

Microinsurance for Natural Disaster Risks in Developing Countries

Benefits, Limitations and Viability

A ProVention/IIASA study

Reinhard Mechler, Joanne Linnerooth-Bayer, David Peppiatt

-Draft for discussion-

January 31th 2006

We thank the following reviewers for helpful comments on an earlier draft: Michael McCord, Hector Ibarra, Hari Krishna, Daniel Kull, Kande Narender, and Koko Warner.

Table of contents

- 1 Introduction 3
- 2 Background: benefits and limitations of disaster microinsurance..... 4
- 3 Emergence of microinsurance 6
- 4 Criteria for the viability of microinsurance schemes..... 8
- 5 Review of disaster microinsurance schemes 11
 - 5.1 Microinsurance for disaster risks as protection and extension to microcredit and
microsavings operations..... 12
 - 5.1.1 Bundled schemes..... 12
 - 5.1.2 Voluntary microinsurance schemes with cover for disaster risks 15
 - 5.2 Schemes for specifically indemnifying disaster losses as part of a disaster risk
management framework..... 18
 - 5.2.1 Mandatory scheme..... 18
 - 5.2.2 Voluntary schemes 19
- 6 The viability of reviewed disaster schemes: a synthesis 24
- 7 Issues for Discussion 29

1 INTRODUCTION

Following the UN year of microcredit in 2005, there is large interest in microfinance solutions to help alleviate poverty in developing countries. Whereas microcredit and to a lesser extent microinsurance for life and health risks are now established on a wide scale, microinsurance to indemnify losses from severe and catastrophic risks is only emerging. The intent of disaster microinsurance is to provide low-income households and businesses with easily accessible and affordable insurance for deaths, health expenses, loss of small-scale assets, livestock and crops in the event of a flood, typhoon or other natural disaster. The viability of disaster insurance for poor households and businesses, however, remains questionable given the nature of disaster losses, which can affect whole communities and risk pools at the same time (so-called covariant risks). The disaster risk management community views microinsurance, if it proves viable, as part of a broader, integrated disaster risk management framework involving risk reduction, preparedness and risk transfer.

A limited number of schemes offering microinsurance for disaster risks have been or will be implemented in developing countries. Experience and available information are too limited for a comprehensive evaluation of these schemes, but some reflections on their potential benefits, limitations and viability can be made. For this purpose, the ProVention Consortium is collaborating with the International Institute of Applied Systems Analysis (IIASA) on a microinsurance research initiative.

The ProVention Consortium is a global partnership of international organizations, governments, private sector enterprises, NGOs and academia dedicated to reducing the impact of disasters in developing countries. From its launch, risk transfer and risk sharing, as part of a disaster risk management strategy, have been central themes on the ProVention agenda (for example see ProVention, 2004). A key concern for ProVention remains whether and how the poor in developing countries can have access to affordable and viable risk transfer mechanisms, such as insurance. ProVention's interest in risk financing is also linked to its agenda to promote increased private sector involvement and investment in disaster risk management in developing countries.

This desk-top report reviews selected microinsurance schemes providing cover for natural disaster risks currently operating in developing countries and reflects on their benefits, limitations and viability. Because disaster microinsurance is new and evolving, comprehensive documentation is not possible.¹

Chapter 2 presents background information on disaster microinsurance and discusses its potential, benefits and limitations. Chapter 3 focuses on the emerging institutional forms of disaster microinsurance, and chapter 4 sets out important criteria for their viability, including their contribution to risk reduction, their financial robustness, affordability and governance. In chapter 5, twelve pilot schemes are described. Chapter 6 synthesises this information based on the criteria set out and chapter 7 summarizes the main results and issues raised by this review.

¹ The review is based on available documentation in the English-speaking literature. There may be microinsurance schemes discussed in other languages or not documented.

2 BACKGROUND: BENEFITS AND LIMITATIONS OF DISASTER MICROINSURANCE

As ProVention and the disaster-reduction community place more emphasis on preventing disasters, there is growing interest in the potential of insurance as part of an effective ex ante risk management strategy. Insurance does not reduce immediate disaster impacts, but provides indemnification against the losses by pooling risks in exchange for a premium payment. By providing timely financial assistance following extreme event shocks, it reduces the long-term consequences of disasters. Persons affected by a disaster benefit from the contributions of the many others that are not affected and thus they receive contribution greater than their premium payment. Microinsurance is distinguished from other types of insurance by its provision of affordable cover to low-income clients.

Currently, only 1% and 3% of households and businesses in low- and middle-income countries, respectively, have insurance coverage for catastrophe risks compared with 30% in high-income countries (Munich Re, 2005). Instead of insurance, the poor often rely on savings, depleting or mortgaging their land and assets, or emergency loans from microcredit institutions, rotating Savings and Credit Associations (ROSCAs) or money lenders. Alternatively, they rely on family support, which is not always forthcoming for catastrophes that affect people throughout a region or country at the same time (referred to as covariant risks). Furthermore, the poor are often exposed to multiple shocks such as illness and natural hazards at the same. Without savings or family support, disasters may lead to a “cycle of poverty” as victims take out high-interest loans (or default on existing loans), sell assets and livestock, or engage in low-risk, low-yield farming to lessen exposure to extreme events.

When all else fails, the poor rely on their governments and the ad hoc generosity of donors. In the past, these post-disaster sources of finance have been woefully inadequate to assure timely relief and reconstruction. For example, two years following the 2001 earthquake in Gujarat, India, assistance from a government reserve fund and international sources had reached only 20% of original commitments (World Bank, 2003). As another example, in the first 60 days after the 2004 tsunami, even with a massive relief effort, just 60% of families reported receiving timely and adequate aid (Fritz Institute, 2005). Perhaps more worrying, disaster assistance discourages governments and individuals from taking advantage of the high returns of preventive actions (Mechler, 2005).

Benefits of microinsurance

Microinsurance can break the “cycle of poverty” by providing low-income households, farmers and businesses with access to post-disaster liquidity, thus securing their livelihoods and providing for reconstruction. Since insured households and farms are more creditworthy, insurance can also promote investments in productive assets and higher risk/higher yield crops. Moreover, insurance can encourage investments in disaster prevention if insurers offer lower premiums to reward risk-reducing behaviour. For all these reasons, microinsurance can be an integral part of disaster risk reduction and management.

Adding to the benefits, an insurance contract is a more dignified means of coping with disasters than relying on (or begging for) the generosity of donors after a disaster strikes. Contractual arrangements might have reduced the despair of the 2004 tsunami victims, many of whom have expressed concerns about the dignity and cultural sensitivity of the relief supplies and the distribution process (Fritz Institute, 2005).

Limitations of microinsurance

There are clear benefits to disaster insurance for the poor, but there are also costs and other limitations. Because of the high costs of insuring correlated or covariant disaster risks, without donor support individuals can pay substantially more than their expected losses over the long term. Improperly designed insurance contracts (that do not reward risk-reducing behaviour) can also lead to “moral hazard”, which means that individuals take fewer precautionary measures because they are insured. Moreover, in immature and unregulated markets, there is a high risk of insurer insolvency and defaults on claims in the case of large or repeated catastrophes. Mayoux (2005) points out that there are also gender issues. Women paying risk premiums, for example, to insure loans that benefit men may forfeit these premiums in the case of divorce.

While microinsurance is promoted as an ideal self-help strategy, another view asks whether the poor should bear the burden of floods and other natural disasters that are, in part, caused by failures of governments in providing structural defenses, land-use practices and other risk-reduction measures (Cohen and Sebstad 2003). The role of developed countries in climate change and its effects on weather-related disasters have raised this issue of responsibility at the international level.

The alternatives to microinsurance for many in the developing world, as mentioned above, include microcredit and savings, informal insurance, or arrangements that involve reciprocal exchange, such as kinship ties and community self help. Despite their limitations, Cohen and Sebstad (2003) claim that these risk-sharing and risk-smoothing arrangements work reasonably well for less severe and idiosyncratic shocks. Women in high risk areas, for example, often engage in complex, yet innovative, ways to access post-disaster capital by joining informal insurance schemes, becoming clients of multiple MFIs, or maintaining reciprocal social relationships. These informal strategies, however, have limited scope for shocks that affect entire risk-sharing communities.

Role of post-disaster microcredit

Instead of insurance, financial services can include emergency credit for their clients following a disaster. Salvano Briceno from the UN/ISDR sees this service as an effective tool for reducing the impact of disasters: “In Bangladesh, for instance, those who were already benefiting from microfinance were more able to recover from the 1998 floods... through post-disaster loans” (Briceno, 2005). Others view post-disaster credit as problematic. Jeanette Thompson (2005) from the CGAP cautions against MFIs engaging in emergency microlending: “When clients lose property and production assets, thus eroding their capacity to repay and absorb debt, a MFI’s portfolio quality and liquidity position are put at risk. According to Richard Leftley (2005) from Opportunity International: “It is certainly unwise to issue credit to people that have just experienced a significant disaster, as the infrastructure may be so damaged that their clients are unable or unwilling to purchase from them.... The real benefit of MF, however, is the provision of access to savings and insurance.” (Leftley, 2005).

3 EMERGENCE OF MICROINSURANCE

In recent years, microfinance services, especially credit and savings, have become important for providing affordable financial services to low-income and poor households and enterprises, thus improving their income stability and asset building opportunities. In developing countries, financial services providers – banks, microfinance institutions (MFIs), credit unions, and other institutions – serve around 500 million low-income clients (out of a potential 3 billion) (Thomas, 2005). According to the Asian Development Bank (2000), about 21 and 11 percent of the Grameen Bank and Bangladesh Rural Advancement Committee (microfinance NGO), respectively, managed to lift their families out of poverty within four years of participation.

Microinsurance and insurability

The Consultative Group to Assist the Poor (CGAP) defines microinsurance as ...the protection of low-income people against specific perils in exchange for regular monetary payments (premiums) proportionate to the likelihood and cost of the risk involved. As with all insurance, *risk pooling* allows many individuals or groups to share the costs of a risky event. To serve poor people, microinsurance must respond to their priority needs for risk protection (depending on the market, they may seek health, car, or life insurance), be easy to understand, and affordable. (CGAP, 2003).

From a provider perspective, Brown and Churchill (2000) list the following conditions for insurability:

- A large number of similar units exposed to the risk.
- Limited policyholder control over the insured event.
- Insurable interest.
- Losses are determinable and measurable.
- Losses should not be catastrophic.
- Chance of loss is calculable.
- Premiums are economically affordable.

Microfinance services often include insurance for such risks as the death of a breadwinner or livestock, health expenses, funeral expenses and property damage from theft/fire. These risks are mostly independent (do not affect whole communities or risk pools at a time). Disasters (covariant risks) also take the lives of people and livestock and cause damages to property and crops, but due to the following characteristics are distinct from other forms of insurance (Brown and Churchill, 2000):

- 1) Disaster risks are difficult to estimate;
- 2) they can affect large portions of the population or the risk pool at the same time;
- 3) informal safety nets (family and friends) tend to break down; and
- 4) they cause multiple losses simultaneously to life, health and property.

Consequently, microinsurance has developed from rather simple life insurance to health and to property insurance. As shown on figure 1, Brown and Churchill (2000), life insurance is the least problematic since the risks can be reliably estimated. Moreover, moral hazard is hardly existent and insurance fraud is limited. Health and property are more problematic to insure, but raise fewer obstacles than mass co-variant events. Disaster risks have so far rarely been considered explicitly as a niche for microinsurance

as such risks affecting large regions and with multiple losses are both more uncertain and have higher potential losses than other types of insurance. Such risks are not uninsurable, but need more careful consideration and for the micro market may need to be combined with other financial instruments. For example, Brown and Churchill (2000) argue that insurance should be combined with flexible savings for providing a safety net for disasters.

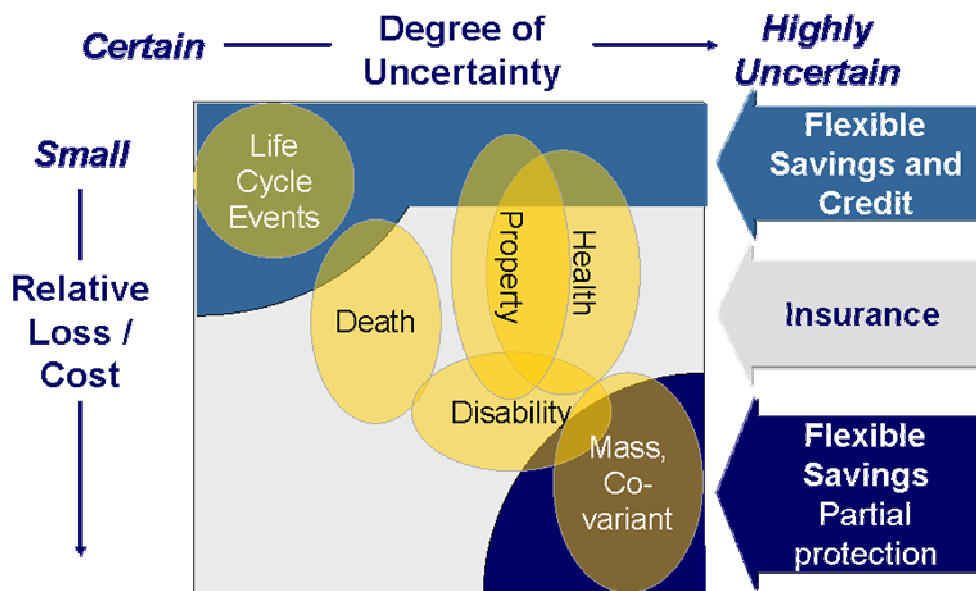


Fig. 1: Insurance and types of risks
Source: Brown and Churchill, 2000.

Forms of microinsurance: traditional and index-based

Disaster microinsurance can cover sudden-onset events, such as earthquakes, floods and cyclones, as well as slow-onset events, such as droughts. Traditionally, insurers have paid claims based on actual losses to households, businesses and farmers. This requires extensive networks of claims adjusters who assess individual losses following an event. We refer to this as indemnity-based insurance.

Recently, index-based schemes for slow-onset events have emerged. Index-based insurance is distinguished from indemnity-based insurance by contracts written against a physical trigger (parametric insurance) such as rainfall measured at a regional weather station. In the case of weather derivatives, farmers collect an insurance payment if the index reaches a certain measure or “trigger” regardless of actual losses. These schemes may offer a viable alternative to traditional crop insurance, which has failed in many countries mainly due to the high costs associated with claims settling on a case-by-case basis. A major factor bankrupting these programs has been natural disasters such as droughts (Brown, Green and Lindquist, 2000). Based on recent experience in developed countries, the World Bank has provided the impetus and technical assistance for implementation of innovative index-based crop insurance schemes, making use of MFIs for promoting and distributing the product in developing countries.

Index-based crop insurance contracts are sold in standard units by rural development banks, farm cooperatives or microfinance organizations, and the “premium” varies from

crop to crop. Since payouts are not coupled with individual loss experience, farmers have an incentive to engage in loss-reduction measures, for example, switching to a more robust crop variant. A physical trigger also means that claims are not always fully correlated with actual losses, but this “basis risk” may be offset by the reduction of moral hazard and elimination of long and expensive claims settling. Since the claim is a pre-fixed amount per unit of protection, transactions are greatly simplified. The major advantages of index-based insurance are thus the reduction of moral hazard and transaction costs. Index-based mechanisms are also more transparent since they are based on a physical trigger, and the payout is fixed in advance. The major downside of index insurance is the basis risk: if the trigger is insufficiently correlated with the losses experienced then no payout may occur despite substantial losses (Manuamorn, 2005).

Delivery models

Following Cohen and McCord (2003), we distinguish four institutional models for providing microinsurance

- *Partner-agent model*: Commercial or public insurers together with microfinance institutions (MFIs) or non-governmental organizations (NGOs) collaboratively develop the product. The insurer absorbs the risk, and the MFI/NGO markets the product through its established distribution network. This lowers the cost of distribution and thus promotes affordability.
- *Community-based model*: Local communities, MFIs, NGOs and/or cooperatives develop and distribute the product, manage the risk pool and absorb the risk. Similarly to insurance mutuals, there is no involvement on the part of commercial insurers.
- *Full service model*: Commercial or public insurers provide the full range of insurance services from development of the product, its distribution to absorbing the risk.
- *Provider model*: Banks and other providers of microfinance can directly offer or require insurance contracts. These are usually coupled with credit, for example, to insure against default risk.

Importantly, disaster cover can also be provided as a public good in the form of social protection. National or state governments often underwrite disaster risks (i.e. they compensate victims after a disaster) from their budget or a designated catastrophe reserve fund. There are no premium payments on the part of the insured since taxpayers absorb the costs.

4 CRITERIA FOR THE VIABILITY OF MICROINSURANCE SCHEMES

In the viewpoint “Invest to Prevent Disaster Risk” for the occasion of World Disaster Day on October 12, ProVention and IIASA (2005) distinguish four interlinked criteria for ensuring the viability of microinsurance and thus its potential to contribute to the management of natural disaster risks. These criteria include the contribution of microinsurance to risk reduction, the financial robustness of the schemes, their affordability and their governance. We discuss each of these criteria in turn.

Contribution to risk reduction

A major consideration for the disaster risk management community and associated sponsors is whether and how microinsurance schemes contribute to disaster risk reduction. Firstly, does insurance genuinely reduce the long-term risks of disasters to the

poor by reducing their vulnerability? Secondly, does it promote preventive measures and thus contribute to the reduction of immediate disaster losses?

Since insurance diverts funds that could otherwise be allocated to prevention, it is essential that it promote cost-effective measures for reducing risks (such as safe construction or switching to more resilient crops). Depending on its design, disaster insurance can both promote prevention or impede it. Expecting post-disaster compensation, insured individuals may engage in morally hazardous behaviour because they have less incentive to invest in precautionary measures, a problem that can be partially offset by incorporating deductibles into the insurance contract. Alternatively, insurance contracts can encourage preventive behaviour if premiums are reduced for individuals who have taken precautionary measures. Finally, and importantly, insurance systems can be directly linked with top-down government regulations for prevention.

Financial robustness

It is far more difficult to assure the financial robustness of insurance schemes that cover covariant risks than insurance schemes that cover independent losses. In the latter case, the annual claims on the insurer will converge close to the statistical mean with little variance (due to the statistical law of large numbers). Alternatively, disaster insurers face the possibility of very large losses and even insolvency for high impact events that affect whole communities or regions. For this reason, disaster risks may be specifically excluded. For example, Pantoja (2003) reports that the livestock microinsurance program offered by the Grameen Bank in Bangladesh is commonly stopped during the monsoon season.

Some critics warn specifically against covering covariant risks and suggest excluding them in the design of insurance policies (e.g., Brown et al., 2000). If insurers with limited capital reserves choose to indemnify covariant risks, they must guard against insolvency by diversifying their portfolios geographically and/or transferring their risks to the global financial markets through reinsurance:

It is imperative that the microinsurance scheme has access to reinsurance to absorb losses and ensure financial sustainability. Thus, insurance schemes (particular small or localised ones) need to establish linkages to insurance companies either nationally or internationally, to protect themselves from catastrophic losses (CGAP, 2003).

Providing for large losses is not the only factor limiting the financial robustness of disaster insurance schemes. The statistical basis for estimating disaster risks can be problematic due to lack of historical data, especially for rare catastrophes. Recently, insurers are making use of advances in computerized modeling that make it possible to better estimate and price low-probability extreme event risks for which there is little historical data. However, “catastrophe models” are costly to implement.

Formal insurance for disasters is also plagued by “adverse selection”, which means that those most at risk tend to join the pool (and the insurer has less information on the risks than the clients). Finally, it should be kept in mind that the transaction costs for small insurers – estimating risks, distribution, assessing claims, and so forth – can be quite substantial.

Affordability

At the heart of microinsurance is the provision of services to those that are not reached by regular commercial insurance. Thus, it is imperative to ask how premiums are made

affordable to low-income households and businesses. Major cost factors in the insurance industry are payment of claims (about 55% of premium income) and transaction and capital/reinsurance costs (about 45% of premium income) (Abels and Bullens, 2005).

Experts agree that reinsurance or large capital reserves are essential for the long-term viability of microinsurers, and there is even a great deal of excitement about the prospect of transferring developing country risk to the global financial markets. However, few microinsurers hold formal reinsurance, and there is less recognition that reinsurance can add substantially to the premiums. To cover their risks and costs of capital, reinsurers add a “load” to the actuarial value of the contract. Because of these cost factors, commercial catastrophe insurance premiums, while fluctuating widely, are often higher than the “actuarially fair” value. This means that, by insuring, individuals in developing countries can pay substantially more than their expected losses over the long term. For example, in the Caribbean region, catastrophe insurance premiums were estimated to represent about 1.5% of GDP during the period 1970–1999, while average losses per annum (insured and uninsured) accounted for only about 0.5% of GDP (Auffret, 2003).

This raises a dilemma: With the added costs of risk transfer, how can covariant disaster insurance be offered at affordable prices to the poor? There are a number of ways to reduce the costs of disaster insurance, including:

- Transaction costs can be lowered, for example, by offering simple products to client groups, relying on community pressure for timely payments, enlisting the services of non-profit organizations that do not charge high commissions, and stream-lining administrative costs (e.g., by integrating them into already existing systems). Index-based insurance systems are particularly promising since they substantially reduce the expenses of claims handling and also simplify the risk assessment.
- The national government or international donor community can provide capital reserves or reinsurance. For example, the World Bank is supporting the Turkish Catastrophe Insurance Pool (TCIP) by providing some reinsurance in the form of a contingent credit.
- The national government or international donor community can directly subsidize disaster claim settlements or premiums for the poor. Alternatively, external support can come in the form of technical/organizational assistance, for example, in conducting feasibility studies, providing access to data, carrying out risk assessments, designing products and facilitating public-private partnerships.
- Premium to the poor can be reduced through cross subsidies in the insurance system. For example, in the U.K., commercial flood insurers have deliberately incorporated cross subsidies from low-risk areas to make the policies affordable to trailer communities and other poor households living in high-risk areas.

It deserves emphasis that “affordable” insurance is a necessary, but not a sufficient, condition for its purchase by the poor. In addition, households and businesses should weigh the benefits and costs of insurance in comparison with other investments, like schooling or prevention of risks. The benefits of disaster insurance are substantial, but low-income households and farms must weigh the benefits with their other urgent needs.

Governance

The financial robustness, affordability and risk reduction capacity of disaster insurance schemes are closely linked with how the systems are governed. Good governance refers

to the legitimacy and credibility of social institutions and procedures responsible for the development, implementation and regulation of the insurance system. Social institutions, in turn, include governmental bodies, NGO's, private market entities, international financial and donor institutions, public organisations (e.g., co-operatives, community-based organisations and self-help groups).

One of the most important factors leading to the viability of disaster insurance is trust of stakeholders in the system: that claims are paid in a timely manner, that insurers will remain solvent, that the government will assure credible regulation, that there will be sufficient oversight and a reliable legal basis (also governing the rights of women). Many studies show that trust can be enhanced with stakeholder participation in the design and implementation of insurance systems and products (Linnerooth, and Vari, 2005). It is not only important that the insurance product is developed together with the stakeholders, but according to Ellis Wohlner (2005) microinsurers should include public organisations as integral partners in providing services to the policyholders. Not only bottom-up stakeholder procedures but also top-down regulations are essential for good governance. According to Dirk Reinhard from Munich Re, a "very important concern is the necessity for adequate consumer protection regulations, especially for illiterate populations. It should be kept in mind that in some cases humanitarian concerns and commercial concerns are at cross purposes" (Reinhard, 2005).

5 REVIEW OF DISASTER MICROINSURANCE SCHEMES

In this section, we review selected microinsurance schemes that offer cover for disaster risk in India, Nepal, Bangladesh, Pakistan and Malawi. The discussion is based on available published material and expert correspondence, and is not meant to be comprehensive.² The schemes are described in terms of their organizational structure, scope, operations and, to the extent possible, criteria for their viability (their contribution to risk reduction, financial robustness, affordability, and governance).

In this discussion, we distinguish two broad categories of insurance offered as:

- protection of and extension to microcredit and microsavings operations.
- part of a disaster management plan, specifically dealing with disaster risks.

Another important distinction for both categories is whether insurance is bundled with other micro financial services, for example, to secure a loan, or whether it is offered voluntarily.

The large number of schemes in India can be explained in part by its conducive regulatory environment. Since 2000, the Indian regulatory authority has made it mandatory for formal insurance providers to service the low-income segment of society. Furthermore, there is a provision that regulated insurers have increase their shares of low income clients serviced over time (ADA, 2004). Insurers wishing to operate in India confront fines for non-compliance, and appear willing to incur a loss on their microinsurance business in order to access the broader market. Much like in the U.K., insurers have thus made insurance affordable to the poor communities with cross subsidies from their other lines of business and wealthier clients. On the other hand,

² The review does not include projects under development such as the index-based "hunger insurance" in Ethiopia and index-based insurance in Peru.

recently there may be important change as some insurers have begun to regard the low income market as a (potentially) profitable market niche (Krishna, 2005).

5.1 Microinsurance for disaster risks as protection and extension to microcredit and microsavings operations

A number of schemes not specifically designed to deal with disaster losses exist as protection and extension to microcredit and microsavings operations. Two types can be distinguished:

- Bundled microinsurance for MFI clients;
- Microinsurance offered voluntarily;

5.1.1 Bundled schemes

Four microinsurance schemes in this review are offered by MFIs that require the uptake of insurance as a condition for extending loans or savings arrangements to their clients: Proshika, Swayamkrushi, NLC and NASFAM (table 1). While these schemes offer benefits to the clients, the main purpose of the insurance contract is to protect the MFI operations against loan and savings defaults. Typically, the loan will not have to be repaid, or only partly repaid, in the case of pre-defined disaster loss, and the MFI collects this payment from the insurer or, the savings account will be increased in the case of a disaster-related death. These schemes cover life and/or property risks.³

Table 1: Characteristics of bundled schemes for insuring credit and savings

| | | | | |
|--------------------------|--|---|---|--|
| Provider (country, year) | Proshika (India, 1997) | Swayamkrushi with insurer ICICI (India, 1997) | NLC with State Insurance Company of Pakistan (Pakistan, 2000) | Union NASFAM with Banks OIBM and MRFC and Insurance Association of Malawi (Malawi, 2005) |
| Delivery model | Provider model, individual and group registration | Partner-agent, individual registration | Partner-agent, group-based | Partner-agent, group-based |
| Premium | 2% of savings balance annually | 100Rs per year | 1.5% of insured assets | 6-10% of insured assets |
| Cover | Life: Minimum of twice the savings balance depending on years of membership in savings scheme, loan outstanding will be recovered Property: Twice the amount of savings deposit | Life: 30,000 Rs in case of death Life/property: In case of death and/or property losses, write-off of loans taken out to finance working tools, equipment and other productive equipment | Life: ownership of leased asset transferred to beneficiaries | Payout triggered by rainfall failure |
| Clients | 13,000,000 property | 8,1000 (2002) | 1,308 (2000) | 986 (2005) |

³ Furthermore, there is a number of stand-alone bundled micro life and health insurance schemes that do not explicitly mention, but also not exclude cover for natural disaster risks. These are not discussed here, as no information was found on disaster cover or how they have dealt with disaster events.

| | | | | |
|-------------------------|---|--|---|---|
| | 2,200,000 life (2002) | | | |
| Reinsurance | No | Unclear, maybe reinsurance purchased by insurer | Unclear, maybe reinsurance purchased by insurer | Unclear, maybe reinsurance purchased by insurer |
| External assistance | No | No | No | World bank with technical assistance, catalyzing function |
| Major event experienced | Yes | No | No | No |
| Outlook | Vulnerable, but diversification through large client base | Small client base with defaults, clients with limited understanding of insurance | Small scale, positive financial results | Should lead to higher yield-higher risk activities, no evidence yet, premiums substantial |

Sources: ILO 2002a, ILO 2005c, Brown and Churchill 2000, Hess and Syroka 2005.

Proshika

Based in Bangladesh, *Proshika* is one of the largest NGOs and MFIs in the world with more than 2 million clients. It offers a savings scheme to rural and urban poor households. This scheme experienced widescale defaults in the massive 1988 floods that affected 73 million people, more than half the population of Bangladesh (CRED, 2005). As a response to the disaster, in 1991 a natural disaster management program was established (Nagarajan, 1998), and since 1997 compulsory group based insurance is included. Under this program 2% of the savings balance is annually transferred to a fund, which will pay twice the amount of the savings deposit in the case of property damages due to disasters, while savings stay intact. In the life policy component a minimum of twice the savings balance will be paid out depending on the years of membership in the savings scheme (the outstanding loan will be recovered) (ILO, 2005a). The scheme operates without reinsurance or donor support. With more than two million clients in 20,000 villages and 2000 slums in 57 districts of the country, this insurance fund has wide geographic diversification. It covers 10% of the whole population of Bangladesh for the property insurance and 25% for life insurance. Still, large areas of the country can be affected by disasters: normal flooding can affect about 25% of the land area whereas extreme events can submerge more than 50% of Bangladesh (FAO, 2005).

According to Pantoja (2005) the scheme has been relatively effective in terms of claims settlement. Until 2004, 20.06 million Taka were paid from the compensation fund to the affected families of 4,448 deceased group members, and 20.29 million Taka to 14,525 members for property losses due to cyclones, river erosion or tornados.

Swayamkrushi

The savings and credit cooperative *Swayamkrushi* of Andhra Pradesh, India, has been providing microfinance to its women members engaged in informal sector employment since 1997. In 2001, in collaboration with insurer ICICI it added a compulsory life and property insurance. For an annual premium of 100 Rupees, cover for accidental death (30,000 Rupees), as well as the write-off of loans taken out to finance working tools,

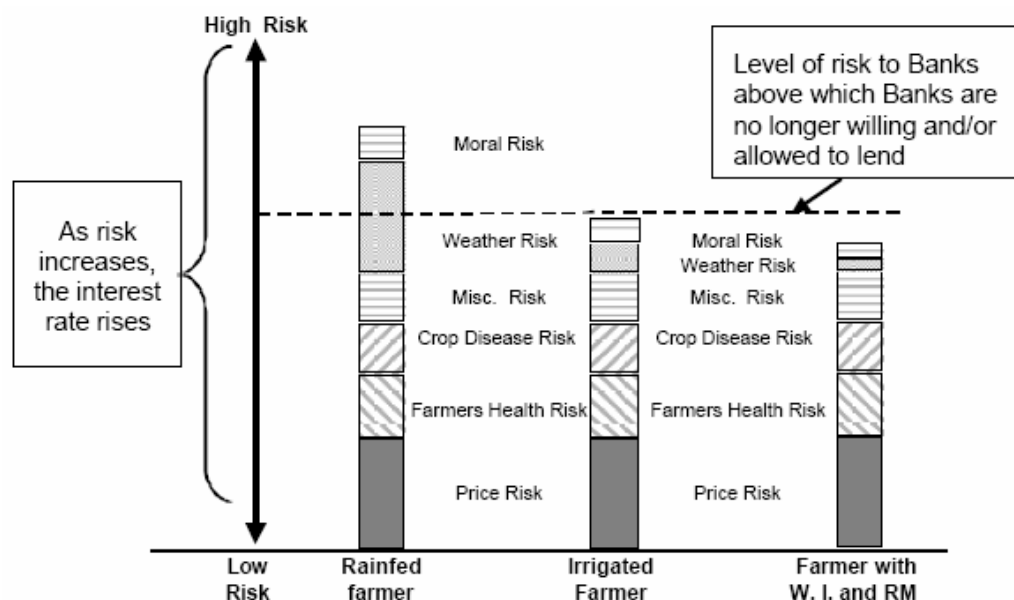
equipment and other productive equipment in the case of death and/or property losses is granted. In 2002, 8,100 participants were registered. With a membership base considered small, defaults of contributions have occurred posing some strain on the system. Furthermore, understanding of insurance among clients is limited, as members have been pressuring to receive a return on the premium paid. The scheme operates without external assistance.

NLC

The MFI *Network Leasing Corporation of Pakistan* (NLC) in a partner-agent relationship with the State Insurance Company of Pakistan requires insurance on assets leased to its clients. Premium amounts to 1.5% of the leased assets. The NLC benefits from this arrangement since it is covered against the loss of assets due to natural hazards. Clients also benefit since the policies’ beneficiaries retain the leased asset in case of death of the policyholder. Although rather small scale, in the one-year period, 1996-1997 claims were only 1/3 of premium revenue; however, this can change in a disastrous year. There is no information on whether reinsurance was bought.

NASFAM Index-based insurance

In Malawi a variant of index-based insurance was implemented in November 2005 coupling microlending with mandatory crop insurance. Rural lending particularly to rainfed farmers all over the world is generally considered very risky by banks due to a high systemic risk of loan default in the aftermath of droughts and other extremes in weather (Hess and Syroka, 2005). As figure 2 shows, banks may deny loans to rainfed farmers potentially affected by adverse weather. This compares with lending to irrigated farmers and to rainfed farmers with implemented risk management measures and/or weather insurance that have successfully hedged a part of their risk



Legend: W.I = Weather Insurance, RM = Risk Management
 Source: CRMG, World Bank. "Commodity Price Risk Management for Producers, A Training Guide, modified

Fig. 2: Systemic risks and rural lending
 Source: Hess, 2003

In Malawi, a country with predominantly smallholder agriculture, the economy and livelihoods are severely affected by rainfall risk resulting in drought (and food insecurity), soil depletion, lack of credit, and limited access to agricultural inputs. In the past, the government has responded to the recurrent drought-induced food crises by providing ad hoc disaster relief, but rural banks are reluctant to issue credit to heavily exposed farmers due to the high default risk.

In 2005, a packaged loan and index-based microinsurance product was offered by Opportunity International Bank of Malawi (OIBM) and Malawi Rural Finance Corporation (MRFC) to groups of groundnut farmers organized by the National Smallholder Farmers (NASFAM). Accordingly, the farmer enters into a loan agreement with a higher interest rate that includes the weather insurance premium, which the bank pays to the insurer, the Insurance Association of Malawi. In the event of a severe drought (as measured by the rainfall index), the borrower pays a fraction of the loan due, the rest is paid by the insurer directly to the bank. Thus the farmer is less likely to default, which has a stabilizing effect on the bank's portfolio and risk profile. Without this assurance, banks rarely loan to high-risk, low-income farmers. Thus the advantage for the farmers is that they obtain needed credit to invest in the seeds and other inputs necessary for higher-yield crops. The World Bank together with Opportunity International (OI) played the catalyst in developing weather insurance products to secure credit for groundnut farmers.

Ulrich Hess, World Bank

I know I am biased, I kind of believe in this type of insurance that can actually reach small farmers, but I can assure you: this is a breakthrough. Why? This is SUSTAINABLE DEVELOPMENT. We want farmers to adopt high return technologies that allow them finally to make the leap and accumulate earnings over time. Systemic risk is THE factor impeding this and so far banks cannot handle the risk AND the high transaction costs in rural areas. This Malawi transaction shows that there is a sustainable way to take the big rocks out of the way - drought risk – and clear the path to development! (Hess, 2005)

In November 2005 the first policies were sold: 982 small farmers in Malawi bought weather insurance that allowed them to access an input loan package for better groundnut seed. Insurance premiums were substantial: Dependent on location they amounted to 6-10% of the insured values. An important component of the successful implementation was to hold training sessions for the field, insurance and operations staff of the involved institutions. Without this, the insurance, banks and small farmer associations would not have taken on the risk of this drought sensitive improved seed package. Donor support was granted by Swiss SECO.⁴ Recently however some information emerged that the certified groundnut seeds, supposedly of superior quality, had very low germination rates and new seeds had to be distributed to farmers. While, not directly related to the insurance and loan construction, this could have a substantial effect on the viability of this scheme. More information will need to be collected to examine the scheme's viability.

5.1.2 Voluntary microinsurance schemes with cover for disaster risks

Three microinsurance schemes in this review are voluntarily offered to clients to protect them, as compared to finance institutions, against disaster risks. As summarized in table 2, these programs are more strongly oriented towards their clients and aim at more comprehensive cover.

⁴ Personal communication with H. Ibarra, World Bank.

Table 2: Characteristics of voluntary microinsurance scheme with cover for disaster risks

| | | | |
|--------------------------|---|---|---|
| Provider (country, year) | VimoSEWA with National Insurance Company of India (NIC) (India, 1992) | Centre for Self-Help Development (CSD) (Nepal, 1996) | Working Women's Forum (WWF) with Indian insurer (India, 1983) |
| Provider model | Partner agent, individual registration | Community-based scheme, individual registration | Partner agent; group registration |
| Premium | 100-225 Rs | 100 (50 for first 15 months) NPR | Unspecified percentage of microcredit |
| Cover | Life: 5-65,000 Rs Health: 2-6,000 Rs Property: 10-20,000 Rs | Property/Life: 5,000-6,500 for death/housing collapse; 50% for death of husband | Property: 1,000 Rs |
| Clients end of | 122,000 (2005) | 5,000 (2005) | 8,088 (2002) |
| Reinsurance | Indian insurers are part of reinsurance arrangement; donor provides protection | No | Unclear, reinsurance possibly purchased by insurer |
| External assistance | Various donors | No | No |
| Major event experienced | Gujarat earthquake of 2001 put substantial strain on scheme | No | No |
| Outlook | Large client base; reorganized after 2001 earthquake, heavily subsidized; commercial viability aspired for in 7 years | Scheme potentially vulnerable to larger event | Relatively wide geographic spread |

Sources: Garand, 2005; ILO, 2005c.

VimoSewa

The *Self-employed Women's Association* (SEWA) is registered as a trade union and active in India since 1982. It currently has more than 700,000 female members, who are predominantly poor and self employed in the informal rural sector. Among others, SEWA is providing microfinance products. Since 1992 the integrated insurance scheme VimoSEWA offers insurance for health, property and life with cover for disaster risks. The SEWA Bank scheme started by mandatorily combining or bundling microcredit with life insurance providing risk coverage. This was quickly made voluntary because clients were discontent and showed a lack of understanding of insurance. Initially, the insurance was offered in collaboration with a public insurance company that heavily subsidized the operation after which the system switched to a member-owned mutual operation.

Accumulated losses after the Gujarat earthquake of 2001 posed substantial strain on the insurance scheme because payouts were more than 100 times those in normal years (3,400,000 compared to 30,000 Rs), which prompted the development of a business plan in 2001 and the switch to the partner-agent model. The partner is currently the National Insurance Company of India (NIC). Various donors have extended significant technical as well as financial support to the VimoSEWA scheme and particularly for scaling up the operations. This support has taken the form of cover for administrative expenses, research

and endowment for investment (in the future to be used for paying administrative expenses).

Currently approximately 122,000 policies predominantly in Gujarat have been purchased by home-based workers, producers, vendors, manual labourers and agricultural workers. Two thirds of the clients reside in rural areas. After the earthquakes in 2001 and the floods in 2003-04 insureds received payouts for the loss of equipment and huts, which enabled them to quickly restore their livelihoods and return to income-generating activities. Until 2002 (based on available data) 14 million Rupees in claims were paid to more than 10,000 clients. Increased risk awareness after the Gujarat earthquake in 2001 prompted an increase in the client base from 29,000 to 90,000. The business plan foresaw 300,000 policies by 2008, which would assure commercial viability; however currently the scheme is behind schedule and probably will need another seven years for this goal.

As a consequence, the microinsurance operations remain in deficit, and there are plans to decrease administration expenses to reach viability of operations. Over the last few years, without donor support about 50% of expenses comprising claims and administrative costs could not have been covered (Garand, 2005). Originally, an objective of the business plan was to target higher income clients in order to cross-subsidize the product for the poor. However, this proved infeasible within the current approach. Generally, education is considered important since (as in developed countries) potential clients appear to be more concerned about their day-to-day earnings than about the risks they are facing. VimoSEWA is promoting the concept of insurance via pamphlets, posters, street plays, short videos and other means.

Centre for Self-Help Development (CSD)

Similarly to SEWA, Nepal's NGO *Centre for Self-Help Development*, established in 1991 offers microcredit and microinsurance to its 15,000 female members under a community-based scheme. Disaster microinsurance has been offered voluntarily to the members and their husbands since 1996. The premium was initially set at 50 Nepalese Rupees (NPR) for all of the first 15 months and later raised to 100 NPR. Coverage is provided to the extent of 5,000 to 6,500 NPR in the case of death for women and 50% of this amount for their husbands. Equal amounts are paid out for housing collapses due to natural disasters. There is no external assistance and no insurance institutions involved. Currently about 5,000 policies have been sold, a third to the microcredit clients of the Centre (ILO, 2005b). No information has been found on claims paid and financial viability.

Working Women's Forum (WWF)

The community organization *Working Women's Forum* (WWF) was founded in 1978 with the purpose of empowering women in southern India. Currently, it has more than 570,000 members organized into neighbourhood groups of 8 to 10 persons. The WWF's major service is offering microcredit, and since 1983 it also offers microinsurance for health, life, accident and property to its microcredit clients. Disasters are insured in the property scheme, under which cover for 1,000 Rs is provided for damages due to natural disasters in exchange for a (undefined) percentage of the microcredit. While the client base is relatively small for a scheme that was implemented in 1983, there is substantial geographic spread. Insurance is provided by an Indian insurer. Although no external assistance is directly provided, under the Indian regulatory requirements the partner insurer may be supporting the scheme through cross subsidies from its other more profitable lines of business.

5.2 Schemes for specifically indemnifying disaster losses as part of a disaster risk management framework

In this section we review three microinsurance schemes that have recently been implemented by actors outside of the MFI field to specifically provide financial protection for disaster impacts within a risk management framework. These include one mandatory scheme offered by the Gujarat State Disaster Management Authority (GSDMA) and three voluntary schemes offered by the All India Disaster Mitigation Institute (AIDMI), the Andhra Pradesh Disaster Preparedness Program, as well as the index-based BASIX pilot project.

5.2.1 Mandatory scheme

Gujarat State Disaster Management Authority (GSDMA)

The Gujarat State Disaster Management Authority (GSDMA), established in 2001 after the disastrous earthquake, was the main agency for providing government relief and reconstruction assistance. Out of concern for long-term disaster risk management planning and to ensure optimal use of donor funds for the reconstruction efforts, a compulsory group-based housing insurance scheme was established for those households that had been completely destroyed and rebuilt with government assistance.

For a mandatory payment of 360 Rupees deducted from the final instalment of housing assistance, the policy provides protection for ten years for 14 types of natural and man-made disasters. The maximum cover is one million Rupees. To spread risks GSDMA sought co-insurance from commercial insurers to the extent of 55%. Each insurer covers about forty thousand houses for which a system for sharing risks between different risk zones was developed (AIDMI, 2005).

Table 3: Characteristics of GSDMA mandatory microinsurance scheme

| | |
|--------------------------|---|
| Provider (country, year) | GSDMA (India, 2001) |
| Provider model | Full service model |
| Premium | 360 Rs for ten years |
| Cover | Property: 1 million Rs |
| Clients | 215,000 (2005) |
| Reinsurance | Via various insurers (55% ceded) |
| External assistance | Premium automatically deducted from last installment for housing reconstruction for which donor money was an important source |
| Major event experienced | - |
| Outlook | Provides substantial protection in case of event, no incentives for risk reduction |

Sources: AIDMI, 2005.

GSDMA undertook promotional activities to raise client awareness and understanding on the contents of the insurance policy and how to file a claim. Five thousand posters on housing insurance were displayed at women's fairs, government offices, schools and other public places. Fifty thousand pamphlets were distributed to villagers through NGOs or government officers. Insurance was put on the agenda of various village meetings with senior government officers discussing the importance of the distributed insurance information packages. According to a survey, respondents with a general knowledge

about insurance (by those with and without this mandatory insurance) increased from 5% to 67%.

By offering a standard, non-voluntary group policy, this scheme manages to reduce transaction costs substantially. The downsides are the failure of the standard insurance package to respond to individual requirements and the need to continually raise awareness. Because there is only one payment every 10 years, there is no potential for providing incentives for risk reduction (AIDMI, 2005).

5.2.2 Voluntary schemes

Recently two voluntary microinsurance schemes covering loss to life and property caused by natural disasters and one voluntary index-based scheme offering cover for crop damage have been initiated in India.

AIDMI

Since 2004, the NGO *All India Disaster Mitigation Institute* (AIDMI) has been offering the disaster insurance scheme *Afat Vimo* covering households and micro-businesses in the state of Gujarat. AIDMI has a long standing relationship with a wide network serving low-income communities affected by crises such as earthquakes, cyclones and riots. Supported by post-disaster and post-conflict interest free loans from donors, *Afat Vimo*'s main purpose is to protect property and livelihoods of its clients with the help of the Livelihood relief fund (LRF). In the future, it plans to include a micromitigation component for reducing risks (Aysan, 2005).

Clients are mostly men and women that run microenterprises. They are reached through the volunteers of the LRF who have built trust over time. The volunteers, for example, assist in filling out insurance applications and service claims. The scheme was developed on the basis of a demand survey given to small businesses that had been affected by earthquakes and riots in the past. This survey revealed a low level of insurance knowledge among the potential client base, a general mistrust of insurers, reluctance to pay for uncertain benefits in the future and the belief that claims may not be settled properly (Aysan, 2005). Based on household interviews, the decisive factor for insurance uptake is the long-standing relationship that AIDMI has with the communities- all participants in the microinsurance scheme have received support from the LRF in the past. AIDMI is working on these issues by demonstrating prior payouts and highlighting successes.

An annual premium of 133 Rupees covers damages to property (house and content), stock in trade, and personal accident and death of income earning family members. Cover is provided against 13 major types of disasters, such as earthquake, flood and fire. The total sum insured is 95,000 Rupees (Table 4). In the survey, 70% considered a premium of 100 to 200 rupees affordable (Aysan, 2005). Interest by clients was reported to be dependent on low premiums and targeting to needs. In this standard product, premiums are uniform and not risk-based, thus there is no option to decrease premium by taking risk reduction measures.

Table 4: Details of voluntary disaster insurance schemes

| | | |
|-----------------------------|--|--|
| Provider (country, year) | AIDMI with Oriental Company and Life Insurance | Oxfam with Oriental Company (India, 2004) |
|-----------------------------|--|--|

| | Corporation of India (India, 2004) | |
|-------------------------|---|---|
| Provider model | Partner-agent, group-based | Partner-agent, group-based |
| Premium | 59 Rs (property (house and content), stock in trade, and personal accident and death for income earning family member) 74 RS (group life insurance) | 100-200RS |
| Cover | Life: 20,000 Property: 75,000 | Life: 12,500 - 25,000 for partial disablement and death |
| Clients | 2000 (2005) | 1,000 (2005) |
| Reinsurance | Unclear, maybe reinsurance purchased by insurer | Unclear, maybe reinsurance purchased by insurer |
| External assistance | Various donors | Oxfam sponsors 50% of premiums |
| Major event experienced | No | No |
| Outlook | Upscaling, link to micromitigation foreseen | Upscaling phase |

Sources: Aysan, 2005; Krishna, 2005

The scheme is receiving funding for technical assistance from the UK Department of International development (DFID) via ProVention. Insurance is provided to the scheme by the public insurers Oriental Insurance Company and Life Insurance Corporation of India. There was close collaboration between the insurers and AIDMI in product design, determination of premiums and cover. Due to the pro-poor regulatory requirements, premiums are kept low and affordable. This was affirmed by the survey conducted before the start of the scheme. It is not clear how premiums are calculated, and whether reinsurance is purchased specifically for this scheme by the insurers.

Currently 2,000 households and micro-businesses are covered. In a recent review by Aysan (2005), it was estimated that 650 policies have been purchased in the city of Bhuj, which was most affected by the 2001 earthquake. Considering that non-life coverage extends to the house and contents, it is estimated that about 12% of the poor in Bhuj are covered.⁵ In terms of income, the client community seems to be fairly homogenous with an average annual income of 24,000-30,000 Rupees (approximately 520-650 USD). Thus the insurance premium amounts to approximately 0.5% of annual income, which seems low compared to an average rate of 9% for life and nonlife combined for industrialized countries (Swiss Re, 2004). However, it has to be kept in mind that in Bhuj (where average income is 50 times lower than in developed countries) households are closer to the subsistence levels and there is need to use all the available income for covering the basic necessities of life.

To date, no major event has affected the scheme: Only three claims for independent events for loss of life, house contents and personal accident have been reported and quickly settled. A challenge with the scheme remains the upscaling to viable numbers.

| |
|--------|
| AIDMI: |
|--------|

⁵ 33% of policy-holders are small vendors, 29% labourers, 2% small businesspersons and 14% homebased workers.

These [low-income] businesses are marginalized by the mainstream NGO and government relief. Compensation has hardly reached them. As a result, they have no right to relief as victims, no right to economic recovery as active economic agents, and no right to city of Bhuj as citizens. The poor among victims were asked to tell if they needed insurance protection, and to which extent. The result of that survey was Afat Vimo (Disaster Insurance). Now, the victims have rightful claim over compensation for future losses.

Source: Sadhu and Pandya, 2005.

Andhra Pradesh Disaster Preparedness Program

In the coastal Andhra Pradesh region, microinsurance services are provided since 2004 as part of the Disaster Preparedness Program that also offers housing, health awareness, drinking water and sanitation, as well as capacity building of communities, government, civil society and media organisations. The donor NGO, Oxfam UK, provides financial support for this program. The insurance partner is the Oriental Insurance Company. Different life insurance policies are offered that include natural disaster risks. Insurance coverage is extended to vulnerable families. Coverage is available to groups of women in the age group of 10-75 years and with a minimum size of 250 members for risks of floods, landslide, rockslide, earthquakes, cyclone and other natural calamities. The premium ranges between 100 to 150 Rupees (Krishna, 2005). Coverage under this scheme is extended currently to more than 1000 vulnerable families. Oxfam pays 50% of the premium. Since 2002, more than 80 insurance claims have been reported and settled, including damages to property from natural events.

H. Krishna, Oxfam

We did find it extremely difficult to convince the insurance companies to do business with us. Insurance companies were not interested because it involved a lot of man days and paper work to provide insurance for hundreds of families for a premium which was not high. Such a premium they can extract from 2 or 3 corporate employees in one hour of convincing. To shoot this problem, we have trained the task force members (village disaster management volunteers) in doing the job of an insurance agent. We provided initial funding, which communities repaid on monthly installments. This repayment remains with local disaster preparedness fund managed by the community. Our volunteers have also been assisting the communities in the claims process. Getting insurance claim is some thing that the communities have never imagined.

The insurance companies earlier thought that it's not lucrative to insure a group of poor families. The success of our model set them in to thinking. These days these companies are proactively approaching NGOs and CBOs to do the insurance for the poor. This development shows that the model can sustain without the support of donors. However, it still requires a push and facilitation to help the communities in order to keep the momentum alive. Krishna (2005)

BASIX and DHAN projects

For frequent and slow-onset weather events, such as droughts, a number of innovative disaster microinsurance pilot projects assisted by NGOs, MFIs or community-based organizations are in the implementation stage. In 2003 the first index-based weather scheme in a developing country was launched by the rural microfinance organization BASIX and marketed by the rural bank KBS. The scheme is insured by the Indian insurer ICICI Lombard, which transfers part of its risk to an international reinsurer. The commodity risk management group (CRMG) of the World Bank contributed technical assistance for setting up the scheme.

The BASIX pilot project offers voluntary cover for groundnut and castor farmers in the Mahbubnagar district of Andhra Pradesh for the major growing season. In 2003-2004, 154 groundnut and 76 castor policies were sold. Eligibility is limited to farmers with crop loans issued by KBS. A payout is triggered if cumulative rainfall during the khariff falls below the historical average over the last 30 years as measured by the district collectorate. Although rainfall during the 2005 season was normal, farmers received a payout due to a delay in rainfall that had effects on sowing time. Claims were quickly serviced within 15 days of the end of the policy period, which contrasts with the 12-18 months for the national crop insurance scheme with conventional loss inspection and settling (Hess and Syroka, 2005).

Table 5: Details of BASIX scheme

| | |
|--------------------------|---|
| Provider (country, year) | Basix/KBS with insurer ICICI (India, 2003) |
| Provider model | Partner-agent, individual registration |
| Premium | 255-900 Rs; 3% of insured value |
| Cover Property | 8,000-30,000 Rs |
| Clients end of 2005 | 7685 |
| External assistance | Technical assistance in start-up phase |
| Reinsurance | International reinsurance |
| Major event experienced | - |
| Outlook | Quick upscaling, substantial demand, premiums substantial |

Source: Hess, 2003

A number of projects have replicated these efforts in India. The National Agriculture Insurance Company of India has recently offered index-based crop insurance as a full service provider aiming to cover 200,000 farmers in 2005 for 13 crops in 10 states. The DHAN foundation is currently working with ICICI Lombard in a partner-agent relationship to offer this product. Significant efforts have been made to offer a transparent product customized to each location, crop and community (Kande, 2005). Table 6 documents the development of the BASIX weather-index scheme, and others operating since 2003.

Table 6: Development of BASIX and DHAN index-based weather insurance in India (in brackets combined estimates for index-based crop-insurance schemes in India)

| | 2003 | 2004 | 2005 |
|------------------------|---|---|--|
| Provider | Insurer: ICICI Lombard Agent: MFI BASIX, KBS | Insurer: ICICI Lombard Agents: 1. BASIX/KBS 2. DHAN foundation Insurer: NAIC (full service provider) | |
| Coverage | 230 in one district (India: 1730) | 640 in 3 districts (India: 20,000) | 7685 in 6 states (India: 150,000) |
| Crops | Groundnut, Castor | Groundnut, Castor, cotton | Livelihood protection through agro-climatic area-specific contracts covering all crops |
| Involvement of farmers | Contracts sold in village meetings | New contracts designed with farmer feedback | New contracts designed with farmer feedback |
| Insurance/reinsurance | Indian insurer | Indian insurer and international reinsurance | Indian insurer and international reinsurance |

| | | | |
|------------------|---------------------|---------------------|---------------------------------------|
| Weather stations | 1 at district level | 5 local rain gauges | Automated rainfall measuring stations |
|------------------|---------------------|---------------------|---------------------------------------|

Source: Based on Hess and Syroka, 2005.

Since their inception, clients have valued the quick payouts compared to the traditional crop insurance. On the other hand, basis risk has been an issue. In the DHAN scheme, a rain gauge failed to trigger a drought episode during the 2005 season causing significant yield losses (Kande, 2005). Efforts are underway to improve the product, and it remains to be seen how trigger failures will affect future insurance uptake.

There is optimism, for example, on the part of the World Food Programme and World Bank, that index-based microinsurance products like BASIX and DHAN can be important instruments for reducing poverty of smallholder farmers. If farmers can be sure that timely and guaranteed assistance will be available in times of extreme covariant shock such as drought, they may be encouraged to engage in more profitable income strategies such as purchasing better seeds or using more fertilizer, avoiding the financial risks of such activities should a major drought occur (World Food Programme, 2005).

World Food Programme

Because of the extreme and covariant nature of the risks they face, and in the absence of risk-management instruments such as crop insurance, risk-averse smallholder farmers naturally seek to minimize their exposure. ...by opting for lower-value (lower-risk) and therefore lower-return crops, using little or not fertilizer and over-diversifying their income sources. These risk-management choices also keep farmers from taking advantage of profitable opportunities; they are a fundamental cause of continued poverty. (World Food Programme, 2005).

In a recent survey evaluating the impacts of the BASIX microinsurance pilot project,⁶ changes in farming practice – as anticipated to occur due to increased financial protection allowing higher-risk higher-yield methods of farming- were not reported. However, the pilots are still in an early stage, and farmers appear to be experimenting with the product. There has been an unanticipated high take-up of this insurance for both 2004 and 2005 Khariff (major monsoon) seasons, and as shown in Figure 3 the survey responses attributed this primarily to the financial security the insurance offers.

⁶ The World Bank's Commodity Risk Management Group (CRMG) and Development Economics Research Group (DECRG) partnering with the International Crop Research Institute conducted a baseline survey sampling from two districts characterized by low and uncertain rainfall, low levels of irrigation, and shallow and infertile soils. The sample included 1,052 farming households, 267 buyers, 186 nonbuyers that attended the marketing meeting, and 299 non-attendees in the sampled villages. In addition, 300 farming households were interviewed in control villages (Gine, 2005).

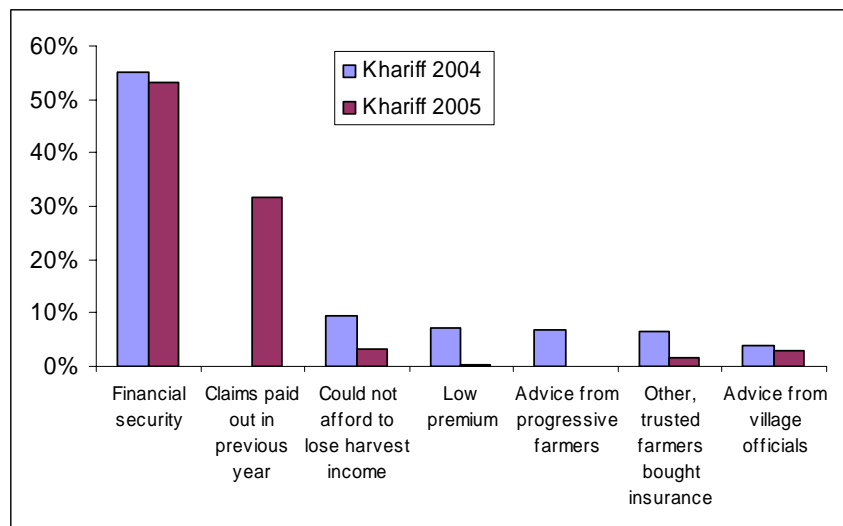


Fig. 3: Reasons for Buying Weather Index Insurance in India
Source: Gine, 2005

The second-most important factor for buying weather insurance in 2005 was the observation that substantial and generous claims had been paid out in the prior season, which had experienced a drought. This motivation for purchasing insurance could be problematic since insurance normally pays claims only infrequently. Also, in conjunction with the basis risk individual trigger failures may pose a serious risk to viability and upscaling.

6 THE VIABILITY OF REVIEWED DISASTER SCHEMES: A SYNTHESIS

Partly because of the short operating experience of disaster microinsurance schemes, information on their viability is incomplete. Nonetheless, this review has documented many characteristics of the systems that are important for their viability, including their capacity to reduce risks, their financial robustness, affordability and governance. These characteristics are discussed below and summarized in table 7.

Contribution to risk reduction

Experience with disaster microinsurance is mixed with respect to its contribution to reducing risks to the poor. Insurers have reliably and quickly settled claims, but there is little information on how these payments have mitigated post-disaster poverty. According to what information is available, the reported ratios of premium to cover indicate that substantial compensation is provided post-disaster (for example in the GSDMA case). Furthermore, microinsurance can promote credit to the poor so they can aspire to higher-return activities. To date, there is no clear evidence on the relationship between microinsurance and shifts to higher-risk/higher yield activities. Monitoring the benefits of index-based insurance by providing post-disaster security, as well as promoting higher yield crops, is ongoing (Gine, 2005).

Table 7: Synthesis of analyzed microinsurance schemes providing cover for disaster risks

| Type of schemes | Contribution to risk reduction | Financial robustness | Affordability | Governance, client and donor participation |
|---|---|--|---|---|
| Schemes offered as extension and protection to microcredit and microsavings operations | | | | |
| Bundled insurance for credit and/or savings | Not related | Relatively stable, to large extent protecting MFI/NGO operations | Mandatory if farmer or household takes credit or engages in savings arrangement | Less donor support necessary, insurance component not transparent for clients |
| Voluntary insurance | Some with disaster management plan | Vulnerable, some with business model | Unclear, little uptake compared to microclient base | Better catering to clients needs, longer-term donor support necessary |
| Schemes specifically designed to deal with disaster risks | | | | |
| Mandatory and government-supplied | Element of risk management plan, no incentive as cover provided for 10 years | Robust due to large diversification | Mandatory | Promotional efforts for explaining insurance policy after installment |
| Voluntary schemes | Integral element of risk management framework, but no incentives for risk reduction as premiums do not account for risk reduced | Pilot phase, increasing interest by insurers reported | Premiums kept low due to compulsory pro-poor regulation, but substantial for index-based insurance, premiums sponsored in OXFAM case (50%), | Demand surveys, usage of community links |
| Index/based crop-insurance | Quick payouts reported, incentive for risk inherent in index-based schemes (schemes too recent for empirical evidence) | Upscaling phase, increasing interest by insurers | Premiums kept low due to compulsory pro-poor regulation | Product development with clients |

The contribution of disaster microinsurance to reducing disaster losses is less positive. There are few direct links to preventive actions. None of the reviewed schemes, most of which are subsidized, equate the premiums fully with the risks, and no scheme offers reduced premiums based on preventive measures. Nor do the reviewed disaster insurance schemes collect extra premiums for a risk-mitigation fund. Rewarding preventive behaviour, which is also not common for disaster insurance in developed countries,

would be especially difficult considering the small-scale policies and additional administrative costs.

Oxfam, AIDMI and GSMDA integrate their policies within a risk management framework for example via educational activities, but in practice there are few reported direct links to prevention. The index-based insurance systems are inherently more conducive to risk reduction since claims do not relate to losses. It remains to be seen whether the index-based instruments can lead to the reduction of vulnerability and risk via their inherent incentives.

Financial robustness

The bundled life insurers are robust, even profitable, as they mostly protect the primary MFI operations in credit and savings. The benefit to clients is rather small and limited in their coverage. As a positive observation, most disaster microinsurers are operating as partner-agents, which by combining the expertise of insurance companies with MFIs/NGOs is considered to be the most financially sustainable organizational model. It is notable that VimoSEWA began operations by taking a full provider approach, but after encountering serious financial problems switched to the partner-agent model. The community-based Centre for Self-Help Development scheme has no formal reinsurance and may be at serious risk in the event of a large disaster. Similarly, the Proshika insurance fund is unprotected by reinsurance; however, it has far wider participation and diversification and is thus in a better situation to deal with large correlated losses.

Overall, the financial robustness of many microinsurers, even those operating as partner-agents, needs further investigation. With a few important exceptions, namely the recent index-based weather schemes in India and Malawi, there appears to be little reinsurance, confirming Nabath's (2005) general observation that most microinsurers (not only disaster) have been unsuccessful in finding a reinsurer, and, "at best, have partnered with a formal insurance company which has taken over the role of reinsurer and, at worst, have set up a joint reinsurance scheme with other microinsurers." If the insurance partner has sufficient reinsurance, however, the partner-agent model is on sound footing, but there is little public information on the financial capacity of the partner insurers. Diversification provides additional protection, and most schemes are "upscaling" or broadening their geographic scope. The index-based schemes in India, as a notable example, have more than 150,000 clients after only 3 years of operation. Yet, many microinsurers remain concentrated in areas with highly correlated risks.

Insurers can also increase their financial robustness with advanced statistical modeling of the risks, as well as reduction of adverse selection and moral hazard. The weather disaster scheme in Malawi, for example, not only eliminates moral hazard and adverse selection, but is based on a long history of statistical records kept by rain stations in the selected region (Hess and Syrorka, 2005). Adverse selection plagues all voluntary, non-indexed schemes, but is eliminated through bundled insurance. Only the Proshika insurance system in Bangladesh requires mandatory insurance to those taking advantage of its savings scheme.

The international donor community can play an important role in the financial robustness of developing country insurance providers. A global innovation for index-based insurance is currently being prepared by the World Bank and European Commission. A Global Index Insurance Facility (GIIF) will have three functions: 1) supporting the

technical assistance and infrastructure that are needed to develop index insurance; 2) aggregating and pooling risk from different developing countries to allow for improved pricing and risk transfer into the global reinsurance and capital markets; and 3) cofinancing certain insurance products on a bi-lateral basis from donor to developing country.

Affordability

The growing uptake of voluntary microinsurance contracts demonstrates affordability to the poor, although the “very poor” still lie outside most microfinance systems. Premiums for more frequent weather events are higher than those for sudden-onset and can be substantial (in Malawi 6-10% of insured values and 3% in the BASIX schemes). Donor support plays a role in the affordability of voluntary schemes through direct and indirect financial assistance and support. Of most significance is the Indian pro-poor regulatory requirement for formal insurers to take on an increasing quota of low-income clients. This requirement has resulted in significant cross subsidies within the insurance sector. There is concern that servicing the non-profitable lower-income segments of society may result in badly designed and marketed products, but insurers appear to be enthusiastic in expanding operations, particularly with the promising case of Oxfam in Andhra Pradesh and the index-based schemes in India and Malawi.

Another form of indirect subsidy is financial support to cover administrative expenses, research and investment. For example, the VimoSEWA project in Gujarat receives such support from the GTZ, the Ford Foundation, CGAP, ILO and the Canadian Cooperative Association. Without this support, the scheme would be operating at a significant deficit. Along with the cross subsidies, donor assistance keeps the premiums in Bhuj at about 0.5% of annual income (the cost of a box of matches). But even this low rate may not be affordable to the very poor. Only in the case of disaster insurance offered in the Andhra Pradesh region are premiums directly subsidized by OXFAM, which pays 50% of the premium for currently about 1000 households.

Direct and indirect subsidies are problematic since it may be very difficult to raise premiums if the subsidies are removed (the Microfinance Gateway, 2005). In fact, many of the reviewed insurance systems are aiming towards commercial viability without financial assistance. Another argument against subsidies is that they lower the price of risky behaviour and thus discourage prevention. For these reasons, many international donors advocate support only in the start-up phases. This can take the form of technical assistance, which has been granted to all the schemes (with the exception of Proshika and the Centre for Self-Help Development) by sponsoring institutions, such as World Bank, the ProVention Consortium and OXFAM. Technical assistance includes feasibility studies, providing insurance expertise, granting access to data, carrying out risk assessments, designing products and facilitating public-private partnerships.

It is significant that the index-based crop insurance schemes in India, with cover extending to about 150,000 clients, are not directly subsidized. These schemes are offered only to farmers taking loans that will increase their productivity, thus there may be a bias towards better off rural farmers. It is also important that uptake has increased dramatically due particularly to recent bad weather and the payment of claims. It remains to be seen whether farmers will continue to consider the premiums affordable if there are no claims over a number of years. Nor is the microlending scheme in Malawi, where insurance covers the risk of loan default, directly subsidized. In this case, premiums are

kept low because the insurance payment will only cover the default risk of the loan, and does not protect the farmers' livelihood in the case of drought.

Direct and indirect support from NGOs, donor institutions and cross subsidies from other insurance branches appear important for the affordability of current microinsurance schemes. Importantly, in many cases, e.g., AIDMI, NGOs and MFIs provide low-cost administrative assistance to the systems by, among other services, distributing the product and assessing claims. In addition, premiums are kept low by avoiding (rightly or wrongly) the high costs of commercial reinsurance or by insurance partners passing reinsurance costs on to their profitable operations.

It is interesting to note that in a number of both the bundled and voluntary cases policies are also sold individually. One would expect that a switch to a group-based approach could reduce costs of issuing policies.

Governance

In several disaster insurance schemes, the potential clients were involved early on in demand surveys, product development and/or product modification. As in developed countries, however, myopia as well as a misunderstanding of the insurance concept appear to limit insurance demand. For this reason, VimoSEWA is promoting insurance via pamphlets, posters, street plays, short videos and other means. Although mandatory, the GSMDA scheme is promoting insurance in order to raise awareness about the possibilities for filing insurance claims. The AIDMI survey revealed a strong distrust in insurance on the part of the public. Recent payouts, especially in the case of Indian weather derivatives, appear to increase this trust. It is important that trust be coupled with strong financial robustness; it can be quickly lost if insurers cannot pay claims. In the AIDMI scheme, advertising the high payouts has been a marketing strategy, which might fail in the case of extended disaster-free periods.

Donor participation can be important for the good governance of the system by assuring financial robustness and oversight. This is the case of the World Bank involvement in the indexed weather schemes. Also, the national regulatory bodies have an important role to play, as seen in India, where the pro-poor requirements appear to be essential for making a large number of schemes possible. In addition to the regulatory environment, Aysan (2005) attributes the early success of the Indian AIDMI project to the role of active civil society structures, which are acting as an intermediary between the clients and the insurance companies. Importantly the close cooperation of the Disaster Mitigation Institute (DMI), as the NGO partner, with the public has contributed to building the credibility of insurance:

“...the established, trusting relationships of DMI with low-income clients due to its earlier work in the communities seem to have played a crucial role for microinsurance to be added as an ancillary service through its existing structures and human resources at limited cost.” (Aysan, 2005).

In general, experience shows the importance of combining market entrepreneurship with strong regulation and bottom-up participation of public groups for establishing credible and trusted systems that provide disaster microinsurance to the poor.

7 ISSUES FOR DISCUSSION

This review has outlined the potential and benefits of microinsurance for coping with disaster losses and reducing disaster-related poverty, as well as many challenges for realizing this potential. Implemented schemes, many of which receive direct or indirect subsidies, are demonstrating that microinsurance can be offered for disaster risks. These programs reduce risks to the poor by providing post-disaster liquidity that secures livelihoods, promotes investment and facilitates reconstruction. The experience with coupling insurance with a reduction of immediate disaster losses is less positive.

The long-term viability of these schemes raises many challenging issues that merit further investigation and discussion:

- Can comprehensive and client-oriented (other than bundled or mandatory) microinsurance catastrophe cover be offered to the poor in high-risk areas without continuing subsidization? Although the index-based crop microinsurance schemes appear commercially viable, premiums are substantial and there is need for examining whether this can be extended to lower income households facing higher risks to their assets and livelihoods? What types of donor support are most efficient?
- How can the links of microinsurance to disaster prevention be strengthened? Could the donor community play a role?
- How effective is disaster microinsurance in promoting productive investment, for example into high-risk/high-yield crops?
- Is India's regulatory environment, which promotes cross subsidies within the insurance sector, transferable to other countries?
- What other types of solidarities could support microinsurance, for example, should governments and their taxpayers act as reinsurers?
- How can microinsurance schemes better transfer risks to the global reinsurance and capital markets without jeopardizing their affordability? The recently planned Global Index Insurance Facility may be important in facilitating international risk transfer.
- Finally, how effective have microinsurance schemes been in the case of large disasters (e.g., the 2004 tsunami in Andhra Pradesh) at genuinely improving the plight of insured victims?

References

- Abels, H. and Bullens, T. (2005). Microinsurance. Microinsurance Association Netherlands (MIAN).
- ADA (2004). Microinsurance: Improving Risk Management for the Poor. Newsletter No. 5, Dec. 2004, Luxembourg.
- AIDMI (2005). Transferring Risk Through Micro-Insurance, micro-credit and livelihood relief. Best practice case studies.
- Asian Development Bank (2000). Finance for the Poor. Microfinance Development Strategy. Manila.
- Auffret, P., (2003). Catastrophe insurance market in the Caribbean region. World Bank Policy Research Working Paper No. 2963. Washington DC.
- Aysan, Y. (2005). Review of Regional Risk Transfer Initiative implemented by the Disaster Mitigation Institute of India. Geneva, ProVention Consortium.
- Briceno (2005). Foreword. In UNDISDR (ed.). Invest to prevent disaster. Geneva, UNISDR.
- Brown, W. and Churchill, C.F. (1999). Insurance Provision in Low-Income Communities, Part I. Microenterprise Best Practice. Bethesda, Maryland.
- Brown, W and C. Churchill (2000), Insurance Provision to Low-Income Communities. Part II. Initial Lessons from Micro-insurance Experiments for the Poor, Microenterprise Best Practices, Bethesda, Maryland.
- Brown, W., C. Green and G. Lindquist (2000). A Cautionary Note for Microfinance Institutions and Donors Considering Developing Microinsurance Products. Microenterprise Best Practice. Bethesda, Maryland.
- Brown, W. and G. Nagarajan (2000). Bangladeshi Experience in Adapting Financial Services to Cope with Floods: Implications for the Microfinance Industry. Microenterprise Best Practices, Bethesda, Maryland.
- CGAP (2003). Microinsurance: A risk management Strategy. Donor Brief No. 16. Washington DC.
- Cohen, M. and M. McCord (2003). Financial Risk Management Tools for the Poor. In ADA, Microinsurance Centre Briefing Note #6. MicroinsuranceCentre.
- Cohen, M. and J. Sebstad (2003). Reducing Vulnerability: the Demand for Microinsurance. MicroSave-Africa.
- Consultative Group to Assist the Poor (CGAP) (2003). Preliminary Donor Guidelines for Supporting Microinsurance.
- CRED (2006). EM-DAT: International Disaster Database. Brussels, Belgium, Centre for Research on the Epidemiology of Disasters, Université Catholique de Louvain
- Dercon, S., T. Bold and C. Calvo (2004). Insurance for the Poor? Queen Elizabeth House - Development Studies at the University of Oxford, Oxford, Working Paper Number 125.
- FAO (2005). Bangladesh country profile. Rome.
- Fritz Institute (2005). Lessons from the Tsunami: Top Line Findings. San Francisco.
- Garand, D. (2005). VimoSEWA India. CGAP Working Group on Microinsurance Case Study 16, CGAP.
- Gine, X. (2005). Weather Insurance in India. Survey Findings. Internal report.
- Hess, U. (2003). Innovative Financial Services for Rural India. Monsoon-Indexed Lending and Insurance for Smallholders. Washington DC, World Bank.
- Hess (2005). Personal communication.
- Hess, U. and H. Syroka (2005). Weather-based Insurance in Southern Africa. The Case of Malawi. Washington DC, World Bank.
- Hess, U. and J. Syroka (2005). Risk, Vulnerability and Development. Presentation at BASIX Quarterly Review&Insurance Meeting, Hyderabad, 21st October 2005.
- Ibarra, H. and H. Syroka (2005). Case Studies for Agricultural Weather Risk Management.
- ILO (2005a). Micro-Insurers. Inventory of Micro-Insurance Schemes in Bangladesh. Geneva.
- ILO (2005b). An Inventory of Micro-Insurance Schemes in Nepal. Kathmandu.
- ILO (2005c). Community-Based Schemes. India: An inventory of micro insurance schemes. Geneva, ILO.

- Leftley, R (2005). A Microfinance Institution Perspective. In: UNDISDR (ed.). Invest to prevent disaster. Geneva, UNISDR.
- Kande, N. (2005). Piloting Deficit Rainfall Insurance-Rainfed Farming Development Theme. Presentation at Munich Re Foundation Symposium “Disaster Risk Prevention.” Hohenkammer.
- Krishna, H. (2005). Insurance for Vulnerability Reduction. Based on Oxfam’s experience of using Insurance as a strategy for Disaster Risk Reduction in Coastal Andhra Pradesh-South of India.
- Krishna, H. (2005). Personal communication.
- Kumar, R. (2005): The Indian insurance industry and climate change: exposure, corporate responsibility, and strategies ahead. TERI.
- Linnerooth-Bayer, J. and A. Vari (2005). Designing a Disaster Insurance Pool: Participatory and Expert Approaches in Hungary and Turkey, Catastrophic Risks and Insurance, Policy Issues in Insurance, Organisation for Economic Co-Operation and Development, Paris, 267-90.
- Mahul, O. (2005). Presentation at World Bank Seminar “Catastrophe Risk Finance”, October 2005, Washington DC
- Manuamorn, O. P. (2005). Scaling-Up Micro Insurance. Washington DC, World Bank.
- Mayoux. L. (2005). Women’s Empowerment through sustainable Micro-Finance: rethinking ‘best practice.’ Discussion Draft.
- McCord, M. and M. Cohen (2005), Microinsurance and Disasters, Steps to Take to Mitigate Risk Next Time. MicroinsuranceCentre.
- Mechler, R.(2005). Cost-benefit Analysis of Natural Disaster Risk Management in Developing Countries, Working paper GTZ
- Munich Re NatCatSERVICE, Natural disasters according to country income groups 1980-2004, (Munich Re, Munich, 2005).
- Nabath, M. (2005). Reinsurance and Microfinance. In ADA, Microinsurance: Improving Risk Management for the Poor. Newsletter No. 7, June 2005, Luxembourg.
- Nagarajan, G. (1998). Microfinance in the Wake of Disasters: Challenges and Opportunities. Bethesda, Maryland, Microentreprise Best Practice.
- Pantoja, E. (2002). Microfinance and Disaster Risk Management. Experiences and Lessons Learned. Washington DC, Provention Consortium.
- Proshika (2005). Activity Report 2004-2003.
- ProVention (2004). Solidarity and Opportunity: The Potential of Insurance and Disaster Risk Management in Developing Countries. Rapporteur report by K. Warner and S. Dannenmann. ProVention Consortium International Conference, Zürich.
- ProVention/IIASA (2005). Invest to Prevent Disaster Risk. The potential benefits and limitations of micro-insurance as a risk transfer mechanism for developing countries. Viewpoint for International Day for Disaster Reduction – 12 October 2005, Geneva.
- Reinhard, D. (2005). A Re-Insurer’s Foundation Perspective on Microfinance. In: UNDISDR (ed.). Invest to prevent disaster. Geneva, UNISDR.
- Sadhu, H. with M. Pandya (2005). Gujarat Earthquake Experience: Lessons for Tsunami Recovery?, Southasiadisastersnet, May 2005.
- Swiss Re (2005). World insurance in 2004: growing premiums and stronger balance sheets. Sigma. Zurich. 2/2005.
- Thomas, J. (2005). A Microfinance Institution Perspective. In UNDISDR (ed.). Invest to prevent disaster. Geneva, UNISDR.
- Wohlner, E. (2005). Some Criteria for Successful Microinsurance. In ADA. Improving risk management for the poor, N° 6, March 2005.
- World Bank (2003). Financing Rapid onset natural disaster losses in India: a risk management approach. World Bank, Washington, DC.
- World Bank (2005). Managing Agricultural Production Risk. Washington DC, World Bank.
- World Food Programme (2005), Pilot Development Project - Ethiopia Drought Insurance 10486.0, Document for approval by the Executive Board, Second Regular Session, Rome, 7-11 Nov. 2005, WFP/EB.2/2005/8-A