

Working Paper No. 39

The Role of Microfinance and Microfinance Institutions in Climate Change Adaptation

Learning from Experiences in Bangladesh

Henry Scheyvens

December 2015

IGES

Institute for
Global Environmental Strategies



Institute of Microfinance (InM)

Working Paper No. 39

The Role of Microfinance and Microfinance Institutions in Climate Change Adaptation

Learning from Experiences in Bangladesh

Henry Scheyvens

December 2015

IGES
Institute for
Global Environmental Strategies


Institute of Microfinance (InM)

Institute for Global Environmental Strategies (IGES)
2108-11 Kamiyamaguchi, Hayama, Kanagawa 240-0115 Japan
Phone: +81-46-855-3830 • Facsimile: +81-46-855-3809
E-mail: fc-info@iges.or.jp

Copyright © 2015 by Institute for Global Environmental Strategies (IGES), Japan and Institute of Microfinance (InM)

All rights reserved. Inquiries regarding this publication copyright should be addressed to IGES in writing. No parts of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without the prior permission in writing from IGES.

Although every effort is made to ensure objectivity and balance, the printing of a paper or translation does not imply IGES endorsement or acquiescence with its conclusions or the endorsement of IGES financiers. IGES maintains a position of neutrality at all times on issues concerning public policy. Hence conclusions that are reached in IGES publications should be understood to be those of authors and not attributed to staff-members, officers, directors, trustees, funders, or to IGES itself.

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.

This report is a shortened version of the report with the same title (ISBN number: 978-4-88788-177-8) published by IGES in April 2015.

Author: Henry Scheyvens

© Institute of Microfinance (InM)



This publication has been supported under the PROSPER (Promoting Financial Services to Poverty Reduction) Program funded by UKaid, DFID.

The views expressed in this paper are entirely of the authors and do not necessarily reflect the views of InM, DFID or any other affiliated organizations.

As per the InM policy, all the working papers are peer reviewed.

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 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.

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 progresses.

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 adaptation 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.

Table of Contents

Foreword	iii
Executive Summary	v
Table of Contents	vii
List of Figures, Tables and Boxes	ix
Acronyms and Non-English terms	x
1 Introduction	01
2 Conceptual Framework	03
2.1 Basic definitions and concepts	03
2.1.1 Exposure, sensitivity, vulnerability and resilience	03
2.1.2 Adaptation deficit and adaptation gap	04
2.1.3 Coping versus adapting	05
2.1.4 Incremental and transformational adaptation	05
2.2 Bringing the concepts together	05
3 Overview of Microfinance Sector in Bangladesh	06
3.1 Basic products and delivery models	06
3.2 Providers	08
3.3 Membership	09
3.4 Savings and loan volumes and loan use	10
3.5 Regulation	11
3.6 Apex organisations	11
4 Does Microfinance in its Current Forms Contribute to Adaptation?	12
4.1 Impacts on poverty levels	12
4.2 Impacts on household financial management	13
4.3 Microfinance impacts on vulnerability	15
4.3.1 Consumption smoothing	15
4.3.2 Diversifying income sources and self-employment	16
4.3.3 Risk pooling through microinsurance	16
4.3.4 Building human and social capital	18
5 Key Elements of Adaption-Oriented Microfinance	19
5.1 Flexible loans and savings products	19
5.2 Strategies to mitigate impacts of climate shocks	20
5.3 Liquidity to deal with climate shocks	22
5.4 Hazard-resistant housing for the poor	22



5.5	Affordable and well-targeted micro-insurance	22
5.6	Targeting areas and groups most vulnerable to climate change	24
5.7	Agricultural lending	26
5.8	Financing “adaptation technologies”	27
6	MFI Involvement in Adaptation Projects and Transformational Adaptation	27
6.1	MFI adaptation and disaster-related programmes and projects	28
6.2	“Microfinance-plus” for transformational adaptation and transformed resilience	28
7	Conclusion	31
	References	36

List of Figures, Tables and Boxes

Figure 2.1: Interventions to reduce adaptation deficits and close adaptation gaps	06
Figure 3.1: Distribution of active members in MFIs	09
Figure 3.2: Selected basic statistics on NGO MFI performance	09
Figure 3.3: Distribution of loans by stated purpose	10
Box 5.1: BRAC's response to the 1998 floods in Bangladesh	21
Box 5.2: PKSf response to Sidr	21
5.3: Chars Livelihoods Programme	25
5.4: Programme Initiatives for Monga Eradication (PRIME)	25
Box 6.1: Examples of projects aiming at transformed resilience through community-based adaptation	29
Figure 7.1: The potential contribution of microfinance and microfinance institutions to climate change adaptation	35

Acronyms and Non-English Terms

AICC	Agriculture Information and Communication Centres
ARCAB	Action Research for Community Adaptation in Bangladesh
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
Char	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
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

A key challenge for policy and budgets in countries that are highly vulnerable to climate change is to identify and prioritise adaptation investments. However, decisions over adaptation investments are complicated by the fact that regular development investments can have adaptation benefits. Policy makers and funders thus have to consider whether resources would be better spent on regular development interventions or new adaptation specific projects or programmes.

There is a clear need for guidance to enable decision-makers to make wise choices when investing in adaptation. Some of this guidance can be developed by reviewing existing development interventions and instruments from an adaptation perspective. Of the numerous types of existing developmental instruments that target rural households, microfinance services would seem to be particularly in need of assessment from an adaptation viewpoint. 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.).

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. This report aims to contribute to filling this gap by (i) conceptualising the relationships between microfinance and household adaptive capacity, (ii) mapping out what could be considered good microfinance practice for adaptation, or “adaptation-oriented microfinance,” and (iii) identifying types of adaptation projects and activities that microfinance institutions (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 topic¹ 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 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, while being 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?

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 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. In recent years, Bangladesh has made large strides in increasing incomes and reducing poverty levels. However, 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. 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

¹ For example, Agrawala and Carraro (2010).

sea-level rise and melting of the Himalayan glaciers (UNDP n.d., 1). Other projected climate change impacts for Bangladesh 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).

The report is set out as follows. Following this introduction, Section 2 explains the conceptual framework employed in the analysis, while Section 3 provides an overview of the microfinance sector in Bangladesh. With the necessary conceptual tools and context having been established, Section 4 examines whether microfinance contributes to household adaptive capacity and, if so, how. Section 5 identifies key features of adaptation-oriented microfinance. Section 6 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 7 summarise the findings of the previous sections and sets out recommendations for specific actor groups to take forward the idea of adaptation-oriented microfinance.

2. Conceptual Framework

This section provides a conceptual framework for taking up the questions: Does microfinance in its current forms contribute to adaptation? How could microfinance be engineered to maximise its adaptation benefits?

2.1 Basic Definitions and Concepts

2.1.1 Exposure, sensitivity, vulnerability and resilience

How much a poor household has to adapt to climate change will depend upon its *exposure*, *sensitivity* and *vulnerability* to weather extremes and slow onset events. Drawing on definitions provided by the Intergovernmental Panel on Climate Change (IPCC), 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 its dwellings are raised above flood levels, and if it has 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.

2.1.2 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 (sand islands); 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.

2.1.3 Coping versus adapting

In analysing the impacts on and response of households to changes in external shocks and threats, 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.

2.1.4 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).

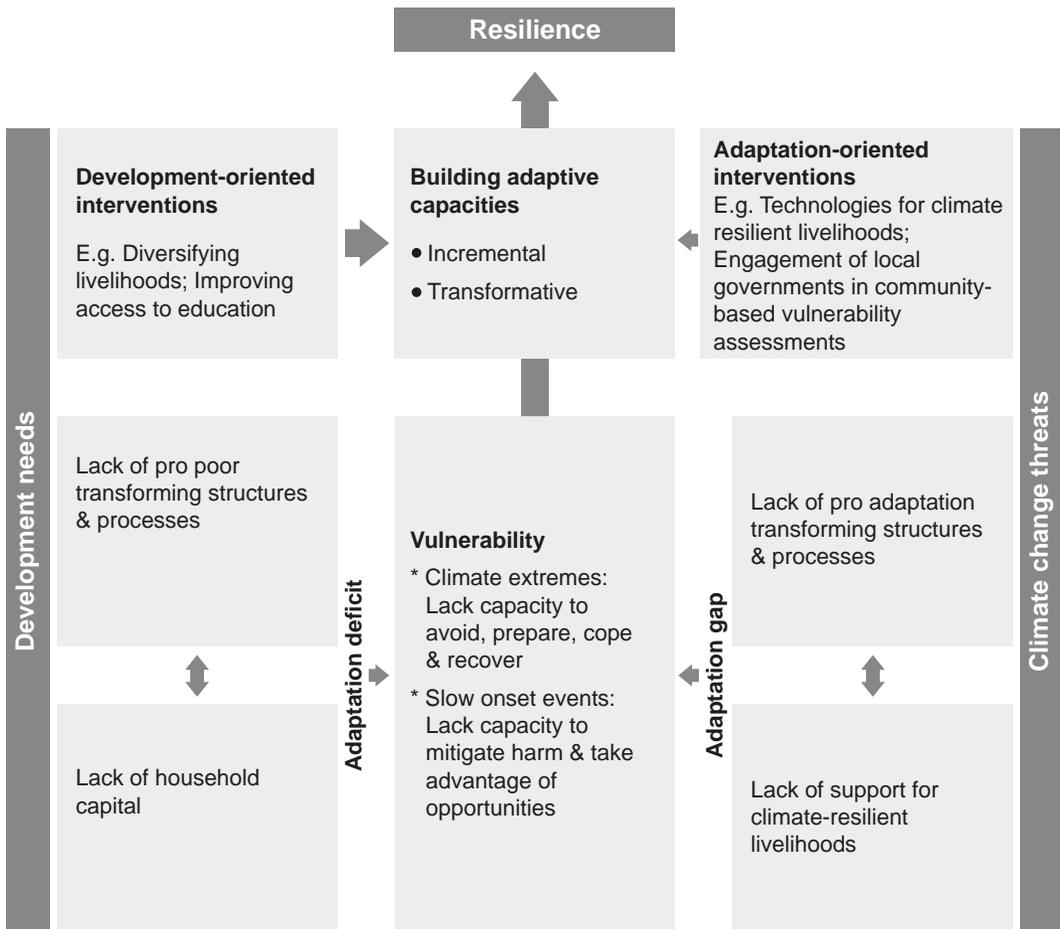
Incremental adaptation is viewed as necessary but not sufficient for effective adaptation when large changes in external conditions are projected. Transformational adaptation, or fundamental systemic change, is needed to support sustained wellbeing under significantly altered conditions. This distinction raises a number of questions for whether or how microfinance and MFIs can contribute to adaptation, such as: Does or 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?

2.2 Bringing the concepts together

Figure 2.1 attempts to bring together the concepts described above. 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 2.1: Interventions to Reduce Adaptation Deficits and Close Adaptation Gaps



Source: Elaborated from Spearman and McGray (2011).

3. Overview of Microfinance Sector in Bangladesh

This section provides a sketch of the microfinance sector in Bangladesh. It describes the origins of microfinance, basic products and delivery models, providers, outreach, membership, volumes of loans and savings, stated use of loans, regulation, and apex organisations.

3.1 Basic products and delivery models

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 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 5.5) 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 5.1 for further discussion).

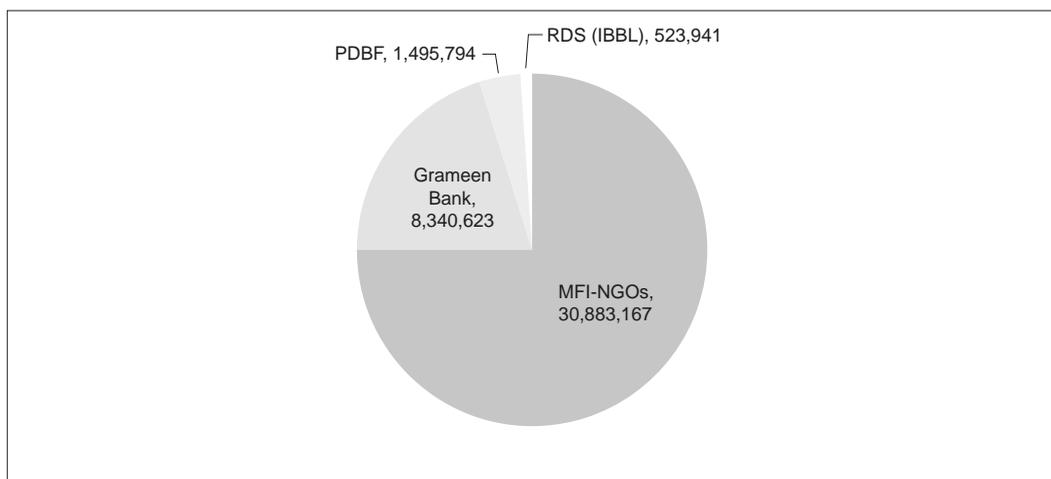
Variation in approaches can also be seen in the type of non-financial services that MFIs provide. Some MFIs focus mostly on microfinance delivery, while others provide a range of other services to poor households (what is sometimes referred to as “microfinance-plus”), reflecting their roots in the field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

3.2 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 2009a). 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. 3.1 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).

Figure 3.1: Distribution of Active Members in MFIs

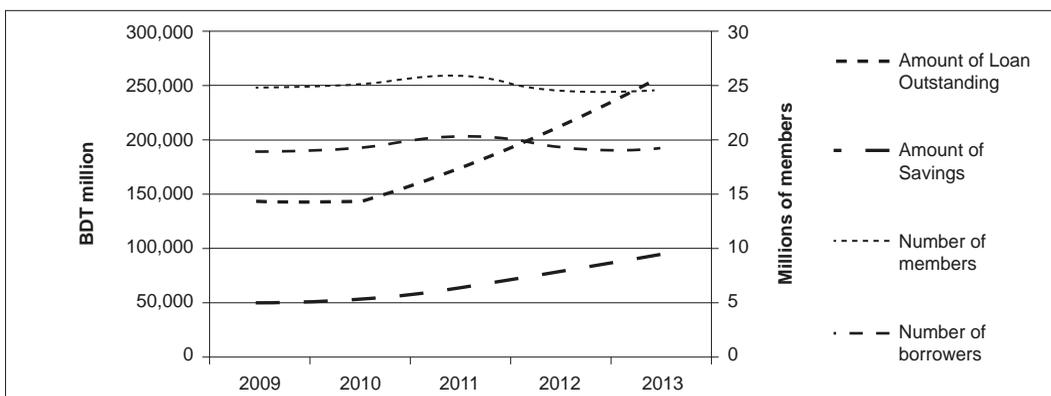


Source: Data from CDF/InM (2010, xiii). Note: RDS (IBBL) is the Rural Development Scheme of Islami Bank Bangladesh Ltd. and PDBF is the government’s Palli Daridro Bimochon Foundation.

3.3 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 (Faruqee and Khalily 2011, 3). Total membership numbers appear to have been fairly stable between 2009 and 2013 for NGO MFIs (Fig. 3.2), 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 3.2: Selected Basic Statistics on NGO MFI Performance



Note: Figures are for June of each year for savings and loans. **Source:** Data from MRI (2014).

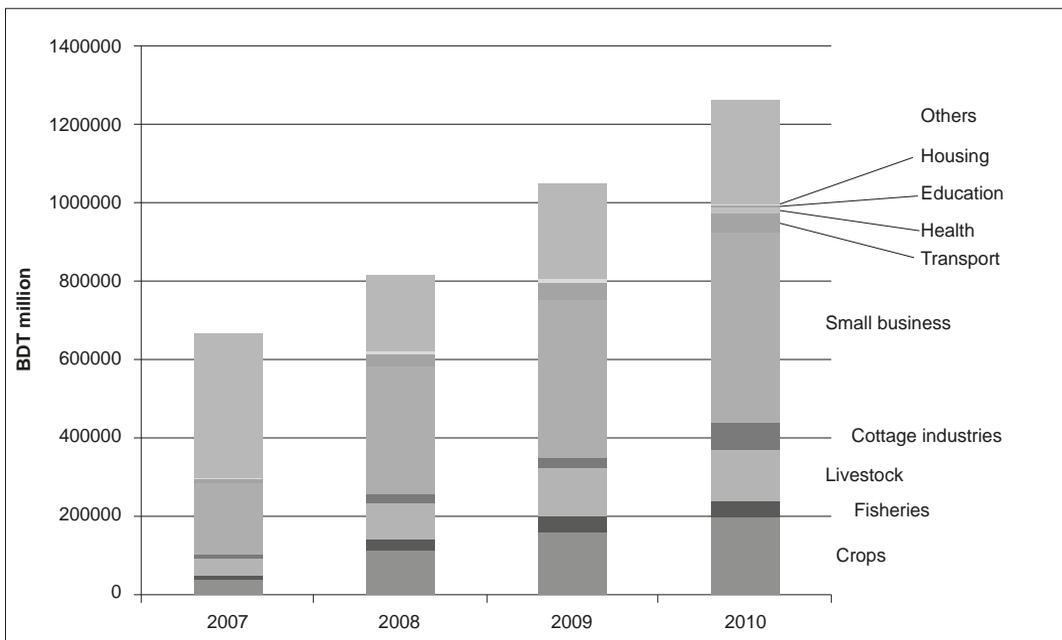
Another feature of the MFI sector in Bangladesh is its targeting of women. Over 96% of Grameen Bank’s members are women (Grameen Bank 2014) and of the total number of members in 126 MFI NGOs surveyed by CDF/InM, 82% were women (CDF/InM 2010, 17).

3.4 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. 3.3 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).

Figure 3.3: Distribution of Loans by Stated Purpose



Source: Data from CDF/InM (2010, 28).

3.5 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).

3.6 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 2009a, 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*² 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).

² *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.

4. Does Microfinance in its Current Forms Contribute to Adaptation?

With an understanding of the microfinance sector in Bangladesh, this paper can now move on to the two basic questions about the relationship between microfinance and adaptation that were set out in the introduction. These are: *Does microfinance in its current forms contribute to adaptation?* And, if it does, *How can the contribution of microfinance to adaptation be maximised?* An attempt is made in this section to answer the first question, while the second question is left to Section 5.

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 reduces poverty is a matter of much debate among scholars, and the evidence for and against poverty impacts needs to be carefully examined when discussing whether microfinance contributes to adaptation. The discussion below delves into the debate over microfinance impacts on poverty levels, considers the relevance of microfinance to household financial management, and considers the potential relationships between microfinance and vulnerability.

4.1 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. Numerous studies 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 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 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).

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.³ 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.

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. However, whether microfinance has reduced poverty in Bangladesh is an issue that continues to be debated and the methodologies used to isolate microfinance impacts from other variables continue to attract criticism (e.g. see Roodman (2014)).

4.2 Impacts on household financial management

Given the ongoing debate in the literature, it is difficult to say whether microfinance has contributed to adaptation by enabling households to lift themselves above the poverty line, as defined in these studies.⁴ However, microfinance does appear to be contributing to adaptation by assisting poor households with their financial management.

³ 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).

⁴ 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 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).

In *Portfolios of the Poor: How the World's Poor Live on \$2 a Day*, Collins et al. (2009) document the day-to-day financial transactions of poor households, finding 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 their 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.

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).

4.3 Microfinance Impacts on Vulnerability

Microfinance also appears to help households reduce their vulnerability to shocks by enabling them to lessen their reduction of food and other basic needs during periods of hardship, diversify their income sources, engage in self-employment, and pool risks (through micro-insurance). It also appears to be helping some households build their human and social capital.

4.3.1 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.⁵

⁵ Osmani (2012) reports that of the 6,300 households covered by the InM 2010 benchmark survey, 63% of borrowers primarily used loans for consumption.

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, 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).

4.3.2 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 2009b, 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.

4.3.3 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),⁶ but in Bangladesh neither has progressed to the point of being widely available to farmers and rural households in general

⁶ 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.

(Ahmed 2010; International Labour Organization 2003; Salman, 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 (Khalily 2014).

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.⁷ 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 progress is good. 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 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.⁸

⁷ Werner (2009) provides a succinct summary of MFI health insurance schemes from which the following description is taken.

⁸ Interviews with SOJAG officers, 26 Aug. 2013.

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 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 5.

4.3.4 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. Key Elements of Adaption-Oriented Microfinance

From the review in Section 4 of empirical studies on the impacts of microfinance, it appears that microfinance is making an important contribution to reducing the adaptation deficit in Bangladesh. However, this does not mean that all MFIs are implementing best practices and that their potential to contribute to adaptation is being fully realised. The aim in this section is to provide guidance to MFIs on how they can deliver greater adaptation benefits through their microfinance programmes, by setting out some of the features of "adaptation-oriented microfinance." 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.

5.1 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.

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 Banks 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.

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.

5.2 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 5.1 and 5.2 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 assessments. 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 5.1: 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 5.2: 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/>

5.3 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.

5.4 Hazard-resistant housing for the poor

The idea of hazard-resistant housing for the poor has 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.

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, as well as 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.

5.5 Affordable and well-targeted micro-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 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 microfinance sector 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 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.

Sixth, 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.

5.6 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.

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 5.3 and 5.4 provide examples of programmes that specifically target chronic poor households in climate-vulnerable areas with microfinance and other support services.

5.3: Chars Livelihoods Programme

The DFID/AusAID funded Chars Livelihoods Programme (CLP) began in 2004 and 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).

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.).

5.4: 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*.

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 5.3 and 5.4 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.

5.7 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.

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. (Faruque 2010).

5.8 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.⁹ 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 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. MFIs Involvement in Adaptation Projects and Transformational Adaptation

Section 5 set out a variety of features of adaptation-oriented microfinance. 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. The following

⁹ <http://maindb.unfccc.int/public/adaptation/>

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

6.1 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.

6.2 “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)¹⁰ project, which is a long-term action research programme into community-based adaption¹¹ 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

¹⁰<http://www.arcab.org/>

¹¹ 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).

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. 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 6.1.

Box 6.1: 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," 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.¹

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). A study by the NGO 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 (Practical Action n.d.). 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. However, the project also facilitated participatory vulnerability assessments, and based on the results assisted the participating communities in developing disaster preparedness plans and actions (Practical Action n.d.).

The initiatives on transformed resilience described in Box 6.1 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.

7. 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.

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 7.1. 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.¹²

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.

¹² 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.

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.

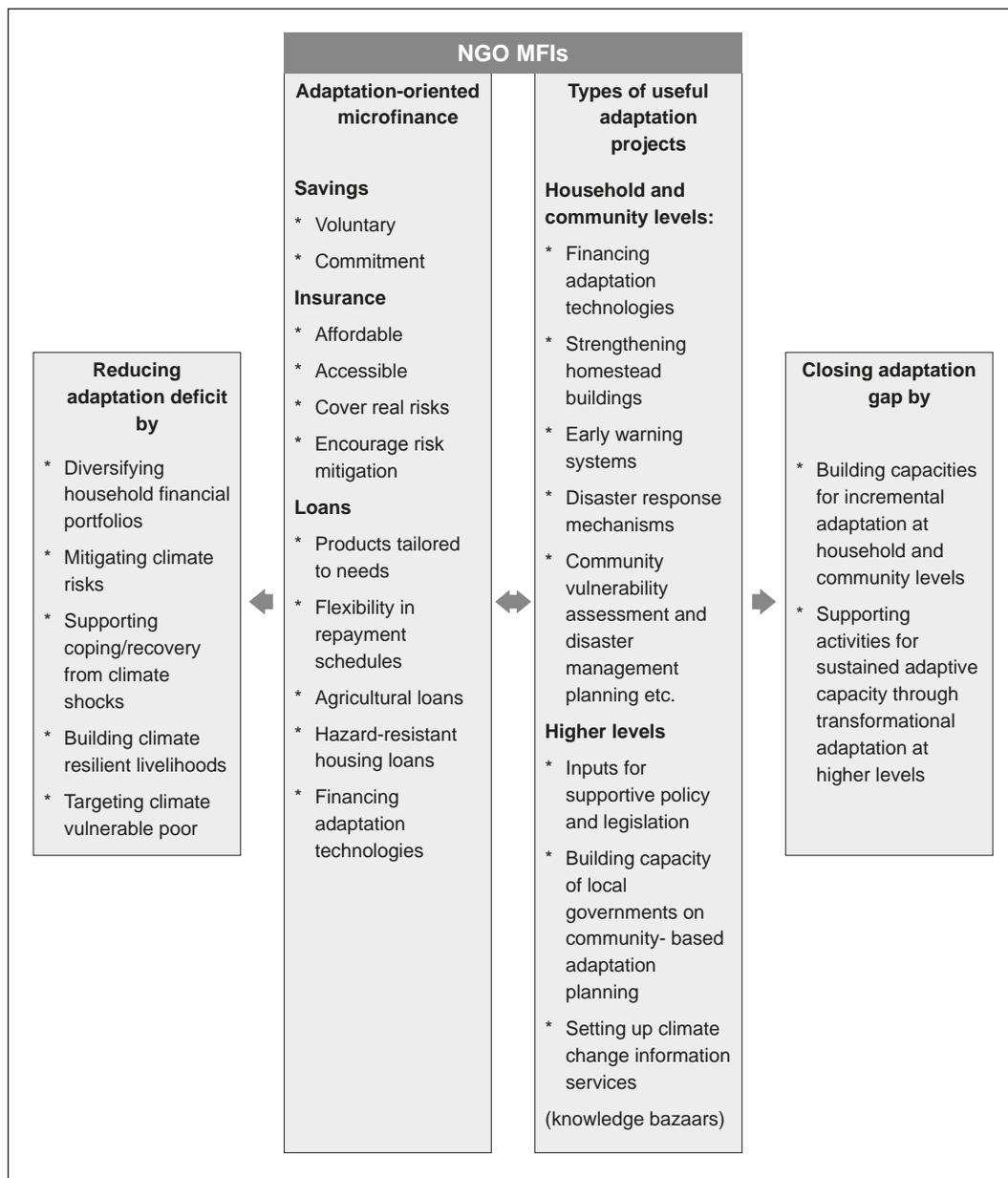
The rationale for this recommendation is that support for rural development / poverty alleviation tends to be “compartmentalised,” with little coordination and collaboration between various thematic interest groups, reflecting in part a lack of integration in funding lines. Despite their shared interests, there is 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 7.1: The Potential Contribution of Microfinance and Microfinance Institutions to Climate Change Adaptation



References

- Agrawala, S., and M. Carraro. 2010. *Assessing the Role of Microfinance in Fostering Adaptation to Climate Change*. OECD Environmental Working Paper No. 15, 2010, OECD publishing.
- Ahmed, A. 2010. *Agricultural Insurance in Bangladesh and Comparative Analysis of Various Countries*. <http://ssrn.com/abstract=1594689> or <http://dx.doi.org/10.2139/ssrn.1594689> (March 30, 2015)
- ASA. "Origin." http://asa.org.bd/?page_id=31 (July 29, 2014).
- Badruddoza, S. 2013. *Rules of Microcredit Regulatory Authority in Bangladesh: A Synopsis*. MPRA Paper No. 44637, Dhaka.
- Barrett, A., M. Hannan, Z. Alam, and M. Pritchard. 2014. *Impact of the Chars Livelihoods Programme on the Disaster Resilience of Chars Communities*. Innovation, Monitoring and Learning Division, DFID Chars Livelihoods Programme.
- Brown, W., and G. Nagarajan. 2000. *Bangladeshi Experience in Adapting Financial Services to Cope with Floods: Implications for the Microfinance Industry*. Washington DC: USAID, MBP Publication.
- Cardona, O.D. et al. 2012. "Determinants of Risk: Exposure and Vulnerability." In *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, eds. C.B. Field et al. Cambridge, UK; New York, US: Cambridge University Press, 65–108.
- CDF/InM. 2010. *Bangladesh Microfinance Statistics*. Dhaka: Credit Development Forum and Institute of Microfinance.
- CGAP. "Microfinance Gateway." <http://www.microfinancegateway.org/p/site/m/template.rc/1.26.12263/> (July 18, 2014).
- Churchill, C., and M. Matul. 2012. *Protecting the Poor: A Microinsurance Compendium. Volume II*. Geneva: International Labour Organisation.
- Collins, D., J. Morduch, S. Rutherford, and O. Ruthven. 2009. *Portfolios of the Poor: How the World's Poor Live on \$2 a Day*. New Jersey: Princeton University Press.
- Counts, A. 1996. *Give Us Credit: How Small Loans Today Can Shape Our Tomorrow*. New Delhi: Research Press.
- DFID. 1999. *Sustainable Livelihoods Guidance Sheets*. <http://www.eldis.org/vfile/upload/1/document/0901/section2.pdf>. (March 30, 2015)

- Duvendack, M. et al. 2011. *What is the Evidence of the Impact of Microfinance on the Well-Being of Poor People?*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Faruqee, R. 2010. *Microfinance for Agriculture in Bangladesh: Current Status and Future Potential*. Working Paper No. 8. Dhaka: Institute of Microfinance.
- Faruqee, R., and B. Khalily. 2011. *Multiple Borrowing by MFI Clients: Current Status and Implications for Future of Microfinance*. Policy Paper. Dhaka: Institute of Microfinance.
- Faulkner, L., and S. Md. I. Ali. 2012. *Moving towards Transformed Resilience: Assessing Community-Based Adaptation in Bangladesh*. Dhaka: ActionAid Bangladesh.
- Field, C.B., V.R. Barros, K.J. Mach, M.D. Mastrandrea, M. van Aalst, W.N. Adger, D.J. Arent, J. Barnett, R. Betts, T.E. Bilir, J. Birkmann, J. Carmin, D.D. Chadee, A.J. Challinor, M. Chatterjee, W. Cramer, D.J. Davidson, Y.O. Estrada, J.-P. Gattuso, Y. Hijikata, O. Hoegh-Guldberg, H.Q. Huang, G.E. Insarov, R.N. Jones, R.S. Kovats, P. Romero-Lankao, J.N. Larsen, I.J. Losada, J.A. Marengo, R.F. McLean, L.O. Mearns, R. Mechler, J.F. Morton, I. Niang, T. Oki, J.M. Olwoch, M. Opondo, E.S. Poloczanska, H.-O. Pörtner, M.H. Redsteer, A. Reisinger, A. Revi, D.N. Schmidt, M.R. Shaw, W. Solecki, D.A. Stone, J.M.R. Stone, K.M. Strzepek, A.G. Suarez, P. Tschakert, R. Valentini, S. Vicuña, A. Villamizar, K.E. Vincent, R. Warren, L.L. White, T.J. Wilbanks, P.P. Wong, and G.W. Yohe, 2014: Technical summary. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 35-94.
- Grameen Bank. 2014. "Data and Reports."
http://www.grameen-info.org/index.php?option=com_content&task=view&id=452&Itemid=526 (July 29, 2014).
- Hashemi, S.M., S.R. Schuler, and A.P. Riley. 1996. "Rural Credit Programs and Women's Empowerment in Bangladesh." *World Development* 24(4): 635–53.
- Hossain, M. 1988. *Credit for Alleviation of Rural Poverty: The Grameen Bank in Bangladesh*. Research Report 65. International Food Policy Research Institute.
- IIED. 2009. *Community-Based Adaptation to Climate Change*. Participatory Learning and Action publication No. 60. London: International Institute for Environment and Development.

- InM. 2011. *Microinsurance, Poverty and Vulnerability: Findings of the Baseline Survey*. Research Brief No. 1. Dhaka: Institute of Microfinance.
- International Labour Organisation. 2003. *Micro Insurers: Inventory of Micro Insurance Schemes in Bangladesh*. Dhaka: Women's Empowerment through Employment and Health Project, International Labour Organization Bangladesh.
- IPCC. 2007. *Fourth Assessment Report*. Glossary of Synthesis Report.
http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_appendix.pdf. (March 30, 2015)
- . 2014. "Summary for policymakers". In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L.White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32.
- Islam, S. 2009a. "Microfinance in Bangladesh: Context and Experiences." Presented during the International Panel II of the Ford Foundation-Procasur Workshop *Path to Learning: Successful Innovations in Rural Microfinance: Asia (India and Bangladesh)*, 25th April 2009, Hotel Rosewood Residence, Dhaka. Dhaka: International Network of Alternative Financial Institutions Asia.
- Islam, A. 2009b. "Medium and Long-Term Participation in Microfinance: An Evaluation Using a New Panel Dataset from Bangladesh." *American Journal of Agricultural Economics* 93(3): 843–62.
- Kabeer, N. 2001. "Conflicts over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh." *World Development* 29(1): 63–84.
- Karim, L. 2011. *Microfinance and Its Discontents: Women in Debt in Bangladesh*. Minneapolis: University of Minnesota Press.
- Khalily, B. 2014. "NGO Experiences in Implementing Insurance Products in Agriculture in Bangladesh." Presented at *Regional Expert Meeting on Effectiveness of Risk Insurance for Disaster Risk Reduction and Climate Change Adaptation*, 4-5 July 2014, UKM, Bangi, Selangor, Malaysia.
- Khandker, S.R. 1998. *Fighting Poverty with Microcredit: Experience in Bangladesh*. Dhaka: University Press Ltd.
- Khandker, S.R., B. Khalily, and H.A. Samad. 2010. *Seasonality and Hard-Core Poor with Microfinance: Results of the PKSF Ultra-Poor Project in Bangladesh*. Working Paper No. 6. Dhaka: Institute of Microfinance.

- Khandker, S.R., and M. Pitt. 2002. "Credit Programs for the Poor and Seasonality in Rural Bangladesh." *Journal of Development Studies* 39(2): 1–24.
- Khandker, S.R., and H.A. Samad. 2014. Dynamic Effects of Microcredit in Bangladesh. Policy Research Working Paper. Washington, DC: World Bank.
- Mahmoud, C.S., B. Khalily, and S.N. Wadood. 2007. *Dynamics of Market Share in the Microfinance Industry in Bangladesh*. Working Paper No. 7. Dhaka: Institute of Microfinance.
- Matin, I., M.E. Hassan, and M. Maniruzzaman. 2002. *3 Microfinance in the Brahmaputra-Jamuna Chars: The Context, the Providers and Way Forward March 2002*. DFID Chars Livelihoods Programme Design Phase Study, 2002.
- MRA. 2014. *Microcredit in Bangladesh*. Dhaka: Microfinance Regulatory Authority.
- Murdoch, J. 1998. *Does Microfinance Really Help the Poor? New Evidence from Flagship Programs in Bangladesh*.
http://www.nyu.edu/projects/morduch/documents/microfinance/Does_Microfinance_Really_Help.pdf (March 30, 2015)
- NCAP. 2011. "Climate Change Adaptation in Bangladesh."
<https://weadapt.org/knowledge-base/vulnerability/bangladesh-ncap-project> (March 30, 2015).
- Osmani, S. R. 2012. *Asset Accumulation and Poverty Dynamics in Rural Bangladesh: The Role of Microcredit*. Working Paper No. 11. Dhaka: Institute of Microfinance.
- . 2014. *Has Microcredit Helped the Rural Poor of Bangladesh? An Analytical Review of the Evidence So Far*. Working Paper No. 23. Dhaka: Institute of Microfinance.
- Osmani, S. R., and Binayak Sen. 2010. *Dynamics of Poverty in Rural Bangladesh: A Research Framework*. Working Paper No. 9. Dhaka: Institute of Microfinance.
- PKSF. 2014. *Annual Report 2013*. Dhaka: Palli Karma-Sahayak Foundation.
- Practical Action. "From Vulnerability to Resilience."
<http://practicalaction.org/vulnerability-to-resilience-project-bangladesh> (November 30, 2014).
- Rahman, A. 1991. "Development Responses to Natural Disaster." In *Participatory Development Learning from South Asia*, ed. P. Wignaraja. Tokyo, United Nations University Press; Karachi, Oxford University Press.
- . 1996. "Micro-Credit Initiatives for Equitable and Sustainable Development: Who Pays?" *World Development* 27(1): 67–82.

- . 2002. “Impact of Grameen Bank Intervention on the Rural Power Structure.” In *Early Impact of Grameen: A Multi-Dimensional Analysis: Outcome of a BIDS Research Study*, eds. A. Rahman, R.I. Rahman, M. Hossain, and S.M. Hossain. Dhaka: Grameen Trust.
- Rahman, K.K. 2009. “Development of Housing Finance and Its Impact on Socio-Economic Uplift in the Emerging Economy in Bangladesh.” *IFC Bulletin* 31: 97–110.
- Rahman, M., N. Matsui, and Y. Ikemoto. 2009. *The Chronically Poor in Rural Bangladesh: Livelihood Constraints and Capabilities*. New York: Routledge.
- Roodman, D. 2012. *Due Diligence: An Impertinent Inquiry into Microfinance*. Washington, DC: Center for Global Development.
- . 2014. “Shoddy Microcredit Impact Reporting in Economist.” <http://davidroodman.com/blog/2014/04/17/shoddy-microcredit-impact-reporting-in-economist/> (September 17, 2014).
- Salman, S.M., O. Mahul, and H.K. Bagazonzya. 2010. *Agricultural Insurance in Bangladesh: Promoting Access to Small and Marginal Farmers*. Washington, DC: World Bank.
- Smillie, I. 2009. *Freedom from Want: The Remarkable Success Story of BRAC, the Global Grassroots Organization that’s Winning the Fight against Poverty*. West Hartford: Kumarian Press.
- Spearman, M., and H. McGray. 2011. *Making Adaptation Count: Concepts and Options for Monitoring and Evaluation of Climate Change Adaptation*. Eschborn, Germany: Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ).
- Todd, H. 1996. *Women at the Centre: Grameen Bank Borrowers after One Decade*. Dhaka: University Press Ltd.
- UNDP. 2011. *Human Development Report 2011 – A Better Future for All*. New York: Palgrave Macmillan.
- . *CBA Country Programme Strategy Bangladesh*. Dhaka: United Nations Development Programme.
- Werner, W.J. 2009. “Micro-Insurance in Bangladesh: Risk Protection for the Poor?” *Journal of Health, Population, and Nutrition* 27(4): 563–73.
- Yunus, M. 2001. *Banker to the Poor: The Autobiography of Muhammad Yunus, Founder of Grameen Bank*. Oxford: Oxford University Press.
- . “Grameen Bank II.” <http://www.cgdev.org/doc/blog/Yunus,%20Grameen%20Bank%20II--Designed%20to%20Open%20New%20Possibilities.htm> (March 30, 2015)
- Zaman, H. 1999. *Assessing the Poverty and Vulnerability Impact of Micro-Credit in Bangladesh: A Case Study of BRAC*. Washington, DC: World Bank.

The Institute of Microfinance (InM) is an independent non-profit organisation established primarily to meet the research and training needs of national as well as of global microcredit programmes. Initiated and promoted by Palli Karma-Sahayak Foundation (PKSF) on 1 November 2006, the Institute is principally funded by UKaid, Department for International Development (DFID) through its Promoting Financial Services for Poverty Reduction (PROSPER) Programme. InM has an excellent team of professionals in research, training and knowledge management. InM draws research scholars from reputed universities here and abroad. The major services that InM provides are research on poverty, microfinance, enterprise development, impact assessment and evaluation of microfinance programmes. Beside research, InM provides microfinance related training, capacity building support and knowledge management services to microfinance institutions and other development organisations.

For information please contact:



Institute of Microfinance (InM)

- PKSF Bhaban, Agargaon, Dhaka- 1207, Bangladesh
- InM Training Center, House # 30, Road # 03, Block: C
Monsurabad R/A, Adabor, Dhaka-1207
Telephone: +880-2-8181066 (Agargaon), +880-2-8190364 (Monsurabad)
Fax: +88-02-8152796, Email: info@inm.org.bd; Web: www.inm.org.bd