will explain the role of CNRS in livelihood diversification. CNRS is one of the most active environmental NGOs in Bangladesh that is involved in fostering ecological restoration, conservation of natural resources, and sustainable management of wetland resources-through community participation in the *Hakaluki* wetland (and other parts of the country). CBOs are the key tools that CNRS uses to implement their project activities in the *Hakaluki haor* area. CNRS integrates microcredit and other loans to achieve its broad mandate of ‘sustainable natural resource management’ through livelihood diversification and active participation of the CBO members who wish to be involved in project activities. It provides loans (general and microcredit), training on the different ways to diversity livelihoods, environment-friendly project development and management (Figure 5.2), technical advice (bank account

opening, book-keeping, documentation and proposal development), and logistic support (seeds for farming, fish fry, and water pumps) to the CBOs.

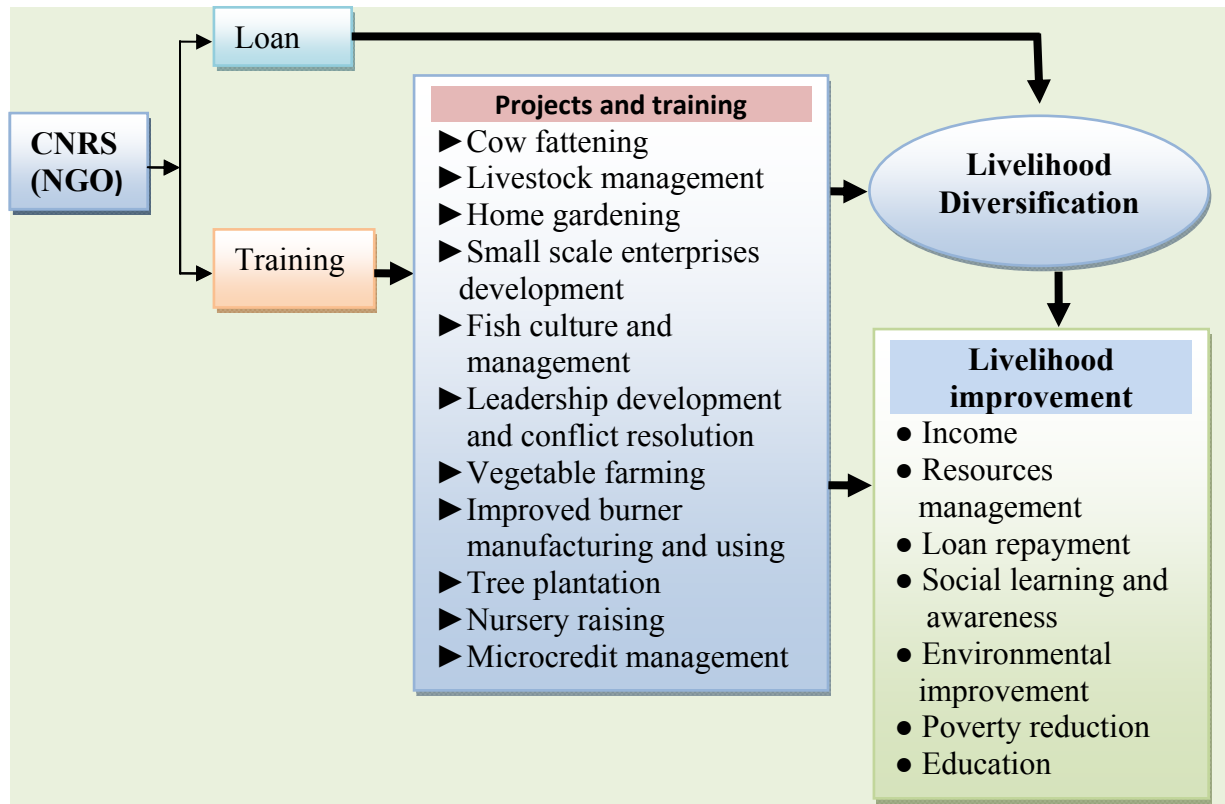


Figure 5.2: Role of NGO in livelihood diversification and educating rural people

CNRS staff monitors project activity through weekly meetings, field visits, and discussions with the CBO members. I attended training sessions and several weekly meetings of women groups, CBOs, and VCGs during my field work. I had discussions with several beneficiaries regarding their successes and failures in their efforts for livelihood diversification. I spoke with one CBO member who was an active fisherman earlier, but got lucky by farming vegetables (tomatoes) in the scarce elevated land (*Kandi*) of the *haor* area. CNRS provided training and high quality seeds to him that can be grown year round. There is a sharp seasonal variation in price of tomatoes. In winter (normal growing season) the normal price is Tk. 30/Kg and that can escalate up to Tk.120-180/Kg (1US\$= Taka 70) in lean period or off seasons. He told me that tomato cultivation changed his life; he was earning more money than he was earning earlier from fishing. I found several cases (cow fattening, livestock rearing, nursery raising, and similar small-scale enterprises) which helped to diversify livelihoods of local people,

improved household economy, and ensured a social safety net (I discussed several cases in chapter 4). Besides all these positive contributions, diversification in livelihood activities indirectly helped reduce pressure on wetland resources in the *Hakaluki haor* area.

5.5 Major obstacles towards sustainability of the CBOs

Despite the various strengths of CBOs, they are facing several obstacles to sustain their operations, effective use of their local knowledge, expertise, and reputations to manage resources due to their small staff, narrow skill sets, limited resources, and financial instability (Griffith et al. 2010). Sustainability of CBOs in the *Hakaluki haor* area largely depends upon the economic incentives to its members. The major obstacles towards the sustainability of CBOs include a misleading *Jalmahal* leasing policy by the government, lack of savings and continuous project support, poor leadership, switching membership in running project CBOs, poor horizontal relationships, and lack of organizational and administrative support. I discuss the major obstacles towards the sustainability of CBOs below:

5.5.1 Problems in leasing of *beels*/*Jalmahal*

Direct leasing of *beels* from government to their CBO name was identified as the main problem of CBO sustainability by all the CBO members. They thought that misleading wetland (*Jalmahal*) management policies were responsible for not leasing *beels* to their organization. From my research and analysis of the present and past wetland (*Jalmahal*) management policies it was evident that different policies emphasized different groups of people in the society to lease the *beels* (*jalmahal*). I critically analyzed only three government management policies: 1. National Fisheries Policy 1998, 2. The Government *Jalmahal* Management Policy 2005, and 3. The Government *Jalmahal* Management Policy 2009. This was in support of the CBO members' argument about their leasing problems. The logic behind the analyses of these three government policies is that all my studied CBOs were registered in 2004 (*Shapla and Padma*) and 2005 (*Pabijuri*).

National Fisheries Policy 1998 was formulated with the broad objective to ensure the benefits of real fishers, but it failed due to lack of resources, and the incapability and limitations of the Department of Fisheries (DoF). With the objectives of decentralization

and involving multi-stakeholders in wetland management “The Government *Jalmahal* Management Policy in 2005” was formulated. As a result, different level government institutions involved in the *jalmahal* management system i.e. local government-sub district-district-division-department-ministries. Under this policy, the Ministry of Land (MoL) transferred all *jalmahals* less than 3 acres in size to the *Union Parishad* (local government at the village level), 3 to 20 acres to the Ministry of Youths and Sports (MoYS) and management lies with the *upazila* (sub-district) *jalmahal* management committee under the *upazila* administration, and more than 20 acres *jalmahal/beel* was transferred to district *jalmahal* management committee under the district administration (Khan and Haque 2010). In my field investigation it was evident that poor fishers were excluded from the benefits of the *jalmahal* management policy 2005, because *jalmahals* under *union parishad* were leased to the local elites, politically active persons (the then-ruling government), and relatives of the *union parishad* chairman instead of poor local fisherman. The *jalmahals* under the *upazila* administration were usually leased by the local youth organizations in order to engage local youth and provide them employment opportunities, but real fishers were excluded. The real situation in the field was that, to get lease of *jalmahal*, local elites and rich men formed and patronized different youth clubs, and politically active youths even organized to get lease. As a result, fisher youth organizations were unable to lease *jalmahal* due to political biases, elite pressure, and administrative corruption. The *jalmahals* under the district administration should be leased to the highest bidder of the registered fisher co-operatives; if the fisher’s co-operative fails to manage the leasing money then a fresh bidding for *jalmahal* will be open for all to participate in. The minimum lease is determined by 15% of the previous lease fees and then bidding starts. But most fisher co-operatives were unable to pay the money due to lack of savings and financial incapability, so then it went to local or non-local elites, rich men, and politically powerful people. In my studied CBOs, only *Padma* leased *beels* (15.95 ha) directly from the government (district level) through CBFM-2 project support, but *Shapla* and *Pabijuri* sub-leased *beels* (0.61 ha and 15.95 ha) from the local youth club (*Jubo union samitee*), because *beels/jalmahal* less than 20 acres in size were under the jurisdiction of MoYS, so the local youth club got the lease according to

government policy. MoYS has been controlling these *jalmahal* since 1983 to engage local youth and create employment opportunities.

The government formulated a new *jalmahal* management policy in 2009 to ensure leasing of *jalmahal/beels* to fishers' co-operatives comprising real fishers. The main features of that new policy were transferring (returning back) three- to 20-acre sized *jalmahal* to MoL from MoYS and the inclusion of two members – one from a registered fishers co-operative in *upazila* and the other from the district *jalmahal* management committee, both of which are solely responsible for *jalmahal/beel* leasing in their respective *upazila* and district areas (Khan and Haque 2010). By this policy, government showed a willingness to provide benefits to the real fishers – but the problem is that the fishers' representative in *upazila* and the district level *jalmahal* management committee were selected by an administration in which local political leaders and elites play a significant role, and this ensures their benefit instead of the fishers'. Sometimes fishers' representatives were influenced by money from elites or local influential persons. Another drawback of that policy is that only those fisher's co-operatives who have mentioned “*fisher's co-operative*” in their legal name of organization will be eligible for lease of *jalmahal*. As a result, CBOs are not eligible to lease the *beels/jalmahal* directly from the government as their organization's name has no “*fishers co-operative*” in it. All the CBO members were blaming CBFM-2 support NGOs and government as they did not mention “fishers” in the legal name of the CBO as well as in the government registration. I discussed this issue with NGO staff and the *upzila* fisheries officer, and in reply they told me that CBO naming was done during 2004 and 2005 and the *jalmahal* policy then was favorable for leasing *jalmahal/beels*, but present policy create barriers for leasing due to its name.

5.5.2 Lack of funds for leasing-in and buying equipment

Money is a very important factor in leasing *beels*, buying fishing equipment, and in the regular operating activities of the CBOs in the *Hakaluki haor* area. During the CBFM-2 project period, supporting NGOs and GOs failed to raise sufficient savings within each CBO to sustain their activities after project expiry. Initially a lump sum of money was given to each CBO as seed money to lease *beels* and buying fishing equipment (i.e. fishing boats and nets), but CBOs failed to return this seed money to their accounts or to

raise funds from their monthly savings. This is because their monthly savings were very nominal, at only Tk. 20/month/member, and moreover they were irregular in saving money and subsequently stopped after the project expired. Their faulty saving method prevented CBOs from raising funds to continue their operation. After analyzing the account of the CBO *Pabijuri*, I found that it can raise only Tk.18000 in a five year period of time from their savings (Tk. 20/member/month, 20 members in the CBO), but they spent Tk. 48000 for sub-leasing *beels* (*Pabijui and Ramer kuri beels*) and buying only boats, excluding other operational costs. CBOs were able to lease *beels* and buy fishing boats and nets initially as they got project support as seed money, but in 2009 they were facing severe funding problems in leasing the *beels*, buying fishing equipment, and running the CBO activities. As mentioned before, they were afraid of losing their security money if they got lease of a *beel* (as they have applied for) from the government and were not able to submit the total lease value within one week (according to government leasing rule). This is because they have to deposit 5% of the primary lease value with their application – and if they failed to deposit the whole amount into the government account within one week, the lease would be cancelled and they would lose their earnest money (5% of primary lease value) simultaneously.

5.5.3 Switching membership, lack of interest, formation and competition among CBOs

Sustainability of CBOs largely depends upon the active participation, economic incentives, and constant support by their members. In my field investigation another important bottleneck of the CBOs' sustainability was the tendency of switching membership, lack of interest, forming a new CBO, and competition among CBOs. Upon analyzing the root of these bottlenecks, I found a multi-faceted problem. The reason behind CBOs switching their membership and forming new CBOs was that the CBO members always try to involve themselves in ongoing projects thinking they will get more economic benefits and social recognition by doing so. Simultaneously, they were losing interest in their previous (CBFM-2) CBO project activities (i.e. attending regular meetings, participating in development work, regular savings, etc.). They also believed that if their previous project expired no economic benefits would come from it, and if

they involved themselves in an ongoing project they might get continuous benefits from it (e.g. VCG in CWBMP), as it may sustain for a long time.

Due to the misleading government *jalmahal* (wetland) management policy, CBFM-2 project CBOs were not getting lease of a *beel* directly from the government (as I discussed previously), so the same members formed new CBOs named “Fishers Co-operative” (*Mothsojibi samabai samittee*) to lease larger-sized *beels* directly from the government. Again, local elites and powerful political persons motivate and use the local fishers to form fisher’s co-operatives to get the lease easily, which will be managed by the elites or political persons later. Sometimes the local elites and politicians also form CBOs in the name of “fishers” by the sub-ordinate local people to lease the *beels* by corruption and political pressure. As a result, competition arises among the CBOs to lease the *beels/jalmahal*, sometimes leading to social division, conflicts, and even collision. Because of this, the sustainability of the CBFM-2 CBOs in the *Hakaluki haor* area is being severely obstructed.

5.5.4 Poor leadership, administrative support and horizontal relationship among CBOs

Strong leadership is an essential element for CBOs to be organized and run smoothly. My research explored that poor leadership quality, irregular meeting and monitoring of activities, lack of clear documentation, non-transference in accounts, mistrust, lack of administrative support (from GO), and poor horizontal relationships are hindering the sustainability and organization of CBOs. In my field observations I found poor leadership quality in the *Shapla* and *Padma* CBOs; there were leadership conflicts, mistrust in fund-using, organizational incapability, and irregular meetings – all of which drew those CBOs at the threshold level of sustainability. At the beginning of the CBFM-2 project, CBOs got support from government organizations (basically from the *upazila* level fisheries officer), but at the end, and after the project expiry there was no communication and support from GOs. CBO sustainability largely depends on recognition from government line agencies like DoF and *upazila parishad*. NGO support was also very limited due to project expiration because money was required to continue it. It was also found that there was none or very limited cross-scale linkage among the CBOs in the *Hakaluki haor* area,

which can be a useful tool for exchanging management ideas, conflict resolution, and skill development.

5.6 Conclusion

Community-based organizations seem to be the best grassroots organizations to empower and involve the fishers in wetland management. CBO activities in the *Hakaluki haor* largely depend upon the economic benefits from their involvement. The key findings of this chapter in light of the secondary objectives are:

- It is evident that CBOs are an essential part of project implementation; investigated the major purposes, objectives and triggers of CBO formation by local people.
- The CBFM-2 project has a profound impact on fisheries management activities, establishing several local rules and norms.
- The role of NGOs in CBO formation, stakeholder mobilization, organization, and capacity-building.
- Explored the government *Jalmahal* leasing policy change implications and obstacles towards CBO sustainability.

Involving real marginalized fishers and the sustainable management of *haor* resources are both very important to realizing a community-based organization's sustainability and organization. Upon analyzing the sustainability indicators, it was evident that the numbers of CBOs in the *Hakaluki haor* area are decreasing (on average). In the future, project intervention is recommended to ensure continuous economic benefits to stakeholders, uplift society, and allow CBOs to self-sustain after the project period.

Chapter Six



Plate 13: Women were participating in the meeting without hesitation



Plate 14: A woman is working in a CBO nursery

Chapter Six

Social learning and institutional capacity building

6.1 Introduction

Resource and environmental managers and decision makers are increasingly facing problems that are characterized by high degrees of ecological and social complexity, uncertainty and indeterminacy, and conflicts over values and interests. Moreover, they are often faced with the need to generate positive change in dynamic social-ecological systems (Berkes et al. 2003; Funtowicz and Ravetz 1993; Gunderson and Holling 2001; Mitchell 2004). In response, theoreticians, policy makers, and managers are increasingly relying on social learning approaches, such as adaptive and participatory approaches that facilitate learning by individuals and social organizations involved in resource and environmental governance (Diduck 2004; Folke et al. 2005; Keen et al. 2005).

The concept of social learning is now prevalent in resource and environmental governance. The multifaceted nature of socio-natural systems has drawn attention for wider use of social learning to address the complexity of sustainable natural resource management and to promote desirable behavioral change. Many scholars define social learning as an institutional process that evolves as individuals observe the behaviour of others, transform it into cognitive representations, and execute the behaviour if it is associated with benefits, rewards or incentives (Muro and Jeffrey 2008). Scholars like Armitage et al. (2009) view social learning as the collaborative or mutual development and sharing of knowledge by multiple stakeholders through 'learning by doing'. Authors from the domains of human resources and knowledge management have extended the sphere of application for social learning beyond the psychological level to investigate how groups and social organizations learn through interaction and collaboration (Davis and Witte 1996; Baron et. al. 2003).

In this chapter, I will discuss the individual and organizational social learning of the people from the community that I studied. Firstly, I will describe how rural women learn through microcredit operation, deal with the microcredit institutions, and apply their acquired knowledge to their practical lives. Later, I will discuss the social learning

experiences and their applications in fisheries management of other local people (especially those of the fishing community) learned through involvement with CBFM-2 project interventions.

6.2 Organizational role in social learning and capacity building

Scholars like Baron et al. (2003) and Argyris (1993) explored ways of social learning by groups and organizations through interaction and collaboration with them. Again, Marschke and Sinclair (2009) and Lave and Wenger (1991) emphasized place-based cognitive learning where community people live and interact. In my study, I found that community people learn through group interaction, project intervention, and from the way individuals deal with particular situations. Microcredit mechanisms and the CBFM-2 project facilitated the formation of groups and CBOs comprising both females and males from the community in order to implement planned activities at the grassroots. Women's groups and CBOs both dealt with several NGOs, GOs, local informal and formal institutions, and individuals acquiring loans and participating in project activities. Women are required to know how to write their name(s) in order to submit a project and receive loans from the microcredit organization.

Microcredit organizations encourage the rural women to become literate if they are not. Every woman has to meet with NGO staff at various places (NGO office and village) for the processes involved in filling out applications, forming women's groups, project proposal preparation, loan issuance, training, and the final usage of loans. Previously, the traditional patriarchal male-dominant Bangladeshi society put restraints and social obligations on women when going outside the home and meeting with non-familiar persons. The Bengali myth of the ideal woman is to serve males and nurse family members. Women ended up doing a host of household work; they were not encouraged to go to school and deal with the outer world. In the last few decades, due to continued efforts of different institutions to empower women and engage them in enhancing family income and decision making along with their male counterparts, women have been subject to a new world that allows them to educate themselves and deal with non-familiar persons (NGO and GO staff). Dealing with the microcredit organizations, NGOs, GOs, peer groups, and people outside the home, women are continuously learning changing

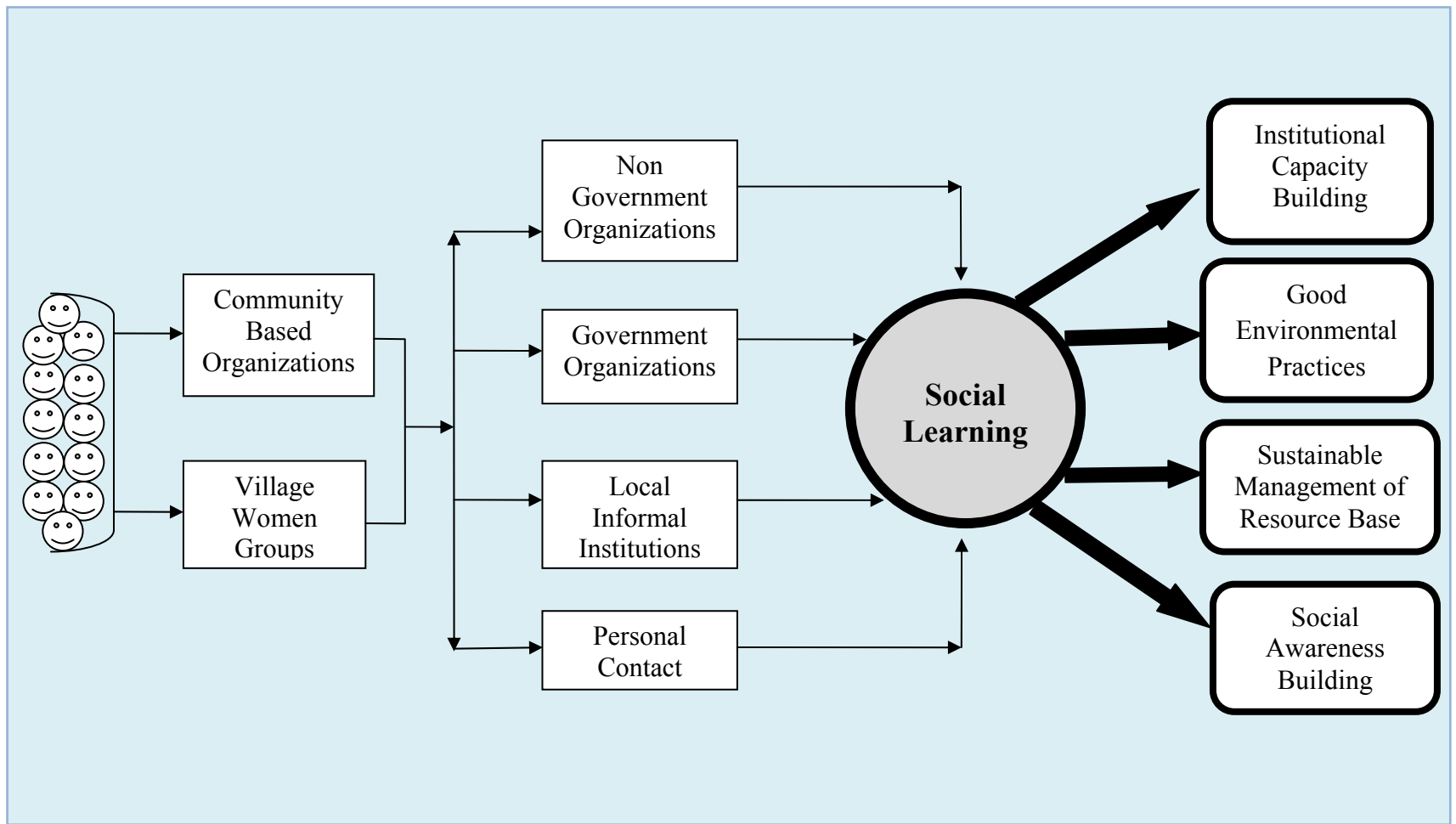


Figure 6.1 Organizational roles in creating social learning and its impact on society

social norms and behaviors, diverse legal and paralegal issues, health consciousness, and other issues that impact their lives and status.

Most of the microcredit organizations place certain conditions on loans prior to disbursing them. These conditions directly encourage the borrowers to do some positive environmental practices. For example, Grameen bank promotes planting trees and improving health and sanitation practices, and CNRS encourages environment-friendly uses of loans (e.g. no destructive fishing, tree plantations, etc.). Thus, microcredit organizations play an important role in providing new sets of knowledge/learning for women and facilitating the lessons valuable to their practical life.

Community-based organizations (CBOs) were found to play a significant role in social learning, especially among the fishing community (figure 6.1). CBOs were directly and indirectly linked with the supporting NGOs (CNRS), GOs (*upazila* Fisheries Office), local formal and informal institutions (local youth club and mosque committee), and influential persons of different levels in the implementation of project activities and achievement of project goals. CBO members directly and local people (especially fishers) indirectly got several learning experiences on diverse issues. Some of these new lessons related to: fisheries management, loan and grant management, opening a bank account, dealing with officials of different strata of NGOs and GOs, social consciousness, rules and regulations regarding fisheries, informal rules for natural resource-based management, educating children, and good environmental practices through project interventions. Some of the most important skills that the CBO members learnt, which ultimately built their capacity to manage wetland resources, were: how to opportunistically switch to other projects, how to apply for *beel*(s) leases, and how to manage an organization.

6.3 Social learning related to microcredit

People live in societies and interact with each other. They continually learn from their daily activities, involvement, and organizational dealings. Scholars like Armitage et al. (2009) defined social learning as “learning by doing” and Sims and Sinclair (2008) defined it as “instrumental learning”. During my field research, I asked the women involved in microcredit operations what they learned from microcredit, and how they were applying their new knowledge. Following their responses, I recorded 15 lessons

learnt by them through microcredit interventions. All women (100%) reported that working in a group was their most valuable learning experience, because without the existence of groups, they would not be eligible to get loans. Scholars define this “group lending” as a form of “social capital” (Rahman 1999; Anderson et al. 2002). Women meet each other and NGO staff every week in a suitable place or “microcredit center” (a permanent or temporary place, or maybe someone’s yard) within their village, where they pay back their weekly installment and exchange information on new ideas, wellness and woes, government programs (e.g. immunization program, relief work, government support available for their locality, etc.), and other activities.

Table 6.1: Lessons on social learning through microcredit institutions

Sl. No.	Lessons/Learning	Respondent (N=15)	Remarks
1	Working in a group	100%	Only women’s group can get loans
2	Good environmental practices (e.g. planting seedlings, sanitation, using safe drinking water etc.)	93%	Condition of loan, impact of NGOs’ training and social awareness
3	Public dealings and social behaviors	87%	Learnt from various training provided by different NGOs during proposal development for microcredit and loan management
4	Educating children	87%	
5	Information exchange	87%	
6	Building social consciousness	80%	
7	Small project management for livelihood diversification	80%	
8	Helping each other in problem solving and emergency cases	67%	Repaying loans and medications
9	Family planning	67%	Learnt from various training provided by different NGOs (e.g., CNRS), social awareness, and various GO and NGO programs at the village level and on television
10	Sharing responsibility	60%	
11	Sustainable use of natural resources	53%	
12	Conflict resolution	53%	
13	Cross-scale linkage development	53%	
14	Expanded program in immunization	47%	
15	Social and political empowerment of women	40%	

Source: Field survey

Micro-lending NGOs provide training on loan management, environment-friendly investment, livelihood diversification and improvement, National day celebrations, National programs, and literacy. Through group meetings, training, and dealing with staff, women learn how to develop a loan project, how to use the loan money, ways of

livelihood improvement and income increment, the benefits of education, family planning, tree plantations, immunizations, and health and sanitation. I found that 93% of women learned about and better understood good environmental practices (e.g. planting seedlings, sanitation, using safe drinking water, etc.) as a result of loan conditions, monitoring, and training (Table 6.1). 87% of women reported that they learned from microcredit operations about public dealings and social behaviour, the importance of educating children, and information exchange. Now, male counterparts permit women to deal with NGO staff (microcredit institute) and outside people (selected), as women are contributing to their family income and only women are preferred to get the microcredit. Simultaneously, women are more aware and empowered than before because they are participating in family decision making; they are sending children (especially girls) to school, they use their loan money for productive purposes, and they contribute to their family income. I found that only 40% of women learned about the significance of their social and political empowerment. To them, some of the vehicles of socio-political empowerment are the literacy movement, voter education, casting votes independently, networking with politically influential persons, and participation in different human development and social mobilization programs.

6.4 Social learning and capacity building related to community-based fisheries management

The community-based fisheries management approach by the CBFM-2 initiative was very successful in creating social learning and in changing community perceptions of local level fisheries management. It changed the traditional attitude towards natural resources by the stakeholders and established a few local management rules (e.g. enforcement of a “closure period”, fish sanctuary establishment, habitat improvement and monitoring, etc.) that contributed positively to the sustainable management of *haor* resources. During my field investigation, I asked fishers and CBO members what they learnt through their involvement in the CBFM-2 project and what changes they have made in management practices. In response, they reported that they had learnt enough from the project interventions - their major lessons were: dealing with officials of different levels (NGOs and GOs), bank account handling, *beel(s)* leasing procedure and

rules, fishing rights and government fishery rules, project management, ways of networking with several CBOs and government projects, livelihood diversification and income increment, and an overall enhancement in social awareness. The most significant learning outcome that I observed that the CBO members were able to build their competence for involvement in multiple projects, switching from one ongoing project to another and forming fisher's co-operatives themselves, according to the ruling government preference for leasing wetland/*beel(s)*.

Those in the fishing community changed their perceptions and management practices as outcomes of their newly realized social knowledge, legal status, and project interventions. The significant improvements in fisheries management activities that I found were: establishing authority over the geographical territory of *beel(s)*, pre-stocking management activities (e.g. dike repair and improvement, mud excavation, removal of water hyacinth, adding lime and fertilizers for enhancing natural productivity of the water), stocking activities (e.g. better judgments about local demand, communication with the owners of hatcheries and nursery ponds, sources of release of appropriate number of fingerlings of desired species, right size of the fingerlings, overwintered fingerlings, etc.), and post-fish stocking activities (e.g. feeding using locally available ingredients, monitoring health of the fish, selective fishing and benefit sharing) (Table 6.2). Before CBFM intervention, *Hakaluki* haor was almost open access and controlled by the local elites who used the resources for their benefit. Poor fishers had very limited access to and control over *beel(s)* as they had no legal status. However, through the CBFM project, every CBO got lease of certain *beel(s)* and they demonstrated ability to exercise control over their *beel(s)*.

As local fishers previously had no legal access to *beel(s)* and no control over the territory, they could take neither any fish habitat management initiative or any pre- and post-stocking management action. Now, CBO members and local fishers who lease *beel(s)* can repair/erect dikes during winter to stop outmigration of fishes, excavate mud to deepen and widen fish habitat, remove water hyacinth from their *beel(s)* and exchange water from surrounding sources to improve the quality. The most significant change in their practices is that they (fishers) now consider releasing small fish back to the water so they can grow bigger. This practice has significant impacts on local biodiversity as the

juvenile and sub-adult fish get at least one chance for spawning in the floodplain habitat. At the end of the fishing cycle, CBO members shared their benefits from fishing among themselves; this helped to build trust, transparency, and a sense of social responsibility in the community.

Table 6.2: Change in fisheries management practices due to social learning, legal status and project support

Community-Based Fisheries Management Activities	Pre-project situation			Post-project situation		
	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>	<i>Shapla</i>	<i>Padma</i>	<i>Pabijuri</i>
1. Access to water bodies	√	√	√	√	√	√
2. Control over water bodies	×	×	×	√	√	√
3. Pre-fish stocking activities						
3.1 Dike improvement	×	×	×	√	×	√
3.2 Mud excavation	×	×	√	√	√	√
3.3 “Cleaning” water hyacinth	√	×	×	√	√	√
3.4 Water quality improvement measures	×	×	×	√	√	√
4. Fish stocking activities						
4.1 Fingerling stocking	×	×	×	×	×	√
4.2 Different size of fingerling	×	×	×	√	×	√
5. Post-fish stocking activities						
5.1 Feeding	×	×	×	√	√	√
5.2 Disease prevention	×	×	×	×	×	×
5.3 Taking all fishes caught in net	√	√	√	×	×	×
5.4 Sharing of benefits	×	×	×	√	√	√

Source: Combined results from three focus group discussions and workshop (Place: *Boromoidan*, *Pabijuri*, *Murshibadkura* and *Hakaluki* High School, Dated: 01/07/2009, 02/07/2009, 03/07/2009 and 04/09/2009, N=13, 15, 12 and 17 respectively).

The sets of rules devolved and enforced locally helped in the establishment of small sanctuaries in their leased *beel(s)*; fishers perceive that the sanctuaries ensure the conservation of brood fish for recruitment in the following years and increased availability of fish through reproduction and nursing. Fishers observed a locally devolved closure period when fish breed with the advent of monsoon. This closure period corresponds more to their fisheries ecological knowledge, rather than the legally-framed period sanctioned by the Department of Fisheries. Previously, local fishers neither

maintained any “closure period” nor established any fish sanctuaries. These conservation techniques have been induced through CBFM-2 project involvement.

The concept of social learning developed here through multi-party processes in which representatives from fishers and other important stakeholder groups interacted on a regular basis under a community-based management approach. Lave and Wenger (1991) argue that learning as social participation leads to shared knowledge and understanding of circumstances. Here, participation is not mere engagement in certain local activities, but is also a more rigorous active participation in social communities’ practices and construction of community identities. According to Wenger (1998), we all belong to “communities of practice”, where an individual is learning at home, at work, in society, and even in their hobbies; these learnings change their perceptions, attitudes, and management practices and refine their fisheries management plans. In “communities of practice”, collective endeavors are important to effectively address clear-cut issues. They seem to happen in most cases of multi-party collaborative processes in the context of environmental management – like when dealing with the complex management issues of the *Hakaluki haor* area.

This case demonstrates areas of social learning in the *Hakaluki haor* area by a model originally developed by Wenger (1998) used in the Sobrero (2008) article. This model (Figure 6.2) describes the links between “community practices” that enhance groups’ capacity for social learning. In each CBO, a group of local people interact with each other, learn together, build relationships, and in the process develop a sense of belonging and mutual commitment. They share their overall view and bring their individual perspectives regarding their management problem(s), which in turn creates a social learning system. The CBO members I studied thought that their social learning came from four parts (community, practice, meaning, and identity) within four broad learning umbrellas: learning through belongings, learning by doing, learning as becoming, and learning from experience (Figure 6.2). Community people learning through CBOs can be viewed as ‘learning through belongings’ – they had membership; they developed cross-scale institutional linkage with government and non-government organizations; and they enriched their mutual understanding and experience about the

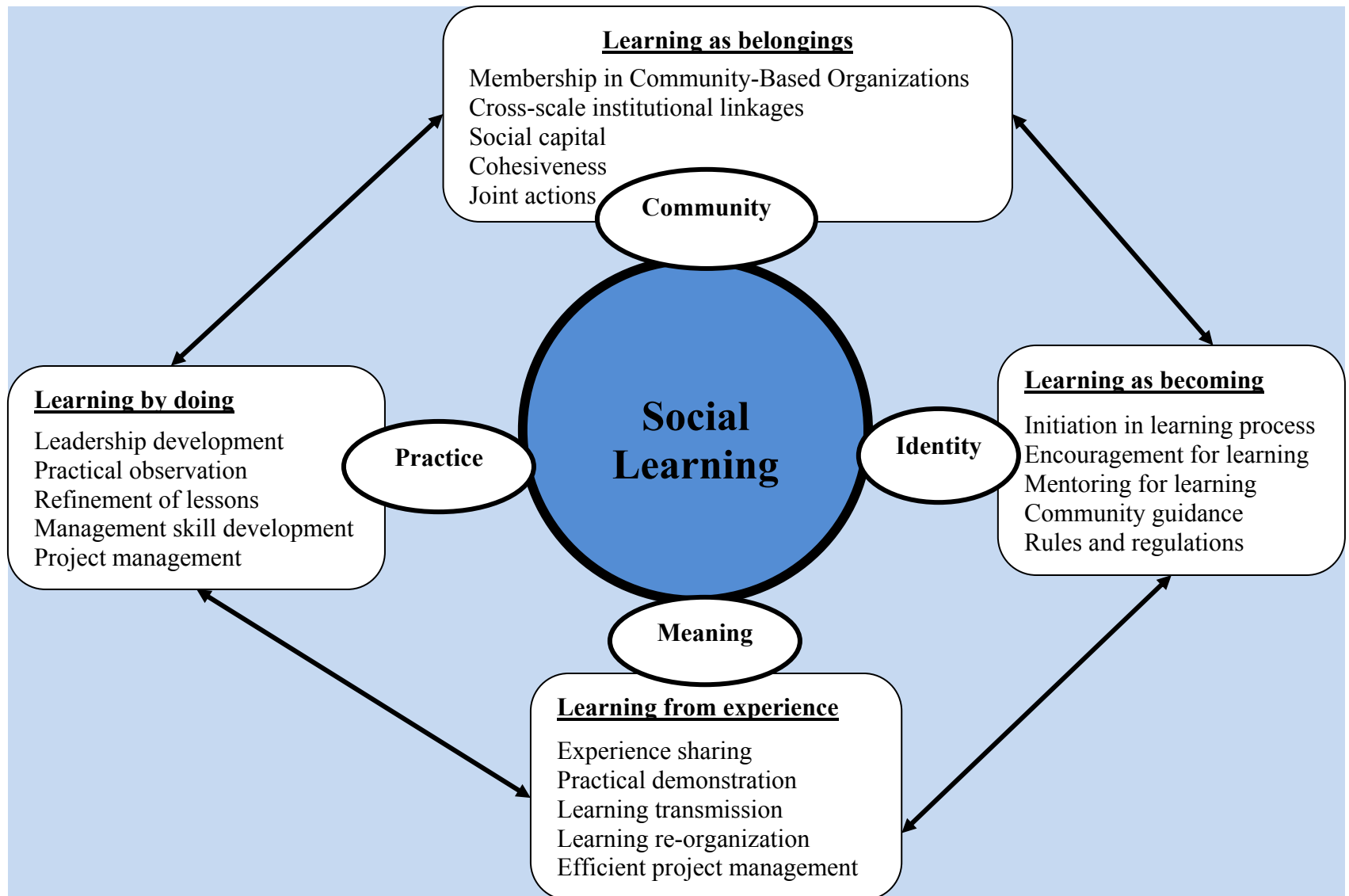


Figure 6.2 Areas of social learning through working with Community-Based Organizations in the *Hakaluki haor* (adapted from Sobrero (2008))

benefits of group activities. This is how they build up their social capital through a process of inclusion with wider networks.

Their knowledge from their participation in project works can be treated as learning by doing, which is broadly characterized by learning leadership qualities, aiming for perfection in work, achieving project management skills, and enhancing social and institutional memories through refinement of lessons. Community people also reported that they were learning from mutual exchanges of experience by sharing, transmission, demonstration, and reorganization of lessons. Finally, they thought that their learning would transform through the adoption of new initiatives and rules and regulations, and through encouragement, incentives, and community guidance. They attained the ability to review and change their management activities based on their sets of accumulated social knowledge and new information.

6.5 Conclusion

The learning process is considered a key component of participatory management and, in particular, social learning is deemed an important element of community-based natural resource management (Muro and Jeffrey 2008; Marschke and Sinclair 2009). My study revealed that local people, especially CBO members and women involved in microcredit programs, had social learning outcomes either from their involvement in the project activities or by observing and sharing lessons with the CBO or group members in the community. In my study I found evidence of social learning as community people were learning through group interaction, project intervention, and individual dealing.

Microcredit mechanisms led to the creation of women's groups, and the CBFM-2 project generated CBOs comprising both males and females from the community, to implement activities at the grassroots. Both women's groups and CBOs dealt with several NGOs, GOs, local informal and formal institutions and persons in getting loans and participating in project activities. My work also demonstrates that participation in community-based resource management in the *Hakaluki haor* area allowed people to learn, and such knowledge helped them to solve conflicts, refine learned lessons, improve fisheries management techniques, and contribute to sustainable management of *haor* resources.

Chapter Seven



Plate 15: Flooded forest in *Hakaluki haor*



Plate 16: Researcher addressing in a CBO meeting organized by CNRS

Chapter Seven

Conclusion and Recommendations

“Microcredit changed our lifestyle and thinking about life; it increased our family income, developed my skills by training, empowered me to participate in family decision, now I am sending my grandsons to school, and leading a happy and healthier life. Due to productive investment of my loans and increment in family income, village women come to me to know the way of getting loan, how to use it in a productive way and seek overall solutions to their problems. I want to involve in future microcredit programs, like green-credit...”

Jharna Chakrabarti, (55), President
Nunua Mohila Samitee, Pabijuri

Jharna Chakrabarti’s comments reflect many of my important findings on the role of microcredit in socio-economic development of the *Hakaluki haor* area. Most of the loan-holders held a similar view during my study, though there were also negative opinions, but their numbers were less. In my study area, microcredit has been shown to play a significant role in household income increment, livelihoods diversification, skills increased within the rural community, women empowerment, and social awareness creation.

“We were benefitted by CBFM-2 project; it changed our perception in fisheries management and harvesting practices, and helped develop our skill to deal with multi-level organizations and project involvement. Due to government policy change and lack of funds, presently we (CBO members) are facing serious problem to lease beel(s)/jalmahal(s) by direct bidding. If we fail to lease beel(s)/jalmahal(s), members will no longer remain active in CBOsNow we are forming different CBOs according to present government leasing policy to lease beel(s)/jalmahal(s) easily and members are getting involved in multiple ongoing GO and NGO projects, because we need economic benefits to survive ourselves...”

Md. Kabir Uddin, (57), President
Padma Samaj Vittak Bohumuki Samabai Samitee, Boromoidan

Kabir Uddin’s final remarks on community-based organizations’ sustainability and organization capability provide an insight into the impacts of the CBFM-2 project and

problems faced by CBOs after the project's departure. The comments reflect the policy implications, capacity building, and needs of economic incentives to sustain the CBOs in my study area. Finally, comments from another CBO member reflecting my findings regarding fisheries management and CBOs sustainability are as follows:

“We learn many things from microcredit operation; previously we did not know how to deal with officials and outsiders, now we can do; we are using our loan money in productive ways on the basis of training provided by CNRS, it increased our family income; my husband discusses with me in using loans and making family decision as I am bringing loans from CNRS. Loan apa (female staff of CNRS) discusses about family planning, expanded programs in immunization, sending children to school where we learn....we learn the benefits of working in a group, planting trees, sanitation and drinking safe water. We are more aware than before...”

Neharun Begum (30 yrs old), Member
Boromoidan Mohila Samitee, Boromoidan

Neharun Begum's comments provide insight to the evidence of social learning mainly by microcredit operation, but there was also much evidence of social learning through participation in community-based fisheries management project activities. The microcredit program and the CBFM-2 project played significant roles in educating people and in building awareness in the society. Community people are applying their acquired learning to their lives, managing resources, and transferring their knowledge to others who were not involved in the microcredit or CBFM-2 project.

This chapter focuses on the findings of the research from the scope of my study and research questions. The research purpose and objectives of the study were concerned with assessing the role of microcredit operation in improving household income, diversification of rural livelihoods (basically the fisher community). It was also concerned with understanding the CBO operations, organization process and obstacles toward sustainability of CBOs, and exploring the evidence of social learning related to microcredit and community-based fisheries management activities.

This research reflected the perspectives and views of the borrowers of microcredit (only women), CBO members (mostly fishers) and relevant stakeholders, NGOs (CNRS) and GOs (*upazila*-level fisheries officials), and local elites who are actively involved in

using and managing Hakaluki *haor* resources. Conclusions in relation to the purpose and objectives of the study are drawn from the findings of the research that are discussed in chapters 4, 5, and 6. This chapter also elaborates on the feasibility of “green credit” and holistic recommendations through the lens of sustainability.

7.1 Revisiting the objectives

The purpose of my research was to understand how microcredit helps improve household income and fishers’ livelihoods. To achieve my purpose and objectives, I worked with the local Community Based Organizations (CBOs) to understand their operations, organizing capabilities, and challenges they were facing after the expiry of the CBFM-2 project. In assessing the role of microcredit, and understanding the obstacles towards sustainability of CBOs, I investigated how microcredit and the CBFM-2 project had helped the local community in institutional capacity-building and social learning in the *Hakaluki haor* area.

The main objective of this research was:

- To assess the role of microcredit in improving rural livelihoods (mainly of fisher households) and institutional capacity-building.

The secondary objectives were:

- To understand the processes of organization and the challenges that Community-Based Organizations (CBOs) face.
- To explore the evidence of social learning related to microcredit and from the involvement of Community-Based Organizations (CBOs) under the CBFM-2 project, other local institutions, and fisher households.

Key findings of the research, summarized below, not only provide an analysis of what is happening with microcredit operation and the impacts of community-based fisheries management activities, but also offer insights into the roles of microcredit in socio-economic development and local institutions in wetland resource management.

7.2. Key findings

I critically analyzed and discussed my findings in chapter 4, 5, and 6. Here follows a set of key findings, which commensurate with the main objective and the two secondary objectives of the research.

Key finding 1: *Users of microcredit are the poor households of the community; they are mostly women and use the loans mostly for productive purposes.*

The research conducted in the villages of the *Hakaluki haor* area revealed the microcredit mechanism (particularly the CNRS), target groups, loan using patterns, and their logic of microcredit-preference. The discourse on microcredit spans a wide range of debate regarding the user potential that it holds for poor people, especially poor women. In CNRS mechanism, they only lend money to the poor women, as in the case of the Grameen Bank and other microcredit lending organizations. CNRS targeted only women, assuming that they are the primary users of natural resources, hoping that it will create alternative income generation and increase family income. In turn, this could reduce the degree of dependence on *haor* resources, and microcredit would empower the disadvantaged women in the study area. The findings of my study revealed that women become the primary target of CNRS microcredit programs because they are primary resources users, disciplined, good credit risk takers and out of the wage labor market.

My research explored two categories of loan use: 1) general purposes and 2) productive and green purposes. I found 25 purposes of loan use, of which 13 were in the productive and green category, and 12 were in the general category. My research suggests that utilization of credit money is dependent upon the productive projects, the borrower's family decisions, level of need, efficiency in using the money, and consequent success in income generation. Very often, other men and women follow those who can generate more money from her loan use. The logic behind women's preferences for microcredit over other sources of loans was that microcredit is collateral-free, has a low interest rate, is easy to access, the lending organization provides training and advocacy, it is supportive of the poor, and is given in small weekly installments.

Key finding 2: *Microcredit interventions have positive impacts in socio-economic development: It is increasing household income, diversifying rural livelihoods, empowering women and reducing poverty.*

The microcredit program by CNRS in my study area is playing significant roles in household income increment, livelihoods diversification, the empowerment of women, and poverty reduction. The change in income is the direct and major indicator of microcredit impact; I assessed the impact of microcredit by measuring household income change before and after being involved in the microcredit program and found the gross household income of families increased after being involved. Microcredit loans were diversifying rural livelihoods by creating opportunities for productive investment in small business, farming, fish business, livestock and poultry rearing, the cottage industry, tree plantations, and vegetable gardening. Many rural households who were mostly dependent on fishing and *haor* resources for their livelihoods have now invested their loans in alternative income-generating activities.

My research revealed that rural women were empowered socially, economically, and politically by participating in the microcredit program because of their accessibility to money. I found women were controlling their loans, contributing to the household decision making, enjoying a better position in the family than before, experiencing reduced violence against them, contributing to household gross income, and sending their children to school. Almost all those women-empowerment indicators were less or absent before the introduction of the microcredit program. Patriarchal Bangladeshi society has been always dominant over females regarding the use of money (wherever it is coming from), family decision-making, sending children to school, and health care. Moreover, violence against women was prevalent due to unemployment and economic dependency.

Microcredit is considered to be a powerful tool for poverty reduction worldwide (Ahlin and Jiang 2008; Barboza and Trejos 2009; Kotir and Obeng-Odoom 2009). The proximate determinants of poverty in my study area were unemployment, low income, no or little capital for investment, and low productivity of the poor households dominated by the fishing community. Lack of capital and savings make it difficult for many poor people who want jobs in farm and non-farm sectors to become self-employed and undertake productive income-generating activities. Microcredit is playing an important

role in poverty reduction in the study area by providing collateral-free loans to the poor and directing them to generate self-employment, invests in productive farm and non-farm activities, and the creation of income generation.

Key finding 3: Operational limitations and faulty systems of installment repayment provoke borrowers into multiple borrowing; that eventually forces a small section of community back into the ‘vicious cycle of poverty’.

Despite the numerous successes of microcredit operations (especially by CNRS) in delivering loans, improving livelihoods, and changing socio-economic conditions of the poor women’s households, my findings revealed that there are still a few borrowers who become vulnerable and trapped by the system. Some of them fall in the “vicious cycle” of poverty permanently, and get entangled in multiple borrowing, that is borrowing from 2-4 microcredit institutions and local money lenders at the same time. The most acute problem was noticed in 13% of the borrowers who had borrowed from 4 sources. The institutional debt burden on individual households in turn increases anxiety and tension among household members. As a result they remain too busy managing the installments rather than thinking about their food security.

Another challenge of microcredit that I witnessed is a problem in repaying loans – if the repayment process begins before investments bear fruit, weekly repayments necessitate that the households have an additional income source on which they can depend. Fishers, seasonal workers and multiple borrowers may face severe problems due to variation in work levels throughout the seasons, and it is very difficult to manage money for all weekly installments. Again, the households who invest money in buying cows, paddy cultivation, vegetable gardening, and tree plantations face problems in repaying installments as it takes a long time to receive an output. In that case, households must manage their money from other sources of income or by squeezing their daily expenses.

Key finding 4: *Community-Based Organizations are instrumental, mostly project-led, and essential for project implementation. Ultimately it is the community-initiated activities, sustenance, accountability, and success of the CBOs that result in positive outcomes for the project and the overall conservation of the wetland natural resources.*

Community-based organizations (CBOs) are grassroots organizations that usually represent a majority of local people belonging to the same socio-economic and cultural class. It is considered an important tool for community-based resources management through empowering the local community. Three CBOs that I studied revealed that CBOs are instrumental to organize and mobilize the local community, create active participation of stakeholders in resources planning, and to promote project implementation and sustainable resource management.

My research discovered that the main drivers behind CBO formation by the members were to get economic benefits and access to the natural resource base. Attributes like local management of the natural resource base, social solidarity, cultural protection, and linkages with outside institutions also triggered people to form CBOs and/or get involved in their activities. The major outcomes of community-based fisheries management were to establish a set of local fisheries management rules, norms, and culture by the local fishers. They established a fish sanctuary to stock fish during winter and they enforced a closure period during the fish breeding season during which all fishing activities are prohibited and strict restrictions are placed on access and gear use in the *beel(s)*. Some CBOs stock fingerlings for future fish production. They were also involved in habitat improvement, regular patrolling of their *beel(s)*, and development of a yearly management plan.

Key finding 5: *The roles of NGOs, cross-scale supports, and institutional policy reform have direct impacts on the functioning, continuity, and overall sustainable process of community empowerment and management of wetland natural resources, and CBO sustainability.*

My study identified that NGOs, especially CNRS, play a significant role as an external mediator in mobilizing local people, forming CBOs, implementing project activities, providing loans and training, livelihood diversification, developing management plans for CBOs, legal support, leasing *beel(s)/Jalmahal(s)*, educating people about rules and regulations of fisheries management, social norms and overall awareness

creation. It is evident from my research that without NGO (i.e. CNRS) support, institutional capacity building, CBO formation, legitimating stakeholders, and collective action would have been almost impossible in that area. NGOs act as a bridge between stakeholders and government to help implement projects and govern wetland resources in *Hakaluki haor*.

My research revealed that CBOs are facing several obstacles to sustaining their operations and managing resources due to their narrow skill sets, limited resources, and financial instability. Sustainability of CBOs in the *Hakaluki haor* area largely depends upon the economic incentives to its members. The major obstacles towards the sustainability of CBOs are the misleading *Jalmahal* leasing policy by the government, a lack of savings and continuous project support, poor leadership, switching membership in running project CBOs, poor horizontal relationships, and a lack of organizational and administrative support. Direct leasing of *beel(s)* from governments to their CBO name was identified as the main problem of CBO sustainability. The CBO members thought that a misleading present (formulated in 2009) wetland (*Jalmahal*) management policy was responsible for leasing *beel(s)* to their organization. From my research and analysis of the present and past wetland (*jalmahal*) management policies it was evident that different policies allowed for different groups of people in the society to lease the *beel(s)/jalmahal(s)*. A new government *jalmahal* management policy in 2009 cited that only fishers' co-operatives who have mentioned "fishers co-operative" in the legal name of their organization are eligible to get the lease of *jalmahal*. As a result, CBOs are not eligible to lease the *beel/jalmahal* directly from the government as their organization's name does not have the word "fishers" in it. All the CBO members were blaming CBFM-2, support NGOs, and government, as they did not mention "fishers" in the legal name of the CBO as well as in the government registration.

Key finding 6: *Both microcredit programs and sustained functions of CBOs contribute positively to the processes and results of social learning, and to the strengthening of institutional memories and community-based fisheries management activities*

In my study I found evidence of social learning as community people were learning through group interaction, project intervention and individual dealings (Table 6.1). Microcredit mechanisms formed women's groups and the CBFM-2 project formed CBOs comprising both males and females from the community to implement its activities at the grassroots. Both women's groups and CBOs dealt with several NGOs, GOs, local informal-formal institutions and persons in getting loans and participating in project activities. Social learning is a new practice in Bangladesh, as pointed out by Mokhlesur Rahman (Pers. com.). Social learning has good potential in the planning process as a feedback mechanism at both community and national levels. Feedback from learning is an essential feature of adaptive management (learning-by-doing), so that management effectiveness can be improved step-by-step (Armitage et al. 2009).

The research in my study site found evidence of 15 ways of social learning related to microcredit intervention. Working in a group, good environmental practices (i.e. tree plantation, sanitation, drinking safe water, etc.), public dealings and social behaviors, educating children, information exchange, social consciousness, and small scale project management were their major learning results. By microcredit operation, they also learnt how to help each other in emergency management, family planning, sharing responsibility, sustainable resource management, cross-scale linkage development, expanded immunization programs, and socio-political empowerment.

The community-based fisheries management approach by the CBFM-2 initiative was very successful in creating social learning and changing community perceptions in local-level fisheries management. It changed traditional attitudes and established a few new local fisheries management rules (e.g. enforcement of "closure period", fish sanctuary establishment, habitat improvement and monitoring, etc.). Local people, especially CBO members, reported that they have learnt enough from the project interventions, and that their major learnings are dealing with officials of different levels (NGOs and GOs), bank account handling, *beel* leasing procedure and rules, fishing rights and government fishery rules, project management, ways of involving several CBOs and

government projects, livelihood diversification and income increment, and overall social awareness. The most significant learning by the CBO members that I noticed was their increased skills in capacity-building involving multiple projects, ability to switch from one ongoing project to another, and forming fisher's co-operatives according to the ruling government preference for leasing wetlands/*beels*.

7.3 Feasibility of green microcredit and its policy implications

Green microcredit is a new concept and approach where microcredit will be used only for environment-friendly projects (e.g. tree plantation, green farming, bird rearing, biogas plant, composting, nursery raising, livestock rearing, fish culture, and agro forestry, etc.). In *Hakaluki haor*, CNRS operates its microcredit activities parallel to the resource management work, environmental stewardship, targeting communities that depend chiefly or indirectly on wetland resources. In a green microcredit program, CNRS aims to recreate a self-sustaining habitat in *Hakaluki haor* based on a balanced perspective of the relationship between natural resources and the legitimate needs of people. The development of green micro-enterprises requires small or large scale enterprises to integrate income-generating activities with environmental and biodiversity conservation.

Shifting from a general microcredit program to a green microcredit program requires scaling up the targeted community, development of profitable and suitable projects for the specific site, capacity-building, national and local level policy change, institutional setup, and strong project oriented training programs. The research found that people were worried about the project selection, loan size, repayment starting time and single vs. group projects. For a large project women want to involve men, as they feel it will be difficult for them to manage all aspects of the project. However, in group work, lack of leadership and trust can be acute problems when money is involved. The feasible projects that I suggest in the *Hakaluki haor* area are small scale cottage industry development (*pati* weaving, fishing basket making), livestock rearing (cow, poultry, ducks, and birds), fish culture, a biogas plant, composting, and water-tolerant tree plantation. From the recent CNRS report it is established that green microcredit projects in *Hakaluki haor* area were profit oriented and very environmentally friendly. Capacity-building would be crucial for implementing such projects and therefore people should be trained for their respective projects.

7.4 Recommendations

Considering the views of microcredit borrowers, CBO members, and local key people, and considering the key findings of the study, I have identified specific critical issues that must be addressed to: improve the role of microcredit (especially green credit), remove obstacles that may inhibit CBO sustainability, to develop policy in the area of wetland resource management, and to ensure the socio-economic development of the local people in the *Hakaluki haor* area:

- My research identified two major issues in successful microcredit operation: (a) multiple borrowing unsuccessful for few cases and (b) problems in repaying loans. The root causes of falling into poverty trap by multiple borrowing that I noticed were selection and investment in non-viable/ non-productive projects, natural hazards, and human nature (“the more (s)he gets, the more (s)he wants”, which leads to borrowing money from all possible sources). Viable or productive project selection depends upon individuals’ preferences, skill sets, and abilities as well as loan size. Microcredit organizations can play a big role in lowering the entrapment into the poverty trap through multiple borrowing. They can help to select viable productive projects for the borrowers on the basis of their capacity, skill set, and experience. Another problem in repaying loans can be minimized by commencing weekly instalments *after* their investment starts outputting returns. Microcredit organizations can fix the weekly instalment starting date on the basis of their project merit and probable project output. They can also decrease the interest rate for smooth loan repayment. NGO staff’s regular monitoring and feedback mechanisms can reduce problems in repayment and poverty trap.
- “Green microcredit” programs require: (a) scaling up to involve more households in the targeted community, (b) development of profitable and suitable projects for that area, and (c) capacity building (organizational and fund management), institutional setup, and strong project-oriented training programs. Currently, there are two options in green microcredit programming: individual level and/or group level projects. Individual level programs (only one person will be involved) require small scale enterprises or project development (e.g. weaving *pati*) and

need small loans. A group level project requires a large project development (e.g. Biogas plant, large scale tree plantation, big nursery and large scale fish culture, etc.) and needs a big loan. In a group level project activity, the group may be solely a women's or a men's group. However, for large projects, a mix of men and women would be more viable. It would also require fixing the instalment size and date on the basis of expected product output and income. For example, if the loan is for green farming, it may take three months to two years to get a profitable amount of product. A very low interest rate is recommended, as all projects will support environmental and biodiversity conservation.

- My study identified that NGOs like CNRS are the most important agents for the development of grassroots organizations (i.e. CBOs), developing management plans, mobilizing stakeholders, participatory planning, legal support, capacity building, training, decision making and collective action development. The study confirmed that NGOs can act as a mediator with local level CBOs to implement the project activities and resource management. NGO-support is essential for all types of resource management and environmental conservation initiatives. Other NGOs in that area have room for learning and making changes in society through their knowledge, attitude and practices on environmental and social issues.
- Community-Based Organizations (CBOs) are capable of taking responsibility for natural resource management in the *Hakaluki haor* area with effective economic incentives, favourable *beel(s)/ Jalmahal* leasing policies, NGOs-GOs support, and legitimate as resource users. Government line agencies, i.e. DoF, DoE, *upazila parishad* and district level, should recognize CBOs as resources user representatives and managers. National and local level fishery management and leasing policy should recognize the CBO as the functional unit at the local level, and lease the *beel(s)/jalmahal* for a lower fee. Government should actively involve CBOs in their local level natural resources management planning, i.e. through union and *upazila* level processes. NGOs and GOs could provide financial and technical support, build capacity, and organize their funds in a way that the CBO can operate without support after a certain period of time.

In conclusion, I would like to mention that my study is a single step towards assessing the role of microcredit, identifying the obstacles towards CBOs' sustainability, potentiality of green credit, and exploring the evidence of social learning through microcredit and project interventions. Though I discussed many issues and concerns regarding microcredit's role in socio-economic development and community-based organizations' roles in managing wetland resources, other issues were outside the scope of my research. However, some of these can be explored by future research so that microcredit can be transformed successfully into "green microcredit", CBOs will be recognized by government as grassroot institutions that they are made sustainable, and that wetland resources would be managed sustainably.



Plate 17: Local fishing boat and net in *Hakaluki haor*

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Appendix-1

Household Survey Questionnaire

1. Code/Name of the respondent:

- Name of village/community/Para:
- Name of the CBO:
- Age:
- Religion:
- Occupation:
- Sex: Male/ Female
- Relationship with the household head:

2. Educational qualification of the respondent:

Illiterate	Primary	Secondary	Higher Secondary	Graduate	Post graduate

3. Total family members:

Age class	<10	11-20	21-30	31-40	41-50	51-60	60>
Male							
Female							

4. Education qualification of family members:

Sex	Illiterate	Primary	Secondary	Higher Secondary	Graduate	Post graduate
Male						
Female						

5. Housing condition:

Building	Semi-building	Tin shed	Sun grass/Bamboo	Mud	Others

6. From which organizations are you getting micro-credit?

7. What are their terms and conditions for getting micro-credit from CNRS (duration, interest rate, approval time etc.)?

8. What amount of money do they provide in first time?

9. Did you use the credit for green purposes?
 - (i) Did you buy fishing net (small) by the credit money?
 - (ii) Did you invest the money in vegetable gardening or vegetable selling?
 - (iii) Did you buy saplings to plant by that money in your homestead or wetland? What amount?
 - (iv) Did you buy any domestic animals (cow, goat) to rear by that money?
 - (v) Did you invest that money in paddy cultivation?
 - (vi) Did you spend the money for fish cultivation?
 - (vii) Did you invest the money in group work (with CBO members)?
 - (viii) Other green purposes?
10. Did you use the credit for non-green purposes?
 - (i) Did you invest the money in small business (shop/tea stall etc.)?
 - (ii) Did you spend the money for household consumption?
 - (iii) Did you spend the money for health or medicine or treatment purpose?
 - (iv) Other purposes?
11. Do you borrow money from multiple sources at a time? (relatives, money lenders, NGOs)?
 - (i) What are the conditions of getting money from other lending organizations or relatives?
 - (ii) If yes, is there any problem to pay the loans? How do you face these problems?
12. Why do you prefer (or not) micro-credit compared to other sources of loan available in your locality?
13. Does the micro-credit organization provide any training to improve your livelihood or to manage the fisheries or other resources? If yes, what type?
14. What was your monthly income (general livelihood) before getting micro-credit? And what is now?
15. Does micro-credit help to increase your monthly income? How?
16. Does the micro-credit organization encourage you to work in group with its members?
17. Learning from micro-credit what type of problems did you face?

Appendix-2

Questionnaire for Focus Group Discussion and Key Informant Interview

Secondary objectives-1: To understand the processes of organization and the challenges that Community Based Organizations (CBOs) faced.

1. Why did you form CBOs and 'BMC' (*Beel* Management Committee)?
 - Who played active role in the formation of CBOs and BMC (NGO, Government officer, WorldFish Center, others from civil society)?
 - What were the purposes of CBOs and BMC formation?
 - How many members were there initially?
 - How many are active right now?
 - How frequently the CBO and BMC members used to sit together earlier?
 - What are the major activities of the CBO members?
 - What issues you used to discuss?
 - Do you sit together now? If yes, how frequently?
2. What are the incentives that triggered the group members to work together?
 - Do you still legally lease *beel* from the government?
3. Do you think that the objectives of CBOs and BMC formation are met?
 - If not, what more you expect to be done?
 - What impacts did you observe following leasing of the *beel* from the government (economic, social, empowerment, conflict with other stakeholders)?
4. Do you get support from the Upazilla administration (fisheries department) when you need?
 - Do they always communicate with you?
 - If not what is the reason behind this?
 - What is your suggestion to improve relationship between CBOs and Upazilla administration?
5. What are the obstacles towards sustainability of the CBOs?

- What problems have you been facing now than before?
- How do you address the problems?
- Which problem can you solve locally and which are not?
- What is your suggestion to overcome these problems?

Main objective: To assess the role of micro-credit in improving the fisher livelihoods and institutional capacity building.

6. How many NGOs are working in this village?
 - For how many years?
 - What are their terms and conditions for getting credit (duration, interest rate, approval time etc.)?
 - Fund is enough or not?
7. For what purposes did you use the credit?
 - Did you buy fishing net by the credit money?
 - Did you invest the money in small business (shop/ vegetable selling/tea stall etc.)?
 - Did you buy seedlings to plant by that money?
 - Did you buy any domestic animals to rear by that money?
 - Did you invest that money in paddy cultivation?
 - Did you spend the money for household consumption?
8. Did you spend the money to buy big fishing net in a group?
9. How do the NGO personnel help in starting new business (training, follow-up, marketing of the produce etc.)?
10. Why do you prefer (or not) micro-credit compared to other sources of loan available in your locality?
11. Do you borrow money from multiple sources (relatives, money lenders, NGOs)?
If yes, is there any problem to pay the loans?
12. Do you think that your earning is helpful in raising social status of the women?
 - What is the status of your wife in your family?
 - Do you recognize her contribution in the family?

13. Is there any conflict in between NGOs and other social institutions (like Mosque committee/ Temple committee/ Village committee/ Clubs/ leaseholder's association)?

- What can we do to make the NGO interventions more environments friendly?
- To what extent, NGOs working in your village have been useful in empowering the groups?
- What is your suggestion to improve the micro-credit facility?

Secondary objectives- 2: To explore the evidence of social learning related to micro-credit in Community Based Organizations (CBOs), other local institutions, and fisher households.

14. Micro-credit organization

- Does the micro-credit organization encourage you to work in group with it members?
- Do you face any problem to work in a group? If yes, what type of problem?
- Does the micro-credit organization provide any training to improve your livelihood or to manage the fisheries or other resources? If yes, what type?

15. Household

- Do you get any benefits from CBOs and micro-credit?
- Does micro-credit improve your income? If yes, how much?
- Does the CBO help you to catch more fish? Or any income generating activities?

16. Did the government organizations or local institutions influence you to involve in fisheries management activities?

- What fundamental changes did you observe in fisheries management in recent past?
- Is there a closed period for fishing?
- Did the fisheries officials encourage you to stop catching fish in the close period (especially during the breeding season)?

- If you do not catch fish in close period then how you manage your installments?

17. What did you learn through activities involving in CBOs:

■ Plantation

- Do you plant any tree species in your homestead or wetlands by your money?
- What species do you prefer the most? Why?

■ Fish stocking

- Do you catch fish all the year round?
- Did you observe any changes in fish sizes than before?
- Do you stop catching fish in the breeding season?
- Do you catch all the fishes that trap in your net?
- Did you take any initiatives for fish stocking?
- Did you get any training or advice for fish stocking?
- Is there any fish sanctuary (*ovoiasrom*) in your village?

18. Are you getting recognition from different level of people in the society being a CBOs and micro-credit group member?

- Do the local political leaders meet with you?
- Do elite people invite you to their social programs?
- Can you control over the *beel* as a group?
- Do you able to get lease of *Jhalmahal* now?
- As group, do you able to protect your *Jhalmahal* invading from others?
- Can you sell your catch fish directly to the market?
- Do you feel yourself 'socially more important' as a person or group?

Appendix 3

APPROVAL CERTIFICATE

15 June 2009

TO: Mohammed Salim Uddin
Principal Investigator

FROM: Wayne Taylor, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2009:067
“Community-based Fisheries Management: Learning from the Performance of the Local Institutions”

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 Eveline Saurette in the Office of Research Services, (fax 261-0325, phone 480-1409), 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.