

# The role of microfinance and microfinance institutions in climate change adaptation

Learning from experiences in Bangladesh

**IGES**



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IGES Research Report 2014-06



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This report is one output under the Institute for Global Environmental Strategies (IGES), the Institute of Microfinance (InM) and the Bangladesh Institute for International and Strategic Studies (BISS) collaborative research programme on microfinance and climate change adaptation. This research programme explores the linkages between microfinance and climate change adaptation, with a view to building resilient livelihoods and household adaptive capacity.

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## Foreword

Much of the early policy interest in climate change focused on mitigation, but with climate change becoming more apparent, attention is turning towards building capacity to adapt to climate change. A concern for funders and development practitioners is that there is little guidance for them to understand what interventions have adaptation benefits. Regular development interventions can build adaptive capacity, so should they focus their investments on these development interventions that provide adaptation co-benefits, in addition to their primary aims of reducing poverty, increasing health and education levels, etc., or would their investments be better spent on interventions that specifically aim at building adaptive capacities?

Assessing the contribution of regular development interventions to adaptation and how this can be maximised can assist with the development of guidance on adaptation investments. With this in mind, in 2012 the Institute for Global Environmental Strategies (IGES), the Institute of Microfinance (InM) and the Bangladesh Institute for International and Strategic Studies (BISS) launched a collaborative research programme on the linked agendas of poverty alleviation, resilience and climate change adaptation. The primary aim of this research programme is to identify how microfinance and microfinance institutions (MFIs) can most effectively contribute to adaptation. The research focuses on the microfinance sector in Bangladesh, a country that is highly exposed and vulnerable to climate change and one that is globally at the forefront of microfinance innovation and outreach.

This report examines whether microfinance in its current forms contributes to household adaptive capacity and how it can do so most effectively. It also discusses how Bangladesh's well-established microfinance sector can take advantage of its extensive delivery infrastructure and good reputation amongst communities to be more involved in initiatives to promote transformational adaptation, i.e. adaptation at scale. The report draws heavily on the rich literature on microfinance impacts in Bangladesh as well as on discussions at two national workshops on microfinance and climate change in 2013 in Dhaka that were hosted by InM. The intended audience of this report includes financiers, policymakers, practitioners and researchers working in the fields of microfinance, climate change adaptation, rural development, poverty alleviation and disaster risk reduction. If this report succeeds in encouraging greater discussion on how microfinance can effectively contribute to adaptation, and to greater collaboration between microfinance institutes and other groups involved in adaptation initiatives, it will have achieved its objective.

This report has benefited greatly from the partnership between IGES, InM and BISS, and from comments provided by Professor Baqui Khalily (InM) and Dr. Mark Elder (IGES). Any omissions or errors are entirely the responsibility of the authors.

Hideyuki Mori  
IGES President  
March 2015

## Executive summary

This report aims to (i) conceptualise and analyse the relationships between microfinance and adaptation, (ii) map out what could be considered good microfinance practice for adaptation, or “adaptation-oriented microfinance,” and (iii) identify types of adaptation projects and activities that microfinance institutions (MFIs) could be involved in to take full advantage of their service delivery infrastructure.

The study focuses on one country, Bangladesh, a country that is highly vulnerable to climate change and one that has four decades of experience with delivering microfinance services to the poor. There is an extensive published evaluation literature on microfinance in Bangladesh, which provides rich material for the analysis.

Despite the apparent potential for microfinance to contribute to adaptation, the Government of Bangladesh has given little attention to microfinance in its national adaptation strategy. This might be because the government agencies involved in the adaptation strategy have tended to focus on their immediate mandates (microfinance is not one of these), because these strategy documents focus on the easier question of what should be done, rather than on how it can be done (e.g. how something is to be financed), and because the links between using small loans and adaptation might be difficult for some government officials to grasp, as adaptation financing is usually thought of as grants.

In Bangladesh, the types of microfinance services offered and the delivery modes are “home grown” in that they have emerged from experimentation by providers within the country. This underlies the success that the sector has had in rapidly scaling up to reach millions of households across much of the country. Part of the success MFIs have had with outreach is also associated with the innovations they introduced after problems were identified in the early microfinance models. A number of MFIs have replaced the rigid early approaches that were thought necessary to promote financial discipline and secure the necessary capital for lending, with a greater array of services and flexible products that have proved attractive to rural households. Other examples of the evolution of the sector can be seen in the creation of a regulatory authority as well as the Palli Karma-Sahayak Foundation (PKSK), a very active “home grown” apex body that has won the trust of the Government and international funders.

Microfinance can contribute to adaptation by filling what is commonly referred to as the “adaptation deficit,” i.e. the shortage of adaptive capacity that a household has because of its lack of capital in its various forms. A review of the literature suggests that while it is not clear whether households are able to use microfinance to increase their income to the extent that they cross over the poverty line, they are able to use microfinance to better cope with and recover from shocks and drawn-out periods of hardship, which makes microfinance particularly relevant to adaptation. Therefore, just as the adaptation literature highlights the need for “climate proofing” infrastructure, such as bridges and roads, so too should efforts be made to ensure microfinance services are “climate proof,”

i.e. that they continue to be available to poor households as climate change becomes increasingly apparent.

This report develops the concept of “adaptation-oriented microfinance” to describe microfinance that retains its focus on poverty reduction, but is engineered to maximise its adaptation benefits. Key elements of adaptation-oriented microfinance include: flexibility and customisation to enable members to select from products and product options to best manage their finances and prepare for, cope with and recover from climate shocks; sufficient access to liquidity for MFIs to support their members through extreme weather events; using loans to make adaptation technologies (particularly for agriculture) accessible to households through extension and other forms of outreach, with the aim of building climate-resilient livelihoods; loans for the construction of hazard-resistant housing; micro-insurance products with acceptable premiums that cover real risks faced by households and that incentivise risk mitigation; and a focus on outreach to the most climate-vulnerable groups, especially those in remote, ecologically fragile areas.

In Bangladesh, the MFI sector is well-positioned to support local adaptation efforts as it has a delivery infrastructure across the country that reaches household level and a good reputation for reliable service delivery. Some MFIs are already implementing adaptation projects. In most cases these are very practical interventions to support adaptation and disaster risk reduction at the household level, such as raising the plinth of houses to reduce the likelihood of floodwaters entering them. While these interventions are clearly important, MFIs could also consider how they can contribute to *transformed resilience*, or resilience at scale, by working towards the development of higher level institutions, organisations, policies and legislation that create an enabling environment for household-level and community-based adaptation.

The report makes the following recommendations:

#### **For Government of Bangladesh (and other countries where these findings hold)**

- In the national adaptation strategy, give explicit recognition to the role that microfinance plays in climate change adaptation, and the need to “climate proof” microfinance;
- Provide budgetary support for adaptation-oriented microfinance, e.g. possibly by subsidising microfinance services in the most climate-vulnerable areas, establishing reinsurance funds, establishing disaster funds to provide MFIs with liquidity when climate-related disasters strike, etc.
- Ensure that the regulatory framework supports the full involvement of MFIs in adaptation by, for example, allowing them to provide insurance services, etc.

#### **For MFIs**

- Ensure flexibility and customisation to enable members to select from products and product options to best manage their finances and prepare for, cope with and recover from climate shocks;
- Provide outreach to the most climate-vulnerable groups, especially those in remote, ecologically fragile areas.
- Package loans with adaptation technologies (particularly for agriculture) through extension and other forms of outreach, with the aim of building climate-resilient livelihoods;
- Provide loans on appropriate terms and guidance for the construction of hazard-resistant housing;
- Undertake insurance pilots with a view to developing accessible and affordable micro-insurance products that cover the real risks faced by households and that incentivise risk mitigation.

#### **For research bodies and academics**

- Conduct an inventory of microfinance products across the sector applying an adaptation perspective to identify the extent to which flexibility has been incorporated into savings and loan products;
- Review existing knowledge on and research into adaptation technologies for agriculture, and assess the potential for microfinance to make these technologies accessible to rural households;
- Conduct an in-depth review of different financial strategies used by MFIs to assist their members avoid, cope with and recover from extreme weather events, and evaluate the effectiveness of these strategies with the aim of identifying good practice;
- Conduct a comprehensive review of MFI support for hazard-resistant housing for the poor, with a view to developing guidance and further support for these initiatives;
- Support further piloting of alternative micro-insurance delivery models and products, including weather-based index insurance for smallholders and health insurance;
- Conduct a thorough review of microfinance outreach in remote, ecologically fragile areas, with a view to developing knowledge on and promoting good practice;
- Assess the adequacy of existing initiatives and MFI cash reserves against the liquidity requirements of MFIs under projected climate change scenarios.

#### **For funders**

- Sponsor a series of national workshops on an integrated approach to adaptation involving adaptation, disaster risk reduction, livelihood generation (microfinance) and other actors as one step towards making better use of the synergies that exist between these fields.

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## Acronyms and non-English terms

AICC	Agriculture Information and Communication Centres
ARCAB	Action Research for Community Adaptation in Bangladesh
BCAS	Bangladesh Centre for Advanced Studies
BCCRF	Bangladesh Climate Change Resilience Fund
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCTF	Bangladesh Climate Change Trust Fund
BDT	Bangladesh taka
BRAC	(formerly) Bangladesh Rural Advancement Committee
CBN	Cost of Basic Needs
CCC	Climate Change Cell
CCCP	Community Climate Change Project
CIC	Community Information Centre
<i>char</i>	river island
CLP	Chars Livelihoods Programme
DFID	UK Department for International Development
DNET	Development Research Network
FEDEC	Finance for Enterprise Development and Employment Creation project
GDP	gross domestic product
<i>GyanerHaat</i>	knowledge bazaar
HDI	Human Development Index
HIES	Household Income and Expenditure Surveys
IBBL	Islami Bank Bangladesh Ltd.
ICT	information and communication technology
InM	Institute of Microfinance
IPCC	Intergovernmental Panel on Climate Change
<i>khas</i>	public (lands)
<i>kutchra</i>	fragile house made of wood, mud, straw and dry leaves
LDC	least developed country

MFI	microfinance institution
MOEF	Ministry of Environment and Forest
Monga	seasonal starvation
MRA	Microcredit Regulatory Authority
NAPA	National Adaptation Programme of Action
NGO	non-governmental organisation
PDBF	Palli Daridro Bimochon Foundation
PKSF	Palli Karma-Sahayak Foundation
PO	partner organisation
PRIME	Programmed Initiatives for Monga Eradication project
RESCUE	Rehabilitation of Sidr Affected Coastal Fishery, Small Business and Livestock Enterprise programme
SAHOS	Special Assistance for Housing of Sidr Affected Borrowers programme
SSS	Society for Social Service
thana	unit of local administration
TUP	(BRAC's) Targeting the Ultra-Poor programme
UISC	Union Information and Service Centres
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
Union Parishad	local government
USD	United States dollar





# 1 INTRODUCTION

Climate change poses serious threats to the hard-won development gains made in recent decades by many developing countries. As the manifestations of climate change, such as altered precipitation patterns and temperature regimes (IPCC 2014, 4) begin to be felt, greater attention is being given to adaptation planning and interventions in these countries.

The realisation that adaptation will require large new investments has directed attention to the question, what interventions are most effective in building adaptive capacity? In its 5<sup>th</sup> Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) concluded that “people who are socially, economically, culturally, politically, institutionally, or otherwise marginalised are especially vulnerable to climate change” (IPCC 2014, 6), which means that support for adaptation should prioritise the concerns of marginalised groups. With this in mind, guidance for adaption investments can be developed by reviewing existing interventions targeting poverty alleviation and disaster risk reduction from an adaptation perspective, and by monitoring and evaluating interventions that specifically target adaptation.

Of the numerous types of existing developmental interventions that target rural households, microfinance services would seem to be particularly in need of assessment from an adaptation viewpoint. While the significance of microfinance to

adaptation has received only scant attention in the literature, this is a topic deserving thorough discussion. Microfinance is at least important in terms of the numbers of climate-vulnerable households that participate in microfinance schemes. Microfinance services are being delivered to millions of relatively poor rural households across many parts of the world where climate change is projected to have major impacts. In terms of the services delivered, it would also appear that microfinance could be significant to adaptation. Agrawala and Carraro (2010, p. 9) argue that microfinance is “consistent with the fundamental nature of a majority of adaptation actions that will ultimately consist of thousands of decentralised actions by individuals, households and communities, as they continuously seek to internalise climate risks in their activities.”

While microfinance could be highly relevant to adaptation, there is little careful analysis in the literature of the relationships between microfinance and adaptation, how microfinance can be engineered to best support adaptation, and on how microfinance institutions might use their service delivery infrastructure for adaptation programmes and projects.

## 1.1 Aims

This report aims to (i) conceptualise and analyse the relationships between microfinance and household adaptive capacity, (ii) map out what could be considered good microfinance practice for adaptation, or “adaptation-oriented



microfinance,” and (iii) identify types of adaptation projects and activities that MFIs could be involved in to take full advantage of their service delivery infrastructure.

The first aim, *to conceptualise and analyse the relationships between microfinance and household adaptive capacity*, stems from the observation that while there could be important relationships between microfinance and adaptation, these have not been carefully discussed and set out in the literature. The little literature there is on this topic<sup>1</sup> assumes that microfinance contributes to adaptation by enabling households to build their asset base, but does not provide justification for this assumption, e.g. it does not reach this conclusion from a critical review of the microfinance evaluation literature. The first aim is thus to establish whether microfinance can make an important contribution to adaptation.

The second aim, *to map out good microfinance practice for adaptation*, stems from the observation that there are large variations in microfinance products and delivery services, and some of these are likely to be more supportive of adaptation than others. For example, loans with rigid terms and little flexibility, which can be found in some schemes, are ill-suited to high risk scenarios that climate change is expected to bring to many rural households. Loans with flexible terms that allow the borrower to select an appropriate loan size and repayment schedule, and allow temporary suspension of repayments

when the borrower faces unforeseen difficulties, might be better suited to high risk scenarios. It would thus seem possible to set out good practices to ensure that households receive microfinance in a form that best helps them adapt to climate change; a concept that this report refers to as “adaptation-oriented microfinance.” The report defines adaptation-oriented microfinance as microfinance that retains its focus on poverty reduction, but is engineered to maximise its adaptation benefits.

The third aim, *identify types of adaptation projects and activities that MFIs could be involved in to take full advantage of their service delivery infrastructure*, looks beyond microfinance to consider other ways for MFIs to support adaptation. Many MFIs are developmental non-governmental organisations (NGOs) that provide a range of financial and non-financial support services, such as education and health programmes, to rural households. Some already have adaptation programmes but could they be doing more?

## 1.2 Analytical approach

The analytical approach applied in this report consists of (i) establishing a conceptual framework to identify the relationships between microfinance and adaptation and applying this framework to a study of the microfinance sector in Bangladesh, (ii) identifying key elements of adaptation-oriented microfinance by drawing on the impact evaluation literature and experiences with various innovations introduced by MFIs in Bangladesh to assist

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<sup>1</sup> For example, Agrawala and Carraro (2010).



their members deal with climate shocks, and (iii) reviewing community-based adaptation interventions in Bangladesh and adaptation concepts to identify how MFIs can make fuller use of their service delivery infrastructure and good relationships with communities to support adaptation initiatives at household, community and higher levels.

Bangladesh was selected for the study as it is both highly vulnerable to climate change and has a large and active microfinance sector. Most of Bangladesh's population is rural and many of its rural households are exposed to climate-related shocks on a relatively frequent basis. Most households have limited capacity to prepare for, cope with and recover from extreme weather events because of their low level of economic development, making adaptation a national priority. Bangladesh is also home to the world's largest microfinance providers, has been a centre for experimentation with microfinance services, and has four decades of experience with microfinance delivery to rural households. MFIs in Bangladesh have modified and diversified their products and delivery models over time, in part to better accommodate household needs in dealing with extreme weather events. This evolution in services provides experiences for understanding key features of adaptation-oriented microfinance. There is also an extensive literature on the impacts of microfinance in Bangladesh that provides a rich source of material for the analysis. In addition, an array of interventions on community-based adaptation can be found in the country and these might offer some ideas for MFIs

to support the broader institutional changes needed for sustained adaptation.

## 1.3 Report structure

The report is set out as follows. Following this introduction, Section 2 describes the climate change risks that Bangladesh is facing, provides a description of the government's approach to adaptation and considers how microfinance is treated in this approach. Section 3 explains the concepts that are used in the subsequent analysis, including *sustainable livelihoods*, *vulnerability*, *adaptive capacity*, *resilience*, *adaptation deficit*, *adaptation gap*, *incremental adaptation* and *transformational adaptation*. Section 4 provides an overview of the microfinance sector in Bangladesh. With the necessary conceptual tools and context having been established, Section 5 examines whether microfinance contributes to household adaptive capacity and, if so, how. Section 6 identifies key features of adaptation-oriented microfinance. Section 7 identifies how MFIs can take advantage of their extensive delivery infrastructure and good reputation with the communities to implement adaptation projects at household level as well as be more involved in supporting the development of institutions, organisations, policies and legislation for sustainable adaptation at scale, or "transformed resilience." Section 8 summarise the findings of the previous sections and sets out recommendations for specific actor groups to take forward the idea of adaptation-oriented microfinance, and to engage MFIs more fully in building capacities for adaptation.





## 2 MICROFINANCE IN BANGLADESH'S NATIONAL ADAPTATION STRATEGY

### 2.1 Introduction

If there is wide acceptance of the idea that microfinance can make an important contribution to adaptation, then one would expect to find attention to microfinance in the government's approach to adaptation in Bangladesh. Is this so? This section takes up this question and in doing so provides a broad sketch of Bangladesh's adaptation strategy to provide necessary context for the analysis in the subsequent sections. The discussion begins with an overview of the threats that climate change poses to Bangladesh, in particular to rural poor households, and then turns to the issue of whether microfinance receives attention in Bangladesh's adaptation strategy documents, adaptation administrative arrangements, and adaptation funds.

### 2.2 Bangladesh's development achievements and the threats climate change pose

In recent years, Bangladesh has made large strides in increasing incomes and reducing poverty levels. This is in large part associated with an annual average economic growth rate of six per cent since 2008 (MOEF 2012, 4). Indicating the progress made, the Human Development Index (HDI) <sup>2</sup> for Bangladesh increased from 0.303 in 1980 to 0.500 in 2011 (UNDP 2011, 133); the head count poverty ratio decreased from almost 60% in the early 1990s to 31.5% in 2010 (MOEF 2012, xviii); life expectancy increased from 52 years in 1987 to 68.9 years in 2011; under-five mortality decreased from 188 deaths per thousand in 1988 to 52 in 2009; fertility rates decreased from 6.6 births per woman in 1975 to 2.4 in 2009 (UNDP 1990, 2011); and the gross enrolment rate for primary schools increased from 76% to 98% over a period of 17 years (World Bank 2010). Factors cited for contributing to this improvement in development indicators include macroeconomic stability, opportunities created for private sector-led growth, labour migration, remittances from workers, better disaster management, partnerships with NGOs and the private sector to deliver services, and government

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<sup>2</sup> The HDI is a composite measure of three dimensions of human development – health, education and income.



support for family planning, the education of girls and the participation of women in the labour force (ibid.).<sup>3</sup>

Climate change poses new and serious threats that could undermine this hard-won progress on development, as well as the continued delivery of services to the poor. That 60% of deaths worldwide resulting from cyclones during 1980 to 2000 occurred in Bangladesh (World Bank 2010) testifies to the high vulnerability of the country to extreme weather events. As Fig. 2.1 shows, parts of the country that are not exposed to climate-related natural hazards are few.

Most of the geomorphology of Bangladesh comprises low lying deltaic landforms. Seasonal flooding is part of the natural processes that generate and maintain deltaic landforms and enrich the soils. Rural communities in Bangladesh have developed their agricultural practices in accordance with this seasonal flooding. However, in recent decades climate change has been associated with changes in the intensity and frequency of floods, cyclones and droughts as well as changes

in rainfall patterns (MOEF 2012, 4), all of which threaten the main agricultural systems. Climate change is expected to result in the transformation of large tracts of land from non-flood-prone to flood-prone status as a result of sea-level rise and melting of the Himalayan glaciers (UNDP n.d., 1). Other projected climate change impacts include increased risk of extreme weather events such as cyclones and tornados; less predictable and more intense rainfall; higher risk of drought, especially in northern parts of the country; coastal and riverbank erosion; storm damage of mangrove forests resulting in biodiversity loss; intrusion of salt water into soils and aquifers, with serious implications for agriculture; and sedimentation of riverbeds (ibid.). If, as projected, sea level rises by half a metre by 2050, Bangladesh would lose about 11% of its land, affecting 15 million people (UNDP 2011, 59).

Bangladesh is highly exposed to climate change impacts because of its location in the monsoon belt and physical geography, but it is the significance of agriculture to the economy and the low level of development in rural communities that makes the country highly *vulnerable* to the impacts of climate change. Almost half the labour force are engaged in the climate-sensitive agricultural sector and nearly three quarters of the population are involved directly or indirectly in agricultural activities (MOEF 2012, 4). Poor rural households engaged in agriculture are especially vulnerable to climate change as they have few assets and limited means to protect these from extreme weather events, their income is insecure and highly

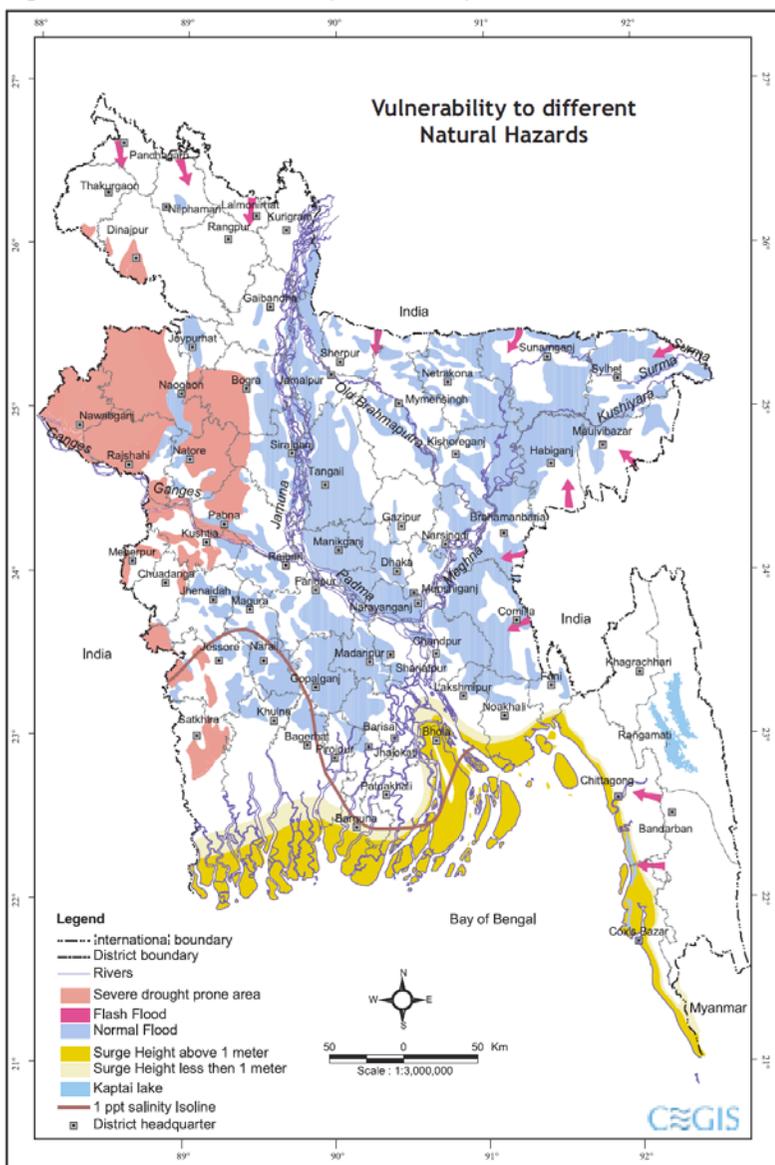
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<sup>3</sup> While there have been significant gains in terms of the common poverty indicators, malnutrition continues to affect two thirds of children and there are still about 50 million people who remain below the official poverty line (MOEF 2012, 5, 6, 29, 69–72). Further progress on “multi-dimensional” poverty is hampered by weak governance, which is characterised by “paralysing political rivalry, weak checks and balances among branches of government, weak accountability, inadequate systems for public resource management and a widespread culture of corruption” (World Bank 2010, i).



variable, and their poverty leads many of them to live in remote and ecologically fragile areas prone to natural hazards, such as in the coastal belt, on river banks and chars (river islands), and in areas exposed to drought.

Figure 2.1: Areas affected by different types of climate-related disasters



Source: MOEF (2009, 6).



In the past rural households have adapted in many ways to deal with climate vagaries, but their capacity to adapt is limited by their low level of economic development.<sup>4</sup> The large toll the cyclones and other natural hazards have on human life in Bangladesh exposes the limits of traditional *in situ* adaptation knowledge and practices. Lack of adaptive capacity means that millions of poor rural households could become climate migrants, forced by climate change to move to slums in Dhaka or other cities, and to neighbouring countries (MOEF 2009; MOEF 2012). Due to limited employment opportunities for women, female-headed households will be especially affected (*ibid.*).

## 2.3 National approach to adaptation

The Government of Bangladesh has been very active in the international negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), which is unusual for a least developed country (LDC). This involvement is undoubtedly driven by the country's vulnerability to climate change. However, while some progress on climate change issues can be observed at home, the mainstreaming of climate change across sectoral plans has been slow and the government has not always fully involved

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<sup>4</sup> Local adaptations include elevating homes and roads above the usual flood levels, adjusting cropping patterns to match flood waters, and coping mechanisms for above average flood levels and durations.

stakeholders in climate change strategy development (BCAS 2010).

### 2.3.1 National Adaptation Programme of Action

In 2005, Bangladesh was the first LDC to produce a national adaptation programme of action (NAPA), which it updated in 2009. The drafting of the NAPA was led by the Ministry of Environment and Forest (MOEF), which involved key stakeholders in the preparation process for assessing impacts, vulnerabilities and adaptation measures (BCAS 2010). Inputs were provided from one national workshop and four sub-national workshops. The NAPA attempted to identify immediate and urgent adaptation activities and develop a list of priority actions. Fifteen adaptation actions were identified for funding, though these tended to be technology-focused, with less attention given to institutions and financing for the delivery of adaptation technologies. Other than calling for exploring options for insurance, there was no mention of financial services having a role in adaptation.

### 2.3.2 Bangladesh Climate Change Strategy and Action Plan

In 2008, the Government of Bangladesh produced the Bangladesh Climate Change Strategy and Action Plan (BCCSAP). The BCCSAP is founded on six pillars: 1. Food security, social protection and health, with a focus on the poorest and the most vulnerable groups to ensure they have food security, safe housing, employment and access to basic services, 2. Comprehensive disaster management, 3.



Infrastructure – to ensure that the infrastructure to cope with climate change is in place, 4. Research and knowledge management – to predict the likely scale of impacts on different sectors of the economy and socio-economic groups, 5. Mitigation and low carbon development, and 6. Capacity building and institutional strengthening of government ministries and agencies, civil society and the private sector to meet the challenge of climate change.

A review by the Bangladesh Centre for Advanced Studies (BCAS) in 2010 notes that, in contrast to the NAPA, the process by which the BCCSAP was formulated was criticised by some groups for being directed from the top and lacking proper stakeholder consultation (BCAS 2010). Other concerns with the BCCSAP are that it only identifies the roles of government stakeholders, despite Bangladesh having a large and diverse non-governmental organisation (NGO) sector, and focuses on infrastructure with less attention given to adaptation itself (ibid).

Despite some progress towards developing a comprehensive national climate change strategy, the BCAS review found that, with the exception of the coastal sector, the national policies in the main climate-sensitive policy sectors, such as water, environment, land use and forests, had yet to incorporate climate change issues, meaning their potential to reduce vulnerability to climate change was not being realised. This failure to fully integrate climate change into climate-sensitive sectors appears the result of a number of factors, including the long time

scale over which some impacts are manifested, low levels of scientific capacity and awareness on climate change, and greater international attention on mitigation of climate change than on adaptation (BCAS 2010).

### **2.3.3 Administrative arrangements**

Despite slow progress in mainstreaming climate change adaptation across climate-sensitive sectors, it has become a significant issue within the Government (ibid.). The Government set up the Climate Change Cell (CCC) in the Department of Environment to provide feedback and technical support to the MOEF on climate issues. Funding for the CCC was provided by the UK Department for International Development (DFID) through the Comprehensive Disaster Management Programme. The CCC has endeavoured to establish links among the sectoral agencies by establishing focal points in each sector and preparing knowledge products for NGO involvement in climate change issues. Some progress has been achieved in linking climate change adaptation with disaster risk reduction planning (BCAS 2010).<sup>5</sup> A Climate Change Unit was also set up within the MOEF to support all climate change issues in coordination with other relevant government bodies, climate experts, NGOs and others. Each ministry has a planning cell which is expected to work closely with

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<sup>5</sup> Climate change components have been incorporated into the Comprehensive Disaster Management Programme, which in its early days was a very traditional disaster management programme (ibid.).



the MOEF in the formulation of sectoral policies and plans (MOEF 2012).

### **2.3.4 Adaptation funds**

The Government has set up two funds to finance adaptation. It established the Bangladesh Climate Change Trust Fund (BCCTF) using 300 USD million from its coffers to support adaptation activities by government agencies and NGOs. The ten per cent of the BCCTF allocated to NGOs is managed by the Palli Karma-Sahayak Foundation. The second fund is the Bangladesh Climate Change Resilience Fund (BCCRF), which relies on contributions from development partners. In 2012, the Government reported that the BCCRF had received 125 USD million and another 113 million USD had been pledged (MOEF 2012, 63).

## **2.4 Place of microfinance in the national adaptation strategy**

Microfinance has received very limited attention in national policy, assessment and strategy documents that take up the issue of climate change. It does not receive mention at all in the NAPA, though the BCCSAP does give it some attention. On the issue of microfinance, the BCCSAP reads as follows:

Bangladesh has a large and vibrant civil society sector, which includes world-renowned organisations like BRAC and the Grameen Bank. Civil society has made a major contribution to poverty reduction and has increased the resilience of poor people to natural

disasters, through its microfinance, income generation, health and education programmes. Civil society's experience and capacity will be used to develop innovative approaches to adaptation (including possible partnerships with the private sector) (MOEF 2009, 21).

Given the extensive reach of MFIs in Bangladesh (see Section 4) and that the BCCSAP accepts that microfinance can contribute to household resilience, it is somewhat surprising that microfinance has not received more attention in adaptation strategy documents. There could be a number of reasons for this. First, in their contributions to the adaptation strategy, the government agencies viewed as most important to adaptation (e.g. the Ministry of Environment and Forest, etc.) tend to focus on their immediate mandates, which do not include microfinance. In Bangladesh, microfinance is viewed largely as an activity of NGOs, and the Government sees its main role in microfinance as that of a regulator. Second, in the national adaptation strategy the government focuses on what should be done, rather than on how it can be done (e.g. how something is to be financed), perhaps because the former is easier to address. Third, there is a tendency in adaptation circles to think that grants are the only appropriate form of adaptation financing and thus to propose projects and programmes for grant-based adaptation funds. The idea of making small loans available to households to assist them with adaptation might be difficult for some government officials to grasp.



While the potential for microfinance to contribute to adaptation has received little recognition in the national adaptation strategy, by having the Palli Karma-Sahayak Foundation, the main microfinance wholesaler in Bangladesh, manage ten per cent of the BCCTF, the Government is acknowledging the strengths of the microfinance sector in delivering adaptation support to rural households.

## **2.5 Conclusion**

Bangladesh has made impressive development gains over the past few decades, but these hard-won gains are now threatened by climate change. Due to their high exposure to climate-related shocks, their dependence on agriculture and natural resources, and their low level of economic development, poor rural households in Bangladesh are especially vulnerable to climate change and are thus rightly a focus of the country's adaptation strategy.

Microfinance receives little attention in the national adaptation strategy documents, though the Government does recognise the strengths of the microfinance sector in delivering adaptation support to poor rural households. If analysis in the subsequent sections concludes that microfinance has an important role to play in adaptation, then there is a clear need for the Government to revisit its adaptation strategy.





## 3 CONCEPTUAL FRAMEWORK

To answer the questions *Does microfinance in its current forms contribute to adaptation?* and *How could microfinance be engineered to maximise its adaptation benefits?* requires a basic understanding of what needs to be adapted to, how adaptation can take place, and what limits the ability of households to adapt. This section sets out a number of basic concepts that are employed later in this report to provide answers to these questions.

### 3.1 Adaptation to what?

To assess whether microfinance is relevant to climate change adaptation requires a basic understanding of what the adaptation is to. In the field of climate change, adaptation refers to “the process of adjustment to actual or expected climate and its effects” and in human systems seeks to “moderate harm or exploit beneficial opportunities” (IPCC 2014, 5). Climate change adaptation is likely to be “changes in the frequency, intensity, spatial extent, duration and timing of extreme weather and climate events,” which the current rates of climate change are leading to (UNFCCC 2012, 6). Rural households will have to adapt to both changes in the frequency, intensity and timing of weather extremes and other irregularities, as well as slow onset events,

such as “sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinisation, land and forest degradation, loss of biodiversity and desertification” (UNFCCC 2012, 4).

### 3.2 Factors determining extent of adaptation required

The extent of adaptation required will depend upon the *exposure*, *sensitivity* and *vulnerability* of households to weather extremes and slow onset events. Drawing on IPCC definitions, household *exposure* to climate change can be seen as the extent to which the household and its property are located in areas subject to harm and loss, while *sensitivity* refers to the extent to which the household is impacted by climate variability and climate change (IPCC 2007, 89). The IPCC explains that *vulnerability* is a function of “the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity” (ibid). Exposure, sensitivity and vulnerability do not always coincide, e.g. a household may be exposed to flooding, but may not be so sensitive and vulnerable to it if their dwellings are raised above flood levels, and if they have sufficient savings and alternative income sources to cope during the flood period and to rebuild livelihoods in the immediate aftermath of the event.

*Resilience* is the opposite of vulnerability. The IPCC defines resilience as “the



capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation” (IPCC 2014, 5). From this definition, a resilient household can be viewed as one that has the adaptive capacity to maintain its level of wellbeing and ability to adapt in the face of climate change. The amount of adaptation required will depend on how resilient (or vulnerable) households are to extreme weather events and slow onset changes.

### **3.3 Adaptation deficit and adaptation gap**

In Bangladesh, the vulnerability of rural households to climate change is clearly associated with poverty. The poorest households are found in the areas most exposed to climate change, such as on chars; in the low lying coastal belt, which is exposed to storm surges; on the banks of highly mobile rivers; in riverine and low lying areas prone to flooding; on the outside of flood protection works; and in the drier northern areas. They also lack the resources, networks and support services to anticipate, cope with and recover from weather extremes and slow onset climate change impacts.

The shortage of adaptive capacity that a household has because of its poverty is commonly referred to as the *adaptation deficit* (Spearman and McGray 2011). An adaptation deficit occurs when a household

lacks the capacity to anticipate and plan for climate change because of its low level of development. An *adaptation gap*, on the other hand, is a failure to take actions specifically to build adaptive capacity (ibid.). For example, an adaptation gap could be a failure to introduce rainwater harvesting or other means of collecting and storing water when it is known that seasonal drought brought on by climate change will reduce water availability.

Climate change vulnerability is thus a combination of a failure to address development needs (adaptation deficit) and a failure to take specific actions to address climate threats (adaptation gap) (Spearman & McGray, 2011). Conversely, household resilience can be built by reducing the adaptation deficit through development interventions that support asset building and strengthening of pro-poor structures and processes, and through interventions specifically aiming to build adaptive capacity.

The distinction between adaptation deficit and gap raises two questions: Can microfinance contribute to reducing the adaptation deficit? What roles can MFIs play in closing the adaptation gap?

To answer the first question requires a basic conceptualisation of poverty, because it is only by understanding how microfinance impacts poverty that its contribution to reducing the adaptation deficit can be understood. The *sustainable livelihoods approach* developed by the UK Department for International Development (DFID) is employed in this report for this purpose



(DFID 1999). The framework views the creation of sustainable livelihoods as key to households escaping from poverty. It considers “household capital” in its various forms – human capital, natural capital, social capital, physical capital and financial capital – and “structures and processes”, i.e. organisations, institutions, policies and legislation, as essential to creating sustainable livelihoods (ibid.). The question of whether microfinance contributes to reducing the adaptation deficit can thus be elaborated in terms of whether it contributes to sustainable livelihoods by supporting the development of household capital and transforming structures and processes.

### 3.4 Coping versus adapting

In analysing the impacts on and response of households to changes in external factors a distinction needs to be made between *coping* and *adapting*. *Coping capacity* is the ability of a household to deal with risks or stresses but not necessarily bounce back (Spearman and McGray 2011, 65), whereas *adaptive capacity* refers to “the ability to anticipate and transform structure, functioning or organisation to better survive shocks” (Cardona et al. 2012, 72).

Coping capacity can be viewed as part of adaptive capacity or a stepping stone towards it, though coping actions without the transformative changes required for adaptation can result in suboptimal outcomes or “mal-adaptation,” i.e. adaptation actions that provide positive short-term outcomes but increase long-

term risks (Cardona et al. 2012, 73). A question for microfinance is whether it reduces household climate change vulnerability by contributing to coping and/or adaptive capacity.

### 3.5 Incremental and transformational adaptation

An important distinction has been made between *incremental adaptation* and *transformational adaptation* (IPCC 2014c, 5). *Incremental adaptation* involves actions that maintain levels of wellbeing through small adjustments in response to changes in external factors, whereas *transformational adaptation* changes “fundamental attributes of a system, often based on altered paradigms, goals, or values” (Field et al. 2014, 4).

Incremental adaptation is viewed as necessary but not sufficient for effective adaptation when large changes in external conditions are projected. Transformational adaptation, or fundamental systemic changes, is needed to support sustained wellbeing under significantly altered conditions. This distinction raises a number of questions for whether or how microfinance and MFIs can contribute to adaptation, such as: Can microfinance support incremental adaptation? Can microfinance facilitate transformational adaptation? What non-financial support could the MFI sector provide for both incremental and transformational adaptation?

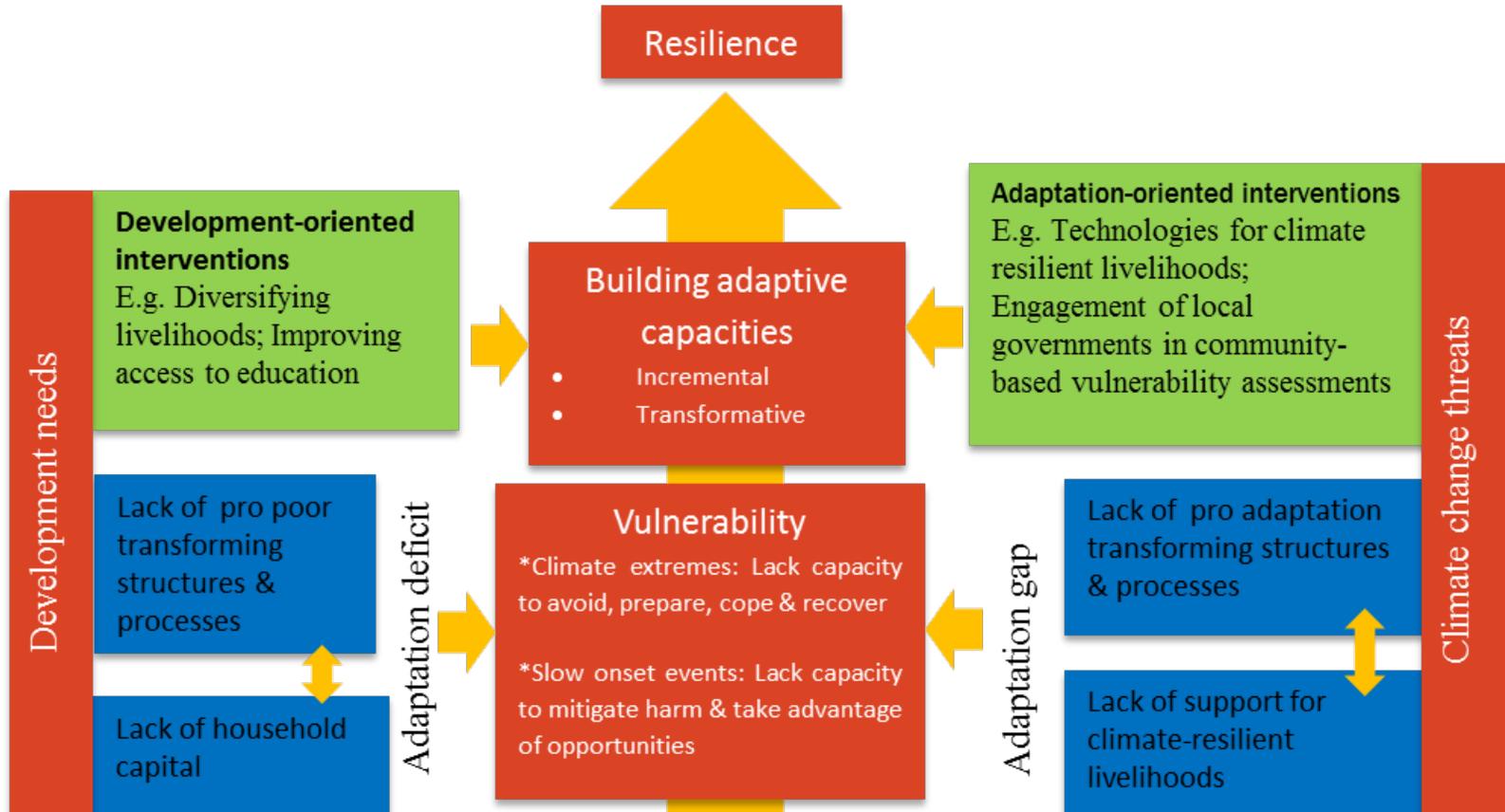


## 3.6 Bringing the concepts together

Figure 3.1 attempts to bring the concepts described above together to aid the discussion in the following sections. The left side of the figure presents the adaptation deficit and development-oriented interventions that can reduce it. The right side of the figure presents the adaptation gap and adaptation-oriented interventions that can close it. The central part of the figure shows that the adaptation deficit and adaptation gap both contribute to vulnerability; hence, development-oriented and adaptation-oriented interventions both have roles to play in building incremental and transformative adaptation capacities, leading to greater household resilience to climate change. Where microfinance and MFIs fit within this conceptual framework for building resilience to climate change is the subject of the following sections.



Figure 3.1: Interventions to reduce adaptation deficits and close adaptation gaps



Source: Elaborated from Spearman and McGray (2011).



### 3.7 Conclusion

As a development instrument with potential adaptation co-benefits, microfinance can be assessed in terms of its contribution to reducing the adaptation deficit. In trying to understand the role of microfinance in adaptation, whether microfinance and MFIs can contribute to incremental and/or transformational adaptation can also be assessed.

The following section provides an overview of microfinance practice in Bangladesh, and together with section 3 on concepts, this provides a foundation for the discussion in sections 5, 6 and 7 on the relationships between microfinance and adaptation, on what adaptation-oriented microfinance might look like, and what types of adaptation-specific interventions MFIs could support.



## 4 OVERVIEW OF MICROFINANCE SECTOR IN BANGLADESH

Microfinance has been defined as “financial services for poor and low-income clients” and has been described as a global movement that “envisions a world in which low-income households have permanent access to a range of high quality and affordable financial services offered by a range of retail providers to finance income-producing activities, build assets, stabilise consumption, and protect against risks” (CGAP n.d.). Microfinance thus differs from rural financial services in general, which target farmers rather than poor households.

The discussion below explains the origins of microfinance, basic products and delivery models, who the main providers are, outreach, membership, volumes of loans and savings as well as the stated use of loans, regulation of the microfinance sector, and apex organisations. MFIs are defined for this paper as any organisation that offers microfinance services, whether this be their sole function or but one of many functions.

### 4.1 Origins of microfinance in Bangladesh

Bangladesh leads the world in microfinance innovation and outreach. Whereas crises have hit microfinance services in some other countries (Roodman 2012), Bangladesh’s microfinance sector has proved fairly resilient. In December 2010, microfinance lending accounted for 11.7% of total domestic credit (CDF/InM 2010, 5) and was 1.7 times the total volume of rural credit extended by the banks (ibid., 6). In the same year, loan disbursement was equivalent to 28.8% of agricultural gross domestic product (GDP) (ibid.).

In Bangladesh, rural credit evolved with initiatives to raise land productivity. In the 1960s, the Comilla Academy, now the Bangladesh Academy for Rural Development, developed an approach for comprehensive rural development known as the Comilla model. The creation of a two-tier cooperative system, where primary cooperatives were federated at thana level, was one of its four central components. The idea behind rural cooperatives under the Comilla model was that they would accelerate agricultural production beyond a subsistence level through the adoption of new technologies by small-scale farmers. Cooperatives were seen as a useful vehicle for providing small landholders with access to credit, training and later a means of managing lumpy technology such as deep tubewells (Hye 1993). However, many rural



cooperatives were troubled by corruption and controlled by the rural elite; hence, they never became popular democratic organisations as envisioned by their founders (Wood 1994). Despite their shortcomings, experiences with rural cooperative provided some important lessons for the early microfinance pioneers in the country on the need for careful targeting and centralised control and service delivery structures in order to avoid elite capture (Roodman 2012).

The earliest examples of microfinance in Bangladesh may well be loans provided in 1974 by the national NGO BRAC (formerly Bangladesh Rural Advancement Committee) (Smillie, 2009). The real breakthroughs in overcoming the problems of lending small amounts to poor households came shortly after through the experiments led by Chittagong University professor Muhammad Yunus. The first informal experiment began with Yunus lending a small amount of his own money to 42 poor people identified by his students in the village of Jobra, which is situated close to the university. Based on positive results, the Janata Bank agreed with Yunus to trial a formal system of microcredit for the poor under his supervision. The microcredit experiment was later transferred to the Bangladesh Krishi Bank, which established a branch sub-office for lending to the poor in 1978. This pilot project was judged successful and the Grameen Bank Project was launched in June 1979 to facilitate replication over a wider area. Within the first year of its operation, 24 branches specialising in credit for the poor were established and achieved a recovery rate

of 98% by due date (Hossain 1988, 23). Based on these achievements, in 1983 the government established the Grameen Bank as an independent bank under a special ordinance.

## 4.2 Basic products and delivery models

The microfinance model developed from these early experiments is referred to by the Grameen Bank as the “Grameen Classic System” (Yunus n.d.). This model has been replicated by hundreds of NGOs in Bangladesh and globally, with varying degrees of modification. In the Grameen model and its variants, economic criteria are used to target poor households. For the Grameen Bank, its target group are households owning less than half an acre of land or the equivalent in total assets to the value of a medium quality acre of land. Women and men organise themselves into gender-based groups of five “likeminded” people and about six groups are federated into a larger centre that meets weekly in the village with the bank officers. At the weekly meetings, loan instalments and compulsory savings are collected and new loan proposals are presented. Permanently staffed local offices are established by the MFIs to enable these millions of weekly face-to-face encounters between rural households and field officers.

The groups are the fundamental organisational units of the model. Groups are self-organised and are expected to decide amongst themselves who should apply for loans and for what purposes,



and they are jointly liable for saving deposits and loan repayments. Small groups consisting of households of similar economic standing are expected to provide greater solidarity than large rural cooperatives with members of widely differing economic status (Roodman 2012). Measures to reduce the likelihood of groups being controlled by particular individuals or factions are put in place. Only one household member is permitted to join a group and blood relatives are not permitted to belong to the same group. Each group and centre has elected positions that are rotated periodically.

Members are required to deposit a fixed savings amount weekly. As a service, members benefit by having a safe place to accumulate funds and earn interest paid on the savings, which is mostly between five to eight per cent (CDF/InM 2010, 13). The savings also serve a practical purpose for the MFIs as they provide the capital necessary for lending, which is particularly important for smaller NGO MFIs (CDF/InM 2010).

The most common loan product is a small loan that incurs an interest charge and comes with a repayment schedule consisting of weekly equal instalments that cover the sum of the loan principle and interest, and begin shortly after the loan is received. Additional loans are not extended until outstanding loans have been repaid. The first loans are modest, but loan amounts increase over time as members demonstrate their ability to meet repayment schedules. Loans are mostly intended for investment in income generating activities, though some MFIs

provide loans for investment in enterprises, house construction, seasonal cultivation, education, emergencies and other purposes. In addition to savings and loan products, some MFIs also provide insurance or “quasi-insurance” (see Section 6.5) and remittance services to their members.

The Grameen classic model described above has influenced much of the current practice in the microfinance sector in Bangladesh, though there is a lot of variation in the details of products and delivery mechanisms. The Grameen Bank itself overhauled its classic model to incorporate much greater flexibility. Joint liability has been dropped, though the group-based system remains and continues to serve as a screen for individual membership. Mandatory savings also remains but optional savings options have been introduced. Branch managers now have flexibility to decide loan sizes and repayment schedules on a case-by-case basis, and systems have been introduced to better accommodate the needs of members who are experiencing repayment difficulties (Yunus n.d.) (see Section 6.1 for further discussion).

Variation in approaches can also be seen in the type of non-financial services that MFIs provide. Some MFIs focus mostly on microfinance delivery, while others provide a range of other services to poor households (what is sometimes referred to as “microfinance-plus”), reflecting their roots in the field of poverty alleviation, rather than banking. The approaches of the Grameen Bank, BRAC and ASA,



Bangladesh's three largest MFIs in this order, illustrate this variety. The Grameen Bank focuses on microfinance delivery and holds a fundamental belief that poor households have untapped energy, knowledge and skills that microfinance can unleash (Yunus 2001). BRAC, which was born out of relief programmes in the aftermath of a deadly tropical cyclone that struck the country in 1970, provides a much broader array of services, believing that microfinance will be most effective when packaged with enterprise training, advisory and linkage to markets (Roodman 2012, 80). ASA, another NGO established in the 1970s, grew out of an agenda to mobilise the landless rural poor and encourage social action. From an array of programmes that included legal aid actions against perceived social injustices, such as unfair wages and lack of access to resources, ASA pared down its approach to focus on savings and credit for income generation and a Member Security Fund to shield members from extreme hardships (ASA n.d.).

### **4.3 Providers**

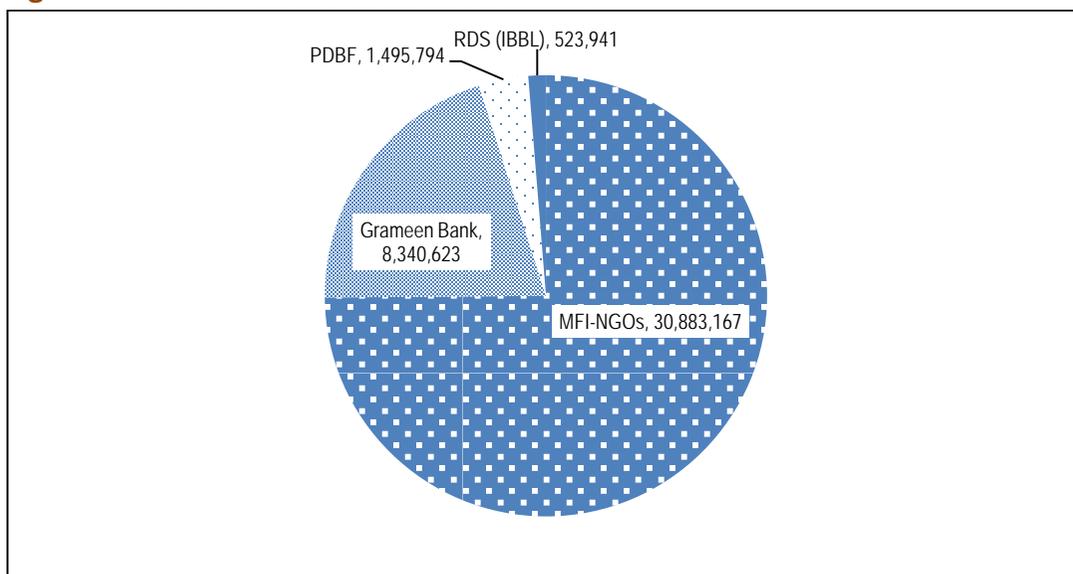
The microfinance providers in Bangladesh consist of (i) the Grameen Bank, (ii) NGO MFIs, and (iii) state-owned commercial banks, private commercial banks and specialised programmes of some ministries of the Bangladesh government (Islam 2009). NGOs are able to register under several laws that allow the creation of non-profit welfare like organisations and are permitted by the government to offer micro-credit services and accept savings from their members (ibid., 6).

Fig. 4.1 presents data on the distribution of active members, which provides an indication of the relative size of the Grameen Bank, NGO MFIs and other providers. The microfinance sector is characterised by institutional concentration, with the three largest providers accounting for about two thirds of the sector's activities. As of 30 June 2013, BRAC and ASA accounted for about 50% of the total outstanding loans and savings of NGO MFIs, while the 500 smallest NGO MFIs accounted for only 4.4% and 5.2% of outstanding loans and savings, respectively (MRA 2014).

The extensive outreach of the MFIs is apparent from the total number of branch offices, which exceeds 14,000 for the 649 licensed NGO MFIs that reported to the Microcredit Regulatory Authority in June 2013 (MRA 2014). This number jumps to over 19,000 when the Grameen Bank and government programmes are included (CDF/InM 2010, xiii). The Grameen Bank alone operates in 81,390 villages (Grameen Bank 2014). That MFIs now employ over a quarter of a million people (CDF/InM 2010) is also indicative of the immense size of the sector.



Figure 4.1: Distribution of active members in MFIs



Source: (CDF/InM 2010, xiii). Note: RDS (IBBL) is the Rural Development Scheme of Islami Bank Bangladesh Ltd. and PDBF is the government’s Palli Daridro Bimochon Foundation. Outreach

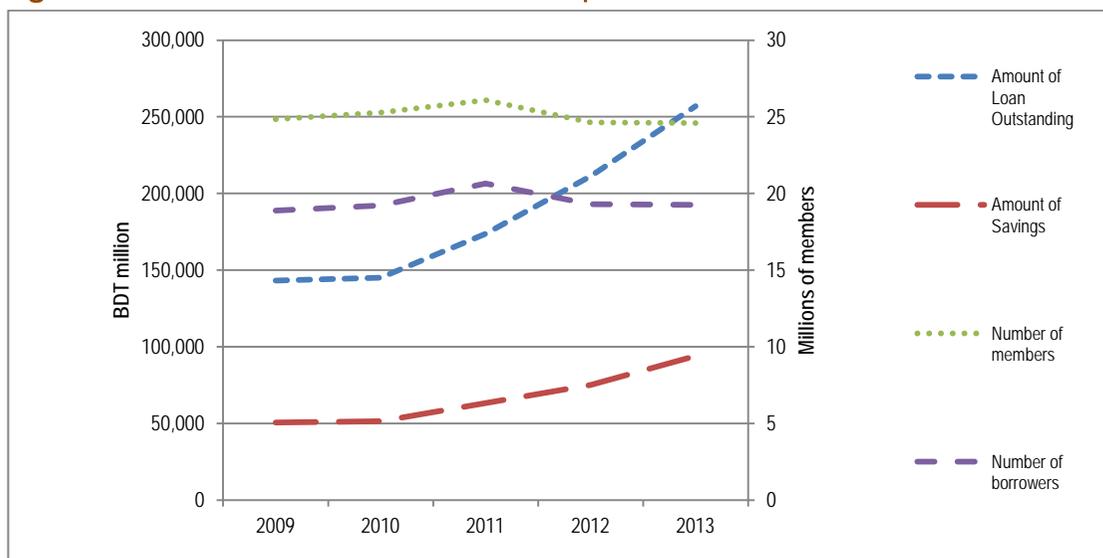
## 4.4 Membership

The extensive outreach of the MFIs is also apparent in their membership. A total of 41,243,525 active members in MFI schemes were recorded as of December 2010 (CDF/InM, 2010, p. 3), though the true number of active members would be somewhat lower due to overlapping membership, with possibly one third of members participating in more than one microfinance scheme (Faruque and Khalily 2011, 3). Total membership numbers appear to have been fairly stable between 2009 and 2013 for NGO MFIs (Fig. 4.2), while Grameen Bank membership increased by close to 400,000 over this period (Grameen Bank 2014). It appears that some degree of market saturation is being experienced with MFIs now being well established in

the localities most conducive to microfinance delivery, i.e. those with high population density and well-developed transportation networks linking local communities with markets.



Figure 4.2: Selected basic statistics on NGO MFI performance



Note: Figures are for June of each year for savings and loans. Source: MRI (2014). Another feature of the MFI sector in Bangladesh is its targeting of women. Over 96% of Grameen Bank’s members are women (Grameen Bank 2014) and of the total number of members in 126 MFI NGOs surveyed by CDF/InM, 82% were women (CDF/InM 2010, 17).

## 4.5 Savings and loan volumes and loan use

The Microcredit Regulatory Authority has aggregated statistics for the period 2009 to 2013 provided by licensed NGO MFIs. The statistics show an increase in outstanding loans of 80% and an 86% increase in savings for the NGO MFIs reporting to the Authority over this period. Savings per member grew by 120% from 2009 to 2013, while loans outstanding per borrower also more than doubled (MRA 2014). A review of panel data for 126 NGO MFIs revealed that average loan size increased by about 36% from 2007 to 2010 (CDF/InM 2010, xiii). The Grameen Bank has also enjoyed a remarkable increase in transacted volumes, with total

member deposits growing over 5.6 times and total outstanding loans growing 3.7 times in the ten years since June 2005.

Fig. 4.3 shows that small businesses account for 38% and agriculture for just under one third of the stated purpose of loans. Loans for crops and livestock are growing in absolute and relative importance, and to a lesser degree, also loans for cottage industries and transport. However, there is a risk in reading too much into these figures as empirical studies show that the actual use of loans can differ widely from their stated purpose (e.g. see Todd 1996).

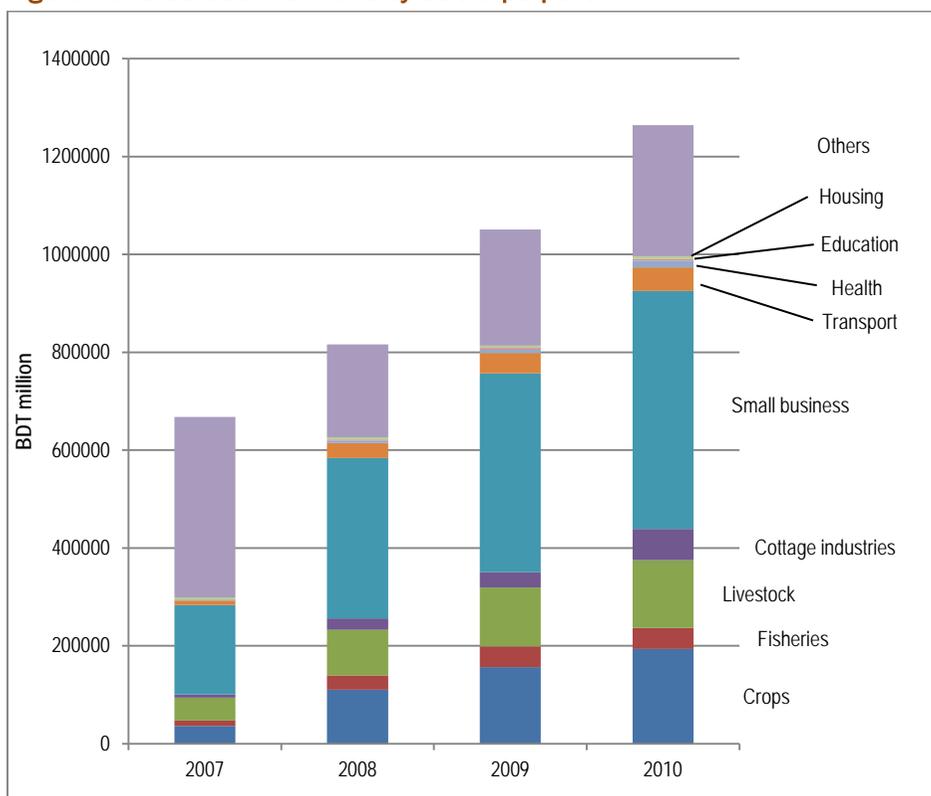


## 4.6 Regulation

The Microcredit Regulatory Authority (MRA) was established through the Microcredit Regulatory Authority Act 2006 to regulate the provision of microfinance services by NGOs. The MRA only regulates NGO MFIs, i.e. not the microfinance banks and government-run microfinance services. Under the Act, NGOs require a license from the Authority to engage in microfinance delivery. As of May 2014, the MRA had approved 742 licenses,

cancelled 44, rejected 3,456 and had invited new applications from another 92 NGOs for which it had given primary approval (MRA 2014). The MRA has published several rules, circulars and notices that aim to ensure that the interests of scheme members are protected, transparency and accountability in financial management, and sound governance of MFIs (Badruddoza 2013).

Figure 4.3: Distribution of loans by stated purpose



Source: CDF/InM(2010, 28).



## 4.7 Apex organisations

The Palli Karma-Sahayak Foundation (PKSF) is the main microfinance wholesaler in Bangladesh. Other much smaller sources of wholesale finance include the Stromme Foundation (a Norwegian NGO) and Anukul Foundation, which is operated by CARE Bangladesh (Islam 2009, 12).

PKSF was established in 1990 by the government as a “not-for-profit” company to provide funds to MFIs and to assist with their institutional development through training and system building (PKSF 2014, 7). PKSF receives concessional financial support from the government and some of the lending multilateral donors. As of June 2013, it had 272 partner organisations, i.e. NGO MFIs that it provides support to, with over 10.21 million members, 9.19 million of who were women (PKSF 2014, 20). The total volumes of loans to partner organisations is on an upwards trend (PKSF 2014, 21), suggesting strong demand from NGO MFIs for PKSF services.

PKSF has diversified its financial services in terms of both the size and the terms of repayment, from weekly repayment-based microcredit to support for monthly, six monthly, yearly and even longer repayment periods. It requires its partner organisations to spend ten per cent of their net annual surpluses on education and health services. PKSF projects are diverse and have included support for the

ultra-poor, including *monga*<sup>6</sup> affected communities, support for the development of value chains and microenterprise, setting up a covariant risk fund that aims to ensure timely settlement of claims of poor members experiencing the impacts of covariant risks, and support for the expansion of micro-insurance services for health, life and livestock (PKSF 2014).

## 4.8 Conclusion

Bangladesh has one of the world’s largest and most well-developed microfinance sectors. The types of microfinance services offered and the delivery modes are “home grown” in that they have emerged from experimentation by providers within the country. This underlies the success that the sector has had in rapidly scaling up to reach millions of households across much of the country.

NGOs and the Grameen Bank have proved effective at delivering microfinance services through a well-established infrastructure that reaches down to sub-village level and allows them to have face-to-face weekly meetings with their members. Part of the success MFIs have had with outreach is also associated with innovations that were introduced after problems were identified with the early microfinance models. A number of MFIs have replaced the rigid early approaches

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<sup>6</sup> *Monga* is seasonal starvation and occurs in northern Bangladesh during the months of September and October when people face severe hardship because of lack of agricultural employment opportunities.



that were thought necessary to promote financial discipline and secure the necessary capital for lending, with a greater array of services and flexible products that have proved attractive to rural households. Other examples of the evolution of the sector can be seen in the creation of a regulatory authority as well as the PKSK, a very active apex body that has won the trust of the Government and international funders.

These observations should not be taken as suggesting that everything is rosy within the microfinance sector. The sector was successful in meeting what have been termed “first generation” challenges, i.e. challenges associated with delivering financial services to poor rural households, but are now facing an array of “second generation” challenges, such as how to reach more chronic poor households, how to operate in remote areas with low population density and high climate vulnerability, and how to create new economic opportunities when the marginal benefits of lending decline as local markets become saturated with microfinance. Climate change could also be considered a second generation challenge for microfinance. Sections 5, 6 and 7 discuss how microfinance and MFIs can contribute to meeting this challenge.





## 5 DOES MICROFINANCE IN ITS CURRENT FORMS CONTRIBUTE TO ADAPTATION?

There are two basic questions that should be asked about the relationship between microfinance and adaptation: *Does microfinance in its current forms contribute to adaptation?* And, if it does, *How can the contribution of microfinance to adaptation be maximised?* (Another way of asking this second question is, *What would adaptation-oriented microfinance look like?*). An attempt is made in this section to answer the first question, drawing on observations of key findings and arguments in the literature on microfinance and climate change adaptation in Bangladesh, while the second question is left to Section 6.

In terms of the first question, no careful examination of the possible links between microfinance and the adaptation deficit can be found in the literature. The only major report on microfinance – adaptation links in Bangladesh explicitly assumes that microfinance is helping the poor “develop alternative livelihood

opportunities, build assets and spread risks” in reaching its conclusion that microfinance can deliver resources for adaptation in climate change vulnerable sectors (Agrawala and Carraro 2010, 8). However, the question of whether microfinance has these impacts is a topic of much debate among scholars, and the evidence for and against poverty impacts needs to be carefully examined when assessing whether microfinance contributes to adaptation.

The discussion below first provides an overview of the debate over microfinance impacts on poverty levels and considers whether anything can be concluded from this debate for adaptation. It then looks at the impact of microfinance on household financial management. The discussion finally turns to the impacts of microfinance on vulnerability, one aspect of poverty that is particularly relevant to adaptation.

### 5.1 Impacts on poverty levels

A central focus of microfinance impact studies has been on whether microfinance assists poor households lift themselves above the poverty line.<sup>7</sup> Numerous studies

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<sup>7</sup> The Government of Bangladesh uses the Cost of Basic Needs (CBN) concept to define the poverty line in order to conduct headcounts on poverty. Upper and lower thresholds are set to identify “moderate” and “extreme” poverty. Households are in extreme poverty when their total expenditure is equal to the “food poverty line,” which is defined as the cost of a basket of goods amounting to the consumption of 2,122



employing a variety of methodologies have been unable to deliver a consensus from scholars on this issue. To the contrary, whether microfinance impacts poverty continues to be hotly debated.

This debate can be seen amongst researchers who have applied qualitative approaches to understand the impacts of microfinance on various dimensions of poverty. In some studies, researchers have spent as much as a year or more living with and closely observing small groups of people participating in microfinance finance schemes. These studies provide rich information on how poor people try to make use of microfinance as well as on how microfinance can impact individuals and households, but generalisation on impacts is difficult because of the potentially large influence of locational factors. Subjectivity associated with particular assumptions, ideas or theories about development that may not always be well articulated, can also lead researchers making similar observations to draw entirely different conclusions. For these reasons, while some qualitative studies present an overall favourable picture of microfinance (Todd 1996), others find it a potential “debt trap” (Rahman 1996).

The disagreement amongst scholars on microfinance impacts is even more

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Kcal per person per day. Using this definition, the Bangladesh Bureau of Statistics calculated the poverty line income as 595 BDT per person per month (Rahman, Matsui, and Ikemoto 2009, 154).

evident in the quantitative studies that have attempted to produce generalised findings on microfinance impacts by applying statistical methods. A common approach of these studies is to use quasi-experimental design or matching methods. The studies take representative samples of microfinance participants and compare how their levels of poverty have changed with samples of non-participants (i.e. people who are eligible for microfinance but do not participate in microfinance programmes).

Matching methods studies have generated a huge debate about the creation of the counterfactual, i.e. the use of control groups. The controls are used to allow “observation” of the potential outcomes of programme participants if they had not participated in the programme. Creating a counterfactual proves to be extremely difficult and prone to several types of bias (Duvendack et al. 2011; Osmani 2014; Roodman 2012).<sup>8</sup>

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<sup>8</sup> *Programme placement bias* can arise when the control group used to establish the counterfactual and the “treatment” group (i.e. the group participating in the microfinance scheme) are not demonstrably comparable. *Self-selection bias* occurs when people joining the scheme are not representative of the target group, e.g. when they have above average entrepreneurial drive or, conversely, when less capable households participate in the schemes. *Peer-selection bias* can arise when a local person aims to find other people they believe are the most trustworthy when forming their credit group. *Lender-selection bias* arises when bank workers show a preference for recruiting people among the target group who they believe will be most able to repay loans, e.g. by having regular sources of income.



Osmani (2014) provides a useful discussion of the methodologies employed by and findings of some of the key quantitative microfinance evaluation studies in Bangladesh. He explains that the early quantitative evaluation studies used cross-sectional data, i.e. data from one point in time, and compared the conditions of a sample of households participating in microfinance schemes with a control group consisting of those who met the eligibility criteria of the schemes but did not participate in them. A second generation of studies also used cross-sectional data, but employed various econometric techniques to try and remove some of the biases explained above. A third generation of studies used longitudinal or panel data, i.e. data from surveys of the same sample of households at different points in time.<sup>9</sup> The quantitative studies reviewed by

Osmani (2014) mostly find that microfinance has contributed to poverty reduction in Bangladesh. They find that access to credit increases food consumption, self-employment, household assets and income, and that the benefits increase over time. When reviewing the methodologies used in the impact studies, Osmani (2014) argues that while there are valid concerns about cross-sectional studies, researchers have been reasonably careful when applying panel data techniques. However, the debate over microfinance and poverty levels has not been fully resolved and the methodologies used continue to attract criticism (e.g. see Roodman (2014)).

It is thus difficult to conclude from a review of the literature that microfinance is contributing to adaptation by helping households move above the poverty line. This is not because microfinance has no impact on poverty, but because social science research techniques struggle to tell us whether it is impacting poverty or not. The shortcomings in social science impact evaluation research are associated with having to rely on “simplistic generalisations about variegated experiences using incomplete data about the world as it is and untestable assumptions about the world as it would have been” (Roodman 2012, 143).

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Further, when the microfinance scheme fails to ensure it only delivers services to its target group (e.g. households in possession of less than a half-acre of land), the evaluation will be biased towards favourable results (Duvendack et al. 2011; Roodman 2012). Another challenge to establishing the counterfactual is the potential for spill-over effects, which can occur when microfinance programmes impact non-participants of the target group in some way (Duvendack et al. 2011).

<sup>9</sup> In recognising the need for rigorous monitoring of microfinance impacts, the Institute of Microfinance (InM) launched the Dynamics of Poverty in Rural Bangladesh project to produce panel data. Its benchmark survey was conducted in 2010 with a sample of 6,300 rural households in 63 districts. One “quasi-panel study” used the data from this benchmark survey and participant recall to establish an earlier data set (Osmani 2012).

## **5.2 Impacts on household financial management**

While it is not clear whether microfinance is contributing to adaptation by reducing poverty in economic terms, it may be



contributing to adaptation in other ways. One of these is by assisting poor households with their financial management.

In *Portfolios of the Poor: How the World's Poor Live on \$2 a Day*, Collins et al. (2009) argue that careful money management is a necessary part of everyday life for the rural poor. Money management is a topic of daily conversation in poor households due to the variability and uncertainty of their income flows.

To manage their meagre, irregular and highly unpredictable incomes, poor households have three money management needs (Collins et al. 2009, 18). First, they must *manage basics*, which means managing money to pay for immediate and short-term expenses associated with daily survival. Second, they must *cope with risks*, which requires taking a long-term view to make sure money is available to deal with unforeseen threats. Third, they must *raise lump sums* to take advantage of opportunities and meet obligations, e.g. purchasing inputs for income generating activities, providing a daughter's dowry for her wedding, etc.

Poor households will select between and strategically manage whatever financial instruments are available to them to meet these money management needs. They typically use some instruments more frequently than others, e.g. if they are able to, they may frequently take small, no-interest loans from family members for basic expenses, and less frequently resort

to high-interest loans from money lenders for large expenses. In their study of financial diaries, Collins et al. (2009, 15) found that the 42 poor households they surveyed in Bangladesh used on average just under 10 different types of financial devices or instruments each year, and that even the poorest households held some savings and debt. However, it would be wrong to assume from this that poor households have access to a wide range of financial services; to the contrary, they do not. The traditional financial options available to poor households are highly constrained and often of low quality, i.e. uncertain, expensive and risky.

This understanding of money management and financial portfolios in poor households is important as it provides insight into why they participate in microfinance programmes and the decisions they take on how they use financial products. While MFIs have traditionally focused on providing loans for "productive" investment in income generating activities, research on how members actually use these loans reveals that many do so in ways that makes their money management easier. Todd (1996), who spent one year living with and observing 40 Grameen Bank female members in one locality, reported that of 35 women who had taken loans intended for use in cow fattening and rice cultivation, most had used the loans for a wide range of other purposes, including grocery trade, land transactions, loan repayments, rice stocking, lending, rickshaw business, dowry for wedding and purchasing housing materials. Collins et al. (2009) made similar observations in their



survey, finding households were using loans from MFIs to cope with emergencies, pay for schooling and health fees, acquire household assets and “in general, to better manage complicated lives” (Collins et al. 2009, 25). From this they conclude, “its [microfinance’s] greatest contribution is, to us, beyond dispute. It represents a huge step in the process of bringing reliability to the financial lives of poor households” (Collins et al. 2009, 26).

Another important observation from the study by Collins et al. (2009) is that in addition to offering new resources to households in the form of loans, MFIs are providing a much more dependable loan service than non-formal sources:

Irrespective of how microcredit loans were used, borrowers appreciated the fact that, relative to almost all their other financial partners, microfinance providers were reliable. That is, the loan officers came to the weekly meetings on time, in all kinds of weather; they disbursed loans in the amount they promised at the time they promised and at the price they promised; they didn’t demand bribes; they tried hard to keep passbooks accurate and up-to-date; and they showed their clients that they took their transactions seriously (Collins et al. 2009, 26).

Studies of household financial portfolios have found that in addition to loans, secure saving services are also important for poor households. Collins et al. (2009) explain that poor people regularly try to find ways of saving small amounts of money, either to be used during periods of hardship or to be accumulated for large expenses. They may do this by holding the

money themselves, asking a family member or friend to hold their savings, or depositing a fixed amount regularly in an informal savings club or savings-and-loan club (Collins et al. 2009, 3). Poor households have found some of the savings products offered by MFIs very attractive, and for some households it is the savings products rather than the loan products that motivated them to join a microfinance programme (Collins et al. 2009).

The basic message here is that as climate change impacts are felt in the form of new and/or more intensive covariate shocks, it is important that rural households continue to have access to microfinance. Continued access to microfinance will help poor households adapt to climate change. This is a simple yet important message that has largely been missed in the scant literature on microfinance and climate change adaptation. Maintaining and building adaptive capacity requires that services that are useful to households in the present are also available in the future. Just as the adaptation literature highlights the need for “climate proofing” infrastructure, such as bridges and roads, so too should efforts be made to ensure microfinance services are “climate proof,” i.e. that they continue to be available to poor households as climate change progresses.

### **5.3 Microfinance impacts on vulnerability**

While the debate over the relationship between microfinance and poverty levels



continues, there is greater agreement on another potential impact of microfinance, namely that access to microfinance can reduce household vulnerability to shocks. This is an important observation for adaptation as the climate future for rural households in Bangladesh is projected to be one of greater climate irregularity and weather extremes.

Microfinance appears to contribute to reduced vulnerability through its impacts on temporal consumption patterns, diversity of income sources, self-employment, and risk pooling (through micro-insurance). Microfinance is also likely to be contributing to household human and social capital, though this has been debated in the literature.

### **5.3.1 Consumption smoothing**

A poor household with high periodic temporal variation in consumption of basic food and other items because of climate influences can be considered highly vulnerable to climate change and to have low adaptive capacity. This is an extremely serious issue for Bangladesh as seasonal hunger and periodic starvation, which are already major problems, are likely to be exacerbated by climate change through the drier conditions projected for the northern part of the country, salinisation of soils, as well as by greater climate variability, which increases the uncertainty of cropping.

Avoiding periods of hardship in the form of reduced consumption is a strong motivation for poor households to join microfinance schemes. Khandker and Pitt (2002) found a disproportionate number

of households that experience high seasonal variation in consumption patterns participating in microfinance, and that they were adding microfinance to their existing set of consumption smoothing strategies to lessen the impacts of seasonal hunger and other household stresses.

Microloans can potentially help poor households vulnerable to climate shocks smooth consumption in two ways. First, households who use loans for productive purposes may be able to free up some of their other financial resources for consumption. Second, households may choose to directly use loans for consumption.<sup>10</sup>

With respect to this second option, concerns have been raised that borrowers who use loans for consumption will find themselves in a “debt trap,” i.e. a situation in which they resort to taking new loans to repay existing loans and become increasingly indebted and impoverished. While this fear was expressed in the literature many years ago (Rahman 1996), it has not manifested at the mass scale that was imagined. The issue of indebtedness has been examined in studies on the phenomenon of overlapping membership, which occurs when one person joins more than one microfinance scheme. This is not formally permitted by MFIs, but is widespread. In a nationwide study, the Institute of

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<sup>10</sup> Osmani (2012) reports that of the 6,300 households covered by the InM 2010 benchmark survey, 63% of borrowers primarily used loans for consumption.



Microfinance (InM) found that major reasons for borrowing from more than one MFI were upscaling of enterprises, lumpy expenditures, shocks, repayment of existing loans, and leasing-in of land (Faruqee and Khalily 2011, 7). Contrary to what would be expected from the debt trap hypothesis, borrowers using more than one MFI have higher net worth (i.e. less indebtedness relative to assets), as well as higher incomes, savings, food and non-food expenditure, and employment days than households that borrow only from one source (Faruqee and Khalily 2011, 11). Poor households are therefore taking advantage of the existence of more than one MFI in their area to mitigate hardship and generate additional income.

### **5.3.2 Diversifying income sources and self-employment**

The greater the types and number of income sources that a household has, then, all other things being equal, the lower its vulnerability to climate change and greater its adaptive capacity. It thus follows that if microfinance enables households to increase the number and diversity of their income sources, then it is highly relevant to adaptation. Impact assessments have found that this is precisely what microfinance is enabling many households to do. Pitt and Khandker (2002) found that households were using microfinance in ways that diversified their income sources and that most were using loans to finance nonfarm activities, thus reducing their vulnerability to seasonal fluctuation in agricultural income. Khandker and Samad (2014) also observe a positive relationship

between microfinance and income diversity.

One of the largest impacts of microfinance appears to be on creating opportunities for self-employment (Islam 2009, 13), which could enhance household capacity to cope with and recover from climate shocks. More so than locally based wage-employment, self-employment could provide income during a flood, or other drawn-out natural hazard, and enable households to begin generating income immediately after the flood waters recede. This hypothesis is supported by Rahman (1991), who found that his sample of Grameen Bank borrowers had greater capacity to cope with and recover from the 1987 and 1988 floods in Bangladesh than a control group, as, inter alia, they had been able to diversify their occupational pattern to include greater self-employment.

### **5.3.3 Risk pooling through microinsurance**

Both microinsurance and agricultural insurance as forms of risk pooling have received a lot of attention in the adaptation literature (IPCC 2014c, 20, 26),<sup>11</sup> but in Bangladesh neither has progressed to the point of being widely available to farmers and rural households in general (Ahmed 2010; International Labour Organization 2003; Salman,

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<sup>11</sup> Collins et al. (2009, 19) point out that poor households also use savings and loans to deal with risks, so in terms of household money management, there is not always a clear distinction between the functions of savings, loans and insurance.



Mahul, and Bagazonzya 2010; Werner 2009). This is because regular insurance companies are unable to offer customised policies on the micro-scale that poor rural households need. Delivering insurance to poor households is made difficult by high transaction costs, due to the small size of the average losses insured, as well as their high exposure and sensitivity to covariate shocks. Traditional forms and delivery modes of insurance are not suited to chronic poor households living in vulnerable conditions due to non-affordability (high costs), non-accessibility (screening behaviour of insurers), and non-acceptability (moral hazard problem on the part of insurers) (Khalily 2014).

Government-funded bodies, private insurers and MFIs are offering some insurance products, but with mixed results. Problems experienced by the state-owned insurance company Shadharan Bima Corporation, which was the only mainstream agricultural insurance provider in the country in the 1980s and 1990s, included a lack of (i) strategic plans and road maps, (ii) technical knowledge on livestock and crop insurance, (iii) connection between scheme controllers and smallholders, and (iv) a refined process to determine premiums and pay outs (Ahmed 2010).

Bangladesh's experience with private insurance companies delivering life insurance to poor households is also not so positive. Collins et al. (2009) found that some poor households had life insurance from private companies in the form of life endowment policies, most of which had 10-year terms. The clients paid premiums

either weekly or monthly, and they either withdrew the savings including profits at the end of the term, or, if they died, their heirs received the full value of the policy. Several innovations were introduced and were successful in making the insurance product attractive. These included omitting selection criteria to allow anyone to join, and holding the premiums in the communities and lending them back to clients using the standard microfinance approach. However, the schemes failed to adhere to a basic fundamental of microfinance practice, i.e. to provide a reliable service. Problems that arose include fraud, nepotism in the awarding of jobs, unclear money flows, and incompetency or laziness of the agents (Collins et al. 2009, 74).

The involvement of MFIs in delivering insurance services is limited, but nevertheless important. A now somewhat dated "inventory" of microinsurance services of 20 MFIs conducted by the International Labour Organisation found that 36 schemes were offered. These were categorised as: health – 39%; life – 36%; loan/capital – 19%; livestock – 6%; disaster – 3% (International Labour Organisation 2003, 3). Nearly all MFIs provide "credit-life" insurance in the form of debt forgiveness when a borrower dies. The payment for these schemes is built into the price of the loan. Collins et al. (2009, 75) found that this approach is generally liked by the borrowers. Some MFIs also offer pay outs when a client dies, regardless of her/his loan or savings status.



A number of MFIs also offer health insurance. Their basic strategy is to focus on providing essential health services through low pricing and affordable premiums.<sup>12</sup> Most MFI health schemes are linked to loans, e.g. the Society for Social Service (SSS) requires every borrower to hold a health card at a cost of 20 BDT, which enrolls them in the micro-insurance health scheme. Most MFIs offering health insurance have set up community-based clinics and staff these with medical professionals and paramedics. Coverage varies between the schemes, but many include discounts on medicines and pathology tests, and payment up to a specified limit for hospitalisation. Some include free health check-ups, immunisations, family planning advice, pre- and post-natal care, and house visits. Most schemes use referrals for secondary and tertiary care, though two schemes have their own large hospitals. Only SSS covers surgery, but requires 3,000 BDT co-payment. Co-payments are commonly required to keep premiums affordable and avoid “moral hazard,” i.e. the tendency of the insured to participate in unnecessary procedures or pay insufficient attention to prevention, though most schemes have provisions to waive co-payments for the poorest households.

Livestock insurance is also offered by some MFIs and this is one area of microinsurance in Bangladesh where good progress appears to have been made.

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<sup>12</sup> Werner (2009) provides a succinct summary of MFI health insurance schemes from which the following description is taken.

Basic approaches include taking a small premium from the livestock loan to cover partial loss of the asset (e.g. PROSHIKA approach) and write off the outstanding debt in the case of the animal dying (Dushtha Shasthya Kendra approach). Recent piloting supported by PKSF has sought to marry the insurance coverage with veterinary services. Under PKSF's *Developing Inclusive Insurance Sector Project*, in 2013 112,821 households received loans to procure 124,669 cattle for beef fattening. SOJAG, one of PKSF's partner organisations, was able to reduce the mortality rate of cattle to 0.5%, enabling it to keep its insurance premium at 1% of the loan amount. A key to SOJAG's success was employing its own veterinarians.<sup>13</sup>

A few MFIs may offer some type of catastrophic insurance. PROSHIKA, formerly one of the country's largest NGOs, took two per cent of the savings balance of its members in order to provide disaster and life insurance. If a member's homestead was damaged or destroyed by river erosion or cyclones, she/he received twice the amount of her/his saving's deposit, without losing any of the original amount saved (International Labour Organisation 2003).

Are the insurance services provided by NGOs contributing to reducing the adaptation deficit? The answer would appear to be yes, given that the insurance provided reflects some of the real risks that households face. However, there appears to be room to improve some of

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<sup>13</sup> Interviews with SOJAG officers, 26 Aug. 2013.



the existing services (e.g. in the health insurance schemes the co-payments made by the participants are high for most services rendered, meaning much of the risk remains with the insured (InM 2011, 1)); to provide new types of insurance, such as weather-based index insurance for crops; as well as to greatly expand outreach. These issues are taken up again in Section 6.

### **5.3.4 Building human and social capital**

Human and social capital are highly relevant to adaptive capacity. A high level of education, good health, a low dependency ratio, and strong social networks, etc. will all help households deal with sudden and slow onset climate change impacts.

Many studies conclude that a causal relationship exists between microfinance and the development of human and social capital. The arguments for this relationship are many and varied, including that (i) poor people gain confidence and a greater sense of self-worth from using microfinance (Counts 1996; Todd 1996), (ii) poor people are able to build up their social support networks by developing close relationships with other members and this solidarity can lead to joint actions to claim rights or deal with abuses, (iii) poor households are interested in improving the health of their family members and educating their children, so use microfinance to support these objectives (Hossain 1988; Khandker 1998), (iv) by using loans for self-employment, poor

people are able to extract themselves from exploitative patron-client relations and avoid coming under the control of village money lenders (Rahman 2002), and (v) access to and use of microfinance provides an alternative route to empowerment that can increase the social status of women, enable them to have greater influence in household decision making and in society in general, and release their entrepreneurial potential (Hashemi, Schuler, and Riley 1996; Kabeer 2001; Todd 1996). If these relationships exist, then they could be underpinned by the mechanism of microfinance itself, e.g. bringing groups of women regularly together away from their homes; the desire of households to improve their lives; and additional support provided by the MFIs, e.g. awareness raising, motivational support, encouragement to vote in local and national elections, etc.

However, for each of these arguments there is a counter-argument that microfinance has no impact on or even destroys human and social capital. These arguments include: (i) poor people are chided by field officers when they fail to make savings deposits or repay loan instalments, thereby degrading their sense of self-worth (Karim 2011; Rahman 1996), (ii) if a woman fails to repay a loan, she may be socially ostracised by her group members and publicly shamed by the field officers (Karim 2011; Rahman 1996), (iii) impact evaluations do not prove that MFI participants are spending more on education than non-participants (Murdoch 1998), (iv) field officers effectively become a new patron that the



borrower is indebted to (Karim 2011; Rahman 1996), and (v) microfinance entrenches the existing sexual division of labour and other patriarchal norms, with the mostly female borrowers having to answer to the mostly male field officers (Karim 2011; Rahman 1996). Underpinning these arguments is the belief that households are not generating additional finances from the loans and that the mechanics of the microfinance schemes reinforce existing societal inequalities and expose women to further injustices.

It is beyond the scope of this study to discuss all the theories and evidence that is called upon to support these arguments and counterarguments. However, from a review of the literature it is clear that whether microfinance has positive impacts on human and social capital depends on a combination of factors, including the initial endowments of a member's household, the circumstances that arise during her/his membership, the specific mechanics of the microfinance scheme, and incentives provided to field workers. For example, if a borrower is unable to make scheduled loan repayments for no fault of her/his own, the outcome for this person will depend greatly on the action taken by the MFI. If the MFI local field manager scolds the person in public and requests the sale of household assets to immediately repay the loan, or demands that other members of the group make the instalments, then the outcome could be very negative for the borrower. Conversely, if the MFI has a process to deal with such cases that provides the borrower breathing space to

generate income from another source and make the instalments when she/he is able, then the long-term outcome is likely to be more positive.

The point here is that a set of good practices for ensuring microfinance builds rather than harms human and social capital can be imagined, and this is particularly important in understanding how MFIs can best contribute to reducing the adaptation deficit.

## 5.4 Conclusion

A review of empirical studies on the impacts of microfinance on poverty levels and vulnerability suggest that microfinance is making an important contribution to reducing the adaptation deficit in Bangladesh. Most studies conclude that microfinance has had positive impacts on household wellbeing when measured in terms of the standard poverty line, but there has been a heated debate over the methodologies used to separate out the impacts of microfinance on poverty from other explanatory variables. While the impacts of microfinance on poverty levels is still debated, there is greater agreement that microfinance is contributing to household resilience by reducing vulnerability to shocks, which makes microfinance particularly relevant to adaptation. It seems that microfinance can greatly assist poor households with their day-to-day money management in a context of uncertain and irregular income flows, and for this reason alone it is desirable that microfinance continues to be available to



households to assist them deal with future shocks and slow onset climate change impacts. Microfinance also appears to be contributing to reducing the adaptation deficit by lowering the risk of morbidity and even death through consumption smoothing (i.e. enabling poor households to feed themselves in lean periods). Microfinance has also enabled many households to diversify income sources into nonfarm sectors and reduce their reliance on income from selling their labour, both of which should contribute to household resilience in the face of climate and other risks. MFIs are also providing various types of microinsurance that reduce the vulnerability of households to shocks and, while there are significant challenges associated with delivering insurance to poor households in high risk contexts, there appears to be potential for microinsurance to be developed further with a view to increasing household adaptive capacity.

Whether microfinance is helping households build their financial, physical, social and human capital has been hotly debated. While this debate has been important and necessary, efforts now need to be directed more towards identifying what is good microfinance practice, and this applies to how microfinance can reduce the adaptation deficit and how MFIs can contribute to closing the adaptation gap. These issues are the subject of sections 6 and 7.



## 6 KEY ELEMENTS OF ADAPTION-ORIENTED MICROFINANCE

Adaptation-oriented microfinance can be viewed as microfinance that continues to have poverty reduction as its main focus, but is modified in various ways to maximise its adaptation benefits. The aim in this section of spelling out what adaptation-oriented microfinance looks like is to provide guidance to MFIs on how they can deliver greater adaptation benefits through their microfinance programmes.

Many of the ideas presented below are drawn from innovations introduced by the various MFIs in Bangladesh in response to the impacts that major climate hazards had on their earlier programmes. Extreme weather events strike the country every few years, exacting a huge toll on human life and property. Without innovating the MFIs would not have survived, as their early models of microfinance did not provide the financial support services that their members needed to prepare for, cope with and recover from repeated extreme weather events. These and other innovations provide important ideas for how microfinance can be further developed to increase its benefits for adaptation. Key elements of adaptation-

oriented microfinance include flexible loans and savings products, strategies to mitigate the impacts of climate shocks, the financing of hazard-resistant housing for the poor, affordable and well-targeted microinsurance, targeting of areas and groups most vulnerable to climate change, agricultural lending and financing “adaptation technologies.”

### 6.1 Flexible loans and savings products

Easily understandable and flexible loan and savings products are key elements of adaptation-oriented microfinance. This understanding can be drawn from the Grameen Bank’s experience in refining its services to better reflect the financial needs of its members and particularly to help them cope with and recover from periods of unforeseen hardship.

The loans and savings products initially developed by the Grameen Bank (the “Grameen Classic System”) and replicated by many other MFIs in Bangladesh and around the world contained very rigid structures. Borrowers affected by unexpected events found it difficult to repay the standard weekly instalments and deposit the weekly savings as required by this model. The Grameen Bank recognised the problems in its original microfinance model when things came to a head after the massive flood of 1998. The Bank tried to assist its members during the recovery phase immediately after the flood by issuing new loans for them to rebuild their houses and restart income generation activities.



However, many members could not manage the accumulated debt burden that came with the new loans, leading to defaults and their staying away from the weekly meetings. Yunus explains the problem with the Grameen Classic System as follows:

Once a borrower fell off the track, she found it very difficult to move back on, since the rules which allowed her to return, were not easy for her to fulfil. More and more borrowers fell off the track. Then there was the multiplier effect. If one borrower stopped payments, it encouraged others to follow (Yunus n.d., 1).

In 2001, the Grameen Bank rolled out a set of new and modified products, which it refers to as Grameen II. Many of the rigidities were removed. Under Grameen II, loans can now be issued for anywhere between three months and three years. If a borrower struggles to meet loan repayments, she/he can opt to have the loan topped up to its full value. The system of social collateral that obligated group members to pay a defaulting member's instalments was dropped. Gone are the compulsory weekly savings, replaced by a personal passbook savings account in which members can deposit and withdraw savings at any time in any value, and a voluntary commitment (or "contractual") savings plan ("Grameen Pension Savings"), which offers a competitive rate of interest for monthly deposits over a five or ten year term.

Since the introduction of Grameen II, the Bank's financial status in terms of deposits to outstanding loans and its membership have both grown remarkably,

indicating the success of its product transformation. Collins et al. (2009, Chapter 6), who analyse the financial portfolios of a group of households before and after Grameen II was introduced, found that the flexibility provided by the new system is greatly appreciated by Grameen members. The very poor households often use the loan "top-up" system to get through difficult periods, whereas some of the slightly better off households welcome the commitment savings plan, which they use to accumulate funds for a variety of purposes. Households also use their passbook savings accounts frequently.

Grameen II was built on the experiences of the unprecedented flood in 1998, meaning it is informed by the needs of households to prepare for, cope with and recover from weather extremes, which makes it particularly relevant to adaptation. The lesson from the Grameen experience is that rigid microfinance products are less likely to meet the needs of poor households and can result in considerable hardship when unexpected events befall them. Rigid products will be even less appropriate in Bangladesh's climate future, which is one of greater climate uncertainty and extremes. In this light, there is now a need to inventory the products offered by the MFIs in Bangladesh, as many may still be working with the original Grameen model.



## 6.2 Strategies to mitigate impacts of climate shocks

The previous section pointed out the need for flexibility to allow poor households to select financial services that best meet their needs and to assist households in dealing with shocks. This section digs a little deeper to look at specific practices that can help mitigate the impacts of climate shocks on households. Boxes 6.1 and 6.2 provide examples that illustrate how MFIs have adjusted their financial services to assist their members cope with and recover from climate disasters.

A common strategy employed by MFIs in Bangladesh to assist their members when climate disasters such as floods strike is to place a small proportion of each loan in a disaster fund, which is then made available to members when they are affected by a major calamity. During a drawn-out disaster, MFIs usually suspend loan repayments and some provide short-term emergency loans on concessional terms for periods of about three months,

which have proved popular (Collins et al. 2009, 94). A few NGO MFIs have experimented with refining their loan repayment schedules to match seasonal floods, and some encourage their members to use loans to strengthen and reduce the exposure of their houses, and invest in assets that help contain losses when flood waters arrive (Brown and Nagarajan 2000).

All of these strategies are relevant to adaptation and are generally considered good practice. However, blanket solutions should be avoided and responses during an extreme weather event should be customised to reflect the needs of each household. This requires that field workers have sufficient discretion to tailor responses and the ability to undertake situational assessment. A customised response would include deciding between loan write-off and rescheduling based on a financial assessment of each household, and offering households the choice of emergency loans or withdrawal of their savings.



### **Box 6.1: BRAC's response to the 1998 floods in Bangladesh**

The 1998 floods in Bangladesh inundated two thirds of the country, taking 1,100 lives, damaged about half a million homes, and severely affected two rice crops (aus and aman). BRAC's response was shaped as needs evolved, from survival during the flood through to rehabilitation in its aftermath. To assist members to cope with and recover from the floods, BRAC made the following adjustments to its microfinance support: (i) It instructed branch managers to apply their judgement with discretion when it was apparent that a member could not repay a loan because of the floods; (ii) It allowed members to take up to half of their current loan as a new loan and extended the repayment period by six months, providing members with additional capital for consumption needs during the flood or new investments in its wake; (iii) It allowed members with a good credit record to pay off their loans in advance and thereby more quickly acquire a new loan; and (iv) It allowed members to withdraw up to half of their savings.

Source: Zaman (1999).

### **Box 6.2: PKSf response to Sidr**

The microfinance wholesaler PKSf responded to cyclone Sidr which struck Bangladesh in 2007 through instructions to its MFI partner organisations (POs) and implementing special projects to support affected households. The instructions to POs were to (i) postpone collection of loans and reschedule repayment, (ii) use their surpluses from service charges for relief work, (iii) avoid putting undue pressure on affected members to pay loan instalments, (iv) provide new loans based on needs, (v) write-off loans in special cases, (vi) allow withdrawal of savings, and (vii) utilise the existing Disaster Management Fund and Livelihood Restoration Project to provide loans at easy terms and conditions. PKSf backed these instructions with fresh loans under its core programme and projects, as well as two special projects – the Special Assistance for Housing of Sidr Affected Borrowers (SAHOS) programme, which supported reconstruction of houses with interest free loans, and the government-supported Rehabilitation of Sidr Affected Coastal Fishery, Small Business and Livestock Enterprise (RESCUE) programme, which provided soft loans for helping rebuild and diversify livelihoods, focussing on coastal fishery, shrimp culture, livestock and small businesses. About 40,000 families received loans under these two projects. In addition to the microfinance initiatives, PKSf also implemented a cash-for-work project in the Sidr-affected areas under its Programmed Initiatives for Monga Eradication (PRIME) project, in which 37,500 ultra poor households participated.

Source: <http://pkssf-bd.org/>



### 6.3 Liquidity to deal with climate shocks

Given that microfinance can make an important contribution to climate change adaptation, the “climate-proofing” of microfinance, i.e. ensuring that useful microfinance services continue to be available to households as climate change progresses, is needed. Good practice for microfinance as an adaptation instrument is thus for MFIs to ensure that they have the liquidity required to provide services to their members when climate shocks arise. Some MFIs have developed disaster management funds as a form of liquidity that they can draw on when necessary. However, it is difficult for MFIs to accumulate all the reserves they require to be effective during and immediately after climate-related disasters, meaning that for them to have access to an external pool of funds is critical. Recognising this need, PKSF used its own finances and resources provided by other organisations to set up its Disaster Management Fund, which it uses to make concessional 30 month loans with six month grace periods available to its partner organisations. There is now a need to assess the sufficiency of these types of initiatives by modelling the impact of shocks associated with likely climate change scenarios on existing MFI cash reserves.

### 6.4 Hazard-resistant housing for the poor

Hazard-resistant housing for the poor is clearly an important adaptation intervention in a country such as Bangladesh where extreme weather events brought on by climate change could destroy millions of homesteads. Hazard-resistant houses can reduce losses of life and property arising from extreme weather events as well as provide a healthier living environment when families are coping during floods.

The idea of hazard-resistant housing for the poor has already received a lot of attention in Bangladesh because of the climate threats it regularly faces. MFIs have played an important role in making hazard-resistant houses available to people who otherwise would not be able to afford them. Over 700,000 houses have been constructed using MFI housing loans (Rahman 2009, 99). The Grameen Bank may have been the first MFI to offer housing loans, which it started doing in 1984. BRAC, ASA and other MFIs followed later with their own housing initiatives for the poor.

The Grameen Bank has two basic housing designs, each with the same basic structural components. These consist of four reinforced concrete pillars that are set on brick foundations at the corners of the house and, between these, six bamboo or concrete posts, with bamboo tie beams, wooden rafters and purlins that support corrugated iron roofing sheets



(Barua 1999).<sup>14</sup> The houses are designed to provide greater flood and storm protection than traditional structures and can be dismantled to some extent during floods, if the necessity arises. As part of its efforts to improve the status of women, the Grameen Bank requires that the ownership of the land is registered under the name of the woman who takes the housing loan.

After the 1998 floods, the Government launched a similar housing initiative through the Bangladesh Bank, which made concessional loans available to MFIs for their members in flood prone areas to construct flood-resistant houses. As with the Grameen Bank scheme, the loan terms were set to be conducive to house building, i.e. a ten year repayment term with five per cent annual interest (Brown and Nagarajan 2000, 26). Later governments supported similar initiatives (Rahman 2009, 100).

Some ideas on good practice for financing hazard-resistant housing for the rural poor can be extracted from the approaches taken by the large MFIs. These include loan repayment periods spanning several years and lower interest rates than charged for standard loans. Good practice also includes packaging the loans with design specification options for basic structural elements that increase the likelihood of the buildings withstanding future extreme weather events projected for the locality. Outside of housing loans, MFIs can encourage their members to

make their existing houses more hazard-resistant using cost-effective standard and alternative methods, e.g. as set out in Ahmed (2005).

## **6.5 Affordable and well-targeted micro-insurance**

As explained in Section 5.3.3, there are high expectations that microinsurance will make an important contribution to adaptation. However, delivering insurance products to the door of poor households is a challenge because of the catastrophic risks many of them face, their low ability to pay premiums and their lack of familiarity with formal insurance. Previous experiences and recent piloting with insurance in Bangladesh suggest some good practices for microinsurance as an adaptation instrument.

First, there are obvious limits as to how much risk insurance can cover as climate change progresses, due to the likely scale and frequency of climate irregularities and shocks, meaning that formal insurance should be viewed as but one instrument of a comprehensive risk mitigation strategy. For households, this strategy will include their traditional risk mitigation and coping measures, such as storing food to survive lean periods, constructing a platform in their houses to keep supplies and fuel dry when floodwaters enter them, adjusting crop selection and cropping cycles, raising the sides of ponds so fish are not washed out by flood waters, etc. (NCAP 2011). It is especially important that insurance

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<sup>14</sup> The Grameen Bank housing loan scheme won an Aga Khan Award for Architecture in 1989.



encourages rather than discourages (“moral hazard”) households to employ other risk mitigation measures. Packaging insurance with other risk mitigation measures makes good sense in this context. Examples could include packaging health insurance with education and awareness on basic health issues, and packaging livestock insurance with education on animal health, feed, and housing, as well as veterinary services. Reducing premiums for farmers who implement specified risk-reduction measures is another strategy that could be considered.

Second, good practice for micro-insurance includes using appropriate delivery models. In Bangladesh, MFIs have an advantage over private companies as insurance providers to poor households as they are already well-established in the communities and as their general mandate is to promote development, rather than to secure profits. It thus makes good sense for insurance to be brought to the doors of poor households by MFIs, just as they do with loans and savings services.

A principal-agent model has been suggested as an effective way to increase accessibility of insurance to rural households in developing countries (Churchill and Matul 2012). In Bangladesh, micro-insurance could be backstopped by the Government or private insurance companies (i.e. the principal), with the MFIs playing the role of agent. However, recent piloting by PKSf with this model was unsatisfactory for the participating NGO MFIs, as they felt that because they

were not involved in claims settlements, they could be exposed to possible backlash from the communities they serve (Khalily 2014). Further piloting of alternative delivery models is desirable.

Third, adequate reinsurance services must be available to NGO MFIs, as without reinsurance they will be over-exposed to catastrophic risks. The PKSf created a Covariant Risk Fund to serve this purpose. The Fund has a starting balance of 50 million BDT, with fees on NGO MFIs and contributions from international funders expected to add to this. The adequacy of this and any other initiatives to meet the requirements that NGO MFIs have for reinsurance now needs to be assessed, and a comprehensive reinsurance strategy for the country set out.

Fourth, in terms of insurance products, good practice includes insuring the most significant risks that households face. As climate change could pose significant risks to agriculture and health, these are two areas where further development of insurance products should focus. However, the targeting of insurance has to go beyond the prioritisation of areas to specific risks within these areas faced by households. For example, to be most effective agricultural insurance may have to be developed for each of the major crops cultivated crops (rather than a single crop insurance product).

Fifth, weather-based index insurance could be an effective way to bring affordable agricultural insurance to smallholders, as it avoids the costly actuarial processes associated with case-



by-case loss assessment. However, there are a number of serious challenges that have to be met before weather-based index insurance can take off in Bangladesh. First, study of appropriate pay-out triggers is required, which for a single crop could be several, e.g. amount of excessive rainfall or days without rain at important periods in the cropping cycle. Products, including their triggers, must be developed through a sound scientific understanding of risks as well as through close consultation with the targeted farmers. Second, the system to monitor the triggers must deliver the data required and the insured must have confidence in it. This might require setting up weather stations in villages and other types of monitoring at relevant spatial scales. Third, premiums and pay-outs must be attractive to the farmers, without compromising the financial viability of the insurer. Further piloting with these points in mind is desirable.

Fifth, insurers can possibly make health insurance accessible to poor households by employing sliding-scale systems that combine premiums and co-payments. A fundamental observation from existing experience in Bangladesh is that it is impossible for MFIs to offer comprehensive micro-insurance health schemes and break even, because poor households cannot afford the premiums that must be charged to cover all the major health risks they face, and because the MFIs overlook adverse selection in order to provide coverage to poor people with existing or chronic illnesses. A sliding-scale system would adjust fees according to ability to pay, while co-payments for

health expenses would reduce the risk of moral hazard (i.e. unnecessary use of health services) and reduce the costs of premiums.

Other good practices for health microinsurance include:

- Develop educational tools and methods to explain health insurance and its benefits to poor households;
- Provide preventative information and health education on family planning, tuberculosis, antenatal care, puberty, etc.;
- Decide pricing structures through consultation with MFI members and other poor households;
- Keep standard charges, benefits packages and claims management simple to avoid confusion;
- Make premium collection simple and convenient;
- Locate health care facilities near the insured;
- Offer “no claims discounts” or other financial incentives to increase membership renewals;
- Provide a large endowment fund to health microinsurance programmes for them to generate a substantial investment income;
- Aim for large membership to achieve financial viability;
- Automate management information systems to increase



the efficiency of data analysis and provide reports to the insured.<sup>15</sup>

## **6.6 Targeting areas and groups most vulnerable to climate change**

Adaptation-oriented microfinance would target households that are most vulnerable to climate change. In Bangladesh, these are households with the least capital that are highly exposed and vulnerable to recurring natural disasters associated with climate change. More specifically, these are the chronic poor that can be found almost everywhere, and poor households in remote and/or marginal areas, such as on river chars (islands).

Various initiatives have been undertaken by the Grameen Bank, BRAC and other MFIs to strengthen their outreach to chronic poor households. Grameen Bank's Struggling Members Programme targets beggars and provides them with collateral and interest free small loans, with repayments made when and in amounts that the borrower can afford. If the borrower dies, the Bank writes off any outstanding loans and pays the bereaved family 500 BDT from its Emergency Fund to help cover burial expenses. BRAC's Targeting Ultra Poor Programme provides

integrated support to chronic poor households who do not have sufficient household capital (in its various forms) to participate in BRAC's rural development programme. Integrated support under the Programme includes asset grants, skill development, personalised healthcare support, and community mobilisation for social security. Adaptation-oriented microfinance would build on these types of initiatives to maximise the potential for outreach to chronic poor households.

Adaption-oriented microfinance would also pay attention to outreach and services in climate-vulnerable remote and marginal areas, where MFI presence is not so strong (Mahmoud, Khalily, and Wadood 2007). Boxes 6.3 and 6.4 provide examples of programmes that specifically target chronic poor households in climate-vulnerable areas with microfinance and other support services.

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<sup>15</sup> This set of good practices is extracted from a study of three health microinsurance programmes in Bangladesh conducted for the CGAP Microinsurance Working Group (Ahmed et al. 2005).



### **6.3: Chars Livelihoods Programme**

A study of microfinance in the Brahmaputra-Jamuna chars commissioned by DFID as a contribution to its Char Development Programme Design Study Phase found that microfinance outreach in the chars was very poor and consequently that households mostly relied on informal financial sources (Matin, Hassan, and Maniruzzaman 2002). While microfinance services for mainland Bangladesh were created through experimental approaches by the Grameen Bank, BRAC, ASA and others, there is much less experimentation with microfinance to embrace the specific needs of char areas. Specific features of char areas that microfinance services would have to respond to are high chances of relocation and frequent seasonal migration, which result in highly irregular incomes, and the importance of livestock rearing (ibid.).

Matin et al. (2002) argue that financial services cannot lead the process of building the economies of the char and adjoining mainland, which requires large investment in public goods, but rather should be seen as an important part of this economy building. Further, they argue that microfinance in the chars should focus on basic financial intermediation services that reduce vulnerability, e.g. varied savings based instruments and emergency loans, and that the “promotional” aspect of microfinance, i.e. encouraging members to take successively larger loans, is probably not appropriate as livelihood opportunities on the chars are limited.

The DFID/AusAID funded Chars Livelihoods Programme (CLP) emerged from the study by Matin et al. (2002). The first phase of CLP ran from 2004-2010 and was followed by a second phase with an expanded geographic scope that runs through to 2016. The CLP targets livelihood building of chronic poor households, focusing on the chars in north western Bangladesh. Its criteria for participation include no ownership or access to land and living on an island char for at least six months. CLP is implemented through NGOs and provides a range of community-wide activities, including access to health services, village savings and loans groups, and cash for work. Each participating household is provided with an “income generating asset” of their choice valued at 16,500 BDT (this is nearly always cattle); clean water supply and a sanitary latrine; a dwelling that is set on a plinth above the highest recorded flood level; 18 months of stipend payments; the opportunity to participate in a village savings and loans group; opportunity to participate in a “social development group” that receives an 18-month modular training course; training and inputs to build livelihoods; and vouchers to access CLP health services. Training at the Social Development group meetings include disaster preparedness, which includes a module on hazards such as floods and cyclones. CLP’s disaster response strategy includes an emergency fund, which has already been called upon to deal with a sudden spike in food prices in 2008, provide blankets during cold periods, and repair houses after a cyclone in 2013 (Barrett et al. 2014).

*Continued overleaf*



Using a mixed-methods approach, Barrett et al. (2014) investigated the impact of the CLP on the disaster resilience of the participating communities. Their study found that the CLP programme significantly improves the disaster resilience of the communities through its contributions to disaster preparedness and response, governance, education and knowledge, and risk assessment (Barrett et al. 2014, iii). The study promoted risk assessments for hazards and vulnerabilities, and using the CLP Village Development Committees in these assessments to make full use of local knowledge and increase local awareness and ownership (ibid.).

#### 6.4: Programme Initiatives for Monga Eradication (PRIME)

The Programme Initiatives for *Monga* Eradication (PRIME) project, which was launched by PKSF in 2006, is another DFID funded programme that targets the chronic poor in north western Bangladesh. As its title suggests, PRIME specifically aims at eradicating seasonal hunger, or *monga*.

Microfinance services exist in areas where seasonal hunger occurs, though outreach is relatively low. Group-based lending consisting of loans with weekly repayments is not so suitable to *monga* areas as seasonality of income and *monga* lead the informal mutual insurance function of the group to fail as everyone in the group experiences hardship at the same time. For these reasons, microfinance outreach in north western Bangladesh has been slow to expand (Khandker, Khalily, and Samad 2010, 6).

PRIME is a multi-faceted programme providing flexible microfinance loans for production and consumption to the chronic poor; support for income generating activities; skill-based training; remittances services; and primary health care services. During the *monga*, PRIME also offers emergency loans for consumption smoothing, and cash-for-work related to local infrastructure development. PRIME differs from more common microfinance approaches in that it does not require participants to deposit weekly savings and its interest rate on loans is about half that normally charged by MFIs. Two hundred and thirty-five PRIME branches were set up in five districts in north western Bangladesh.

Khandker et al. (2010) conducted an evaluation of the impacts of PRIME two years after its launch, as well as regular microfinance schemes, using cross-sectional and panel surveys. They found that, despite claims that MFIs target a better-off section of the poor, 62 per cent of chronic poor households in five districts of north western Bangladesh were in fact participating in microfinance schemes (ibid.). PRIME was found to be more effective in reducing seasonal starvation than regular microfinance, though regular microfinance was more effective in reducing food deprivation (either starvation or meal rationing) (ibid.).



The two programmes described in Boxes 6.3 and 6.4 suggest a basic set of good practices for MFI outreach and practice in remote, marginal and other localities highly exposed and vulnerable to climate change. These include:

- Invest in building delivery infrastructure and trust with the local communities;
- Experiment with product design to reflect highly irregular income flows;
- Explore alternative forms of financial support, such as cash-for-work;
- Conduct vulnerability assessment and disaster preparedness;
- Support the delivery of basic health education and services;
- Establish an emergency fund to assist households when disaster strikes.

In addition to these good practices, it might also be appropriate for MFIs to consider subsidising their microfinance and other interventions in climate vulnerable areas. While it is admirable that many MFIs aim at achieving financial self-sufficiency, this should not be at the expense of avoiding remote climate-vulnerable areas, where subsidisation is likely to be necessary because of the high climate risks.

## **6.7 Agricultural lending**

Short-term or seasonal loans for crop agriculture are likely to be especially relevant to adaptation, as they can be

linked to the introduction of seeds and methods that are suited to changing environmental conditions. While MFIs traditionally steered away from lending for cropping, there may now be greater potential for effectively landless microfinance participants to engage in crop agriculture because of the greater amounts of money circulating in the rural economy. Osmani and Sen (2010) note that the category of farmers who are “pure tenants,” i.e. those who only cultivate rented land, has increased dramatically in the past two decades, and that cash has overtaken crop-sharing as the main arrangement for rent payment. They argue that one possible reason for these transitions in rural tenancy is that microfinance and remittances are loosening the financial constraints faced by landless households, enabling some of them to rent land for agriculture.

Crop agriculture requires a large upfront investment that returns a single lump sum payment when the crop is harvested, making the standard microfinance loan product with a one-year term and weekly repayments inappropriate. Recognising these constraints, some MFIs, including Grameen Krishi Foundation, Grameen Fisheries Foundation, BRAC, PROSHIKA and ASA introduced loan products specifically for agriculture. Also, in 2006 PKSF launched a seasonal loan programme, half of which has been used for crop agriculture, and in 2008, started its Agriculture Sector Microcredit programme (Faruqee 2010).

Faruqee (2010) summarises feedback from PKSF partner organisations on the



Agriculture Sector Microcredit programme, which suggests a set of good practices for crop loans and agricultural credit in general that are relevant to adaptation. First, loan products have to be tailored for specific activities in terms of amounts, and repayment methods and periods. Even to create a single product for cropping may not be appropriate, as flexibility is required to reflect the different crops grown. Second, loans should be packaged with extension services, such as advice on seed varieties suited to altered environmental conditions, which could be provided by the NGO MFIs or by public extension agents. Third, as agricultural investments are invariably risky, due to weather extremes and other climate vagaries, market fluctuations, pests, etc., means to mitigate risks should be packaged with the loan product. Fourth, agricultural lending may work best when integrated with other development interventions, e.g. initiatives to add value as well as improve irrigation, drainage, roads to markets, etc. (Faruqee 2010).

## 6.8 Financing “adaptation technologies”

Within the adaptation literature in Bangladesh there is a lot of discussion and research on “adaptation technologies”(e.g. see NCAP 2011). Some of these technologies are listed on the UNFCCC Database on Local Coping Strategies.<sup>16</sup> For Bangladesh, this list includes: cage aquaculture; flood-resilient

aquaculture; raising fish on bamboo substrate; hydroponics; early or late T Aman rice production; fruit tree cultivation (mango and jujube) in drought prone areas; rice-fish farming; duck rearing; cultivation of mele reed; dry season maize and fodder grass cultivation; seed priming as an alternative cultivation method; two chamber farm yard manure/water hyacinth compost preparation in areas facing drought/aridity; rainwater harvesting using storage tanks, etc. Other technologies suggested for areas experiencing salinity problems due to saltwater intrusion include cash cropping of tomatoes and chilies with proper management of soil and water (i.e. raised beds and use of drip irrigation systems for proper leaching of salt from the root zone) and culture of salt tolerant fish species (NCAP 2011).

As many of these adaptation technologies are related to household livelihoods, microfinance would appear to be an appropriate means to make these technologies accessible to rural households. This idea needs to be analysed in terms of upfront and ongoing costs, risks and financial returns, and necessary extension services.

## 6.9 Conclusion

The discussion above highlights a variety of features of adaptation-oriented microfinance. Adaption-oriented microfinance is microfinance that incorporates flexibility and customisation to enable members to select from products and product options to best

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<sup>16</sup> <http://maindb.unfccc.int/public/adaptation/>



manage their day-to-day and long-term financial needs and prepare for, cope with and recover from climate shocks. This customisation extends to customised responses to reflect the needs of each household during and in the recovery phase after natural calamities. Adaptation-oriented microfinance would also include loans on appropriate terms, packaged with guidance and extension services, for hazard-resistant housing, cropping and adaptation technologies. Microinsurance is another area where MFIs can make an important contribution to climate change adaptation, though there is still a need for experimentation with products and delivery models to identify low cost approaches that cover real risks and incentivise other risk mitigation practices. Outreach to the poorest groups in high climate risk areas, even if this requires the subsidisation of services, is another key element of adaptation-oriented finance. In these areas, modified approaches will be required to reflect highly irregular income flows and high levels of mobility.



## 7 MFI INVOLVEMENT IN ADAPTATION PROJECTS AND TRANSFORMATIONAL ADAPTATION

The discussion in Section 6 considered ways in which microfinance can be oriented to maximise its adaptation benefits, while retaining its focus on poverty reduction. In other words, the discussion mostly looked at how microfinance can more effectively contribute to reducing the adaptation deficit. This section looks at how MFIs can take advantage of their delivery infrastructure to help close the adaptation gap. They can do this in two ways. First, they can support adaptation interventions that contribute to incremental adaptation at the household level. Second, they can support transformational adaptation through interventions aimed at developing laws, policies, budgets, organisations, etc.) at higher levels for sustained adaptive capacity over the long-term.

Before this discussion can begin, it is important to understand that NGO MFIs in Bangladesh are mostly not just providing financial services. Using the largest NGO MFI, BRAC, to illustrate this point, we find that BRAC is involved in a large array of initiatives, including a rural development

programme with livelihoods, health and educational components, value-added processing chains, retail outlets, a university, a human rights and legal services programme, etc. The idea of NGO MFIs in Bangladesh being a provider of adaptation programmes and projects is thus not in any way strange and, in fact, many of them are already implementing adaptation initiatives.

The following discussion first provides a brief overview of the types of adaptation activities NGO MFIs are implementing, then turns to the possibilities for NGO MFI involvement in transformational adaptation.

### 7.1 MFI adaptation and disaster-related programmes and projects

Many NGO MFIs are implementing adaptation projects/programmes that aim at providing practical support to build the adaptive capacity of rural households. Examples of these can be found under the Community Climate Change Project (CCCP), which is managed and implemented by PKSF and funded under the Bangladesh Climate Change Resilience Fund. Forty-one NGOs have received funding under the CCCP for a wide range of interventions to support household-based adaptation, such as homestead plinth raising; repairing roads and embankments through planting of trees under cash-for-work arrangements; pond excavation; promotion of renewable



energy and improved cooking ovens; crab and duck raising; planting of flood-resilient trees, flood-tolerant rice varieties and saline-tolerant vegetables; and installation of flood-protected tubewells and latrines.

NGO MFIs also play important roles in disaster relief and rehabilitation. When a major natural disaster strikes, they set up makeshift kitchens in field offices; distribute food such as bread and molasses, drinking water, and oral rehydration saline to prevent diarrhoea; provide medical services; and organise public works programmes to generate employment and repair infrastructure.

In addition to their household level adaptation interventions and disaster relief and rehabilitation activities, NGO MFIs could consider being more active in building adaptive capacities at community-level. Examples could include supporting participatory vulnerability assessments, the development of early warning systems, and setting up local disaster response mechanisms.

## 7.2 “Microfinance-plus” for transformational adaptation and transformed resilience

That the adaptation programmes/projects and the disaster relief and rehabilitation programmes run by NGO MFIs are typically household level interventions is in no way surprising, as the household is the common level of intervention for MFIs. While these are very practical

interventions that can assist households in dealing with climate shocks and stresses, the potential for NGO MFIs to intervene at higher levels to promote *transformational adaptation* is perhaps not being fully realised.

The Action Research for Community Adaptation in Bangladesh (ARCAB)<sup>17</sup> project, which is a long-term action research programme into community-based adaptation<sup>18</sup> to climate change, has developed a monitoring and evaluation framework that MFIs could use to develop a broad vision of climate-resilient communities in their target areas and to consider pathways to building such communities. ARCAB's monitoring and evaluation framework argues that the building of climate-resilient communities requires not only direct investments to support household financial, human and physical capital, but also the mainstreaming of community-based adaptation strategies into long-term institutional structures to achieve *transformed resilience*, or resilience at scale (Faulkner and Ali 2012, 8). IIED (2009) argues that while community-based adaptation focuses on the community-level, impacts will be limited if it is carried out in isolation from other levels. *Transformed resilience* requires facilitating structures and processes, i.e.

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<sup>17</sup> <http://www.arcab.org/>

<sup>18</sup> Community-based adaptation has been defined as "a community-led process, based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change" (IIED 2009, 13).



supportive institutions, organisations, policies and legislation, just as DFID argued are necessary for sustainable livelihoods (DFID 1999).

ARCAB's monitoring and evaluation framework foresees four interlinked pathways to achieve transformed resilience of the climate-vulnerable poor: (i) sustainable resilience over time, (ii) transformed resilience beyond business-as-usual development, adaptation and disaster risk reduction approaches, (iii) scaled-up resilience, and (iv) scaled-out resilience. Key elements of these pathways are: sustainable resources and institutions in place supporting community-based adaptation; long-term participatory, integrated approaches to community-based development planning; sustainable and flexible learning systems for knowledge generation; incorporation of project long-term climate change impacts in community-based adaptation planning; support and capacity at national level for community-based adaptation; and community-based adaptation integrated into local institutional planning and budgeting systems (Faulkner and Ali 2012).

By employing ARCAB's theory of change for transformed resilience, as reflected in the four pathways, NGO MFIs may develop a better understanding of the full range of interventions required for transformed resilience in the areas where they operate, how microfinance fits in with other types of interventions, how their initiatives can complement and utilise synergies with other initiatives, and where and how they might move beyond their current strategies to test new and innovative

ideas for adaptation. NGO MFIs can draw on a variety of experiences from other NGOs that have been involved in initiatives aiming at transformed resilience. Several of these are described in Box 7.1.



### Box 7.1: Examples of projects aiming at transformed resilience through community-based adaptation

#### **Assistance to Local Communities on Climate Change Adaptation and Disaster Risk Reduction**

This Action Aid Bangladesh (AAB) project supported the formation of men's and women's groups for community-led participatory research into climate impacts in their areas and how people can better respond to these impacts through community-driven activities. The groups devise a community adaptation plan employing a range of participatory tools such as a *social map* to understand the village; identification of problems using *life of river* and various *calendars* as tools; using a *problem tree* to analyse a key problem; and using a *capacity wheel* to understand their own capacity needs and what support they require from what level (Faulkner and Ali 2012, 23).

#### **Scaling up Community-Based Adaptation with Local Government in Bangladesh**

From the project described above, AAB learnt that local governments have a critical role to play in facilitating community-based adaptation. They thus require capacities to provide long-term adaptation support to the communities they serve. The Scaling up Community-Based Adaptation with Local Government in Bangladesh project piloted an approach to develop "Climate Resilient Unions,"<sup>1</sup> focusing on community-based participatory planning and budgeting. The project activities included training on finance and administration for local government officials; sensitising local government to climate change and facilitating the development of climate-sensitive plans and budgets; developing stronger links between village groups undertaking participatory research on climate change adaptation and local governments, including formal recognition of the groups and their activities, as well as support for scaling up and replicating adaptation processes and practices through local government; and increasing the capacity of politicians and policy makers at all levels to support pro-poor adaptation financing (Faulkner and Ali 2012, 25).

#### **"Knowledge bazaars"**

Ensuring that the climate vulnerable poor can readily access accurate and up-to-date information on climate vulnerabilities, adaptation livelihood technologies (saline-tolerant rice varieties, etc.), adaptation-relevant activities they could participate in and benefit from, as well as their adaptation-relevant rights (e.g. rights to *khas* land) is critical for achieving transformed resilience. Local knowledge centres are one means of making this information available. The value of knowledge centres to poverty alleviation and rural development is widely recognised and with support from the United Nations Development Programme, the Government set up over 4,000 information centres across Bangladesh to improve access to government and private e-services and information from various sectors relevant to their livelihoods.<sup>1</sup>

*Continued overleaf*



Existing knowledge centres include the Ministry of Agriculture's Agriculture Information and Communication Centres (AICC), Local Government Division Union Information and Service Centres (UISC), Grameen's Community Information Centres (CIC), and Development Research Networks (DNET). Practical Action found existing knowledge centres to either only focus on income generating services for the centre or to be heavily subsidised and thus unsustainable. Recognising that local knowledge centres could play an important role as knowledge channels and brokers for adaptation, Practical Action established 30 *GyanerHaat* (literally – knowledge bazaar) under a pilot project. Practical Action aims to develop a model of a financially self-sustaining knowledge centre that provides services useful for adaptation. It intends for the knowledge bazaars to be financially self-sustaining by offering information and communication technology (ICT), photocopying and similar services. To facilitate adaptation, each bazaar has a network of about 12 extension workers who work within the communities, responding to questions about agriculture, fisheries and livestock, and building capacities on best practice. The extension workers are expected to generate their own income by selling value-added services, such as animal vaccinations and crop spraying.

#### **From Vulnerability to Resilience project**

This Practical Action project is similar to much of the NGO MFI support for adaptation in that it included direct interventions to build climate-resilient livelihoods using "adaptation technologies" such as floating bed cultivation and improving the disaster resilience of household-level physical structures. Similar to AAB's approach, the project facilitated participatory vulnerability assessments, and based on the results assisted the participating communities in developing disaster preparedness plans and actions (Practical Action n.d.).

#### **"Good Practices for Community Resilience" publication**

Based on many years of experience working with poor communities in disaster vulnerable locations, Practical Action has concluded that a livelihoods approach must be central to disaster risk reduction strategies. However, rather than only working directly with poor households to build their livelihoods, it recognises the important role of local governments (Union Parishad) in providing support for climate-resilient livelihoods. Practical Action has thus aimed to link community-based experiences with local, district and national institutions. It documented the impact of community disaster risk reduction activities in its publication "Good Practices for Community Resilience" to promote the adoption of a livelihoods approach to disaster management by government agencies (Ullah, Shahnaz, and Van Den Ende 2009).



The initiatives on transformed resilience described in Box 7.1 suggest ways in which NGO MFIs can take advantage of their service delivery infrastructure and trust relationships with local communities to become more involved in supporting transformational adaptation. These initiatives could include engaging communities in vulnerability assessments and disaster management planning, building networks, engaging with local governments, influencing national policy and budgets, and ensuring that climate vulnerable households have access to up-to-date, relevant and reliable information on climate change and adaptation options, and are provided with the support necessary to act on this information.

interventions, but also by providing adaptation support at community and higher levels. To increase their contribution to adaptation, it may be useful for NGO MFIs to develop a vision of transformed resilience, with reference to the ARCAB approach, and to work towards this by engaging higher level institutions and policymakers, and acting as conduits for bringing information on climate change and adaptation options down to lower levels.

## **7.3 Conclusion**

The Government of Bangladesh recognises that NGO MFIs have extensive delivery infrastructure and close working relationship with local communities, and thus that they have a comparative advantage in bringing some services to the doorsteps of rural households. This can be seen in the Government's decision to fund NGO-led adaptation projects through the PKSF-managed Community Climate Change Project.

NGO MFIs are making an important contribution to climate change adaptation through various projects and through their disaster relief and rehabilitation programmes. However, there may be greater potential for NGO MFIs to contribute to climate change adaptation by not only supporting household level



## 8 CONCLUSION

This report aimed to (i) conceptualise and analyse the relationships between microfinance and household adaptive capacity, (ii) map out what could be considered good microfinance practice for adaptation, or “adaptation-oriented microfinance,” and (iii) to identify types of adaptation projects and activities that MFIs could be involved in to take full advantage of their service delivery infrastructure. The report took up the first aim because funders are looking for guidance on adaptation investments. If microfinance is found to contribute to adaptation, then funders might consider including microfinance in their adaptation programmes. MFIs might also benefit from understanding the relationships between microfinance and adaptation as demonstrating these relationships may open up new funding possibilities for them. Governments too need to understand whether microfinance contributes to adaptation when developing their national adaptation strategies.

Unlike other studies, the report did not start with the assumption that microfinance necessarily contributes to adaptation. Rather, it constructed a conceptual framework and applied this to a review of the impact evaluation literature to analyse whether microfinance can or does contribute to adaptation. The conceptual framework brought together the concepts of sustainable livelihoods, vulnerability, adaptive capacity, resilience,

incremental and transformational adaptation, and adaptation deficit and adaptation gap.

Applying this framework to the microfinance sector in Bangladesh, the report found that microfinance in its current forms does contribute in important ways to reducing the adaptation deficit. This is not so much by enabling poor households to lift themselves above the poverty line (an issue that continues to be hotly debated), but by bringing greater financial security to the daily lives of poor households, helping them survive through lean periods and save for large expenses, helping them cope with and recover from climate shocks, and possibly also helping them build up their human and social capital. For these reasons alone, microfinance deserves to be properly recognised in Bangladesh’s national adaptation strategy.

The second aim of this report, to map out good microfinance practice for adaptation, stemmed from the basic observation that microfinance can contribute to or undermine household adaptive capacity, depending on the services provided and their conditions. Understanding what constitutes good microfinance for adaptation is important for governments, donors and MFIs wanting to maximise the adaptation benefits of microfinance.

This report developed the term adaptation-oriented microfinance to describe microfinance that retains its focus on poverty alleviation, but at the same time is engineered to maximise its contribution to adaptation. The report



found key elements of adaptation-oriented microfinance to include: easily understandable and flexible loan and savings products; customised approaches to help households cope with and recover from climate shocks; financing of hazard-resistant housing for the poor, agriculture and adaptation technologies, packaged with extension services and other forms of support; targeting of areas and groups most vulnerable to climate change; microinsurance that is accessible, affordable and covers real risks, and backstopped by reinsurance services; and disaster funds to ensure that MFIs have the liquidity to provide appropriate services during and in the recovery phase of climate shocks.

Some of these elements are already well-established in the systems of the more progressive MFIs in Bangladesh, but there may be less-progressive MFIs that are merely replicating earlier, less-advanced microfinance models. MFIs might also be steering their services away from the most climate-vulnerable areas because their existing models are not suited to the demographics and risk profiles of these areas.

With respect to the third aim, this report found that the NGO sector has earned the trust of the Government to implement adaptation projects at household level. These projects focus mostly on alternative livelihood generation and the strengthening of physical homestead and other local infrastructure to withstand floods.

These are immensely practical interventions that could be making an important contribution to incremental adaptation, but the potential for NGO MFIs to be involved in activities at higher levels that aim at transformational adaptation through laws, policies, budgets, networks and organisations that support adaptation at all levels, is perhaps not being fully recognised. The reasons for this could include that MFIs are mostly familiar with household level and livelihood interventions and are less experienced with engaging other actors including government agencies at higher levels on institution building, knowledge and information dissemination, etc.

Activities that MFIs could support to promote transformation adaptation include raising awareness of policy makers at district, national, and international levels on how communities are being affected by climate change, and on how they can respond to community priorities and needs; making best use of services and support available at district and national levels, including information on weather forecasting, downscaled climate scenarios, and agricultural and other extension services; supporting participatory vulnerability assessments; building the capacity of local governments to work with communities on adaptation planning; promoting the development of early warning systems and community-based disaster response mechanisms; and setting up local financially-reliant “knowledge bazaars” that provide information and extension services for adaptation.



An attempt is made to summarise these ideas in Figure 8.1. Microfinance institutions appear at the centre of the figure. They can play two major roles in adaptation. First, as the left side of the figure shows, they can engineer their microfinance to maximise its adaptation benefits (reducing the adaptation deficit). Second, as can be seen on the right side of the figure, they can support adaptation-specific interventions to build capacities for both incremental and transformational adaptation, and in doing so, close the adaptation gap.<sup>19</sup>

The following recommendations for specific actors / actor groups are drawn from the analysis:

#### **For Government of Bangladesh (and other countries where these findings hold)**

- In the national adaptation strategy, give explicit recognition to the role that microfinance plays in climate change adaptation, and the need to “climate proof” microfinance;
- Provide budgetary support for adaptation-oriented microfinance, e.g. possibly by subsidising microfinance services in the most climate-vulnerable areas, establishing reinsurance funds, establishing disaster funds to provide MFIs with liquidity when

climate-related disasters strike, etc.

- Ensure that the regulatory framework supports the full involvement of MFIs in adaptation by, for example, allowing them to provide insurance services, etc.

#### **For MFIs:**

- Ensure flexibility and customisation to enable members to select from products and product options to best manage their finances and prepare for, cope with and recover from climate shocks;
- Provide outreach to the most climate-vulnerable groups, especially those in remote, ecologically fragile areas.
- Package loans with adaptation technologies (particularly for agriculture) through extension and other forms of outreach, with the aim of building climate-resilient livelihoods;
- Provide loans on appropriate terms and guidance for the construction of hazard-resistant housing;
- Undertake insurance pilots with a view to developing accessible and affordable micro-insurance products that cover the real risks faced by households and that incentivise risk mitigation.

#### **For Funders**

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<sup>19</sup> There is some overlap between the financial and non-financial activities as loans can be packaged with adaptation technologies, meaning these loans are both reducing the adaptation deficit and closing the adaptation gap.



- Sponsor a series of national workshops on an integrated approach to adaptation involving adaptation, disaster risk reduction, livelihood generation (microfinance) and other actors as one step towards making better use of the synergies that exist between these fields.

The rationale for this recommendation is that support for rural development / poverty alleviation tends to be “compartmentalised,” with little coordination and collaboration between various thematic interest groups, reflecting in part a lack of integration in funding lines. Despite their shared interests, there appears to be less interaction than might be expected between groups working on climate change adaptation, disaster risk reduction, microfinance and other poverty reduction instruments in Bangladesh.

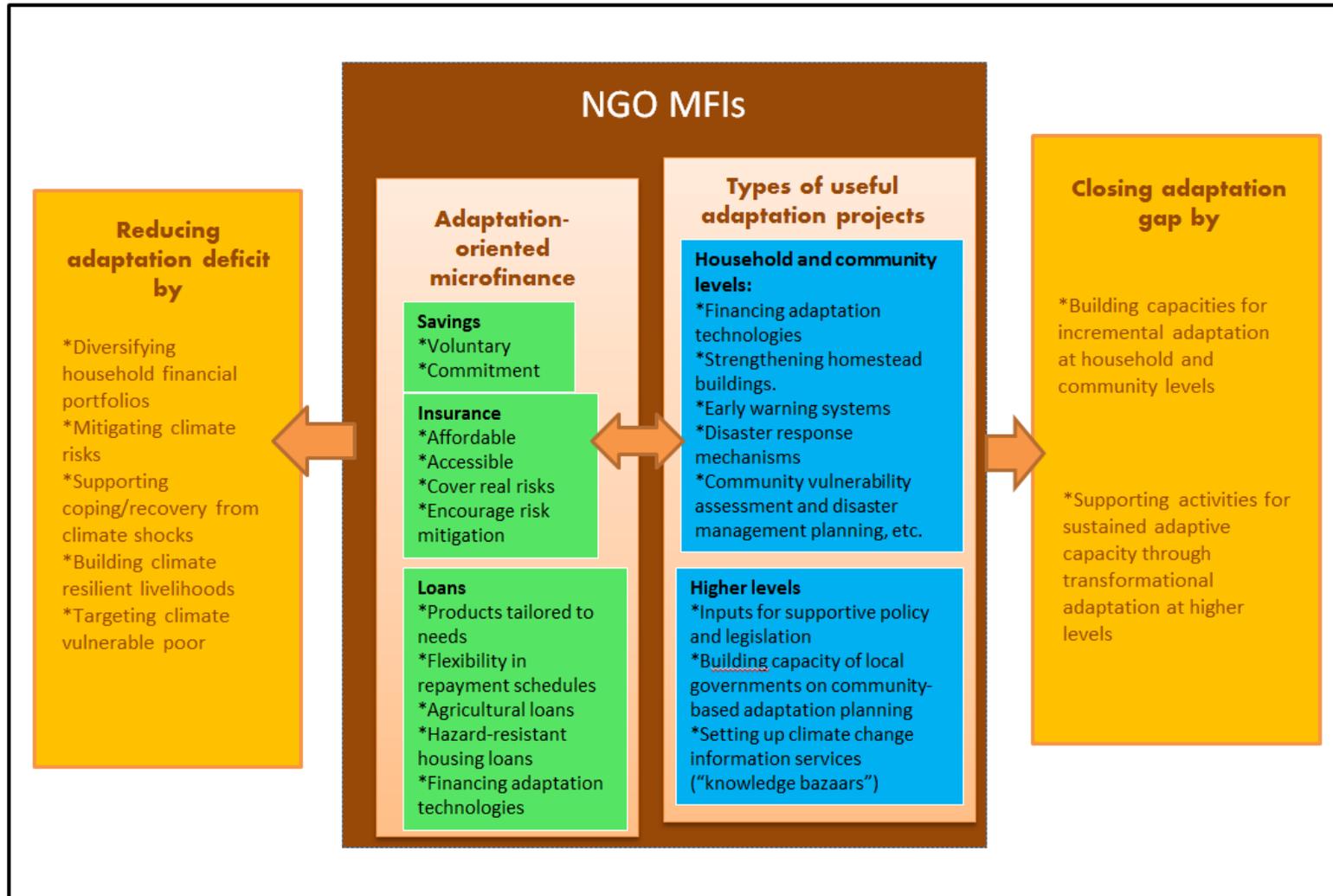
#### **For Research bodies and academics**

Further research to develop and implement the concept of adaptation-oriented microfinance is needed. The following research is recommended to the larger MFIs that have their own research units, the Institute of Microfinance and other relevant research institutes, the Palli Karma-Sahayak Foundation, and academics working in the fields of climate change adaptation and microfinance:

- Conduct an inventory of microfinance products across the sector applying an adaptation perspective to identify the extent to which flexibility has been incorporated into savings and loan products;
- Review existing knowledge on and research into adaptation technologies for agriculture, and assess the potential for microfinance to make these technologies accessible to rural households;
- Conduct an in-depth review of different financial strategies used by MFIs to assist their members avoid, cope with and recover from extreme weather events, and evaluate the effectiveness of these strategies with the aim of identifying good practice;
- Conduct a comprehensive review of MFI support for hazard-resistant housing for the poor, with a view to developing guidance and further support for these initiatives;
- Support further piloting of alternative micro-insurance delivery modes and products, including weather-based index insurance for smallholders and health insurance;
- Conduct a thorough review of microfinance outreach in remote, ecologically fragile areas, with a view to extracting and promoting good practice;
- Assess the adequacy of existing initiatives and MFI cash reserves against the liquidity requirements of MFIs under projected climate change scenarios.



Figure 8.1: The potential contribution of microfinance and microfinance institutions to climate change adaptation







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