

Financial services and community level climate change adaptation

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1. Introduction

Workshop in the Hague

-purpose: with effects of massive disasters the year 2005 focused on disaster risk finance, including disaster assistance.

-audience
-objectives
-outcomes

In recent years, various international institutions have more closely investigated the role financial services (including banking services and insurance) could play in managing disaster risk. Because climate change is expected to lead to more frequent and intense weather events, awareness is increasing that financial services may have a significant role to play in managing risks that accompany climate change (IPCC 2001). Financial services can help absorb and redistribute the cost of hazard-related losses. They may also shape incentives which encourage disaster risk reduction.

When extreme weather events occur, communities and those organizations which serve them are vulnerable to the costs of sickness (health insurance), loss of income (income insurance), and loss of harvests (crop insurance). When disasters strike, the risk and impact of sickness is multiplied (PAHO, 1999), loss of income can drive an exposed population into poverty (Vellinga et al., 2001), droughts can turn to famine and hunger (Ribot et al., 1996). Financial services provide a potential way to reduce community vulnerability to weather-related risks.

To reduce vulnerability, greater links must be forged between climate science, disaster risk management and the financial services sector to integrate risk management into normal development practice. In particular, efforts to use financial services in the area of climate risk management remain scattered, and largely divided between the disaster risk, climate adaptation, and financial services circles.¹ Documentation of experience and communication between these groups is limited. There is also a gap between the supply and demand of financial services at the local level. Providers of financial services would benefit from a better understanding of community level needs to design appropriate financial tools for adaptation to climate change and disaster risk. Today, the public and private sectors, and other organizations require clear direction about specific ways to improve finance alternatives for extreme weather events at the community level. In particular, there is a need for making financial services an active part of adaptation to climate change and disaster risk reduction.

2. The needs and solutions of disaster assistance at the community level

A spectrum of actors provide financial services for community-level climate adaptation and disaster risk reduction activities. Figure 1 illustrates this spectrum and the actual ways that communities finance these activities (by type of provider). In developed countries, most financial and other resources for disaster risk reduction and adaptation activities come from households—mainly through consumption of available resources, savings,² or borrowing from

¹ Adaptation policy is currently addressed at the national level, through studies for National Communications or through National Adaptation Plans of Action (NAPAs). Yet effective adaptation to climate change occurs at the local level, and therefore is an issue for community policy and action. For the local level, there is little understanding of how adaptation to climate extremes should or could take place, and very few tools are available to address and fund such actions.

² Saving money is the leading way that the poor prepare for or cope with emergencies or crisis. The capacity to save depends on household income. Savings are an effective coping mechanism only when income is regular and smooth, and if households have not faced previous cash shortfalls. Therefore, savings do not provide optimal risk coverage for the very poor due to their erratic income flow. Another common coping strategy is to share risk with extended family or with neighbors. To overcome the low market value of their assets and to spread risk more efficiently, the needy often organize themselves into community groups such as cooperatives. However, an event such as a major natural disaster could simultaneously affect all members of the group. This covariant risk prevents the poor from spreading the negative impacts of disasters with immediate family members or neighbors (Provention, Dannemann,

local lenders (interest rates can reach from 30 to 120% (Hess, 2003)). Beyond household risk finance, initiatives by governments and NGOs are often motivated from a general development perspective rather than a risk management or climate risk perspective. At the left side of the spectrum, micro-finance institutions (MFIs) and the private sector provide financial services as for-profit products.

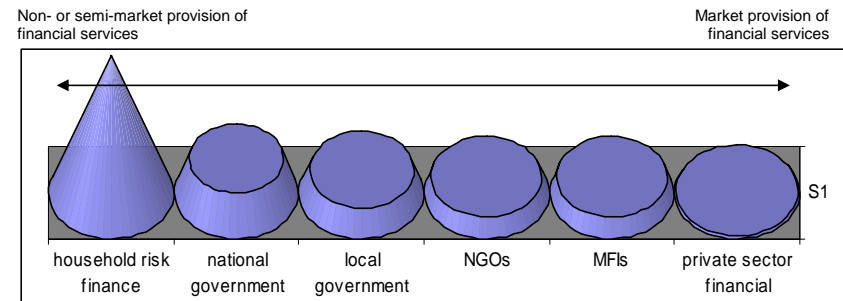


Figure 1: Spectrum of financial services provided, by actor and by concentration of current initiatives

The leading rank of household-level risk finance is revealing: A survey in 7 Latin American countries indicated that household disaster finance was considered the most costly and least efficient means of paying for disaster risk and adaptation activities (Warner et al., 2004). There is a pressing need to overcome obstacles to providing affordable and appropriate financial services at the local level—and from actors which are best suited to manage and finance disaster risk and climate adaptation activities. Appendix A provides an analysis of financial services models.

The discussion below provides examples of innovative solutions provided throughout this spectrum to help communities more efficiently and effectively pay for disaster risk reduction and climate adaptation.

Federal government-initiated scheme. *El Salvador's Social Protection Funds (FISDL).* Social investment funds (SIFs) provided by the federal government have been used in El Salvador to provide rapid assistance to poor communities. Social investment funds provide resources for small construction works, such as retrofitting or adaptation of structures for extreme weather conditions. SIFs mobilize and disburse government resources and expand operations rapidly at the local level, maintain direct contact with poor communities, operate in a decentralized manner, and work closely with civil society organizations and local governments. The funds contribute to damage prevention activities and financial schemes aimed at risk mitigation. SIFs reduce vulnerability by creating employment, generating social services for the poor, and widening community-based civic action. This program is efficient and effective because of clearly defined responsibilities for all parties involved, including a transparent monitoring and reporting system (recipient communities must account for use of all funds received).

Local government-initiated scheme. *Risk mitigation and risk pooling/insurance scheme at the community level.* Since 1999 the city of Manizales, Colombia has used a risk pool/insurance mechanism to pay for disaster risk mitigation. The city is located in the Andes mountains and faces a number of hazards, including landslides and flooding, earthquakes and extreme climate variability. The city-wide risk pool has established a detailed inventory of building types (parcel by parcel). This inventory has allowed scheme managers to estimate probable losses and evaluate options for covering the potential costs and financing risk reduction. A notable point in this case is the championing role played by the mayor's office. The combination of ex ante risk mitigation and an accompanying financial plan, and strong

S., and Warner, K. "Solidarity and Opportunity: The Potential of Insurance and Disaster Risk Management in Developing Countries." *Provention Consortium International Conference*, Zürich, 14.)

advocacy within the ranks of municipal leadership make this an interesting case. Successful risk pooling schemes require robust estimates of probable losses as well as strong advocacy among local authorities to prioritize risk reduction and appropriate adaptation.

NGO-initiated scheme. DHAN Foundation helps disadvantaged people organize community groups for risk management purposes. As a local NGO in India, DHAN has the necessary relationships with communities groups to set up risk management schemes cover thousands of groups. DHAN oversees almost 15,000 community groups, called Kalanjams, that comprise smaller units of 15 to 20 poor women. Through these units, the DHAN Foundation reaches over 250,000 families in India.

DHAN required financial backing and certain expertise about financial services for improved risk management. To allow insurance products to serve this high volume of customers, DHAN sought out the reinsurer Interpolis Re to negotiate with local insurers to provide policies for members of the large schemes like DHAN. The partnership with Interpolis Re also offers clients a wider variety of financial service products, technical support for claims administration and training programs to develop local insurance capacity, and community education programs (through DHAN channels). NGOs can help private financial services companies overcome obstacles such as client awareness of financial services, illiteracy, and articulation of product demand. For example, the DHAN foundation developed street plays to illustrate to spectators how micro-insurance schemes help solving problems related to disaster risk. Information shared in this way has proved effective in increasing understanding and demand for micro-insurance products for disaster management.

Micro-finance-initiated scheme. Micro-Finance Institutions (MFIs) like Opportunity International provide a variety of financial services to communities in developing countries. Micro-finance clients form groups that share the responsibility of paying interest and principle of small loans with other members. Micro-insurance products offered by Opportunity International help such groups better manage their risks and also benefit micro-credit operations by preventing loan default in the case of an unexpected event. Like NGOs, MFIs have strong links to local clients and are able to efficiently administer group policies. Partnerships with private sector companies help MFIs overcome specific challenges. MFIs are not necessarily experts in designing and providing insurance services. MFIs may lack the actuarial basis for computing premiums and contributions; however, they may still offer insurance products. These institutions may attempt to adopt products of formal insurance firms, using the same premium and benefits without adjusting these to customer demand in specific markets. Micro-insurance provided by MFIs might not be always feasible because they have a smaller and possibly more homogenous risk pool, and they lack reserves and reinsurance. MFIs face high covariant risk when disasters affect all of the community groups with outstanding loans. To successfully provide insurance, MFIs must achieve a certain scale in numbers of policies and clients in order to reduce variability in the portfolio. By seeking formal insurance and reinsurance partners MFIs can better transfer risk once scale is achieved.

3. Main issues and the way forward

Four main groups of issues require addressing to make financial services more widely available for climate adaptation and disaster risk reduction at the community level. These issues revolve around attitudes and incentives, legal and regulatory frameworks, roles of partners, and the financial products themselves. Appendix B provides additional information about each of these four issues.

Attitudes and incentives. Current attitudes and incentives which dominate risk management and climate adaptation financing practices heavily favor ex post solutions. These solutions include waiting for international donors or federal governments to provide resources for emergency response. Although there is a widespread realization that risk reduction is the preferred ideal priority, crisis management receives operational priority and commands greatest financial resources. Disincentives that make utilizing ex ante financial services for more proactive risk management and risk reduction include: difficulty of obtaining resources before a catastrophic event, lack of information about financial services and lack of

consensus about alternatives, and a lack of awareness of financial services products. To change these attitudes and incentives, governments should reconsider their policy of providing generous support following a disaster in favor of supporting ex ante action, possibly linked to access to desired social products. Cost benefit analyses could provide guidance about which financial services might be best used. Finally, greater promotion and public awareness of financial services products could reduce the disincentives for ex ante disaster risk finance and risk reduction/adaptation.

Legal and regulatory frameworks. The workshop identified many needs that could be addressed to strengthen the legal and regulatory frameworks to facilitate risk reduction and adaptation through financial services. Some countries lack sufficient legal and regulatory frameworks for financial services. Without this framework formal sector insurance and banking cannot lawfully operate, depriving communities of this important source of finance and risk transfer capacity. Mutual benefit groups may still be able to provide financial services locally if legal and regulatory rules are not in place.

Countries also vary widely in the legal and regulatory frameworks they have in place, creating a complex landscape for companies wishing to provide financial services for disaster risk reduction that also captures scale. While the Basel Convention provides guidelines for worldwide banking services, no such international coordination exists for the insurance industry. Country-to-country differences provide opportunities for general financial services, but complicate setting up multi-country disaster risk management schemes or transferring risk across regions to diversify portfolios and more efficiently manage risk (insurance).

Partner roles. The potential exists to expand provision of financial services throughout the spectrum in figure 1. There is a need to shift the financing of risk towards those parties which are best able to bear and absorb that risk—probably to those parties lying farther to the right in the spectrum above. The main challenges in this process are to effectively reach and work with community groups, and to increase private sector participation. Experience indicates that forming partnerships can provide a solution to both challenges.

Partnerships offer a way to provide financial services products that satisfy client demand, and which are mutually advantageous. Involvement of partners with strong ties to recipient communities address problems of adverse selection and morale hazard, a major obstacle to formal sector products. Community groups raise awareness among potential clients about using insurance products to reduce disaster risk, lowering product marketing costs. These groups aggregate risk and facilitate the administration of services like premium and claims payments. Strong community ties also strengthen the ability of partners to understand product demands of potential clients. In these partnerships, responsibilities and roles must be clearly defined, with each partner contributing its comparative advantage to the scheme. Partnerships can also provide a venue for broader private sector participation. Appendix B outlines potential contributions of each partner.

However, while the private sector has been involved as a partner in some cases, the private sector has not initiated schemes to serve communities. Because many of the factors required for formal financial services are not in place at the local level (particularly in developing countries), the private sector may be reluctant to take the lead in initiatives. Governments and international organizations can help overcome current obstacles (information asymmetry at the community level, monitoring, targeting, etc.) that discourage engagement of the private sector. The impetus to move forward lies with partners such as governments, the international humanitarian community, and other international organizations.

Products. A wealth of knowledge exists about how to design risk management products. Clients show a willingness to pay for financial services proportional to their income. For the poor, approximately 5% of household income, plus or minus a percentage point, might be used for financial services. Products must carefully balance cost and services. Products should have a simple structure and be easy to administer. In developing countries, clients first need life and accident insurance, then income security (such as crop insurance, livelihood protection) and access to credit for investment, then health insurance. As income rises property insurance and credit becomes important. The challenge in designing products

for the local level (especially in developing countries) lies in finding ways to aggregate, diversify, and administer risk-management products. Another pending challenge is to build geographical spread and differentiation between types of climate-related risks into the financial services portfolios. Involvement of private sector partners can facilitate further aggregation of risk from local to global levels, thus spreading risk to wider markets than might be possible otherwise.

The way forward. The audience identified a range of follow-up projects, studies, and further dialogue to continue building on the momentum gained during the workshop. Next steps include:

- Survey of local-level financial services customers to gauge perception of benefits and costs of financial schemes for disaster risk reduction and climate adaptation.
- Explore development of financial products: 2 proposals
 - Risk swap between regions (flooding and drought)
 - Develop simple product for farmers (water scarcity or abundance), global application
- Deepen and expand overview of risk financing strategies, building on World Bank Study (Drorr)
- Explore risk pooling schemes and risk layering among different partners from local to global (present at thematic session on climate insurance at COP 11).
- Perform a comparative cost benefit analysis of a community-level disaster risk finance scheme, over a 5 year period comparing with a community that used no such scheme
- Work with DRF to organize partnerships, documentation, and greater dialogue and pilot projects in disaster risk finance
- Follow-up workshop at the Munich Re Foundation International Symposium (16-17 November 2005).

Additional reading and resources

IPCC Third Assessment Report WG2, Chapter 8 on Insurance and Financial Services
http://www.grida.no/climate/ipcc_tar/wg2/321.htm

"Surviving Disasters and Supporting Recovery: A Guidebook for Microfinance Institutions"
 Eileen Miamidian, Margaret Arnold, Kiendel Burritt, Marc Jaquand, World Bank
<http://www.yearofmicrocredit.org/docs/Disasterguidefinal.pdf>

Disaster Risk Finance Group www.slif.ch/drif .

References

- Hess, U. (2003) "Innovative financial services for rural India: Monsoon-indexed lending and insurance for smallholders." 27096, World Bank, Washington, DC.
- PAHO, P.-A. H. O. (1999) *Hurricanes Georges y Mitch 1998*, Organizacion Panamericana de la salud (PAHO), Washington, D.C.
- Provention, Dannenmann, S., and Warner, K. "Solidarity and Opportunity: The Potential of Insurance and Disaster Risk Management in Developing Countries." *Provention Consortium International Conference*, Zürich, 14.
- Ribot, J. C., Magalhaes, A. R., and Panagides, S. (1996) "Climate Variability, Climate Change and Social Vulnerability in the Semi-Arid Tropics." Cambridge University Press, Cambridge.
- Vellinga, P., Bouwer, L., Huq, S., Kozak, L. A., Palutikof, J., Schanzenbacher, B., and Soler, G. (2001) "Chapter 8: Financial services." *Climate Change 2001: Impacts, Adaptation & Vulnerability*. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), K. S. White, ed., Cambridge University Press, Cambridge, 417-450.
- Warner, K., Dannenmann, S., and Ammann, W. (2004) "Risk reduction (dis)incentives: findings of a survey in Latin America." *Know Risk*, T. Jeggle, ed., Tudor Rose, London, 2.

APPENDIX A – Analysis of financial services models³

Figure 2 illustrates the costs and benefits of financial services, by type of provision model. Different models of financial service provision reach the informal sector in different ways.

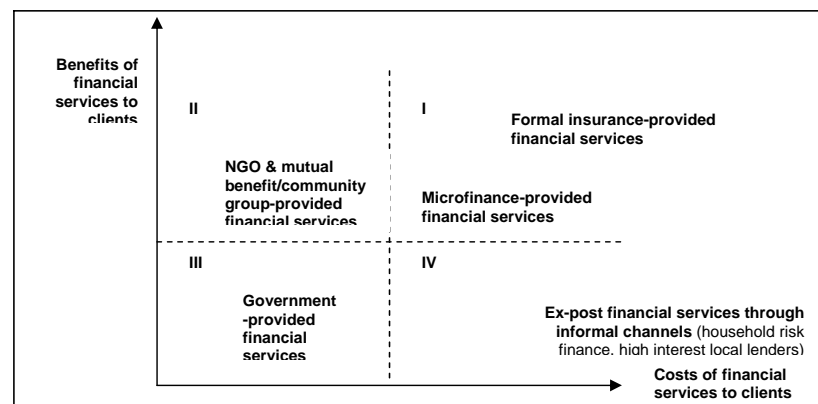


Figure 2: Costs and benefits of financial services, by type of provision model

Quadrant I: Services in this quadrant carry higher premiums/interest rates and offer more extensive coverage. Financial services quadrant I benefit from larger risk pools and optimization of actuarially feasible benefits. Micro-finance institutions that provide financial services operate in the lower left part of quadrant I. MFIs use the actuarial and financial services technology of formal sector companies and reach the informal sector with low transaction and marketing costs by working closely with community groups.

Quadrant II: Services in quadrant II are often smaller-scale operations. NGOs and mutual benefit/cooperative organizations offer lower costs and benefits for clients than formal sector products. Like MFIs, NGOs and mutual benefit organizations keep administration costs low by working with community groups. These groups have sufficient social capital to experiment with financial products: group ownership of the risk substitutes for the high reserves needed to buffer against design flaws during the experimental stage of product development. They may also receive government subsidies. Financial services in this quadrant have smaller and possibly more homogenous risk pools, and can lack of reserves and financial capacity.

Quadrant III: Services in quadrant III are often subsidized or provided directly at no cost by the government. Mandatory financial schemes may be poorly tailored to client needs (low benefits). Programs provide services with social components (such as poverty reduction, safe housing, infrastructure, and clean water). Strong links to communities are needed to prevent misuse of funds (targeting and monitoring key). Programs may be subject to periodic changes in government budgets.

Quadrant IV: The majority of current disaster and adaptation practices in communities cluster in quadrant IV: ex-post financial services through informal services. These services include foregoing current and future consumption, and relying on high-interest local lenders (such as loan sharks). This high-cost, low-benefit strategy can enhance future vulnerability to extreme events and prevent wealth accumulation and economic development of households and communities.

³ Figure 2 is an "evolutionary analysis," a collection of practitioner observations not a statement of reality. The relative positioning of financial services schemes in each quadrant is hypothetical. We welcome your comments about the underlying factors that affect the costs and benefits of various financial schemes at the community level.

APPENDIX B – Workshop audience comments from Thursday session

During the Thursday workshop session, the audience actively discussed four topics related to financial services for disaster risk reduction and climate change at the local level. Appendix B highlights some of the specific comments from these discussions.

Topic 1: Attitudes and Incentives

Topic 2: Legal and Regulatory Framework

- Important to recognize that markets develop over time:
 - Regulations need to facilitate process of market development without creating unnecessary obstacles (distortions)
 - Structure attractive projects that take longer time period into account
- Regulations and scheme structures:
 - Should make layering of responsibility and risk management possible, both solvency and solidarity is needed
 - How do you structure schemes to serve different income segments (middle income, low income, poorest of the poor)?
- Possible tax exemptions or other benefits for risk reduction: crop insurance and tax deduction linked to risk reduction
- Need to find a platform for dialogue between governments and financial services (including NGOs and MFIs)

Topic 3: Roles of Partners

Who are potential partners?

- Companies, shareholders
- Community groups
- Governments
- NGOs, Microfinance institutions (MFIs)
- International donors, international organisations, international financial institutions

Table 1: Strengths and limitations of various partners

Partner	Strengths	Limitations
Community groups	<ul style="list-style-type: none"> • Know client needs, can articulate product design needs • Lower costs through "awareness marketing" • Direct market access • Monitoring, lower moral hazard and adverse selection because they know the clients at the community level 	<ul style="list-style-type: none"> • Without partners limited risk pooling/transfer (geographic) • Without partners limited ability to amass credit • May lack expertise in financial services, claims and account management
NGOs, MFIs	<ul style="list-style-type: none"> • Social objectives important • Relationships with community groups • Access to non-profit motivated resources (church and civic groups) 	<ul style="list-style-type: none"> • May lack financial expertise • May lack solvency or capital reserve requirements • May lack technical expertise for claims administration
Government	<ul style="list-style-type: none"> • Long-term operations and views • Social objectives important (not profit motivated) • Ability to form laws and regulatory framework • Ability to subsidise desired programs 	<ul style="list-style-type: none"> • Programs vulnerable to political stability and budgetary changes • Programs may create market distortions, inefficiencies that prevent greater market coverage
Formal financial sector companies	<ul style="list-style-type: none"> • Expertise in financial management and risk transfer • Expertise in product design and delivery • Expertise in technological issues related to claims and account administration • Global network, access to global capital markets, greatest risk pooling/transfer capacity • Greatest financial assets capacity 	<ul style="list-style-type: none"> • Difficult to access community level, esp. in developing countries • Moral hazard and adverse selection • Difficulty knowing local partners • Poor business leads to insolvency
International organizations	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •

Topic 4: Product design

Keep product design simple

Offer different versions of the product with different incentives: for example, for insurance Low premium and low benefits, medium premium and medium benefits, high premium and extensive benefits

Design products and different versions of those products with demand elasticity of the market in mind

Link products with disaster risk reduction and awareness activities: example of school retrofitting, Nepal NGO survey at local level (the poor place a high value on public infrastructure and social services such as schools and basic healthcare)

Next steps

Build business case for private sector, as well as for governments about the considerations and benefits of making financial services a more central part of disaster risk reduction and climate adaptation strategies

Conduct survey about current risk management and risk transfer activities: how to keep costs low and enhance benefits of financial schemes

Some documentation of experience with spectrum of financial services, but mostly limited to perspective of international financial institutions. Compile an overview of risk financing structures specifically for disaster risk reduction and climate change adaptation.