

# Chapter 12

## Financial mechanisms and services for risk reduction

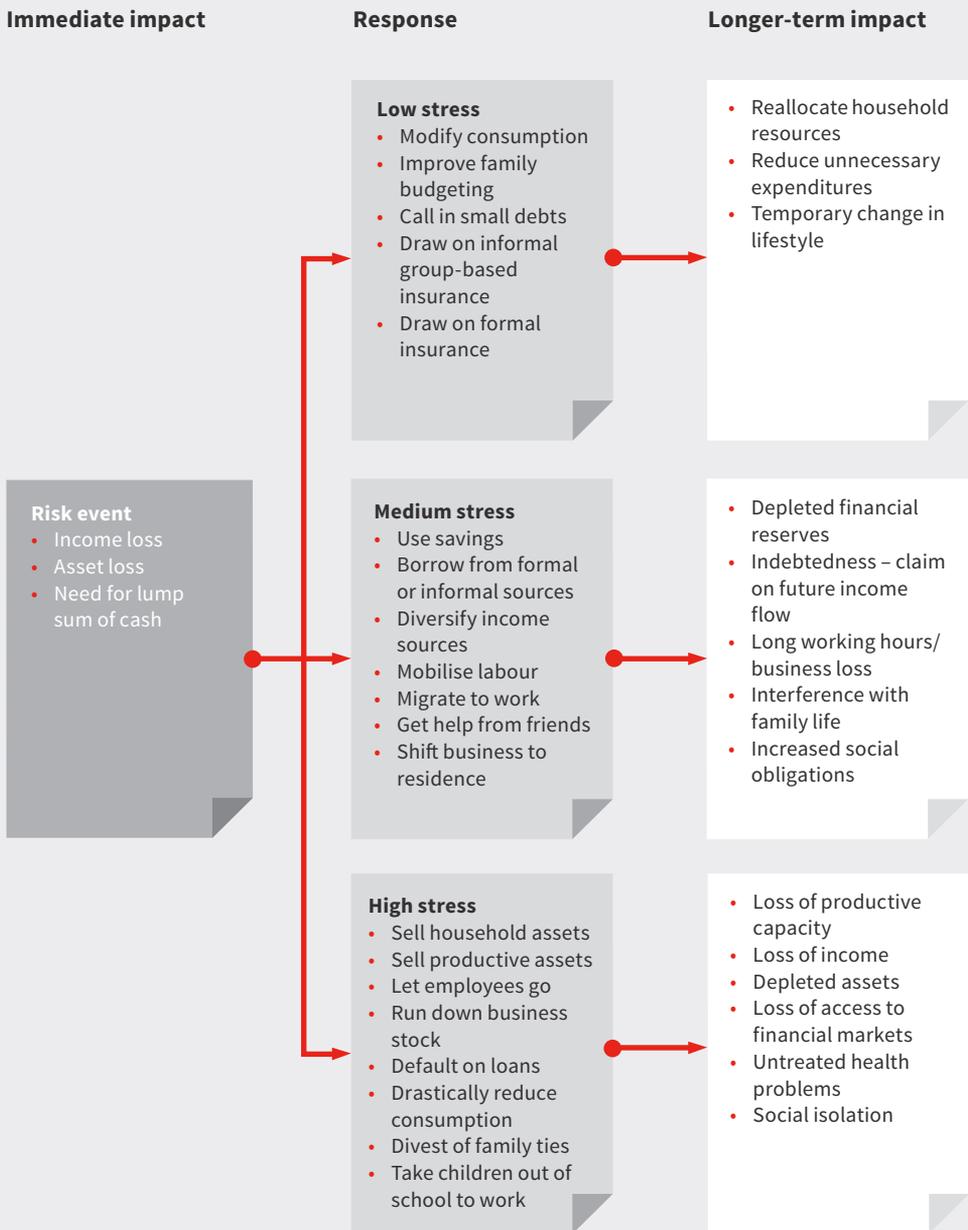
### 12.1 Introduction

Economics and finance are central to DRR because poverty can make people vulnerable to many different hazards, and certain patterns of socio-economic development can expose people to greater risks. It follows that appropriate economic development and the reduction of poverty are essential elements of any risk reduction strategy, as are more targeted measures to provide financial security in risky environments and support recovery after disasters. This chapter focuses on financial services that are important contributors to DRR at local and community levels, in particular insurance, micro-credit and other kinds of micro-finance.

Financing arrangements and services can support households' financial resilience before and after disasters; they can also play a role in expanding local initiatives. Loans, which are primarily invested in productive enterprises that generate income, are also used to cope with present or potential crises that threaten livelihoods – for instance, by laying in stocks of food, making improvements to farmland, repairing houses, buying tools or other productive equipment, digging wells and irrigation systems, acquiring new skills and making gifts to family and friends so that reciprocal favours can be asked later. Money is often borrowed to deal with household crises – especially those caused by sickness or a death in the family (which has both emotional and economic consequences), but also by such shocks as food shortages, sudden price increases, loss of employment or theft. After a disaster, credit is used to speed up recovery by replacing lost assets and helping people to get back to work. In urban areas, community savings funds are used to pay for slum upgrading, housing improvements (which often includes strengthening homes against hazards) and income generation. Urban communities also use their collective savings to defend themselves against the threat of eviction, negotiate for secure tenure and finance their own improvement schemes.

Disasters hit poor households particularly hard financially because they have little or no savings to see them through the worst of the event and support their recovery. If their savings are kept at home they may be lost in the disaster. If they need to rebuild homes as well as livelihoods their financial needs can be considerable. If the disaster's impact is severe and widespread, they find it harder to borrow from friends and relatives or obtain credit from shops; clients may no longer be willing to pay for their goods and services and local markets may not be functioning. Money held by informal savings groups may have been lost, and local bank branches where they have deposited money may be destroyed or closed. As a result they may have to sell productive assets such as tools, equipment and livestock, which

**Figure 12.1 The financial impact of disasters on households**



C. Churchill (ed.), *Protecting the Poor: A Microinsurance Compendium* (Geneva: International Labour Organization and Munich Re Foundation, 2006), <http://www.munichre-foundation.org/dms/MRS/Documents/ProtectingthepoorAmicroinsurancecompendiumFullBook.pdf>, p.28.

they rely on for their livelihoods. Cut off from cash income, they are forced to turn to informal money lenders, whose normally high interest rates may well rise still further in a crisis.

At present, most people living in poor communities, in hazardous locations and in low-income countries have little access to formal financing options for DRR. Moreover, only a small proportion of disaster recovery needs are met by external humanitarian assistance. However, provision of finance is a complicated, technical area of work. DRR agencies do not generally have the specialist skills and experience required, while many providers of financial services know little about poor communities' needs or how to work effectively at community level. Partnerships between the two kinds of organisation are necessary. This will take time, as there is a great deal of understanding and learning to be shared.

## 12.2 Government and international finance for DRR

Public investment in DRR and climate change adaptation, in the form of grants or loans provided by national, district and local governments, is likely to be the main financial support mechanism in most countries. Such funding may be specifically for risk reduction initiatives, or it may be part of broader poverty reduction or sectoral development programmes: here the ideal is to incorporate risk reduction measures into existing funding streams, rather than having stand-alone DRR budgets, and some countries are now taking steps towards this (see Case Study 12.1: Climate change risk management in public investments).<sup>1</sup>

In turn, national governments obtain grants from bilateral donors, or loans from international financial institutions such as the World Bank, Asian Development Bank and Inter-American Development Bank. Although it can be difficult for local governments and other organisations to get access to some of these funding streams, trained and organised community organisations have succeeded in obtaining resources from mainstream funding programmes (see Case Study 12.2: Resourcing community resilience).

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<sup>1</sup> See also C. Benson and J. Twigg, with T. Rossetto, *Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations* (Geneva: ProVention Consortium, 2007), [www.preventionweb.net/files/7511\\_toolsformainstreamingDRR.pdf](http://www.preventionweb.net/files/7511_toolsformainstreamingDRR.pdf).

## Case Study 12.1 Climate change risk management in public investments

Climate change affects Peru in several ways: low-lying areas and ecosystems along the country's approximately 3,000km coastline are becoming increasingly vulnerable, water availability is becoming less consistent and there are regular floods, landslides and extreme droughts. The Peruvian government is taking concerted action to reduce vulnerability to climate change. One goal is to integrate a systematic climate risk management approach into the national public investment system (Sistema Nacional de Inversión Pública, SNIP). Between November 2011 and April 2015 the €3.2m Public Investment and Adaptation to Climate Change project (Inversión Pública y Adaptación al Cambio Climático – IPACC) was implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in cooperation with the Peruvian Ministry of Economy and Finance (MEF) and Ministry of Environment (MINAM) and the regional governments of Piura and Cusco. The project is financed by the German government through the International Climate Initiative.

The government's aim is that public investments take future climate risks into account by 'screening' sector programming (i.e. agriculture, transport, health, energy, housing, sanitation and tourism – around 70% of overall public investment) with specific tools to make sure that sectors make investments with respect to climate change and DRR. The project developed a conceptual framework for integrating DRM and CCA and produced a series of interactive maps containing data on climate change, hazards, land use and ecosystems. Climate change risks were analysed and adaptive measures identified for several investment projects. Cost-benefit analysis tools were developed and tested. Official guidelines for project design were revised to ensure that heightened risks were considered at national and sectoral levels. A number of training workshops were held.

MEF, MINAM and GIZ also identified entry points and change agents for incorporating disaster risk management into the SNIP. Pilot case studies on reducing risks from climate change have been introduced into the design of public investment projects. The initiative has led to the redesign of projects and changes in programming approaches.

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Information provided by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); M. Scholze, *Climate Change Risk Management in Peruvian Public Investment: Strengthening Adaptation in Development Decision Making* (Lima: Public Investment and Adaptation to Climate Change Project, 2015).

## Case Study 12.2 Resourcing community resilience

In 2009, UNICEF started a community-based DRR programme in the Indian state of Bihar. Under the programme, which covers more than 250 villages and over 150 schools, village and school disaster management committees raise awareness of risks and carry out local DRR activities. UNICEF and its local NGO partners act mainly as facilitators, ensuring that communities acquire the knowledge and skills for preparing and implementing projects, accessing resources and making connections with decision-makers. Through training, workshops and meetings, the programme targets disaster management committees and their volunteers, together with local leaders and officials. Meetings between committee members and duty bearers are particularly important in sensitisation, building mutual understanding and developing working relationships. The committees have learnt how to obtain funding from central government development programmes, and have developed successful proposals for projects aimed at reducing specific vulnerabilities. These projects are integrated with *panchayat* (village-level government) plans through community meetings and in coordination with *panchayat* leaders. Substantial government funds have been secured to build flood embankments and all-weather roads, raise the plinths of houses above flood levels, build toilets for safe sanitation and construct new or improved school building and boundary walls. A field study of committees in 12 villages and 11 schools in 2013 found that the ratio of UNICEF financial support (for training, capacity-building and the committees' administration costs) to government programmes' funding inputs was 1:191. Committee members had also become more confident in lobbying higher-level officials.

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K. Lloyd et al., *Leveraging Resources for Community Resilience Building: A Study of Multi Hazard Affected Villages in Bihar*, Knowledge Community on Children in India Initiative, 2013, <http://kcci.org.in/Document%20Repository/2013-KCCI%20CBDRR%20Bihar%20final.pdf>.

Recent research into international DRR financing from 1991–2010 shows that DRR accounts for a tiny proportion of overall international aid (0.4%), as well as a small proportion of international funding for disasters triggered by natural hazards (12.7% compared to 21.8% for reconstruction and rehabilitation and 65.5% for emergency response). Funding concentrates on a small number of middle-income countries; in high-risk countries, disaster-related aid focuses on emergency response, and there is very little money for drought-affected countries. The great majority of DRR funding has gone to relatively small projects and programmes.<sup>2</sup>

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<sup>2</sup> J. Kellet and A. Caravani, *Financing Disaster Risk Reduction: A 20 Year Story of International Aid* (London/Washington DC: Overseas Development Institute and the World Bank, 2013), <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8574.pdf>.

## 12.3 Micro-credit and micro-finance

Micro-finance can play an important role in reducing vulnerability before disasters and supporting post-disaster recovery. It can be used as a mechanism for coping with many different kinds of disaster or shock, whereas conventional DRR projects tend to focus on specific hazards. Organisations that manage credit and savings programmes specifically for the poor – usually referred to as micro-finance institutions (MFIs) – come in many different types, ranging from formal institutions (government, private and non-profit) to semi-formal and informal savings and loan groups. There is a similarly wide variety in loan terms and conditions.

In low-income countries, most financial support in times of need comes from within households and extended families, or by borrowing from neighbours and local money lenders. These sources are easily accessible, but they can only provide relatively small amounts; and in the case of money lenders, they are costly, as interest on repayments is high. Savings and loan groups are common in many parts of the world. They are organised in a variety of ways, with differing degrees of formality, often by community members themselves or with the support of external organisations. They often begin with poor people pooling their savings; some evolve from other types of self-help group, club or association. The rules of individual savings and loan groups vary widely, but the basic principle is that members who pay in regularly are entitled to draw on the group for loans, in turns or according to need, when sufficient funds are available. Well-established groups sometimes attract additional finance from NGOs or other agencies.

A number of NGOs run savings and credit schemes, which often form an important element in their development programmes; some are starting to develop a wider range of financial services for poor people. More formal MFIs tend to operate like conventional credit institutions, lending money at interest over fixed terms. However, they are accessible to the poor because they accept small deposits, charge lower fees to savers and have lower or no collateral requirements.

The principles and rules of savings and credit schemes can be difficult for users to understand. There is a general need for improved financial literacy to increase people's understanding of the different financial institutions and services available to them. This enables them to make informed choices, but is also important in maintaining trust and ensuring the reliability and continuity of financial services.

MFIs use a variety of methods to help their clients deal with disasters. Rescheduling loans after disasters have struck is a common practice. Writing off loans is undesirable because it undermines clients' long-term commitment to repay as well as being a loss to the microfinance scheme itself. Many MFIs provide emergency loans to clients to meet immediate needs for food, clean water or medicine (programmes often set a percentage of total savings aside as

an emergency fund for loans and grants to clients in crisis). These are made at lower interest rates, or even without interest, although many clients still prefer to borrow informally from friends, relatives and money-lenders. Even where credit programmes are available, informal borrowing remains important in poor communities, especially if the money is to be spent on consumption rather than invested in productive activity (at times of crisis families go to great lengths not to use up their savings or sell off their livelihood assets). They are more likely to take up emergency loans from MFIs if the loans can be made rapidly and come with few or no restrictions on how they can be used and lower or no collateral requirements. Some post-disaster loans are made to replace or repair physical livelihood assets: equipment for income-generating activities, such as cooking utensils or sewing machines, and rebuilding business premises. They tend to be relatively large and are usually made once the relief period is over, at normal interest rates and with a longer repayment period. Only large MFIs can afford to make a large number of asset replacement and housing loans, and there is some evidence of higher than usual failures to repay. For this reason, MFIs often prefer to provide standard short-term working capital loans, seeing these as best suited for disaster recovery.

MFIs need to react quickly in a disaster, in assessing the situation and planning their response. This is not always easy: local branch offices may be damaged or inaccessible, electricity supplies and transport networks disrupted and communications broken down. Disaster victims may be physically unable to withdraw savings, take out new loans or renegotiate old ones. Branch staff need training to manage in such circumstances; crisis management plans should be drawn up, and clear guidance given on lending policy and practice. MFIs should be linked to early warning systems, and ensure that their clients are informed about potential disasters. Client assessment and market research help MFIs to understand how disasters will affect their clients and how to support the revival of small enterprises and local markets. MFIs also often undertake short-term relief work, though this can cause problems for staff who are not trained as aid workers. MFIs engaged in relief need to communicate clearly to their clients that their efforts are temporary and one-off, and do not influence their primary role as providers of finance.

In some countries where disasters are a regular occurrence, it is common practice for MFIs to make savings and credit groups or individual clients pay a percentage of their 'compulsory savings' into an emergency fund (compulsory savings are regular deposits made by borrowers to build up collateral against their loans: normally they cannot be withdrawn while loan repayments are still outstanding). Money from the fund can be made available quickly to disaster-affected borrowers in the form of emergency loans. After a disaster, many MFI clients will withdraw these savings, but such rapid, large-scale withdrawals can cause problems for smaller MFIs, especially if they have reinvested compulsory savings in their standard loan programmes. The stricter the conditions attached to the use of compulsory savings in emergencies, the more likely it is that poor people will look elsewhere for other sources of money, including money lenders.

Financial practice is currently geared more towards managing response than promoting DRR, but MFIs can and do introduce preparedness and mitigation initiatives for their clients. This is more likely where the micro-finance programme or institution is part of a larger NGO's portfolio. For example, MFIs in Bangladesh have made subsidised loans for emergency preparedness purchases such as food, fuel and water purification and rehydration tablets. Housing loans may be provided to help clients build in safer locations. MFIs can encourage their clients to form welfare or disaster insurance funds, or arrange for clients to rent space in seed and grain banks. Some MFIs insist that their members develop their own contingency plans. There is also potential for using non-financial credit – loans of seeds, tools or materials – to help reduce risk.

One important lesson from large-scale disasters is the need to protect MFIs themselves from failure. Many MFIs do not have sufficient capital to support their existing clients during and after a major crisis; small-scale savings and loan schemes or revolving funds in particular can find themselves critically short of funds if disaster-affected borrowers fail to keep up with repayments. During extensive floods in Bangladesh in 1998, the micro-credit system was put under severe strain: loan recovery rates fell from 92% to 43%, and MFI staff could not locate borrowers or arrange group meetings. Informal savings and loan schemes in Haiti were badly

## Case Study 12.3 **Community savings schemes and post-disaster recovery**

The Homeless People's Federation Philippines (HPFPI), founded in 1998, is a national network of 200 community associations and savings groups representing over 19,000 households. In 2000, the collapse of a massive rubbish dump in Patayas, Quezon City, killed around 300 people and displaced several hundred families. HPFPI had been working in the community for several years. Members of HPFPI savings groups helped to provide immediate support, and HPFPI negotiated the resettlement of over 500 families to safer locations, establishing a savings scheme that enabled them to rebuild on the new sites and pay ground rents. In 2008, a typhoon hit the city of Iliolo, with more than 50,000 people affected by flooding. In response to the need for financial assistance for relocating and rebuilding its member communities, HPFPI mobilised its Urban Poor Development Fund (UPDF) to procure building materials for affected families. Costs of labour for house reconstruction were shared between the city government and HPFPI.

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J. C. Rayos Co, *Community-driven Disaster Intervention: Experiences of the Homeless People's Federation Philippines, Incorporated (HPFPI)* (London: International Institute for Environment and Development, 2010), <http://pubs.iied.org/10587IIED.html>.

## Box 12.1 Emergency lending to MFIs

The Emergency Liquidity Facility (ELF), launched in 2005, provides loans to Latin American MFIs so that they can respond quickly to disaster-affected clients. It has a loan fund of \$12m, financed by the Inter-American Development Bank, the Swiss government and a range of other institutions that support micro-finance. To ensure speedy decision-making in times of crisis, MFIs are preselected for ELF support through an evaluation of their capabilities, structure and financial situation: over 50 MFIs from 13 countries have qualified for the scheme. By 2012 the ELF had disbursed \$36m to 37 MFIs in a variety of disasters and emergencies, including the 2010 Haiti earthquake.

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<http://www.omtrixinc.com/en/elf.html>; K. Jacobsen, A. Marshak and M. Griffith, *Increasing the Financial Resilience of Disaster-affected Populations*, Feinstein International Center, Tufts University, 2009, <http://fic.tufts.edu/publication-item/increasing-the-financial-resilience-of-disaster-affected-populations>; <http://fic.tufts.edu/assets/Increasing-Financial-Resilience-2009.pdf>.

affected by the January 2010 earthquake, with savings trapped under the rubble of collapsed buildings, stolen or simply lost; people responsible for looking after cash had often been killed or had moved away.<sup>3</sup> MFIs can spread their risk by making sure that they serve poor clients in areas less likely to be affected by hazards, or by lending to people involved in more than one sector of the economy. For this, they need to undertake their own risk assessments. But even well-prepared MFIs are unlikely to be able to cope with massive disasters. Obtaining new sources of credit takes too long, although the creation of emergency lending facilities for MFIs can speed things up (see Box 12.1: Emergency lending to MFIs).

## 12.4 Cash transfers and remittances

Cash transfers are increasingly used as part of humanitarian assistance programmes. Cash gives people more choice and flexibility than in-kind assistance, allowing them to make their own decisions about what goods and services to buy, according to their own needs and priorities. Delivering cash avoids the often high transportation and distribution costs of other forms of humanitarian aid. Injecting cash into local markets can also help stimulate local economies and encourage economic recovery. The contribution of cash transfers to DRR and

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<sup>3</sup> Microenterprise Best Practices Project, *Loan Rescheduling After a Natural Disaster* (Washington DC: Development Alternatives Inc./USAID, 1998), [http://www.gdrc.org/icm/disasters/rapid\\_onset\\_brief\\_1.pdf](http://www.gdrc.org/icm/disasters/rapid_onset_brief_1.pdf); Feinstein International Center and Interuniversity Institute for Research and Development, *Disaster Risk Reduction and Financial Strategies of the Poor: Demand for, Access to, and Impact of Cash in Haiti Following the 2010 Earthquake* (Somerville, MA: Feinstein International Center, 2013), [http://fic.tufts.edu/assets/TUFTS\\_1385\\_Haiti\\_2\\_online-UPDATED.pdf](http://fic.tufts.edu/assets/TUFTS_1385_Haiti_2_online-UPDATED.pdf).

vulnerability reduction in general is still being developed and discussed. The approach can be effective in helping households to cope with short-term shocks such as poor harvests, rises in food prices and unexpected expenses. There is also a role for cash transfers as a component of wider social protection programmes, which can be linked to humanitarian response.<sup>4</sup>

Remittances from family members working in another place or country total many billions of dollars worldwide and form a vital element in many household incomes. In normal times remittances contribute to DRR by helping to diversify livelihoods, provide health care and education and build better (and stronger) houses. They are also an important source of financial support during crises. Money is sent through a variety of formal and informal channels. Because remittances go directly to family incomes they have a direct impact on livelihoods, and households themselves choose how to use the money. There is evidence that remittances from family members abroad increase after disasters. Families that have access to remittances are less likely to have to sell off their livelihood assets to cope with crises, and they recover more quickly.

Money transfer systems depend on transport and communications infrastructure. Where these are damaged in a disaster, remittances may not arrive quickly enough to meet emergency needs and it may be difficult to locate families if they have been displaced by the disaster. In some circumstances, mobile phone banking or e-payment systems can be an effective method of transferring money quickly. Payments, transfers and withdrawals are made via mobile phones and cash can be drawn down from local money agents, which makes financial services and remittances more accessible to people in remote locations and places where banks do not have branches. The transaction costs are relatively low (with a particular saving in time and money getting to distant branch offices), savings are in safe locations and customers have access to a wider range of financial service providers.

These new technologies have been tried in emergencies, including the post-election violence in Kenya in 2008 and the Haiti earthquake in 2010, and the results are encouraging.<sup>5</sup> However, there are a number of challenges: money transfer systems of this kind are complex, requiring time, effort and technical skill to set up; they depend on reliable network coverage; and the high demand for cash may cause problems for local money agents who

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4 S. Bailey, *Cash Transfers for Disaster Risk Reduction in Niger: A Feasibility Study* (London: Overseas Development Institute, 2008), <http://www.cashlearning.org/downloads/resources/documents/cash-transfers-for-drr-in-niger.pdf>. See also *Is Cash Transfer Programming 'Fit for the Future'? Final Report* (London: Humanitarian Futures Programme, 2014), <http://www.cashlearning.org/downloads/calpfffinalreport.pdf>.

5 D. Datta, A. Ejakait and C. Odak, 'Mobile Phone-based Cash Transfers: Lessons from the Kenya Emergency Response', *Humanitarian Exchange*, 40, 2008, <http://www.odihpn.org/humanitarian-exchange-magazine/issue-40/mobile-phone-based-cash-transfers-lessons-from-the-kenya-emergency-response>; K. Sossouvi, 'Innovation in Emergencies: The Launch of "Mobile Money" in Haiti', *Humanitarian Exchange*, 54, 2012, <http://www.odihpn.org/humanitarian-exchange-magazine/issue-54/innovation-in-emergencies-the-launch-of-mobile-money-in-haiti>.

normally manage much smaller sums. Other barriers to access include illiteracy and lack of familiarity with the technology. Formal identification documents are needed to register for schemes and collect payments, but the poorest may not have such documents, or may have lost them in the disaster.<sup>6</sup>

## 12.5 Disaster insurance

Insurance is a standard and effective method of sharing risk. Individuals and organisations buy it so that they can be compensated when hazards lead to death, injury or ill-health, or loss of property or income. This gives policy-holders the promise of some financial stability, and hence the confidence to invest (e.g. in home improvements) or expand (e.g. a business enterprise). Insurance companies protect themselves against major catastrophes by basing their insurance premiums on sophisticated mathematical calculations, spreading their own exposure across many different areas and types of risk and buying their own insurance cover (reinsurance).

Insurance is predominantly commercial. Decisions about whether to buy and sell insurance, what kinds of cover to provide and what premiums to set are determined by market forces. Governments do sometimes intervene, either through state schemes (to protect farmers against crop losses, for example), providing subsidies or by making some kinds of insurance cover compulsory (such as employers' liability or motor insurance). In Japan private insurers are obliged by law to offer earthquake insurance, but are protected by a government-backed scheme, the Japanese Earthquake Reinsurance Programme: this enabled insurers to pay out quickly after the 2011 earthquake and tsunami.<sup>7</sup> Governments also have a key role in policy-making and regulation for the financial sector generally, and can take on more active roles regarding risk-related financing. Other institutions can also force people to take out insurance: companies making loans to people to buy houses usually insist that they are insured.

Insurance can stimulate further risk reduction actions. Insurers may only provide cover in high-risk areas if governments provide adequate mitigation measures and emergency management systems. State crop insurance schemes allow farmers to take the risk of planting different crops, leading to greater diversification and security against individual hazards. In the United States, the National Flood Insurance Program, started in 1968, is a partnership between communities and the public and private sector that links the premiums paid to the

<sup>6</sup> G. Smith, 'New Technologies in Cash Transfer Programmes and Humanitarian Assistance', *Humanitarian Exchange*, 54, 2012, <http://www.odihpn.org/humanitarian-exchange-magazine/issue-54/new-technologies-in-cash-transfer-programming-and-humanitarian-assistance>.

<sup>7</sup> O. Mahul and E. White, *Knowledge Note 6-2: Earthquake Risk Insurance* (Washington DC: World Bank Institute, undated), <http://wbi.worldbank.org/wbi/content/knowledge-notes-cluster-6-economics-disaster-risk-risk-management-and-risk-financing>.

level of protection. It offers flood insurance to home owners, renters and business owners if their community takes part in the programme. Once government emergency management specialists have certified that communities and households have put particular flood management and mitigation plans and measures in place, they are eligible for lower rates from the many commercial insurers involved in the scheme.<sup>8</sup> Many companies offer reduced premiums to individual clients who undertake mitigation measures, such as retrofitting houses against hurricanes or floods.

Because of the size of the global insurance industry and its obvious value in reducing risk through risk sharing and stimulating mitigation, DRR agencies have become interested in its potential for protecting the most vulnerable. However, because the industry is market-driven its success is based on confining its coverage to places where the risks can be calculated with some accuracy and certain minimum standards, such as building codes, can be enforced, and to people who can afford to pay. In effect, this means that coverage is largely limited to higher-income countries, and to wealthy people and larger businesses in middle- and low-income countries; the poorest and most vulnerable find it hardest to obtain insurance, and insurance companies have shown little interest in extending their coverage to such groups. Major disasters may cause companies to raise premiums substantially or even withdraw cover in high-risk areas. State insurance is available in many low-income countries, but premium levels still tend to be high and policies are aimed at the professional classes in urban areas. Even in wealthy societies, many people do not take out insurance. In such circumstances, the burden of financing recovery is often passed on to governments (which have access to risk transfer mechanisms such as insurance, regional risk pools and insurance-linked securities such as catastrophe bonds). Many people who do not take out insurance cover calculate that, in the event of a disaster, their national government will be obliged to compensate them for their losses anyway. All insurance schemes have to face up to the problem of 'moral hazard': where the sense of security and confidence of having insurance cover leads to people failing to take steps to reduce risk, or even to take greater risks.

Where insurance schemes for poor groups and individuals have been successful, they have generally originated in development programmes that have aimed at financial sustainability rather than profit. Such schemes are run mainly by MFIs but also by NGOs, cooperatives, governments and even some companies. Business involvement is often in partnership with non-profit organisations, where the business – usually an insurance company – typically provides technical expertise (e.g. actuarial calculations regarding risks and their likely costs), assistance with marketing, or underwriting. Some schemes have an outreach of a few hundred families but they can reach large numbers of people – millions, in a few cases. Terms and conditions vary widely, as do the administrative and financial structures used, but life insurance, which is one of the main forms of insurance on offer, is often compulsory: people

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<sup>8</sup> See [https://www.floodsmart.gov/floodsmart/pages/about/nfip\\_overview.jsp](https://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp).

who wish to borrow money or open a savings account have to take out an insurance policy. The other main kinds of coverage are health and property insurance.

The evidence available to date indicates that insurance programmes for poor people, especially life insurance, can be financially viable. Nevertheless, insurance is a risky business. To maintain financial stability, life policies generally exclude high-risk groups such as the elderly, and certain causes of death such as epidemics. Health insurance may exclude health care costs for AIDS-related treatment or injuries arising from involvement in riots or other civil unrest. All-risk coverage for property is rarely available. Schemes may have to be amended repeatedly to achieve the right balance between broad coverage and financial sustainability. This is particularly true of health insurance services, whose financial performance is much lower than that of life insurance. Another problem is delays in settling claims. This is partly the result of bureaucratic slowness, but partly inevitable where claimants live in remote villages or communications break down because of technical failures, environmental hazards or civil unrest.

Insurers have to put considerable effort into marketing their schemes to people unfamiliar with the concept and workings of insurance. Local-level approaches involving community meetings and regular discussions with field workers tend to be most successful. Once households understand insurance interest seems to be strong. People are also more likely to buy insurance when they see others in their community purchasing it and obtaining financial benefits from having done so. Non-economic factors can be important, especially trust in the product and the organisations selling and managing it. Where there is already a relationship of trust between the insurer and the community – notably where the insurer is an established MFI or NGO – a base of policy-holders can be built up quite quickly. There are also examples of successful mutual benefit societies, where insurance funds are set up by groups to provide cover for their members (see Case Study 12.4: Mutual insurance for farmers).

Micro-insurance<sup>9</sup> is specifically aimed at people living on low incomes. It follows accepted insurance practices, but there are significant differences in the way it operates. It charges low premiums and provides limited coverage, usually against specific risks. A variety of institutions provide micro-insurance: they include community savings and credit schemes, women's associations, NGOs, credit unions, MFIs and commercial insurers. Micro-insurance procedures are adapted to their clients' needs and capacities, being much simpler than those for conventional insurance and facilitating quick payouts in response to claims. This combines the convenience and flexibility of informal insurance, while retaining the security and reliability of formal programmes. Micro-insurance can play an important role in helping poor households to cope with everyday or extensive risks.

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9 V. Tan, *Microinsurance* (London: Advocates for International Development (A4ID), 2012), <http://a4id.org/sites/default/files/files/Short%20guide%20to%20Microinsurance.pdf>.

## Case study 12.4 Mutual insurance for farmers

*Fondos* are non-profit mutual insurance funds for farmers in Mexico, formed by groups of farmers and growers and providing insurance only to their own members. Each member pays an annual premium, and surplus funds at the end of the year are reinvested in contingency reserves or spent on social projects. Over the years, the sums insured have increased significantly and insurance premiums have fallen. By 2012 there were 388 *fondos*, and nearly 1.5m hectares and over 16m animals were covered by the insurance programme. Insurance is available for crop failure and loss of livestock, damage to farmers' property, death and accident or illness. For many years the government provided all of the reinsurance cover needed, but private reinsurers have begun to join. Admission to a *fondo* depends on its perception of a farmer's capacity, and the scheme has been criticised in the past for excluding poorer, more vulnerable farmers.

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World Bank, *Fondos: Mexico's Unique Agricultural Mutual Insurance Funds* (Washington DC: World Bank, 2013), <http://documents.worldbank.org/curated/en/2013/10/19538858/fondos-mexicos-unique-agricultural-mutual-insurance-funds>; E. Adamsdale, *Transferring Risk: Potential Partnerships between the Insurance Industry and the Humanitarian Sector* (London: British Red Cross Society, 2002).

Micro-insurance can also be used to stimulate mitigation activities. Health insurance is sometimes linked to preventive and primary health care programmes run by the insurer concerned (if an NGO) or a partner organisation, and policy-holders may be expected to use such services. Technical support can be given to policy-holders to help them protect their property against common hazards. Non-profit and community organisations can also play a part in lobbying governments and others to establish non-profit insurance schemes or to encourage the spread of commercial insurance cover – if not for the poor, then at least for lifeline facilities such as hospitals, schools, power plants and bridges.

Micro-finance and micro-insurance can complement one another: while insurance can be effective for covering less frequent, larger shocks, other forms of financing such as savings and credit may be more flexible and efficient in addressing smaller shocks that occur on a more frequent and regular basis. Many MFIs have begun to offer insurance on micro-credit loans so that borrowers (and the MFIs themselves) will not be stuck with debt if their business is damaged by a disaster. There are also examples of linking micro-insurance to savings programmes, by allowing members of savings and credit groups to save for insurance through fixed deposits in savings accounts.

MFIs should proceed carefully if they wish to enter the micro-insurance business. They may lack the skills for assessing risk and computing appropriate premiums and contributions. They should have sufficient reserves and reinsurance for large as well as smaller disasters,

bearing in mind that large events will also affect clients' ability to pay their regular insurance premiums. There are concerns that micro-insurance may not be economically viable for the MFIs or NGOs that support them without subsidies (many micro-insurance schemes are subsidised). Schemes with large numbers of policies and clients are usually more secure in terms of exposure to risk and ability to obtain reinsurance. However, all micro-insurers need to be able to adapt to rapidly changing conditions in the financial services market and the regulatory environment. They cannot afford to stick to a fixed model, and they will inevitably have to balance their social goals against financial viability. Even the low costs of micro-insurance programmes may still be too high for very poor households.

Informal insurance and social security systems are already widespread among the poor in disaster-prone societies, especially in rural areas where communities and social structures are well established. Borrowing and sharing of goods, cash and labour are part of the social fabric in good times and bad. They comprise an important coping strategy during crises when those who are suffering can call on neighbours or kinsfolk for food, materials or other support. Exchanges of food form an important part of famine mitigation strategies in Sub-Saharan Africa. Funeral or burial societies are found throughout the world, their members pooling funds to cover expenses related to the death of another member. Traders and artisans may lend small amounts of money to one another to cover short-term cash flow problems.

In recent years, governments, financial institutions and international development agencies have become interested in using index-based insurance to protect assets, particularly in the agricultural sector. Index insurance is linked to an index, such as rainfall, temperature, humidity or crop yields and revenues, or to a combination of these, rather than to actual losses from droughts, floods or other hazards. Thresholds for these indices are set in advance, based on analysis of historical scientific, production and economic data: when the thresholds are exceeded, insurance payouts to farmers are triggered automatically, regardless of their actual losses. This makes the approach much simpler administratively, quicker, cheaper to operate and less expensive to purchase than conventional insurance, where each individual claim has to be assessed. It is therefore more affordable for small-scale and poor farmers.

Index insurance schemes have been piloted and promoted in a number of countries, including the Philippines (with programmes supported by Germany's international development agency GIZ and the global reinsurance company Munich Re),<sup>10</sup> Malawi, Vietnam, India, Ethiopia, Brazil, Mongolia and Mexico (see Case Study 12.5: Index insurance for farmers). Index insurance requires certain conditions to be met. The indices and thresholds must be calculated objectively and reliably, and the process of calculation and premium setting must

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<sup>10</sup> S. Prabhakar et al., *Promoting Risk Financing in the Asia Pacific Region: Lessons from Agricultural Insurance in Malaysia, Philippines and Vietnam* (Hayama: Institute for Global Environmental Strategy, 2013), [www.asiapacificadapt.net](http://www.asiapacificadapt.net).

## Case Study 12.5 Index insurance for farmers

A flood and drought index insurance programme by Mexico's state reinsurance company Agroasemex is designed to improve the distribution of government assistance to farmers in the event of climate-related crop failure. The scheme targets poor farmers, giving assistance for up to 5 hectares of land per farmer. It uses a rainfall index, with different payment thresholds according to the type of crop, stage in crop growth and geographical region. These indices are adjusted each year. The programme's coverage grew from 75,000 hectares and five weather stations in 2002 to 1.9m hectares and 251 weather stations in 2008. By 2008, 800,000 low-income farmers had insurance cover and the total sum insured was \$132m. Take-up was constrained by the limited number of weather stations producing usable data and by limited technical capacity. Rainfall and temperature simulations were used to replace missing historical data and develop projections of future rainfall.

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M. Helmuth et al. (eds), *Index Insurance and Climate Risk: Prospects for Development and Disaster Management* (New York: Columbia University, 2009), <http://iri.columbia.edu/wp-content/uploads/2013/07/Climate-and-Society-Issue-Number-2.pdf>.

be transparent and public, in order to give farmers and others who purchase the insurance confidence in the system. Relevant data must be available and the data collection systems must be reliable: in the case of meteorological data, this can often be collected remotely from automatic measuring stations. However, in many places the quality and quantity of relevant data are limited, and this remains the main constraint on expanding the outreach of index insurance.