

Loss & Damage:

Assessing Microinsurance as a Tool to Address
Loss and Damage in the National Context of
Bangladesh

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Foreword

This paper is the result of a year-long process to enhance understanding of loss and damage in Bangladesh. The authors would like to thank all of the researchers, policymakers and other stakeholders who were involved in that process. In addition the authors would like to pay tribute to Dr. Koko Warner and Mr. Michael Zissener at the Munich Climate Insurance Initiative, hosted at United Nations University, Mr. Thomas Loster of the Munich Re Foundation and Ms. Gaby Ramm of GIZ for taking the time to review and provide valuable input into earlier drafts of this document. The authors are also grateful to Sönke Kreft, Sven Harmeling and Lisa Meier of Germanwatch who provided leadership and support as the consortium lead of the Loss and Damage in Vulnerable Countries Initiative.

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Executive Summary

In climate vulnerable countries like Bangladesh, traditional mechanisms for coping with disasters, such as borrowing from relatives, selling property, using microcredit and savings are often inadequate. In the decades ahead, climate change will bring losses and damages that will challenge the coping ability of many low-income populations. Approaches to address these residual losses and damages will need to be developed and implemented alongside mitigation and adaptation strategies to reduce the impacts of climate change. Along with structural measures to address the impacts of climate change, non-structural initiatives like microinsurance are being discussed as risk management strategies to address climate change-related loss and damage. This paper provides a critical review of the microinsurance landscape in Bangladesh by examining microinsurance research and projects, the current and potential demands for microinsurance and gaps in policy and institutional frameworks. The paper then outlines a set of recommendations for how policies can be improved to widen the microinsurance market and how microinsurance products can be designed to reach wider segments of poor and vulnerable communities across the country – and address loss and damage to an array of climate change impacts. The conclusion is that microinsurance, customised to the specific needs of the poor, can be an effective instrument for addressing loss and damage.

Research on microinsurance has only recently begun over the past few years and data and information on the existing profile of microinsurance activities are still very limited. The overwhelming share of microinsurance activities, largely initiated by non-government organisation microfinance institutions (NGO-MFIs), predominantly deal with loan and life insurance products for micro borrowers, followed by health insurance. In the absence of appropriate expertise and a regulatory regime conducive to growth, microinsurance activities have proceeded in a disorganised manner. This was evident in absence of any uniformity in product designs, types, and modalities of available microinsurance schemes through NGO-MFIs.

Recognising this regulatory void, the Government of Bangladesh (GoB) established the Microcredit Regulatory Authority (MRA), the Insurance Development Regulatory Authority (IDRA) and the Insurance Act of 2010. The Palli Karma Shahayak Foundation (PKSF), a semi-government MFI coordination body, has developed a draft microinsurance Policy for MFIs that spells out, in detail,

the mechanisms through which MFIs should conduct microinsurance activities. However, the draft policy does not have any provisions for or references to microinsurance activities undertaken by private insurers. Moreover, the draft does not have any provisions for public-private or MFI-private insurer partnerships for promoting microinsurance.

In view of the above, the paper recommends expanding the existing microinsurance market to make microinsurance more inclusive of low-income groups, designing products that are tailored to the socio-economic and cultural realities of the country, establishing regulations to facilitate collaborative relationships between MFI-NGOs and private insurers, and facilitating reinsurance for microinsurance schemes at both the national and global levels.

1. Introduction

In recent years, climate-related extreme events have increased in both frequency and magnitude (IPCC, 2012). Scientists all over the world attribute these increases in climatic events to human-induced climate change, with very high confidence (IPCC, 2007; IPCC, 2012). For some low-income countries, losses due to climate-related events translate into significant losses in GDP. In Bangladesh, for example, the three floods of 1998, 2004 and 2007 caused economic losses ranging from USD 1.2 billion to nearly USD 3 billion for each event – 1 to 2 percent of the country's total GDP (Khan, 2012). The agricultural sector, which accounts for the majority of the workforce in least developed countries (LDCs), is likely to be affected most due to extreme weather events like cyclones and floods (Khan and Islam, 2009). Therefore, the lives and livelihoods of the poor are most affected, and will continue to be hit hardest. To mitigate these impacts – and address residual losses and damages - new and comprehensive risk management strategies are required.

Risk management has three central components: risk reduction, risk retention and risk transfer through insurance. The World Bank and the US Geological Survey estimated that economic losses worldwide from natural disasters in the 1990s could have been reduced by USD 280 billion if USD 40 billion had been invested *ex-ante* – or before the onset of the disaster - in disaster risk reduction (DRR) measures (World Bank, 2004). Every dollar spent on risk reduction and transfer saves approximately seven dollars in relief and reconstruction (Ibid).

Those most affected by floods and cyclones are low-income households ...

Bangladesh is highly vulnerable to extreme events - particularly floods and cyclones – due to the fact that it is a low-lying delta. The three massive river systems (the Ganges, Brahmaputra and Meghan) that flow through the country are prone to significant upstream flooding almost every year. Meanwhile, a large part of this deltaic country lies just above mean sea level, and coastal populations are frequently exposed to tropical cyclones and related storm surges. Those most affected by floods and cyclones are low-income households, who have limited resources and coping mechanisms to deal with any sudden loss of income or assets (ADB, 2011). To address this, significant resources are required for

disaster management, including risk reduction, recovery and preparedness.

Defining Microinsurance

Microinsurance can be defined as an affordable subset of a financial service that uses risk-pooling to provide compensation to low-income and poor individuals, households or groups that are adversely affected by specific risks (Hasan, 2007). While there may be great variance between different microinsurance schemes, they generally share a number of key characteristics, including:

- a) Specifically targets low-income and poor individuals and households;
- b) Designed to pool risks faced by the insured,
- c) Pricing is based on willingness to pay, and is proportional to the likelihood and cost of the risks involved (Churchill 2006);
- d) Products are developed in collaboration with the communities they are supposed to benefit; and
- e) Products must be of substantive value to the poor in terms of addressing their vulnerability to poverty (Ahsan, 2009).

Traditional coping mechanisms, such as borrowing from relatives, selling property, or using microcredit and personal savings are inadequate...

For Bangladesh and other countries with extensive exposure to disasters – including climate-related extreme events – structural measures for the management of disaster risks and their consequences are not always effective. For example, the building of polders – low-lying land surrounded by embankments – in the coastal belt of Bangladesh has provided only moderate protection against floods. Thus non-structural risk management measures, like microinsurance, including crop insurance for small-scale farmers, may be

an effective alternative. The rationale is that poverty and vulnerability to climate change feed each other, and this nexus warrants that climate change policies work in concert with poverty reduction policies. Traditional coping mechanisms, such as borrowing from relatives, selling property, or using microcredit and personal savings are inadequate when poor farmers with almost no social safety nets to avail of are exposed to risks beyond their means to cope. Therefore, microinsurance, customised to specific needs of the poor, may be an effective instrument to address loss and damage from climate change impacts.

Loss and damage is a term that originated in the insurance industry. It first emerged as a term in the global climate change negotiations in 2007 in the Bali Action Plan (UNFCCC, 2007), the result of negotiations at the thirteenth Conference of the Parties (COP 13). The rise in prominence of loss and damage under the United Nations Framework Convention on Climate Change (UNFCCC) can be attributed to recognition of the failure of mitigation and adaptation to reduce the impacts of climate change. Loss and damage has been described as the “impacts on human systems, which are often channeled through the negative impacts of climate change on natural systems” (UNFCCC, 2012). For the purposes of this paper loss and damage will be considered to be those impacts of climate change that will neither be mitigated, nor adapted to.

Four years after it first emerged in the UNFCCC process, a work programme on loss and damage was established in December 2010 at the 16th Conference of the Parties (COP 16) in Cancun (UNFCCC, 2010). The purpose of this work programme was to further understand loss and damage from climate change impacts and explore possible mechanisms to reduce them. At COP 18 in Doha in December 2012 Parties decided to continue the work programme and to establish institutional arrangements, such as an international mechanism, to address the issue of loss and damage in developing countries (UNFCCC, 2012). All of these developments have led to greater interest from a range of stakeholders in insurance as a risk-sharing and risk-pooling mechanism as one of multiple approaches that can work in concert to address loss and damage.

An estimated 90 to 94 percent of Bangladeshi's have no access to insurance services...

Insurance is a financial instrument used for purchasing potential risk. The size of the insurance market can be viewed not only as an indicator of development, but also as an indicator of the social and cultural fabric of a society. In many low-income countries, where the poor live at a subsistence level, but with strong informal bonds and kinship support within the community, insurance penetration – gross premiums as a percentage of total GDP – is extremely low. In Bangladesh, the rate of insurance penetration is a mere 0.9 percent (World Bank, 2010). An estimated 90 to 94 percent of Bangladeshi's have no access to insurance services, and the majority of those who hold policies are from upper- or middle-income households (ADB 2009; Roth et al., 2007). Due to this absence of insurance coverage, the Government of Bangladesh (GoB) and other national and international actors spend significant sums of money on post-disaster relief. This, in turn, creates a general expectation that external actors will continue to rescue affected communities in the aftermath of any disaster, further undercutting the market for affordable microinsurance products (Khan and Islam, 2009). According to Ahsan et al. (2010), this persistent absence of insurance coverage among poor segments of the population should be viewed as a market failure. As such, corrective actions should be undertaken to stimulate uptake in microinsurance products that provide protection against loss of life and assets for the poor and vulnerable – especially as it is this population that is expected to bear the brunt of increasingly severe climate change impacts.

In view of the above, the present study will analyse several key issues pertaining to Bangladesh's microinsurance market and regulatory framework, including the scope of microinsurance activities and relevant research, the existing legal, policy and institutional framework of microinsurance, and current barriers to expanding the protection offered by these products. The paper will conclude by suggesting how insurance products in Bangladesh could be better designed in order to address loss and damage from the impacts of climate change.

2. Review of Microinsurance Research and Activities in Bangladesh

2.1. Microinsurance Providers and Products

Microinsurance – in the form of health insurance - was first introduced in Bangladesh in the 1970s by an NGO

called *Ganoshasthya Kendra*. Today, there are over 60 microinsurance providers and over 25 million subscribers in the country's microinsurance market, which grew by 33 percent between 2008 and 2009 (Hasan, 2007; Ramm 2012; World Bank 2010).

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Within this sector, there are three types of organisations: non-government organisation microfinance institutions (NGO-MFIs), which dominate the sector, private insurance companies, and two state-owned corporations: the *Sadharan Bima* Corporation (SBC), a general insurer, and the *Jabin Bima* Corporation (JBC), a life insurer.

The NGO-MFIs, which dominate Bangladesh's microinsurance sector, may be further sub-divided into smaller, predominantly regional organisations, and large national institutions. The three largest national NGO-MFIs – BRAC, *Grameen Kalyan* and *Proshika* – account for the majority of the country's microinsurance clients, a fact that can largely be attributed to the broad organisational infrastructure of these established microcredit groups (Ibid). While smaller, regional-level NGO-MFIs account for a much smaller proportion of the microinsurance market, they generally offer a wider variety of microinsurance products and have a greater number of policy-holders from low-income groups, (Ramm, 2012). In total, it is estimated that approximately 20.1 million Bangladeshis are enrolled in various microinsurance schemes through NGO-MFIs (Hasan, 2007).

Private insurers, led by Delta Life Insurance, began to wade into the microinsurance market in the late 1980s, inspired, reportedly, by the growing success of the Grameen Bank and other microcredit schemes. Currently, private insurance companies offer a variety of microinsurance products including *Gono-Grameen Bima* (general rural insurance), *Grameen Jibon Bima* (rural life insurance), and *Daridra Bimochone Jibon Bima* (life

insurance for poverty alleviation), but most of these schemes offer products very similar in terms and conditions (Hasan, 2007). It is estimated that roughly 4.5 million Bangladeshis are enrolled in some type of microinsurance scheme through private insurers (Hasan, 2007).

... roughly 71 percent of all microinsurance products supplied in Bangladesh consist of credit life and other types of loan insurance ...

Today, roughly 71 percent of all microinsurance products supplied in Bangladesh consist of credit life and other types of loan insurance, which, with the notable exception of BRAC, are mandatory when taking out a microcredit loan from most NGO-MFIs (Hasan, 2008; Ahsan et. al., 2010). These policies ensure that outstanding loans are covered in the event of death (and sometimes disability) and serve as a safeguard mechanism for the lending activities of NGO-MFIs (Hasan, 2008; Ahsan et al., 2010). As tables 2 and 3 (below) demonstrate, credit-life is, by far, the most widely held microinsurance product on the market.

As health issues account for roughly a third of microcredit defaults, micro-health insurance schemes, have also emerged as another product sold by NGO-MFIs to guarantee the repayment of loans (Zaman, 2012). These schemes, sold by only 14 providers and accounting for only 6 percent of all NGO-MFI products, are also subsidised as a social assistance program for low-income households (Hasan, 2007; Zaman, 2012; Evans, 2011). Nevertheless, in a country where an estimated 87 percent of the population has inadequate access to healthcare services, there may be opportunity for growth (Howlader et al., 2000).

At least one survey has found that household willingness to pay for the healthcare of women and children exceeds 80 percent (Ibid). The anticipated impacts of climate change will affect the health and well being in a variety of different and complex ways; for example, increased frequency and severity of extreme events may increase exposure to hazards and heighten the risk of injury or death, while shifting weather patterns and salt-water intrusion will affect crop yields, leading to higher instances of malnutrition. Micro-

Table 1: Distribution of Insurance Schemes by Types of Insurance of NGO-MFIs (Hasan, 2007)

Name of Products	Number of schemes	Percent share of market
Loan insurance	57	71
Life insurance	13	16
Health insurance	5	6
Livestock insurance	4	5
Property insurance	2	2
Total	81	100

Table 2: Product Coverage of Microinsurance Providers (Ramm, 2012)

Product	<i>Out of 95 NGOs/MFIs</i>	<i>Benefits</i>
<i>Life</i>	95	97 percent credit life 85 percent normal death 64 percent accidental death 20 percent disability
<i>Health</i>	5	100 percent hospitalisation 60 percent outpatient & emergency care 40 percent laboratory test, medicine, and child delivery services
<i>Property</i>	3 (for livestock a mandatory condition of loans)	67 percent stock 33 percent poultry

health insurance could prove to be a valuable instrument to address this aspect of climate change-related loss and damage.

Aside from the life, credit-life, and health insurance products, there are only a handful of livelihood-related microinsurance plans available for Bangladeshis seeking to protect themselves from catastrophic risks (e.g. drought, floods, etc.). Most of these plans, which are offered by the SBC and a few NGO-MFIs, are effectively credit insurance: they provide loan-protection to clients and creditors in the event that some disease or natural disaster destroys the client's livelihood (Ramm, 2012). As stand-alone microinsurance products, coverage for livelihood-related assets (cattle, aquaculture, crops, etc.) often have high operational costs and high loss ratios (World Bank, 2010), effectively making them financially unsustainable at a premium rate that would be affordable to low-income households – those who need this type of coverage the most.

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This issue has also emerged in previous experiments with crop insurance in Bangladesh. Launched in 1977 by the SBC, Bangladesh's first crop insurance scheme was an indemnity-based policy that covered crop failure resulting from multiple perils (Ferrari, 2007). Under this plan, if inspectors deemed a subscriber's crop to be a "failure", they would receive four-fifths of their

expected crop yield based on the size of their agricultural plot. While it lasted for nearly two decades, financially the program was unsustainable and after incurring losses of over 400 percent it was cancelled in 1995 (Islam, 2012a). The failure of the SBC's crop insurance scheme was largely attributed to unmanageable moral hazard (taking undue risks), inflated loss assessments, and excessive claims resulting from the multiple perils covered – characteristics that have challenged the commercial viability of similar crop insurance schemes around the world (Khan and Islam, 2009; Goodwin, B.K. and Smith, V.H., 1995). In recent years, however, emerging new designs for crop insurance products and a growing need to address climate change-related loss and damage have generated renewed interest in the possibility of reintroducing microinsurance, and specifically crop insurance, to Bangladesh. This resurgence has culminated in the launch of two key pilot projects backed by the Asian Development Bank (ADB), one administered by the *Palli Karma-Sahayak Foundation* (PKSF) and the other by the SBC in collaboration with private insurers.

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In January 2010, PKSF launched the Developing Inclusive Insurance Sector Project (DIISP) with the objective of protecting the livelihoods of the poor, especially women, from death, illness, livestock loss, crop loss and other perils through low-cost insurance services (ADB, 2008). The project, which is financially supported by the Japan Fund for Poverty Reduction (JFPR) and coordinated by the ADB, aims to complete four key objectives by June 2013:

1. Complete a national representative market assessment survey to understand the risk profiles of low-income and poor people;

2. Develop demand-driven microinsurance products, such as life, health and livestock insurance;
3. Prepare draft regulation for microinsurance to strengthen its legal and regulatory status; and
4. Capacity development and greater awareness about microinsurance (PKSF, 2013).

In 2012, the ADB in cooperation with the GoB, the SBC and select private insurers, planned to introduce a weather-index based crop insurance pilot project (Islam, 2012a). In contrast to traditional indemnity insurance, this system provides coverage and calculates payouts based on weather indices that measure the likelihood and extent of crop failure. This project appears promising, as much of the research conducted on crop insurance suggests that weather index-based crop insurance may be more cost-effective to deliver, and is less prone to moral hazards and adverse selection. In a country where 60 percent of the population relies on agriculture – a sector significantly impacted by climate change – as an income source, crop insurance could be an effective approach to address loss and damage from climate change impacts (Global Humanitarian Forum, 2009:18).

2.2. Research and Opportunities

Between 2005 and 2009, several groups conducted feasibility research on crop insurance and related microinsurance schemes in Bangladesh. The North South University (NSU) has carried out two studies on crop insurance, one by its Department of Environmental Science and Management (DESM) and the other by its Economics Department (Aker and Brower, 2006) in partnership with BRAC and the University of Amsterdam's Institute for Environmental Studies (IVM). Additionally, Oxfam Great Britain and the World Bank have also published studies on this issue. The models examined in these four studies, in addition to the SBC's failed crop insurance scheme, are compared and contrasted in Table 1.

Similarities in research findings

Comparing and contrasting the results of these research initiatives, a number of similarities emerge. Specifically:

- All the studies agree that crop insurance, as a form of microinsurance, is not commercially viable (meaning that it can be sustained by only through premium payments by farmers only). This is the case of course anywhere in the world. The studies agree that some level of national or

Table 3: Basic Parameters of Research Initiatives, 2005-2009 (Oostsing, 2009)

Feature	<i>SBC: crop insurance</i>	<i>NSU/DESM Study: crop insurance</i>	<i>NSU-IVM-BRAC: Crop insurance</i>	<i>Oxfam Great Britain: flood insurance</i>	<i>Word Bank: Agriculture risk insurance</i>
Target group	Farmers	Farmers (crops)	Individual families	Char/river bank communities	Farmers
Geographic focus	National	National	People living in disaster-prone riverines (embanked/unembanked), wetlands & coastal areas	Shirajgonj and Gaibandha (pilots)	Drought prone areas
Coverage	Crops and livestock	Crops	Crops	MFI investments (crops, assets)	Crop and livestock
Risks covered	Flood, cyclone, hail, windstorm, drought, disease, pest and insects	1 - 2 perils according to risk profile specific area	Floods	Catastrophic floods	Drought
Distribution	Banks giving agricultural loans	Cooperatives of farmers with similar risk profile	Individual marketing; by government	Through MFI: MNS and SKS	MFIs and banks giving agricultural credit
Funding	Farmers (plus public funds covering deficit and operational cost)	Farmers, government, international funds	Individual payments	Farmers and MFIs later: government & adaptation funds	Farmers and additional public funds

international public funding is required to make the schemes financially feasible.

- There is general agreement that many large-scale microinsurance schemes could benefit from some form of public private partnership, wherein MFIs (and banks) use their outreach networks to market microinsurance products, private insurers provide capital to bolster liability reserves, and the SBC or other international insurers play a role in reinsurance.
- In most initiatives, the most common approach has been to link insurance with other financial services of MFIs or agricultural banks.
- There is general agreement that coverage should be limited to specific types of perils – approximately half of those covered under the SBC's failed scheme. Cyclone insurance, in particular, is not financially feasible.

- With the exception of the SBC project, all of the initiatives examined were research undertakings. No specific products have been developed and no pilot projects have been implemented. Therefore no specific data on financial feasibility is available.

Differences among these initiatives

Important differences are also evident in the conclusions of these initiatives:

- The NSU-IVM-BRAC study concluded that flood insurance could be marginally viable if the probability of significant flooding was low (roughly every eight years), but was unsustainable at higher risk levels (Akter, et al., 2008). In contrast, the World Bank study dismissed flood insurance of all kinds as completely unviable, and focused instead on drought as the peril.

- None of the studies recommends traditional indemnity-based insurance; instead, they present different options index-based insurance systems
- Oxfam Great Britain is working on an index-based weather insurance scheme, with pay-outs dependent on a proxy-indicator (e.g. rainfall) that is correlated to a probable loss (e.g. crop loss due to floods);
- NSU/DRESM proposes an area-based index insurance, wherein loss estimates and payments take place on an aggregate level, in this case an area with similar characteristics;
- The World Bank has explored three possible models: area yield, index-based crop and index-based livestock insurance. The study determined that crop insurance may be marginally viable in specific areas, but livestock coverage appeared more feasible.
- New pilot projects and a burgeoning research interest in microinsurance – and crop insurance in particular – as a way to shield the most vulnerable from climate change-related loss and damage bodes well for the development of future microinsurance initiatives in Bangladesh. Successfully implementing these schemes, however, requires that they be operationally cost effective, and offer insurance products that are both accessible and desirable for vulnerable groups. As a tool to assist Bangladesh in adapting to the impacts of climate change, the government singled out microinsurance as a priority project in its 2005 National Adaptation Programme of Action (NAPA). If microinsurance is to serve as a protective measure to address loss and damage from the impacts of climate change, a renewed effort will be required to develop products that meet the unique needs of Bangladeshis.

3. Microinsurance Needs in Bangladesh

According to Churchill (2006: 12), “Microinsurance is the protection of low-income people against specific risks in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved.” While only one percent of Bangladeshis are likely to experience a crisis such as drought, flooding, or crop failure, those who do generally have few

coping mechanisms to absorb these shocks (BBS, 2010).

Microinsurance is the protection of low-income people against specific risks in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved

After disasters, these households predominantly seek protection through ‘self-insurance’ methods such as relying on savings (34 percent), borrowing from friends and family (17 percent), or taking out loans (15 percent) (Ibid). While enabling short-term survival, reliance on these informal insurance structures ultimately exacerbates their insecurity and precludes lasting improvements in human and economic welfare. As such, if a functioning market for microinsurance products that alleviate these risks can be developed, it could play a critical role in protecting low-income households from livelihood shocks.

While contributing 19 percent of Bangladesh’s GDP (Table 4), agriculture is the primary occupation for 36 percent of the total population, a figure that increases to 46 percent for those living in rural areas (World Bank 2010, BBS, 2010). This means that a significant percentage of the population is dependent on agriculture as a source of income. Many more depend on it, to one degree or another, for subsistence. Accordingly, a significant proportion of the population is highly vulnerable to potential slow onset impacts of climate change, which threaten to alter weather patterns and increase soil salinity in many coastal areas (GoB, 2005). To protect this group against potential loss and damage to crops, livestock, and aquaculture, microinsurance products should be developed specifically to cover these types of livelihood assets.

3.1. Product Design: Matching Designs and Need

At the above analysis shows, loan and life insurance dominate Bangladesh’s microinsurance market, while policies covering health and livelihood related assets are, in the first case, underutilized, and in the second, largely unavailable. If microinsurance is to provide

affordable and desirable protection for those exposed to climate change-related loss and damage, new solutions are required to address existing barriers in both supply and demand for these types of insurance products.

Table 5 outlines key issues currently facing policy holders and insurance providers in Bangladesh that have limited the scope and scale of microinsurance in the country. On the demand side, even where such products are available, consumers from low-income households are discouraged from purchasing policies because they are complex and often carry high premiums.

On the supply side, NGO-MFIs and insurance companies are discouraged from marketing these products to poor households because they carry high transaction costs, yield irregular income flows and may be more susceptible to moral hazard and adverse selection. Bridging this divide will require new and innovative solutions.

Weather index-based insurance is one new type of product that could provide protection against climate change-related loss and damage. As discussed in the research section of this paper, this model reduces adverse selection, moral hazard and administrative costs, and has generated significant international interest. In Jamaica, Grenada and St. Lucia, insurers experimenting with this approach have developed two insurance products. The first of these products is aimed

at providing livelihood protection while the second is oriented towards protecting loan portfolios (Warner et al., 2012: 24). The basic needs for implementing this approach in Bangladesh are accurate and timely weather and climate data and appropriate network of weather stations, but additional regulations may also be required to ensure the accountability of providers and that potential clients are confident in the services (Sonia, 2012). Given the cost-effectiveness of this model versus traditional methods of crop insurance (Table 6) it is clear that, as long as there is adequate infrastructure and demand, these products are much more viable than their predecessors.

If premiums are too high, those most vulnerable to climate change-related loss and damage will not be able to afford protection

For aggregate risks covered by products such as crop insurance, sustainability depends not only on the breadth of membership, but also on ensuring that premiums generate enough capital to sustain an adequate cushion of liability reserves. If premiums are too high, those most vulnerable to climate change-related loss and damage will not be able to afford protection. In the case of disaster risk insurance, the

Table 4: Basic Indicators of the Economy and Microinsurance in Bangladesh (World Bank, 2010)

Parameters	Percent or Value
Population living on less than US \$2 per day	81 percent
Agriculture area as a percentage of total land area	69.5 percent
Agriculture contribution to GDP	19 percent
Insurance penetration (GDP/gross premiums)	0.9 percent
Premium per capita	USD 4.4
Number of lives covered by formal and informal organisations	8.1 million
Potential number of lives for coverage	87 million
Total microinsurance gross premium, (all providers), 2008	USD 32 million
Total gross claims paid by Microinsurance providers	USD 2.45 million
Potential gross premiums (assuming 0.9 percent penetration)	USD 400 million
Microinsurance providers	95
Growth of Microinsurance business during 2008-2009	33 percent
Market share of insurance cost in 2008	79 percent
Total number of delivery channels	3
Channel which has the maximum outreach	NGOs (4.6 million)
Microinsurance products	
Number of product types offered	Two
Maximum outreach	Credit Life
Product with highest premium received per covered life	Personal accident and disability
Product with lowest claims ratio	Personal accident and disability

Table 5: Barriers to the development of Bangladesh's Microinsurance Market (Author, 2013)

Policyholder issues	Product design & other issues of Microinsurance
• Lack of appropriate products and services • High cost of private insurance • Affordability of premiums • High cost of commercial insurers • Inability to understand complex insurance schemes • Inaccessible policy language • General lack of confidence in the insurers • Low willingness to pay for coverage	• High transaction costs • Irregular income flows • Difficulties in controlling moral hazard² and adverse selection³ • Lack of product design knowledge and capacity • Erroneous premium pricing (e.g. failure to account for inflation) due to inadequate actuarial capacity • Inadequate capital to cover large losses • Absence of an enabling regulatory framework • Lack of reinsurance

poorest of the poor will almost certainly need financial subsidy regimes. Indirect assistance, for example, to support livelihoods, income diversification and/or

Table 6: Features of Traditional Crop Insurance and Index Insurance (Ferrari, 2007)

Function	<i>Traditional</i>	<i>Cost</i>	<i>Index</i>	<i>Cost</i>
<i>Establishing yield of insured</i>	Insurers must establish farm- district-level yield	HIGH	Payout based solely on the measured index (such as rainfall)	LOW
<i>Underwriting</i>	Requires assessment of individual or local risk	HIGH	Not required, though insurers need to screen	LOW
<i>Policy sales</i>	Sales process requires high skills because it involves underwriting decisions	HIGH	Sales process requires good product knowledge, but no major underwriting decisions occur in the sales process	MED
<i>Paperwork and technology</i>	Generally complex. Need to record yield history, crop establishment during the season and farm and field details	HIGH	Simple certificates or coupons	LOW
<i>Field inspection</i>	Need to check for emergence of crop	HIGH	Not required	LOW
<i>Loss Adjustment</i>	Need to inspect crop damage and adjust claims	HIGH	Not required: Payments based on measured index	LOW
<i>Claims payment</i>	Settlement of claims	LOW	Settlement of Claims	LOW

microinsurance schemes (Linnerooth-Bayer et al., 2012). Therefore, an inherent trade-off exists between subsidising microinsurance to ensure coverage for the poor, or encouraging business models that are more financially sustainable, but exclude the most vulnerable.

There are, however, many potential measures that may be taken to design cost-effective microinsurance

education could offset premium costs, and would be less politically controversial than a direct subsidy to insurers.

This is important, as sudden subsidy cuts resulting from political changes in government or donors could be conditional upon participation in microinsurance schemes delivered by either private insurers or NGO-

MFIs. Subsidising the participation of the poor, either directly by charging lower premiums for low-income households or indirectly through livelihood assistance, could yield higher participation rates. Once communities become accustomed to insurance services, and enjoy the benefits, offered either by the MFIs or by the insurance companies, subsidy regimes can be gradually phased out, making the scheme more financially sustainable over the long term (Midgley, 2011).

However, there are reasons to be cautious of this approach. Several studies have shown that, to varying degrees, those whose participation is subsidised abandon the scheme when premiums rise (Thorton et al., 2010; Fitzpatrick et al., 2011)

Subsidising the participation of the poor, either directly by charging lower premiums for low-income households or indirectly through livelihood assistance, could yield higher participation rates

In many cases, the problems faced by private insurers and NGO-MFIs are very different: NGO-MFIs lack the capital reserves necessary to provide such products at a premium that would be affordable to the target clientele, as well as the actuarial expertise needed for such complex products; meanwhile, the dominance of NGO-MFI's in Bangladesh's microinsurance market dissuades many private insurers from developing

livelihood insurance products for this group, as they lack the outreach capacity to build a viable client base. One possible way to address these problems is to develop microinsurance delivery models that leverage the strengths of both insurance providers.

In addition to overcoming broad structural barriers, insurance providers also need to develop products that appeal to the unique needs of consumers. If microinsurance schemes are to provide effective protection from climate change-related loss and damage for low-end markets, products must be appropriate to the socio-economic circumstance and culture of the vulnerable poor. To this end, the government has a role to play by creating a regulatory framework that is conducive to the growth of this market.

4. Policy and Institutional Framework

4.1. Current Policy Regime

At present, the GoB has no formal legal or policy framework to guide the operations of micro insurers. There are, however, several policy documents that are currently being used to guide firms operating in Bangladesh's microinsurance sector:

1. The Insurance Act of 2010, which replaced the Insurance Corporations Act of 1973, mentions the possibility of insurance-based social protection systems and microinsurance. However, the provisions under the Act do not include anything about coverage of the poor by the insurance industry (Ahsan et al., 2010);
2. The Microcredit Regulatory Act of 2006 recognises insurance services of licensed MFIs as a discretionary component of their activities beyond their core mission of micro lending. Each licensed MFI provider, therefore, has the

Table 7: Number and Type of Insurance Companies in Bangladesh (2007) (Khan and Islam, 2009)

Type of Insurance Company	Number of Companies
Public Sector Life Insurance Company	1
Private Sector Life Insurance Company	17
Total Life Insurance Companies	18
Public Sector General Insurance Company	1
Private Sector General Insurance Company	43
Total General Insurance Companies	44
Total Insurance Companies	62

authority to “offer different types of insurance services ... for the loan recipients and members of their families (MRA, 2006, Article 24). The document also establishes minimum capital reserves of USD 3 million for providers wishing to sell to life insurance and USD 4 million for those wishing to sell non-life policies (Ramm, 2012). Additionally, these regulations allow mutual insurance associations with reserves exceeding USD 15 million to establish cooperatives (but none have yet been established) (Ibid). Generally, capital adequacy is linked to the risk level of an insurer’s business. However, capital requirements for commercial insurers and NGO-MFIs should be different, since the latter deal with national level MFIs, or with commercial insurers for microinsurance services.

...the GoB’s 2005 NAPA states that it will “[explore] options for insurance and other emergency preparedness measures to cope with enhanced climatic disasters

3. The Ministry of Health and Family Welfare’s Draft National Health Financing Strategy identifies micro-health insurance as potential option (Ministry of Health and Family Welfare (2011). However, the strategy does not provide specifics about the type or scope of microinsurance schemes being considered.
4. Specifically in the context of climate change-related loss and damage, the GoB’s 2005 NAPA states that it will “[explore] options for insurance and other emergency preparedness measures to cope with enhanced climatic disasters (GoB, 2005: xvi).” While this document does not specifically refer to microinsurance, identifying “improved risk reduction of key vulnerable sectors” is outlined as a key long-term goal of this insurance mechanism, which implies that low-income households will receive some sort of coverage (Ibid: 42).

4.2. Institutional Framework in the Insurance Sector

The Insurance Corporations Act of 1973, which inherited its basic provisions from the British Indian Insurance Act of 1938, established two state-owned insurance corporations: *Jiban Bima* Corporation (dealing with life insurance) and the aforementioned SBC (dealing with non-life general insurance). These were the only two corporations with a mandate to issue insurance policies until 1984, when the sector was opened to private insurance companies. While the industry was previously governed by the Ministry of Commerce, regulatory authority over the 43 general insurance and 17 life insurance companies (Table 7) currently operating in Bangladesh is now exercised by the Ministry of Finance’s Insurance and Internal Trade Section.

For many years, many NGO-MFIs involved in micro-insurance operated in a regulatory void, in which they were not registered with the Insurance Directorate and were not regulated or supervised under the Insurance Act. The involvement of NGO-MFIs in the microinsurance sector was formalised by the 2006 MRA Act, which granted explicitly authority to provide insurance services to their members (MRA, 2006). Following the passage of the 2010 Insurance Act, which included a compulsory registration clause, NGO-MFIs are now being asked to register with the Insurance Development and Regulatory Authority (IDRA) and abide by its regulations.

4.3. Gaps in the Existing Policy-Institutional Framework

The absence of a comprehensive and clear policy, regulatory and supervisory framework creates uncertainty among firms and customers, and inhibits the growth of microinsurance markets (IAIS, 2013). While the country’s financial sector has undergone significant reform since the 1990s, the GoB has largely failed to address many of the institutional and regulatory gaps within its insurance sector. If the emerging microinsurance market is to be inclusive and facilitate the development of the type of products that protect low-income households against the impacts of climate change-related loss and damage, Bangladesh must take active steps now develop the sector (IAS, 2013).

...the GoB has largely failed to address many of

the institutional and regulatory gaps within its insurance sector

The International Association of Insurance Supervisor's (IAIS) is a global standard setting body established to promote effective insurance guidelines and develop fair and stable insurance markets across the globe (IAIS, 2012). To this end, the IAIS has developed a set of a set of core principles on insurance, which provide clear guidelines for structural change within Bangladesh's microinsurance sector. Within this framework, there are a number of key improvements that could be made to improve how Bangladesh regulates its insurance sector.

...regulatory measures may also be required to overcome potential market failure in the provision of microinsurance products covering livelihood-related assets for households below the poverty line

Current international standards require that the supervisory authority be able to regulate the activities of insurers and facilitate the development of a stable and efficient insurance market in an independent and transparent fashion. Increased transparency also means that there must be clarity, and certainty, about which institution(s) will serve as Bangladesh's dedicated regulatory authority for insurance issues. To this end, the GoB's decision to bring private insurers and NGO-MFIs under the IDRA's authority is an important step to establishing a common regulatory framework for the country's microinsurance sector. However, additional legislative clarification may be required to define the roles of other players, for example, the Ministry of Finance, Office of the Chief Controller of Insurance, and the Microcredit Regulatory Authority.

Beyond the issue of bringing Bangladesh in line with international standards, additional regulatory measures may also be required to overcome potential market failure in the provision of microinsurance products covering livelihood-related assets for households below the poverty line. One potential example of such

legislative measures can be found in neighboring India, where the Insurance Regulatory and Development Authority (IRDA) has introduced provisions which state that:

- a) All the private sector insurance companies are required to cover rural areas and persons below the poverty line;
- b) Each company must ensure at least 25,000 low-income people by end of their 5 years of operation or face losing their license to operate, and
- c) Public insurers must increase coverage of low-income segment of the population (IRDA, 2000).

This system enables – or, more accurately, compels – private insurance companies to cross-subsidise a low-income market through profits earned in other, higher-income segments of the insurance market. While this approach may seem a bit heavy-handed, some regulation based on a partnership with the private sector is needed to ensure coverage for this not-so-lucrative segment of the insurance market for the long term.

In addition to the above suggestions, the following paragraphs provide specific suggestions for targeted reforms that could serve to improve Bangladesh's existing regulatory microinsurance framework:

Formal Regulation: Since the national microinsurance market is not well-organised, and low-income individuals and households may not fully understand the modalities of pooling and shifting risk, the issue of consumer protection becomes very important. While better regulation may be needed to guard against opportunistic behaviour by both formal and informal insurers, new rules should be flexible, and tailored to the risk character of specifically defined microinsurance products (Ahsan et al., 2010; IAIS, 2013).

Legislating inclusivity: While IDRA guidelines mandate that each insurer offer life or non-life products in the “rural and social sectors” (MRA, 2006, Article 6), these regulations may not be specific enough to insure inclusive coverage. In contrast, India's IRDA sets a quota for the minimum number of rural and low-income households that must be covered by insurance providers. While widening the reach of microinsurance is in the public interest, it is still debated whether compulsion is superior to alternative incentive

strategies. For example, offering corporate tax deductions for insurers whose premium income from “recognised” microinsurance business exceeds some pre-set threshold of total premium income might also be effective. In either case, any new policies that seek to guide Bangladesh’s microinsurance market should be based within a larger framework of financial inclusion (IAIS, 2013).

Uniform reporting standards: All microinsurers, commercial and non-commercial, should use a uniform template to list their products and report their performance. This would enhance transparency and comparability of costs and benefits between the various schemes of different insurers. This practice could also serve to shift the focus from marketing to efficiency, enhancing cost-effectiveness and competition among insurers and, hopefully, generating lower costs for consumers.

As credit and insurance are fundamentally separate activities, how MFIs do business in these areas should be governed by different regulatory directives, and require different licensing arrangements

Separation of Credit and Insurance Activities: As credit and insurance are fundamentally separate activities, how MFIs do business in these areas should be governed by different regulatory directives, and require different licensing arrangements. To make this separation less burdensome for MFIs, and to encourage a greater number of MFIs to offer microinsurance services, the regulatory authority should consider discounting the microinsurance licensing fee for MFIs who already have a microcredit license.

Adverse selection, risk pooling: While small-scale operations may be efficient for microcredit, microinsurance requires large-scale risk pooling, and cost-effectiveness cannot be achieved without a broad client base. To address this issue, an element of compulsion, both on the part of the insurers and the insured, can be used to increase the client base. One potential model can be found in India, where IRDA

regulations require that subscriptions from the rural poor comprise a specified share of a commercial insurer’s total policy coverage. Alternatively, mandating insurance coverage as a precondition of agricultural loans – which comprise over 20 percent of all microcredit loans (BSS, 2010) – could lead to substantially greater uptake and risk pooling.

In the absence of an effective coordination process, the provision of service by heterogeneous insurers may ultimately undermine the protection of the policyholder and inhibit market development

Regulatory Coordination: This is a very important issue for an emerging area like insurance for the poor (Warner et al., 2012). In the absence of an effective coordination process, the provision of services by heterogeneous insurers may ultimately undermine the protection of the policyholder and inhibit market development. As there are two types of organisations currently providing microinsurance services in Bangladesh – commercial insurers and MFI-NGOs, which are regulated by the MRA and IDRA, respectively – there needs to be more effective coordination. One possible solution lies in the creation of a coordinating body within the Ministry of Finance, which houses both the MRA and IDRA.

Design, Accumulation and Investment of Reserve Funds: There are currently no guidelines to allow regulators to examine the rationale of an insurance provider’s chosen premium structure (the actuarial basis) and the adequacy of their reserve fund. This omission is important, because such assessments provide regulators with a clearer picture of the long-term sustainability of the scheme. A recent analysis of MFI run insurance (typically credit or credit-cum-life policies) in Bangladesh revealed that at least for large insurers, less than 10 percent of the annual premium collected was paid out in indemnity claims, a result that brings the actuarial basis of high premiums into question (Khalily et al., 2009).

Actuarial Best Practices: In conjunction with efforts to regulate reserve funds, additional guidelines on

actuarial best practices might help to provide additional protection against microinsurance schemes that fail as a result of inaccurate actuarial analysis – which has been an issue before in the Bangladeshi (Uddin, 2009). This cautious step is especially prudent to ensure stability in the event that emerging and experimental schemes, such as weather index-based insurance, are scaled-up by private insurers and NGO-MFIs.

Policy Delinquency: Some microinsurance policies, like other insurance contracts, may be discontinued by the insured for both voluntary and involuntary reasons, allowing them to collect the accumulated “cash surrender value”. In case of registered insurers in Bangladesh, the provision is that if premiums have been paid for at least two consecutive years (e.g. in endowment life policies), the policy qualifies for a surrender value (Uddin, 2009). This amount may vary, but is typically less than total premiums paid. In the case of MFIs with low cost operations, regulatory direction is needed to establish greater certainty about the rights of both parties in instances of policy delinquency.

Audit and Supervision: While external audits are mandatory for each MFI under Bangladesh Standard of Auditing (BSA) guidelines, the MRA states that it intends to further regulate inspection, investigation, and auditing of insurance companies through a manual – to be released at a future date – detailing the modalities to be followed in establishing adherence to the Act (MRA, 2006, Article 21.10).

...one solution to address the reluctance of international reinsurance firms to participate in the Bangladeshi market is for the GoB to authorize the SBC to assure reinsurance contracts

Reinsurance: International reinsurance companies are reluctant to provide reinsurance facilities to low-income countries, additional capital that Bangladeshi providers require in order to make some types of microinsurance products financially feasible. To address this issue, an improved market environment is necessary to foster confidence in the enforcement of contracts and the

strength of regulatory institutions. Over the long-term, this will mean establishing an insurance regulatory and supervisory regime that aligns with international standards, enabling the growth of reputable firms that can secure the trust of international reinsurers. On a short- or medium-term basis, however, one solution to address the reluctance of international reinsurance firms to participate in the Bangladeshi market is for the GoB to authorize the SBC to assure reinsurance contracts. To attract reputable reinsurers, it is essential that firms engaged in the microinsurance sector are fully registered and in full compliance with all regulations. Furthermore, any donor or state subsidy regime to promote reinsurance should communicate the long-term sustainability of microinsurance schemes.

By initiating meaningful reform for Bangladesh’s insurance sector, the GoB can facilitate the development of a stable and vibrant microinsurance market, which will meet the following criteria:

1. Growth of micro-insurance services is organised and orderly;
2. Adapted to local socio-cultural contexts;
3. Level playing field for all insurance companies including the NGO-MFIs and state owned insurance corporations;
4. Existence of unambiguous rules and regulations rooted in international best practices; and
5. Operational independence for the regulatory authority (Ahsan et al., 2010).

5. Addressing Insurance Illiteracy among Stakeholders

While Bangladesh’s extremely low insurance penetration rate (0.9 percent) can be attributed to various economic and institutional factors, social and cultural influences have also played a significant role (World Bank, 2010).

...a lack of awareness about insurance products, particularly among the poor, is the biggest hurdle to implanting insurance mechanisms to address

loss and damage from climate change impacts

Generally, religious influence has led many Bangladeshis to become particularly fatalistic in their perceptions of risk, attributing untoward events as acts of god, and demonstrating reluctance to mitigate against potential threats to their lives and livelihoods. In some instances, hesitancy to enrol in insurance schemes was perpetuated by Muslim clerics who argued that conventional insurance is prohibited under Islam. Muslim jurists, however, have ruled that they are permissible if they adhere to principles shared responsibility, joint guarantees, and solidarity – the foundations of Islamic lending. In Bangladesh, there are currently three Islamic insurance institutions (*Takafuls*) providing microinsurance products (Ali, 2009). While these issues have played a role in reducing up-take in microinsurance schemes, a lack of awareness about insurance products, particularly among the poor, is the biggest hurdle to implanting insurance mechanisms to address loss and damage from climate change impacts.

The study identified three key approaches for improving stakeholder literacy

To address this issue, awareness-building activities – like those being undertaken through PKSK's DIISP project – should be pursued to explain the protective benefits of insurance, and the flexible and affordable nature of premiums. A recent policy brief issued by the Munich Climate Insurance Initiative (Warner et al., 2012) emphasises the issue of adequate education and how frameworks for education on risk transfer functions might be applied at the local level. The study identified three key approaches for improving stakeholder literacy:

1. Understanding the concept of microinsurance is paramount and integral to gaining benefits;
2. Cooperation between different MFIs or between MFIs and private insurers can support overcoming the knowledge gap; and
3. Investments in customer education can be one area where the government or donors can assist in making microinsurance schemes more valuable to customers (Warner et al., 2012).

One important way to accomplish these objectives is to ensure that agents responsible for marketing the products have a clear understanding themselves about the nature of the products, and also the tools to effectively communicate their benefits. This should include marketing and other explanatory materials that outline terms and conditions in simple, non-legalistic language, as well as region (or even community) specific training to help agents better understand the unique needs of that market.

... a broader effort is required to communicate the anticipated impacts of climate change in Bangladesh, and how these impacts may affect the lives and livelihoods of low-income households...

Finally, a broader effort is required to communicate the anticipated impacts of climate change in Bangladesh, and how these impacts may affect the lives and livelihoods of low-income households. This is an initiative that must take place across a variety of levels and institutions, with involvement from the private sector, government, and even international actors.

6. Approaches to Microinsurance Delivery Channels to Low-Income Households

At present, there are only three models of microinsurance delivery in Bangladesh: through NGO-MFIs, private insurance providers, and government owned corporations. In most cases, policies are purchased directly from a branch of one of these institutions, most often in conjunction with the issuance of a micro-credit loan (Khan and Islam, 2009). To facilitate the growth of a sustainable microinsurance market, one that can include low-income populations with a high exposure to climate change-related loss and damage, more innovative and flexible alternative service-delivery approaches are needed.

...the partner-agent model – which is mandated for

all microinsurance entities by the government of India – may provide new opportunities to meet the needs of consumers, in a manner that is cost-effective and feasible for providers

The following section explores a number of potential options:

Partner-Agent Delivery Models: Generally, microinsurance schemes take the form of four models (Cohen and McCord, 2003):

1. The Partner-Agent Model where insurers team up with NGO-MFIs to deliver products to the clients;
2. The Community-based Model where the policy-holders are the owners and managers of the scheme;
3. The Full Service Model in which a single entity is responsible for everything related to the insurance scheme; and
4. The Provider Model in which the provider and insurer are one.

While most of the microinsurance schemes in Bangladesh run by the NGO-MFIs are either full service or provider models, the partner-agent model – which is mandated for all microinsurance entities by the government of India – may provide new opportunities to meet the needs of consumers, in a manner that is cost-effective and feasible for providers. Partnerships with private insurance companies might, in some instances, allow NGO-MFIs to secure the actuarial skills and capital reserve base required to make such microinsurance schemes affordable, while private sector partners would gain access to the NGO-MFI's vast network of local agents.

Thus, by adopting this model, microinsurance products that meet the needs of low-income households can be more effectively delivered to the target group through NGO-MFI agent networks, and sustained through the financial backing of other private sector partners. It should also be noted, however, that while this model is

efficient where MFI intermediation is deeply entrenched among the poor, it may also serve to discourage alternative methods of service delivery (Wierdmaier-Pfister and Chatterjee, 2006). A more direct interface among banks, insurance companies and NGO-MFIs is another institution-oriented service delivery approach that might be more comprehensive (Khan and Islam, 2009).

Not only do group premiums help to reduce transaction and administrative costs, but they also help to build a broad risk pool

A market survey done by Hasan (2007) shows that out of the reported 10 private insurers, eight companies expressed an interest in collaborating with NGO-MFIs under a partner-agent model. For this to succeed, however, NGO-MFIs and private companies would need to overcome existing differences in product design. The former usually offer a broad range of products, including loan, life, health, livestock and property insurance, and sometimes cover more risks with a single premium. Private insurers, however, generally focus on specialised life and health insurance products that do not necessarily appeal to the specific needs of low-income markets.

Group Policies: One proven approach to effectively building a microinsurance market, which was widely popular in the initial development of microinsurance schemes, is to offer group policies. Premiums would be charged according to the loss experience of the group, and, in cases of favourable experiences, premiums could be reduced or the surplus passed on to the group. This approach was recently implemented successfully in Malaysia, where a large number of palm oil plantation workers are covered through a union-negotiated agreement (Norwana et. al., 2011). Not only do group premiums help to reduce transaction and administrative costs, which in turn reduces the premium levels (making them more affordable to lower income markets), but they also help to build a broad risk pool.

By offering to convert credit-life policies into equivalent life coverage

once the loan is repaid, the insured may be more likely to continue under the new plan than they would be to enroll in the first place

Duration of coverage: The majority of microinsurance products currently on offer by MFIs in Bangladesh are credit or credit/life type of coverage that expires at the end of loan term, making insurance a transient phenomenon for most Bangladeshis. By offering to convert credit-life policies into equivalent life coverage once the loan is repaid, the insured may be more likely to continue under the new plan than they would be to enroll in the first place.

Life vs. Non-life products: The historical demarcation of carriers of life and non-life risk has been done away with in developed financial systems. One possible model, India's IRDA, allows life micro insurers to act as an intermediary for a general microinsurance company, and vice versa, rather than as a risk carrier. While there are potential negative impacts on competition, pooling risks across product lines would allow an insurer to decrease the cost of offering microinsurance products with life, non-life, and health components – a type of product that may prove fruitful in protecting vulnerable populations from a host of risks associated with climate change (IAIS, 2013).

Information Communications Technology: Technological innovations have profoundly altered banking and microfinancing across the developing world, and many of the lessons and systems that have emerged from this process could be of great benefit to the world of microinsurance. In India, microinsurance policy holders can use their mobile phones to receive updates on premiums, monitor the status of claims, and even ask questions about their policy using Short Message Service (SMS) texts (Premanand, 2012).

ICT based tools can greatly improve both information management and the cost effectiveness of service delivery

In another example from Uganda, "remote transaction systems" that use cell phone technology are being employed by MFIs to sell and service microinsurance contracts at market places, community meetings, and households in remote areas (Ferrari, 2007). Applied in conjunction with traditional awareness raising activities (training, workshops, group discussions, etc.), ICT-based tools can greatly improve both information management and the cost-effectiveness of service delivery (Premanand, 2012; Bester et al. 2008).

7. Potential for Public-Private Partnerships (PPP)

Public Private Partnerships (PPPs) are commonly defined as contractually-guaranteed relationships between public and private sector entities, who pool competencies, resources, and risks to achieve a mutually beneficial objective in a cost-effective and efficient way (Ramm, 2012). There are two basic variants of PPP: the first is a partnership between donors and the private sector, and the second is between the government, private insurers and communities (Ramm, 2012).

In the first instance, donors usually provide technical and capacity building expertise, while private partners serve as risk carriers and product developers (Ibid). In the second, governments establish an enabling regulatory framework, invest in requisite infrastructure, and help to align microinsurance schemes with broader social objectives (Ibid). For their part, private sector insurers may provide technical assistance and administrative services to cover lower-risk segments of the population, while also lending their expertise, data and financial weight to the development and marketing of microinsurance products to low-income markets (Warner et al., 2012; Ramm, 2012). In both models, universities and research centres may also play a supporting role by providing expertise, facilitating the development of new partnerships, and analysing and improving operations.

In the present context, bringing scale and sustainability to Bangladesh's microinsurance market is both a business and social objective...

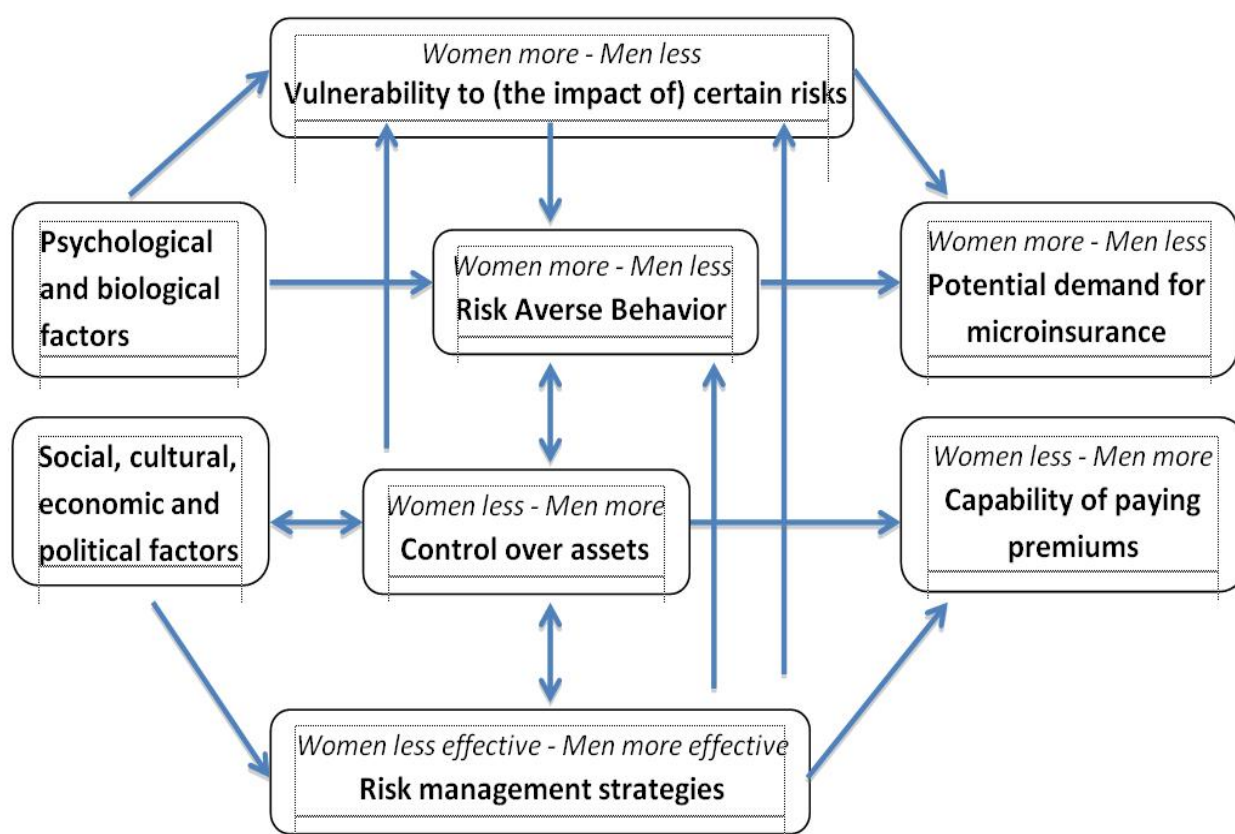


Figure 1: Gender Perspective on Microinsurance (Leeuwen, 2005)

In the present context, bringing scale and sustainability to Bangladesh's microinsurance market is both a business and social objective, which private and public sector actors may be unlikely to achieve independently, for different reasons. From the insurer's perspective, these limitations in the provision of microinsurance are predominantly due to technical risk, the absence of reliable actuarial data, and high transaction costs; from the perspective of government, there is a lack of expertise in product design, and it does not have an adequate "infrastructure footprint" to facilitate effective, large-scale service delivery (Smith et al., 2011; Khan and Islam, 2009). Beyond the costs and logistics of delivering microinsurance schemes that meet the unique needs of populations who are vulnerable to climate change-related loss and damage, broader cultural issues around perceptions of risk must also be addressed.

To this end, there is an additional role for public sector partners to play through initiatives that increase awareness about the impacts of climate change, enabling a disaster risk reduction framework that incorporates microinsurance, and reduce post-disaster dependence on government funding (Warner et al., 2009).

The shape of international financing mechanisms to address loss and damage is likely to be discussed at length at UNFCCC negotiations in the years ahead...

As existing *ex-post* and *ad-hoc* models of financing disaster losses in developing countries fail to provide incentives for mitigation and risk reduction, some governments and non-state actors have suggested a broader international financing approach to address loss and damage related to both sudden events and, slow-onset processes.

The Alliance of Small Island States, for example, has lobbied for the creation of an international insurance pool, with national contributions based on a mix of historical emissions and financial capacity, at climate negotiations for many years (MCII, 2008a). The shape of international financing mechanisms to address loss and damage is likely to be discussed at length at UNFCCC negotiations in the years ahead; as the parameters of

this approach begin to solidify new collaborative possibilities for microinsurance PPPs may also emerge.

8. Gender and Microinsurance

This section discusses how the needs of men and women differ with respect to microinsurance, and how these differences can be better accounted for in the development and communication of microinsurance schemes. In recent years, a global consensus on the “feminisation of poverty” has emerged that acknowledges the significant and disproportional hardship faced by women around the world. Single-mother and woman-headed households are poorer than their male counterparts, and it is estimated that women comprise 70 percent of the world’s poor (Iskenderian, 2012). Women have less control and ownership over property and assets, and women and children face different types of vulnerabilities than men. In addition to having a higher mortality rate than men in the event of natural disasters such as cyclones and floods, women are also more likely to become victims of human trafficking in the aftermath of disasters (Oxfam, 2009). Microinsurance schemes that successfully address these impacts must account for gender differences with respect to vulnerability, but also attitudes towards risk.

in view of the multi-faceted differences between men and women, microinsurance designs, products and servicing should seek to cater to the specific needs of women

Figure 1 shows the specificity of behaviour of men and women in relation to different risks, based on the difference in socio-economic and biological factors. Part of this relates to the unique responsibilities imposed on child bearers. For example, Esemnari et al. (2002:5) argue that, “if a woman experienced nutrient deprivation during her early years of life, she may be in greater need of resources during her adolescence and reproductive years.” These needs may sensitise women’s responsiveness to risk. Gender is a powerful determinant of risk attitudes and judgements, and has been demonstrated as such in numerous psychometric studies (Floro and Seguinto, 2002). Differences in voice and power, however, mean that women’s risk attitudes and priorities are often overlooked. To address this

discrepancy in vulnerability, attitude, and influence, in any package of microinsurance schemes, the specific needs of woman must be accounted for.

In Bangladesh it is likely that a significant reason for the success of the microcredit sector is its popularity among women. Almost 96 percent of microcredit clients at Grameen Bank, the largest microcredit NGO-MFI, are female (Grameen Bank, 2011). For microinsurance, it is estimated that almost 21 million (85 percent) clients are female (Khalily et al., 2009). However, while the potential demand for microinsurance is higher among women than men, for the aforementioned reasons, their ability to pay premiums is less than men. Therefore, in view of the multi-faceted differences between men and women, microinsurance designs, products and servicing should seek to cater to the specific needs of women. The following are a few suggestions for how this might be accomplished:

1. Market research on demand for microinsurance for men and women should be conducted separately, as gender differences could significantly affect the design of an insurance product (CGAP, 2003).
2. Depending on the product and the division of tasks and responsibilities between men and women, some distribution channels might be more appropriate to women, such as hospital-based health care coverage and community-based organisations (particularly women-based organisations). This might entail gender-sensitive marketing strategies deployed by women sales agents, affordable coverage for specific health problems faced by women, such as maternity coverage, and extended health insurance cover for the whole family.
3. Information or education can be especially important for women, because women have a higher rate of illiteracy in general, and also often lower levels of physical mobility. This can restrict their understanding of microinsurance products and follow-up claims. Support to pursue claims may require assistance in generating appropriate documentation, which women may often lack.
4. Where feasible, different rates of premiums may be set for women and men, because women earn less, but carry more household

responsibilities. In addition, women may prefer to pay lower premiums with greater frequency than men to accommodate their lower incomes.

5. Differentiated rates are particularly beneficial if it expands the female membership base, as the involvement of women in microcredit has shown that they are more likely to repay loans than men.
6. Property and asset insurance should seek to ensure that the title is in the woman's name in order to prevent property being seized by a husband's relatives in the event of his death.
7. Providing insurance coverage that ensures that children benefit after a woman's death is important. This may mean giving women the choice of nominating the children as beneficiaries.
8. Finally, donors should be required to invest in developing gender-sensitive microinsurance schemes by funding research, consumer education, technical assistance and capacity building.

microinsurance products should be made accessible, affordable and desirable to climate-vulnerable groups

In order for microinsurance schemes to provide effective protection for those most vulnerable – namely, low-income and rural households in the developing world – it is critical that microinsurance products be made accessible, affordable, and desirable for these groups. In the case of Bangladesh, this analysis has explored a variety of barriers that currently exist in the successful implementation of microinsurance schemes that can reduce vulnerability to climate change-related risk.

On the demand-side, these barriers include high premium rates, an inability to understand how microinsurance schemes function, and pervasive cultural and socio-economic factors (such as fatalistic attitudes and dependence on government relief) that discourage participation. On the supply side, both NGO-MFIs and private insurers in Bangladesh have been unable to develop viable livelihood-related microinsurance products because of high transaction costs, and a prohibitively high level of capital liabilities that are inherent to the challenges of controlling for moral hazard and adverse selection. Finally, despite recent advancements in the centralisation of authority and development of new regulations for microinsurance, the country's current regulatory framework does not do enough to stimulate the growth of the microinsurance market.

These issues, however, are not insurmountable. This paper has identified a broad range of recommendations that address these institutional and economic failures, and transform them into opportunities. Evolving research on weather index-based microinsurance products has yielded promising results, and this delivery mechanism has real potential to alleviate high transaction costs, and also break down barriers of distrust between insurance providers and low-income households.

Developing customised products and accessible communications material to meet the unique needs of this group could also yield substantial results – particularly if the products are sold by local service providers that understand these needs. To this end, partner-agent service delivery models that pair large

Conclusion – A Way Forward

The UNFCCC originally envisaged two strategies to address the challenge of climate change: mitigation and adaptation. While this arrangement was clearly skewed towards mitigation for many years, adaptation started has eventually come to the fore, culminating in the creation of the Cancun Adaptation Framework in 2010 (UNFCCC, 2010). Still, an intense debate remains within the UNFCCC negotiations about whether adaptation should be framed as “development” or as “restitution” (Moore, 2012). The former has been accepted and championed by industrialised countries, but developing countries, particularly the most vulnerable ones, continue to push for a restitution-based approach that acknowledges the residual and unavoidable impacts of climate change. At present, antecedent deposits of greenhouse gasses are already causing damage to economies and societies around the world – a trend that is expected to continue indefinitely. As a result, loss and damage has become a relevant third element of in addressing climate change, and microinsurance has become an increasingly salient topic in discussions of approaches for addressing these impacts.

insurance providers and smaller MFI-NGOs with the capacity to effectively engage low-income markets have the potential to facilitate the growth of a large and sustainable microinsurance market in Bangladesh.

Furthermore, PPP models that involve governments or other donors, at least in the initial stages market development, could help to facilitate greater coherence between microinsurance schemes and broader social objectives. Legislative action on the part of government, for example, to establish low-income enrollment quotas for insurance companies, represent additional measures that could be taken to strengthen Bangladesh's current institutional framework.

... microinsurance has the potential to ease the extent of loss and damage associated with these impacts, and help to enhance the resilience of vulnerable, low-income households

Over the coming decades, the impacts of climate change in Bangladesh – in terms of both extreme events and slow onset processes – is expected to worsen. In conjunction with other tangible and intangible measures, microinsurance has the potential to ease the extent of loss and damage associated with these impacts, and to help enhance the resilience of vulnerable, low-income households. While significant challenges remain in implementing these schemes, this paper has also demonstrated that there is a wide range of tangible actions that may be taken to overcome these barriers. As interest in the field of microinsurance grows among researchers, development practitioners, and climate change negotiators, a more extensive and intensive critical analysis will help find better ways to sustain and scale-up microinsurance markets.

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The Loss and Damage in Vulnerable Countries Initiative

Accepting the reality of unmitigated climate change, the UNFCCC negotiations have raised the profile of the issue of loss & damage to adverse climate impacts. At COP-16, Parties created a Work Programme on Loss and Damage under the Subsidiary Body on Implementation (SBI). The goal of this work programme is to increase awareness among delegates, assess the exposure of countries to loss and damage, explore a range of activities that may be appropriate to address loss and damage in vulnerable countries, and identify ways that the UNFCCC process might play in helping countries avoid and reduce loss and damage associated with climate change. COP-18, in December 2012, will mark the next milestone in furthering the international response to this issue.

The "Loss and Damage in Vulnerable Countries Initiative" supports the Government of Bangladesh and the Least Developed Countries to call for action of the international community.

The Initiative is supplied by a consortium of organisations including:

Germanwatch

Munich Climate Insurance Initiative

United Nations University – Institute for Human and Environment Security

International Centre for Climate Change and Development

Kindly supported by the Climate Development and Knowledge Network (CDKN)

For further information: www.loss-and-damage.net

International Centre for Climate Change and Development (ICCCAD)

Based in the Independent University, Bangladesh (IUB), the International Centre for Climate Change and Development's aim is to develop a world-class institution that is closely related to local experience, knowledge and research in one of the countries that is most affected by climate change. ICCAD supports growing capacity of Bangladesh stakeholders, as well as enabling people and organizations from outside the country to benefit from training in the field, where they are exposed to the adaptation "experiments" and increasing knowledge. Through the expertise and research outputs of ICCAD and its local partners, international organizations will be able to continue to share and transmit knowledge of climate change and development challenges around the world for the benefit of other LDCs, and their governments, donors and international NGOs. ICCAD has begun running regular short courses for NGOs, donors, the media, government staff, private sector, etc. As well as initiating courses for local participants and Bangladeshi stakeholders, it provides tailor-made courses for organizations and departments that are seeking to enhance their capacity in regard to climate change.

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