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Strengthening the humanity and dignity of people in crisis through knowledge and practice



Disaster Risk Reduction and Livelihoods



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*Cover photo: Crossing the Mohana river
after flooding. Photo by Poshan Dahal*

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EXAMINING LINKAGES BETWEEN DRR AND LIVELIHOODS: *LITERATURE REVIEW*

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The report is the result of research carried out by the Feinstein International Center at Tufts University. The research team consisted of the following individual: Karen Jacobsen, Anastasia Marshak, Daniel Maxwell, Jeevan Sharma, Elizabeth Stites, and Peter Walker. All members of the team contributed to the writing of the report.

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DISASTER RISK REDUCTION AND FINANCIAL STRATEGIES OF THE POOR: *DEMAND FOR, ACCESS TO, AND IMPACT OF CASH IN HAITI FOLLOWING THE 2010 EARTHQUAKE*

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This report is the result of a collaborative effort between the Feinstein International Center at Tufts University and Interuniversity Institute for Research and Development (INURED) in Haiti. The research team consisted of the following individuals: Louis Herns Marcelin, Hugues Foucault, and Calixte Clérismé from INURED, and Karen Jacobsen and Anastasia Marshak from FIC. All members of the team contributed to the writing of the report.

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LIVING IN THE MARGINS: COPING WITH FLOOD RISKS AND MANAGING LIVELIHOODS IN NEPAL'S FAR-WESTERN TERA

Authors

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CONFLICT MANAGEMENT AND DISASTER RISK REDUCTION: A CASE STUDY OF KENYA

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DISASTER RISK REDUCTION AND LIVELIHOODS

Introduction

According to the Hyogo Framework for Action, disasters affect over 200 million people annually, causing significant loss of lives, forced migration, and disruption of livelihoods and institutions. The trend over the past 15–20 years points to a greater frequency of environmental, climatic, political, and economic hazards and therefore a growing risk for vulnerable populations worldwide.

Though disasters affect everyone, often the impact disproportionately falls on poor countries and the poor and marginalized people within. Thus the effects of disasters are not simply a humanitarian problem, but also a major challenge to achieving the Millennium Development Goals.

Disaster Risk Reduction programs and policies offer the potential to reduce the effects of a disaster or shift the burden outside the affected community, yet there exist many gaps and unanswered questions. From 2010 to 2013, the

Feinstein International Center, with support from the US Office of Foreign Disaster Assistance, conducted a three-country study of disaster risk reduction and livelihoods entitled “Disaster Risk Reduction and Livelihoods.” The study sought to:

- Improve the overall knowledge of the relationship between disaster risk and livelihood strategies;
- Improve the understanding and gaps in knowledge, practice, and policy; and
- Improve the impact of donor-funded DRR programs carried out by implementing agencies.

In order to address these objectives, the study identified three case studies to capture as much breadth and variety of disasters as possible, including geographical areas, affected livelihood assets, and population groups (Table 1). The first category was the hazards that the case study would address. These include environmental and

Table 1. Matrix for Case Study Selection

		Country Cases		
		Haiti	Nepal	Kenya
Hazard Category	Climatic	✓	✓	✓
	Tectonic	✓	✓	-
	Environmental	✓	✓	✓
	Economic	✓	-	-
	Social/Political	✓	✓	✓
Livelihood Assets	Physical	✓	✓	-
	Natural	-	✓	✓
	Financial	✓	-	-
	Human	✓	-	✓
	Social/Political	✓	✓	✓
Population Groups	Rural	-	✓	✓
	Urban	✓	-	-
	Peri-urban	✓	-	✓
Geographic Area	Latin America/Caribbean	✓	-	-
	Africa	-	-	✓
	Asia	-	✓	-

climatic hazards (all), tectonic hazards (Haiti), economic hazards (Haiti), and socio-political hazards (Nepal, Kenya). The second criterion is the type of *livelihood assets* addressed by programs, including physical (Nepal), natural (Nepal, Kenya), financial (Haiti, Nepal), human (Haiti, Kenya), and social/political (Nepal, Kenya, Haiti). The third was the *population group* (correlated with the livelihood group), and includes rural (Nepal, Kenya), urban (Haiti), and peri-urban (Haiti, Kenya). The last criterion was the *geographic region*, with one case each from the Latin America/Caribbean region (Haiti), one from Africa (Kenya), and one from Asia (Nepal).

The Case Studies

The first case study, “Disaster Risk Reduction and Financial Strategies of the Poor: Demand for, Access to, and Impact of Cash in Haiti Following the 2010 Earthquake,” focused on financial resilience of households in Port-au-Prince following a large, covariate, sudden-onset disaster—the 2010 Earthquake. What makes the study unique is the focus on urban populations. One of the gaps identified in the DRR literature was the dominance of interventions designed for rural settings and often inappropriately transferred to urban environments. In contrast to disasters in rural settings, access to cash and specifically a lump sum of cash is integral for recovery in urban settings. Our study found that poor household’s cash stocks were completely obliterated following the disaster, and with little to no access to formal financial institutions households were forced to rely on informal saving strategies. In a multi-hazard context such as Haiti, these strategies offer little security. Households were left with little choice but to borrow; however, not sufficiently enough to restock their businesses, earn a profit, or for that matter even sustain their current livelihoods or consumption needs. While wealthy households were able to recover, the poor continued to further deplete their assets, take on debt, and spiral down into a poverty trap.

The lack of cash was further complicated by the liquidity constraints of microfinance institutions, remittance transfer points, and

even formal financial institutions following in the immediate aftermath of the disaster. We therefore offer several possibilities for shoring up not only household financial resilience, but also the financial resilience of the semi-formal institutions that are best placed to provide the financial support via savings, insurance, and credit that affected households need in order to recover from the disaster and mitigate potential future risk.

The second study, “Living in the Margins: Coping with Flood Risks and Managing Livelihoods in Nepal’s Far-western Terai” served as a traditional case study of DRR focusing on a rural, agrarian, and marginalized population living under an annual threat of flooding with traditional NGO DRR support with an emphasis on participatory methods. Households use a myriad of coping and mitigating strategies, some of which have long-term consequences such as taking children out of school to work, or shorter term and reversible impacts, such as temporary reduction in household food expenditure. However, the most common strategy included relying on social capital in the community by drawing on social networks to help prepare for flooding, assist during the floods, and provide support after flooding. However, these strategies lost much of their efficacy in the case of a large and sudden-onset flood, such as the one in 2008. The most successful interventions were the construction of spurs or gabions and active community participation in Disaster Preparedness Committees, the latter supported by NGO DRR programming. However, we found that uptake of these community mitigating projects relied heavily on the homogeneity of household characteristics in the community, and the more diverse the less likely the community was to participate in these activities.

Households living in communities with characteristics unlikely to lead to collective DRR activities still require support to ensure greater resilience against flooding. While it is not surprising that increased individual household wealth corresponded with a reduced flooding impact, the study was able to identify specific components of households’ wealth

associated with greater resilience to flooding: livelihood diversification, access to markets, access to cash, and financial management strategies. In the case study, we offer up specific recommendations for shoring up household wealth and transferring flood risk out of the community.

The final case study, “Conflict Management and Disaster Risk Reduction: A Case Study of Kenya,” was chosen to address the research gap that exists because the majority of DRR programming is frequently discussed in the context of natural hazards and climate change, but not in regard to conflict or political vulnerability. Given that the majority of humanitarian response goes disproportionately to emergencies caused by conflict and the multi-causal nature of many contemporary crises, the Kenya study was specifically designed to better understand this gap in the DRR literature. While organizations presented both arguments for and against integration, the study found that at the more local level organizations working in DRR took a much more multi-hazard approach that included conflict management. However, despite the integration, or at least better coordination, at the local level there was still very little livelihood programming, and what existed was mostly about either recovery or a return to the status quo. While there was some evidence of impact from the conflict management programming, little of it, if any, addressed the underlying causes.

The Kenya case study was specifically planned to occur around the 2013 elections in order to better understand the impact or lack thereof of conflict management programs on the risk of conflict. However, given the high degree of international scrutiny and national preparedness for the elections, there was little post-election violence, and therefore it was not possible to measure the direct impact of the conflict management programs the study was exploring. There was considerable pre-election conflict, enabling some analysis, but the team had difficulty in generalizing the findings or the implications for other, less predictable conflicts.

Overview of Findings

Given the variety of hazards, populations, and livelihood assets tackled in the three case studies, it was difficult to draw many overall conclusions on DRR. However, it is clear that current DRR programming does not take into account the plethora of risks that households residing in dynamic contexts—that include poverty, disasters, and conflict—experience. Future programming needs to address the reality that households are vulnerable to numerous risks, and that disasters often simply exacerbate existing vulnerabilities. One such approach is through a better understanding of the livelihood context. Besides the impact of disasters on human life and health, livelihoods are most important, as they are what allow households to access the funds and cash flows necessary for recovery. In both Nepal and Haiti, the study found that supporting livelihoods was not simply important for accumulating wealth, but was integral for reducing household risk to a disaster. Also, DRR should not be viewed as only a pre-crisis programming concept only but should pervade the program cycle, especially since many areas are consistently at risk of multiple hazards, both natural and man-made.

The difficulty of gathering evidence to inform DRR policy and practice was also made evident in the research. In order to carry out a traditional evaluation, a study needs both access to a control group and the occurrence of an actual shock, in this case a hazard. While the former is difficult to identify for ethical reasons, the latter is often unpredictable. Both the Nepal and Kenya study suffered from this constraint. The original methodology for Nepal had to be altered after the expected flooding never arrived in the summer of 2011. Kenya as a case study was specifically selected in order to be able to see the impact of the conflict management programs following the elections. However, the event was so predictable that there were too many interventions, ranging from the local, to national, to international level, making it practically impossible to parse out to what degree each intervention contributed to the relatively peaceful elections.

The report is organized as follows: first, a comprehensive literature review on existing DRR practices is included, identifying gaps that should be explored in future research; second, the Haiti case study explores financial resilience in urban settings; third, the Nepal case study looks at traditional DRR programming in a rural flood affected area; and fourth, the Kenya case study explores conflict management and disaster risk reduction in a conflict-prone context. Each case study is followed by a list of recommendations for DRR programming in the described context. ■

EXAMINING LINKAGES BETWEEN DRR AND LIVELIHOODS: LITERATURE REVIEW

In the disaster context emphasis has been generally placed on the initial humanitarian and emergency response. However, recently there has been an increasing recognition of the importance and value of disaster risk reduction (DRR) programming. This comes from the understanding that though humanitarian efforts are important and required in the aftermath of a disaster, a comprehensive view of risk and vulnerability are important elements in preventing, reducing, and mitigating the negative impacts of shocks on lives and livelihoods. As outlined in the International Strategy for Disaster Reduction (ISDR) and in the Hyogo Framework of Action (HFA), DRR includes early warning, improved governance, building up community and household resilience, and reducing the underlying risk factors while strengthening disaster preparedness (ISDR, 2004). Even though DRR has been recognized as invaluable, it still remains a somewhat nebulous concept, and includes elements of programming that have various different names: mitigation, prevention, “building back better,” etc. Many organizations continue to struggle with what exactly DRR encompasses and how to incorporate it into their mandate. This review is the first output of a three-year research program looking at the intersection of DRR and livelihoods and is intended to clarify DRR concepts and programming elements, identify good practice, and assess the impact of DRR programs on livelihood outcomes, assets, and institutions. The purpose of this review is to establish baseline definitions and trends, review existing literature, and suggest gaps in knowledge that will help to focus the content of the subsequent field case studies. The report was compiled via an extensive literature review and interviews with members of international organizations, NGOs, and government working in the sphere of disasters.

We first give an overview of DRR and its basic dimensions, from categories of risk to context and populations. We then present a recommended DRR framework that encompasses the different components of DRR

and allows for better standardization of methodology as well as a clearer understanding of the possible gaps surrounding DRR programming. This framework is entrenched in the livelihood framework¹ and takes a holistic approach to incorporating DRR into humanitarian, relief, and development work. It explicitly recognizes the effects of hazards and disasters on livelihoods. The next section concludes with recommendations on issues that should be given greater attention in the DRR literature, research, and programming. Finally, an appendix of several topics that are relevant to thinking about DRR—migration, urbanization, the poverty trap and financial capital, microfinance, remittances, insurance, social and political capital, gender, indigenous knowledge, DRR frameworks, and conflict and the multi-hazard environment—is given, as well as recommended respective readings. We conclude with an appendix of people interviewed for this report, a list of ISDR definitions for basic DRR terminology, and an annotated bibliography.

The goal of this report is to outline the existing literature on disaster risk reduction, which though diverse, presently reveals little insight on the potential livelihood dimension of DRR. For now, there exist more questions than solutions, and, as this report aims to show, more gaps in knowledge and programming than prescriptions for protecting livelihoods. Our overall understanding of livelihoods and DRR therefore needs to be deepened through more comprehensive research, in-depth case studies, and innovative evaluations in order to reduce the costs of disasters in lives lost and livelihoods destroyed. ■

INTRODUCTION

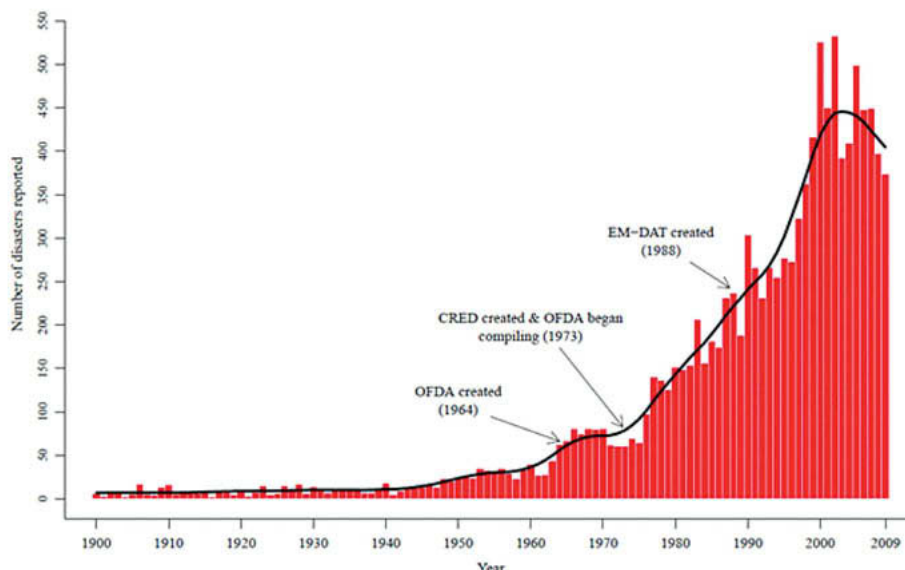
Disasters have increased in number over the past century from under 100 natural disasters reported annually before 1975 to over 450 disasters reported in 2000 (See Graph L1 below).² This only takes into account natural disasters and is partly a factor of better reporting over time. However, a rise in population numbers, increased urbanization, building in more risk-prone areas, and climate change are all contributing to the increased number of disasters. Depending on an affected household's vulnerability and the systems put in place to protect these populations, hazards can quickly cause a household to spiral down into new levels of destitution. Overall, a greater proportion of the population—double what it was in the previous decade—is now exposed to hazards, transforming hazards into disasters (DFID, 2006). A disaster as defined by United Nations International Strategy for Disaster Reduction (UNISDR) (the most common set of DRR definitions) is:

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the

*combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.*³

Disaster risk is a global concern, but not all areas or populations experience an equal threat from hazards. Disasters are highly concentrated in poorer countries with weaker governance, in low and low-middle income countries with rapid economic growth, and where the exposure of people and assets is growing faster than risk-reducing capacities are being strengthened (UN, 2009; ISDR, 2004). The poor are particularly vulnerable to disasters given their already low income and depleted asset base, and therefore can ill afford to suffer increasing unemployment, crop and livestock losses, and lower wages or higher prices, especially on food items. Small-island nations (such as the Andamans, the Maldives, etc.) as well as land-locked developing countries are identified as having the greatest economic vulnerability to hazards; the amount of loss is seen as a function of decreased resilience (UN, 2009). Urban populations are becoming increasingly more vulnerable to the impact of a hazard given the rush of growth in large and mid-sized cities, causing an increase in shanty towns and slums in areas that are highly prone to landslides, flooding, and other hazards (UNDP, 2004).

Graph L1: Natural Disasters Reported 1900–2009



Source: EMDAT: The OFDA CRED International Disaster Database - www.emdat.be - Universite Catholique de Louvain Brussels - Belgium

Disasters lead to a severe destruction of physical, human, financial, natural, and social capital, inevitably resulting in economic stagnation and the deterioration of livelihoods as well as overall development. Disasters typically result in large-scale destruction of infrastructure, such as roads, bridges, ports, and sector-specific capital, such as factories, plantations and irrigation facilities (Collier, 1999; Cavallo and Noy, 2009). The loss of **physical capital** is often exacerbated in poor and developing countries due to the use of less durable building materials, poor legal enforcement of regulations (i.e., building codes), and weaker prevention systems (Cavallo and Noy, 2009). **Human capital** can take even a greater toll through the loss of life, injury, disease, and emigration. Disasters lead to increased malnutrition amongst children, poor mental and physical development, and therefore impact education with long-term consequences on livelihoods (Akresh et al., 2010; Bundervoet et al., 2009, Adelman et al., 2010).

Financial capital is also severely affected by a disaster—savings, insurance, and access to credit are all potentially lost or reduced. Households lose access to informal financial strategies, such as borrowing from a neighbor or reciprocal insurance. Savings with informal savings groups can be washed away or destroyed, or lost in the process of people fleeing from their villages. Lost or destroyed documents and records affect a household's ability to access remittances and formal banking services (Savage and Harvey, 2007). In situations of protracted conflict and insecurity, formal financial service providers withdraw their services (banks close), or reduce the range of their services (bank staff do not venture into insecure zones). National-level banking and economic planning is often suspended or not implemented; rural institutions are cut off from broader markets; and insecurity depletes the existing customer base (Hudon and Seibel, 2007).

The effects of a disaster can also have long-term consequences on **natural capital**. Floods, tsunamis, and cyclones often make large tracts of crop land unusable for several seasons. Saltwater

intrusion is one of the biggest threats to livelihood systems—it decreases freshwater supply, crop production, and increases health problems as well as the fragility of mud homes (Pouliotte et al., 2006).

The effect of a disaster on **social capital** is more ambiguous (see Appendix A4). In some cases, traumatic experiences can sometimes alter norms in a positive direction with respect to collective action in either post-conflict (Bellows and Miguel, 2009; Blattman, 2009; Voors et al., 2010) or in post-disaster situations. More research needs to be conducted to better understand the consequences of a disaster on less tangible assets such as social capital.

Disasters have a strong and mostly negative impact on livelihood assets, leading to outcomes of increased vulnerability, reduced food security, and more fragile institutions. There is little dissent in the literature about the overwhelming consequences of a disaster on communities and their livelihoods, but very different approaches and some lingering confusion over terminology and language. Observers agree that households are experiencing increased vulnerability to the risks and consequences of hazards, especially the very poor, households in growing urban areas and surrounding slums, and those living in areas most sensitive to climate change. This has led to increased attention to disaster risk reduction, mitigation, and preparedness. Most organizations working in the humanitarian, development, and climate sphere have adopted, though not necessarily standardized, some form of DRR into their practices. However, national and community capacity and education around disaster preparedness is weak, and the field of DRR lacks standardized definitions, tools, methodologies, and assessments. Conceptually, vulnerability needs to be incorporated as an underlying risk driver, with better coordination amongst climate, development, and humanitarian programming. A framework that incorporates DRR at all stages of the program cycle (preparedness, mitigation, response, and recovery) and uses the livelihood framework as an analytical base of analysis is necessary to

understand the impact of DRR on household vulnerability, assets, and outcomes. As with all programming, better understanding of the local context, particularly markets and traditional coping methods, should be prioritized. Most funding is still allocated to relief and emergency response, with DRR seen and funded as a small component of this. We discuss these gaps in further detail in subsequent sections.

In the following sections we first discuss definitions of DRR and then some dimensions of disaster, including risk and risk reduction. We then present a DRR framework to help think about the objectives, scope, and priorities for DRR programming and its effect on livelihoods.

1. Defining DRR

Both the benefit and problem of the most common definition of disaster risk reduction—

The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.⁴

—is that it is too all-encompassing a concept for specific programming. It potentially includes building up government capacity, resilience of the local and national economies, community-based preparedness, improved information systems, better analytical models and emphasis on analysis, improved partnership relations, building codes, savings groups, conservation agriculture, etc. Hence there are a broad range of programs that are currently labeled DRR, and the presumption on the part of some actors is that anything that, for example, improves income also reduces risk. Many organizations acknowledge that even though DRR and development are two separate concepts, sometimes the distinction between DRR and development programming is very small—programs that enhance a household’s well-being either via provision of financial or physical capital, enhancement of human or social capital, or protection of natural capital could also make the household more resilient in the event of a disaster, though this is not always the case. For example, some ways of improving income (i.e.,

increased savings) do reduce risk, but other methods that are standard approaches to development (i.e., increased credit) can greatly exacerbate risk and hence emphatically do not fit under a DRR rubric.

Each organization adopts its own take on DRR for programming purposes. For example, one organizational approach is to incorporate the concept of risk reduction into development programming. This approach to DRR emphasizes improved disaster preparedness and is therefore about better readiness for responding to shocks, in addition to preventing shocks or mitigating their impact. On the other hand, DRR is sometimes incorporated as part of their disaster management cycle. However, the concern expressed with this approach is that, given that the goal of DRR programming is to build safer and more resilient communities, this raises the issue of whether DRR should be a part of all programming and not just in the context of disaster. Some organizations only label programs as DRR if they have a preparation and mitigation approach to a specific hazard component, including a hazard or risk analysis. For some, risk management is the critical issue because the organization believes risk reduction focuses too narrowly and misses opportunities to improve livelihoods and outcomes. In this model, the “D” in DRR is left out, allowing a broader focus on risk management as a humanitarian and development issue rather than being pigeon-holed as something for only the humanitarian sector to worry about.

One approach organizations have taken to reducing exposure and increasing a household’s or community’s ability to cope with hazards is to adopt the principle of “building back better” (ALNAP, 2009). Though “building back better” is mainly about recovery, it can enhance DRR by creating opportunities for “transformation” and the reduction of future risk. However, there are often large cost implications. For example, when building transitional shelters in Indonesia after the Tsunami, the smart thing to do would have been to use sustainable wood such as bamboo, cane, mango, or maple in order to not further devastate the environment, leading to increased disaster risk. However, this would have required going off-shore, with drastically

increased costs and the provision of fewer shelters. To date “building back better” has not had the effect the name implies, because most projects have been centered on infrastructure rather than livelihoods. Furthermore, it is important to consider who the players are in considering what is “better.”

In some cases the destruction of local governance mechanisms by disasters requires an international intervention to prevent the subsequent destruction of livelihoods by international capital. After the 2004 Tsunami, a portion of Sri Lanka’s east coast was transformed through the government’s reconstruction program under its plans to “build back better,” paid for by aid money. A “buffer zone” was imposed on villagers who previously inhabited the beach (for safety reasons), but this zone was not enforced for the resort industry, which was seen to use the land more profitably. Households relying on fishing as their main form of sustenance and income were displaced several kilometers inland while their coast was transformed into a resort industry (Klein, 2007).

Much of DRR programming comes under the rubric of natural resource management. Some organizations do much of their DRR work on soil and water conservation, conservation agriculture, healing environmental “hot-spots,” drought mitigation, livestock asset protection, irrigation, drought-resistant seeds, and agro-forestry. Given that these types of interventions are specifically focused on increasingly scarce natural resources, funding can be easily linked with climate change initiatives. Natural resource management partly addresses the consequences of the changing distribution of weather patterns and, given the current popularity of programming that falls under the umbrella of climate change, DRR proposals in this realm seem to get the most traction with donors.

Most of the successful programming that has occurred in the realm of DRR has been around conservation agriculture and holistic management of farming, livestock, and agriculture. The use of ecological approaches to farming together with livestock and agricultural care has yielded positive results. For instance, the Office of Foreign Disaster Assistance (OFDA)

programs in South Africa have increased harvest yields in good years, and reduced losses in bad years. This includes cultivation practices, small scale irrigation, and introduction of drought-resistant or short cycle seeds. This type of programming fits nicely with DRR and most organizational mandates on capacity building and natural disaster response.

An area of DRR that has been relatively highly invested in is infrastructure and building codes. However, the overall usefulness of these programs is sometimes disputed. In order for buildings codes to be strictly adhered to in practice—as opposed to mere regulations that are often ignored—there needs to be greater information and understanding on the patterns of loss and damage likely to emerge from failure to adhere to such codes in high-risk areas. This will require providing DRR training to engineers, creating public awareness to create both better supply and demand of DRR service, and creating a system of incentives for adhering to codes and repercussions when codes are ignored. Similarly, with infrastructure investment, there has to be a clear and sustainable plan on up-keep and maintenance. Often governments get funding in order to achieve higher building standards or build necessary infrastructure without establishing what would be needed for longer term maintenance of the structures (World Bank, 2006). Through evaluation and analysis of case studies, one assessment found that building codes were not sufficient for DRR (UN and World Bank, 2010).

Another intervention that has been prominent is insurance within the agricultural sectors, specifically index-based weather insurance. The focus on repairing safety nets via insurance schemes is meant to transfer risk outside of the community as well as encourage farmers to engage in higher potential, but higher risk, farming technologies (Christoplos, 2010). However, most evaluations of insurance are still in their pilot phase; therefore little can be concluded about their effectiveness besides theoretical speculation. This is certainly one component of DRR that needs significant further exploration and proper evaluation.

Due to the small distinction between conducting programs in the name of DRR, development, or climate change, some organizations feel that they have to constrain what can fall under the mandate of DRR. DRR programs are often limited to risk-prone geographic areas and working with risk-prone populations, while most development programming is in high-potential risk areas. Conflict, though highly correlated to increased risk for and from disasters, is usually treated separately from DRR by the majority of organizations. Most disaster risk approaches are developed in a stable setting, with donors and multilateral initiatives prioritizing DRR in natural disasters rather than in conflict zones. This is largely because of the more highly politicized nature of conflict prevention and mitigation, the need—at least in some circles—to isolate humanitarian response from conflict resolution, and differing spheres of expertise in conflict mitigation compared to preventing or mitigating natural hazards. Although many donors and agencies address both conflict mitigation/resolution and DRR, they are often addressed separately by very different parts of the organization, and frequently there is little joint analysis of the combined risks in a given operational context.

2. Dimensions of DRR

The first place to start is to define risk. Here we use the ISDR definition:

The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally, risk is expressed as some function of hazards and vulnerability $R = f(H, V)$.⁵

Hazards, in this formulation, are any event or phenomenon that may cause death, injury, or damage. Vulnerability is usually formulated to imply exposure to a hazard, and the ability (or inability) to cope with its consequences.

Risk is a function of the relationship between the hazards to which a household is exposed

and the household's vulnerability to that specific hazard (Dilley and Boudreau, 2001). For example, the risk (R) of a famine due to drought is a function of the magnitude and location of the drought (H) and the household and community vulnerability (V): lack of income diversification or drought-resistant seeds, limited access to a remittance sender, etc. Hazards can be defined as climatic, geo-physical, pandemic, economic, political, environmental, and technological. Vulnerability is defined in slight variation in the literature, but usually in terms of exposure, sensitivity, as well as a function of capacity to anticipate, cope with, and recover from a hazard (Thomalla et al., 2006). Though the “hazard” part of the equation is well developed, “vulnerability” has proved more elusive because of the lack of agreement over how to translate the terminological definition into an analytically robust one.

A key distinction is whether a hazard affects individuals or households separately or entire communities or wider regions. These different types of risk will have varying consequences. *Idiosyncratic* risks relate to individual households but not necessarily to the whole community. This includes events such as illness, the death of a wage earner, fires and accidents, theft, etc. Individual household's assets and capabilities may be severely affected, while neighboring households may not be disturbed at all.

Covariate risk arises from hazards that tend to affect entire communities, such as drought, floods, earthquakes, and armed conflict. Such shocks involve entire areas or sub-regions, destroying or depleting a range of livelihood assets, including natural and physical capital. Nevertheless, individual households will be more or less exposed to covariate shocks depending on their own asset base.

The implication of the equation $R = f(H, V)$ is that in order to reduce risk, either action has to be taken to prevent a hazard from occurring, to reduce a household's exposure to that hazard, or to increase the household's ability to cope with the hazard. One example of a risk reduction approach is via the “Disaster Management Cycle,” which includes prevention, mitigation,

preparedness prior to a disaster, and response/relief, recovery, and rebuilding after the disaster. Another method—the Harita Conceptual Framework—looks specifically at a more holistic approach to risk management consisting of risk reduction, risk transfer, and prudent risk-taking (Oxfam, 2009). There are several other variations of these two models that also take into account risk prevention, mitigation, and coping.⁶

At the core of reducing risk is an understanding of the intersection between risk, interventions, and livelihoods. Therefore, we use the livelihood framework as our analytical base of analysis. The livelihood framework was developed by the Department for International Development (DFID) to help understand and analyze the household economic systems of the poor and assess the effectiveness of poverty reduction programs. The framework consists of assets or resources held by households and communities, generally categorized as physical, natural, financial, human, and social. The effectiveness of these assets is framed by processes, institutions, and policies (PIPs) that define the household's and community's vulnerability context by shaping, enabling, and constraining what people can achieve with their assets. Households apply different livelihood strategies; these are ways in which assets are combined and deployed to achieve livelihood outcomes, which in a sustainable, well-functioning community match the goals the households are trying to achieve (Chambers and Conway, 1992). In order to reduce risk, a program can either intervene to protect human life and status (outcomes), protect assets (the asset framework), or create a less risky environment or more protective policies (the contextual PIPs environment).

A final dimension of DRR is the context and populations in which risk reduction is occurring. An important distinction is the difference between rural and urban populations and their livelihoods. These settings are vulnerable to different hazards and in very different ways, and these variables significantly impact the choice and likely effectiveness of an intervention. It is also important to understand how risk differs amongst different social groups,

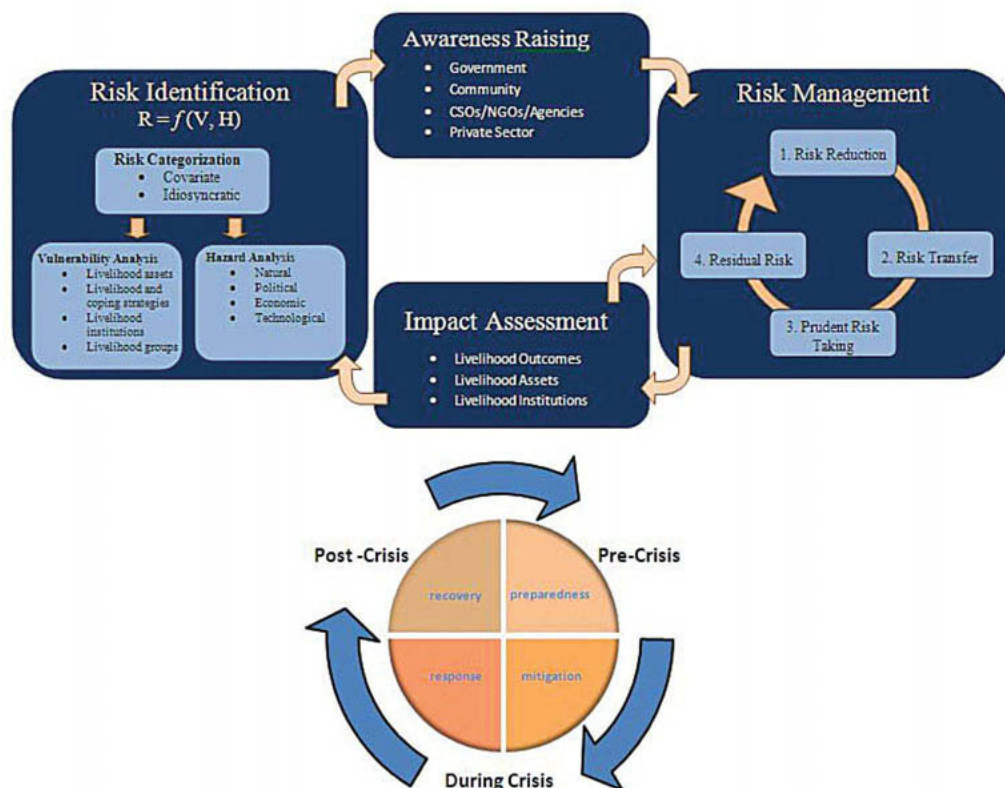
such as women, youth, the elderly, and the disabled. For example, sexual exploitation can be a component of who does or does not get relief at the distribution level, where female-headed households are most vulnerable (Barrett et al., 2009). Of course, another important distinction is what livelihood systems are used by the hazard-prone or affected household and community: agricultural, pastoral, labor-based, trade-based, etc. The ability of DRR programming to be aware and address these issues significantly impacts the degree to which risk can be reduced.

3. The DRR Framework

Given the above considerations, we have developed a DRR framework (see Figure L1 below) by which we can better think about the objectives, scope, and priorities for DRR and how it intersects with livelihoods. This framework can both assist with identifying the gaps in previous research, literature, and programming and with program implementation itself. This framework attempts to summarize and share current thinking on DRR. It does not offer definitive answers and guidelines, but is meant to elucidate the process of DRR and put risk at the core of programming and analysis.

The term disaster or hazard is conspicuously absent from the framework. The reason for this exclusion is the belief that risk can be found in any context; it is not simply an extension of or addition to humanitarian response and recovery work. The omission of a disaster allows the framework to be used as a “lens” for all risk-reducing programming and is not limited solely to disaster response. This framework enables a view of DRR that is part of a collaborative, multi-hazard, cross-sectoral program design that incorporates development, climate change, and recovery, in addition to humanitarian response, in an effort to reduce household and community vulnerability to both covariate and idiosyncratic shocks. The point is that programming at any point of the program cycle can be risk-reducing or risk-enhancing, depending on the characteristics of the programming.

Figure L1: The Disaster Risk Reduction Framework



The foundation of the framework therefore is risk identification and reduction through proper risk management. While most frameworks identify risk as a primary concept in disaster management, they fail to explicitly include the dimensions of risk, which can be categorized as both idiosyncratic or covariate and identified in terms of vulnerabilities and hazards, as specified by the risk equation: $R = f(V, H)$. This equation appeals to risk management directly by specifying the need to both reduce the occurrence of hazards and address household and community vulnerability in the context of these events. Vulnerability, as understood from a livelihoods perspective, is a reflection of individual and collective assets, strategies, and PIPs, while hazards encompass the whole gamut of adverse events, including natural, political, economic, and technological ones. Both hazards and vulnerabilities should be identified with the help of community involvement and technical assistance (ISDR, 2004) with a real focus in the preparation stage on identifying contextual issues and nuances of the community.

Political and government support of DRR programming is an important component, along with that of the community, Civil Society Organizations (CSOs), NGOs, agencies, and the private sector working in the same geographic vicinity or addressing similar vulnerabilities. Therefore, any institution that aims to put in place a program with a DRR focus needs to raise awareness with the relevant groups in order to both avoid unnecessary replication and improve sustainability. For example, in Kenya, several different organizations created their own Local Peace Councils within the same district, creating problems that lead to the ineffectiveness of this conflict-reducing program (Odendaal and Olivier, 2008).

Perhaps one of the largest exclusions amongst DRR frameworks is the notion of holistic risk management. Our framework incorporates risk reduction, risk transfer, prudent risk taking, and residual risk. This concept is drawn heavily from Oxfam International's Harita Conceptual Framework (Oxfam, 2009). Within our

framework, risk reduction includes the promotion of resilience via physical interventions and social processes. The next component is transferring covariate risk from the household or community to an institution or agency that is better equipped to handle it, such as the government via social safety nets or an insurance agency. In both cases, some elements of risk are effectively shifted from the vulnerable population. Prudent risk-taking allows a risk management strategy to both reduce the exposure to risk and improve the productivity of affected or hazard-prone communities. This allows risk reduction to be easily incorporated with development programming and shows how DRR does not have to be limited to mitigation and coping strategies, but can be an opportunity for growth and wealth accumulation. Some form of residual risk always remains, and therefore the process in effect is a feedback loop, one that however follows a very specific process from risk reduction, to risk transfer, and finally prudent risk-taking.

Assessment of program effectiveness and the identification of new vulnerabilities are essential for the process of risk management. Vulnerabilities, especially in the light of climate change, will change over time, as will the nature of hazards. Incorporation of the livelihood framework into the DRR framework as well as the elements of vulnerability analysis gives clarity to the focus of the impact assessment on livelihood outcomes, assets, and institutions as related to the intervention. An evaluation component to any framework is necessary to continually monitor the specification of the context and effectiveness of programming. A proper impact assessment can lead to either a continuation of an intervention or the need to reassess risk, starting the process all over.

Though the model we have just discussed is not implicitly incorporated into the program cycle (preparedness, mitigation, response, and recovery), it does include programming as part of the overall DRR framework. Future DRR programming needs to be incorporated into all levels of the project cycle (ISDR, 2009) and therefore does not follow a specific linear trajectory. Risk identification and management needs to happen prior to a disaster, but also has

to continue to happen throughout the disaster management cycle in the form of building back better and reducing the potential for future risk. Therefore, to place DRR simply in the pre-crisis stage would be to limit the potential and long-term success of programming.

Our framework encompasses many of the key factors for a generalizable model of DRR. These factors include:

- an assessment of vulnerabilities and hazards, and, by extension, risk;
- learning: i.e., sharing knowledge with other stakeholders and raising awareness;
- managing risk; and
- a system for monitoring and evaluation.

The feedback loop allows for constant re-evaluation of risk identification and impact assessment. The framework permits a conceptual and practical understanding of DRR to ensure better risk reduction in the future and highlights possible gaps within the literature and programming. ■

CURRENT GAPS IN DRR KNOWLEDGE AND PROGRAMMING

DRR is a relatively new field, and a number of gaps in knowledge and programming are evident:

- National capacity for implementing DRR is limited compared to international capacity.
- There is a lack of adequate funding modalities. The funding available for DRR is focused too narrowly on natural hazards and the rural sector. Conflict, multi-hazard environments, and economic shocks are often judged as being political and thus beyond the scope of DRR framework, even though they are important contributors to and catalysts of disasters.
- National and international actors lack consensus on a DRR framework and strategy for implementation, and coordination amongst the different sectors is weak, limiting cross-disciplinary insights into risk reduction.
- Vulnerability is often overlooked as an underlying risk driver in programming and analysis.
- There is a lack of an evidence base of what works and what doesn't and why within the field of DRR. The absence of monitoring, impact evaluations, and cost benefit analyses contributes to limited political commitment and weak funding from donors and governments. Without an evidence base, it is hard to determine which DRR practices work and which may be more cost effective than other types of programs. For instance, are programs more effective (in regard to saving lives and livelihoods and minimizing funds spent) when they target vulnerability and focus on drivers of risk or when they provide ex-post disaster relief?

In the next sections we explore these gaps in more detail.

1. Limited National Capacity

The capacity and understanding of DRR in the international community has increased. Almost all international organizations, NGOs, and national governments have some kind of programming around disaster risk reduction.

These programs are not always effective or well-funded, but the proliferation of these programs does indicate greater awareness and increased discourse. There is now better institutional policy for dealing with risk and recovery and increased hazard and risk mapping ability. Improved early warning systems have been adopted throughout the globe. However, increased agreement and interest amongst the international community and national governments does not always translate to the community or project level. National governments have limited enforcement and governance capacity when it comes to turning DRR policy into reality.

In order to increase capacity of national actors, information, education, and funding will need to flow from an international discussion to national governments and community organizations. This requires work on multiple levels—community groups, local and national governments, regional initiatives—and breaking down red tape between the levels so that emergency information, such as flash flood warnings, can filter down quickly. Without this, DRR programs such as risk and hazard mapping, earthquake-resistant infrastructure, and advanced early warning systems will not be utilized and expanded in poor and risk-prone communities.

The majority of the funding for DRR still comes from international aid rather than government coffers, and this limits program sustainability (Christoplos, 2010). After a disaster, the institutional infrastructure for response may be mobilized, but the general approach to recovery and risk reduction remains primarily oriented towards analyzing natural hazards without looking carefully at factors of vulnerability likely to contribute to future disasters. This approach ignores the underlying risk factors that make a specific community or household more vulnerable to the consequences of a disaster. Furthermore, attention is still geared towards how to respond to a natural disaster rather than how programs can treat the socioeconomic factors that determine who can avoid, mitigate, or cope with these risks.

2. Limited Funding for DRR Compared to Relief Efforts

Disaster response and awareness has increased, with unprecedented donations and international aid after Hurricane Mitch in 1998, the Tsunami in 2004, and the Haiti earthquake in 2010. However, the majority of this aid still goes towards relief efforts. Most bilateral donors earmark only 5–10% of their annual humanitarian budget for DRR activities (German Committee for Disaster Reduction, 2007). To create greater balance between spending on relief and spending on DRR, emergency response needs to be linked directly to disaster risk reduction programs. For example, WFP's budget for early warning is tied to tonnage of food aid, and DRR funding from national donors is a percentage of their humanitarian budget rather than based on DRR need for that year.

There are several reasons for the discrepancy in funding between DRR and response. One is the obvious urgency of relief. The humanitarian imperative combined with the high profile of disasters means that more and greater funds will always be allocated to emergency relief than DRR. The relief phase is often dominated by large donations and urgency regarding disbursement, and aid agencies sometimes bypasses important national structures to distribute the aid. In this process, the need to reflect on disaster risk and how it can be incorporated into humanitarian action and sustainable development is often bypassed (Christoplos, 2010).

Furthermore, funding for relief operations is usually a one-off payment as compared to mitigation and preparedness, which require sustained funding on a recurrent basis to be successful. Most organizations report that it is impossible to get funding for programs that last longer than five years, and, more frequently, only three years. This has forced current DRR work to limit long-term, potentially higher-impact plans in lieu of a focus on short-term planning horizons. The opinion of some disaster experts is

that DRR programming should affect future development decisions (i.e., where will a family build their house after they move out of this temporary shelter, and what will they have learned from this program about how to build a permanent house better?) and not simply deal with the current consequences of the disaster. In other words, DRR needs to identify, manage, and plan for future risk and, in order to do so, would need to be part of a multi-sector, multi-year, and multi-country plan. For example, some organizations are working hard to implement a “program approach,” which specifies longer-term objectives for a particular place or geographic area, and then uses specific projects to work towards those goals, rather than just implementing short-term programs.

If more funding is to be funneled towards prevention and mitigation, DRR programs will have to demonstrate that they are cost-effective in terms of future emergency response. A DFID study contends that for every dollar spent on mitigation, approximately two to four dollars are saved in reduced disaster impacts (DFID, 2006). A similar finding was made in India in a cost benefit analysis of DRR programming in flood-prone areas (Venton and Venton, 2004). However, this type of research is limited in quantity and scope. To increase funding towards DRR, we need solid evidence that investment in DRR reduces economic and human losses as well as the cost of future response.

3. Lack of Standardized Definitions, Tools, Methodologies, or Assessments

In order to better incorporate DRR along different fields and practices there is a need for standardized definitions, tools, methodologies, and assessments. The humanitarian community has no single operational framework for DRR.⁷ One consequence of having numerous operational approaches is the lack of both a comprehensive summary of DRR approaches, and a coherent strategy for addressing livelihood security. Although ISDR does provide broad definitions, terms like vulnerability, resilience, risk, disaster, hazard, and shock are used loosely

in the literature (Webb and Harinarayan, 1999).

The term “vulnerability” refers to the relationship between poverty, risk, and efforts to manage it. It is essential for a consistent definition to emerge in order to set appropriate vulnerability assessment methods. Vulnerability connotes exposure, sensitivity, and reliance (Thomalla et al., 2006). In most definitions, vulnerability is a function of capacity to anticipate a hazard, cope with it, resist it, and recover from its impact. Both vulnerability and its antithesis, resilience, are determined by physical, environmental, social, economic, political, cultural, and institutional factors (Benson and Twigg, 2007), but there is no one clear and widely used definition.

4. Limited Incorporation of Vulnerability as an Underlying Risk Driver

Risk remains associated with hazards and response, at the expense of concerns related to vulnerability. Less focus on the “event” itself and more focus on the underlying causes of vulnerability by policymakers increase the resilience of communities and avoids some of the impacts generated by disasters. Vulnerability is determined by social and political components, rather than a physical characteristic on its own. Given certain risks and hazards, a better understanding of vulnerability would allow for different outcomes for a given population (Handmer and Dovers, 2007). If adequately predictive, this definition of vulnerability serves to protect livelihoods, reinforce coping strategies, and support existing institutions in disaster prevention (Cannon et al., 2003).

Vulnerability analysis promotes a more precise understanding of truly vulnerable populations, and further integrates development work and disaster recovery (Cannon et al., 2003). Development programming can thus be improved to target vulnerability in relation to shocks, hazards, and threats as well as outcomes. Interventions stand to be greatly improved in terms of timing, location, target population, and other similar characteristics (Dilley and Boudreau, 2001).

5. Minimum Coordination amongst Programs

One of the largest gaps in DRR programming is the need for collaboration amongst different sectors involved in risk reduction or management—development, poverty reduction, climate, and humanitarian programs—in order to encourage cross-disciplinary insights into risks, vulnerability, and household responses. It is essential to ensure that the developmental process does not unwittingly create new forms of vulnerability or exacerbate existing ones (Benson and Twigg, 2007).

A central theme of the literature is the importance of incorporating DRR across sectors. ISDR, the ProVention Project, the United Nations, the World Bank, and other organizations have emphasized the need to mainstream disaster risk reduction into development, and to support development organizations that are adjusting operation practice accordingly (Benson and Twigg, 2007; ISDR, 2004). According to a United Nations Development Program (UNDP) report, there are two main types of disaster risk management. The first is prospective disaster management policies that are integrated into sustainable development programming and planning, and the second is compensatory disaster management, involving disaster preparedness or response. Prospective disaster management is intended for medium to long term risks and warrants program monitoring to ensure that a development intervention is not exacerbating risk. Compensatory disaster management is to be used for contemporary risk to ameliorate existing vulnerabilities (UNDP, 2004). Both are necessary to successfully prepare and respond to disasters. Much of the literature seeks to change the thinking of disaster as an interruption in development to one of a necessarily discussed risk to development approaches of both countries and international institutions (World Bank, 2006).

6. Lack of Project Monitoring, Impact Evaluations, and Cost-benefit Analyses

One of the other major gaps in the collective knowledge is the lack of a globally accepted set

of criteria for measuring the effectiveness of DRR (ISDR, 2004). In order to streamline relief and developmental responses, and achieve a comprehensive needs assessment mechanism, an appropriate combination of indicators and analytical methods are needed, as well as a comprehensive intervention strategy, flexible planning, and, of course, funding. Suggested tools and methods for covering these needs include information mapping, case study analysis and universal datasets to monitor trends, a multi-tiered system of disaster reporting, the use of poverty reduction papers to facilitate the incorporation of disaster management and environmental sustainability into development programs, building on existing systems, and evaluating local coping strategies. In addition to previously mentioned strategies, hazard mapping, decentralization, monitoring and evaluation, incorporating disaster risk management into the project cycle, and transparency are identified as essential for carrying out these methods. Current issues standing in the way of these indices and analytical targeting methods include multiple scales of analysis leading to aggregation problems, the absence of objective benchmarks, and dynamic systems that involve different combinations of explanatory variables over time and place (Thomalla et al., 2006).

A stronger emphasis needs to fall on monitoring, impact evaluations, and cost-benefit analysis in order to determine the overall effect of mitigation and preparedness interventions. “An ounce of prevention is worth a pound of cure,” but, if there are no data to confirm this, then funding will not be geared towards DRR. A greater focus on both qualitative and quantitative data is necessary to determine whether the intervention actually reduces risk, providing a useful evidence-based tool for analysis of DRR and demonstrating an economic argument for the intervention (Venton and Venton, 2004). The literature review has found scant evidence on the impact of DRR, with little empirical evidence one way or another on the claims and justifications made on behalf of it.

In regards to evaluations, most tend to be project-specific and limited to project outputs. In order for organizations to fully understand the value of an intervention, impact (lives lost,

affected, assets lost, reduction in response cost, etc.) has to be measured, as well as the underlying drivers behind it. Otherwise project lessons are less likely to be institutionalized and interventions might be completely inappropriate for the context, or, worse, exacerbate disaster risk. Another important distinction that needs to be made is the difference between outcome indicators, those that measure the broader result achieved through the provision of program goods and services (i.e., infant mortality rate, nutrition), versus process indicators, those that measure ways in which the program services and goods are provided (i.e., error rates). Evaluations need to focus on the former so that they do not simply evaluate the process of implementing programs without understanding their actual impact on the community level. Proper evaluation could both make a stronger case for more DRR funding as well as determine best-practices without requiring repetition of the same mistake. Though long-term impact might be difficult to measure for short-term projects, programs can establish and measure short-term expectations. Another important concern is that the effect of DRR cannot be fully measured until an actual hazard strikes, and then it is difficult to separate out the real effect of the DRR intervention if a good counter-factual is not available—therefore a different kind of assessment is likely required to measure the impact of DRR (Maxwell et al., 2009).

7. Limited Scope beyond Natural Hazards and Rural Areas

DRR is frequently discussed in the context of natural hazards and climate change, but not in regard to conflict or political vulnerability. Given the challenges of remaining neutral due to the nature of international funding, security protocols, and political allegiances or associations, it is rare that intervention in a conflict is not tarnished with a political brush. This makes programming (of any sort) potentially complex and problematic when viewed through humanitarian codes of conduct. Although these problems cannot be avoided entirely in any context, many organizations prefer to work in natural disasters and in response to natural risk rather than to engage in more overtly political arenas. DRR programs

often fall into this seemingly more apolitical area, with programs addressing conflict siloed in a different part of the organizations.

Besides conflict, there are numerous other hazards that are under-represented in the DRR literature. Biological and economic hazards and multi-hazard environments receive little to no attention, particularly when reviewing the missions of the various organizational bodies in the DRR domain (ISDR, 2004). These topics warrant greater research if we are to begin to better understand the capacities of affected communities and better design programming.

Another area of focus that requires increased attention is urban DRR. The majority of professionals in the field have experience working on famine and poverty in rural areas. The consequences of this dearth of urban know-how are that often DRR programming developed for rural contexts are simply transferred to urban environments. Due to significant differences in livelihoods, social capital, access to markets, and infrastructure, this approach is often inappropriate and ineffective. An example of this is the OFDA temporary shelter construction project in Port-au-Prince, Haiti, after the January 2010 earthquake. In line with Sphere standards, designs were to accommodate five people in eighteen square meters. Urban assessments, however, indicated that most urban dwellers in Port-au-Prince had access to significantly smaller pieces of land upon which to build temporary homes. Reflecting, in the view of one urban expert, the bias towards rural systems, the architectural submissions for the shelters were all one story. This commonality failed to consider adaptations for an urban area in which space is at a premium. Given the increased vulnerability of households in urban areas, particularly slums, greater emphasis needs to fall on urban-specific DRR programming and education. ■

SUMMARY AND CONCLUSION

Disaster risk is highly concentrated in middle- and low-income countries and is felt most acutely by people living in poor rural areas and urban slums. Hazards such as floods, droughts, conflict, storms, earthquakes, economic crises, and other events, when combined with greater vulnerabilities, can lead to a loss of life and collapse of livelihoods. Reducing disaster risk can play a role in reducing poverty, safeguarding development, and adapting to climate change, with beneficial effects on broader global security, stability, and sustainability. In order to move forward in DRR, programs and research need to begin to address the gaps in DRR knowledge and programming and the increased vulnerability of certain populations and locations. Based on the literature review and interviews, below is a summary of recommendations.

1. Increase focus on poor, urban areas and island nations, in addition to chronically risk-prone areas

Growing urban populations and environmental changes make both urban informal settlements and small island nations increasingly susceptible to hazards. Thus, a new focus on urban vulnerability and island nations is called for.

2. Standardize definitions, tools, and methodologies

Agreed-upon definitions, tools, and methodologies will help bridge different fields and types of programming and reduce confusion. A cross-sectoral framework that reflects how lives, livelihoods, and assets are preserved would allow for a globally accepted set of criteria against which to measure the effectiveness of DRR, and could guide action and steer monitoring.

3. Focus on reducing vulnerability

Risk remains overly associated with hazards and response, at the expense of concerns related to vulnerability, which is seen as too ambiguous and overwhelming. We lack tools to integrate vulnerability analysis into development planning. A better set of tools for vulnerability analysis can link humanitarian and development responses and bring those responses in line with the sustainable livelihoods approach.

4. Integrate DRR with development, climate adaptation, and humanitarian programming

DRR is too often treated programmatically as a stand-alone activity. Development, humanitarian, and climate initiatives have to incorporate DRR programming in order to make their projects more sustainable and better address all community and household risk drivers. The challenge is to incorporate climate change, poverty reduction, and risk reduction in a way that can bring local and sectoral approaches into the mainstream. This will address the goals of both the Hyogo Framework for Action and the Millennium Development Goals.

5. Understand and incorporate the project cycle in programming

Given that the majority of funding is still channeled towards disaster response, the methodological focus needs to be broadened and made more comprehensive, incorporating risk reduction with mitigation and preparedness, response, and recovery. Frequently, relief efforts contribute to increased vulnerability due to conflicting program objectives.

6. Improve monitoring, impact evaluation, and cost-benefit analysis

A stronger emphasis on monitoring, impact evaluations, and cost-benefit analysis is needed to determine the overall effects of DRR interventions. Quantitative analysis of the cost and benefits of DRR programming can provide evidence and a clear economic argument for or against DRR interventions. Lack of hard evidence makes the case for funding DRR difficult, particularly because it is hard to determine whether targeting vulnerability and risk drivers prior to a disaster cuts down on losses and traditional disaster relief costs.

7. Broaden focus to incorporate conflict, economic, biological, and multi-hazard environments

Most natural disasters now occur in a conflict or post-conflict setting (Sudan, Haiti, Somalia, Nicaragua, and many others) or as a mix of multiple hazards (Ethiopia, Philippines, etc.). At this writing (November 2010), the global financial crisis is still fresh in our memory, and we recognize the importance of economic crises on livelihoods, institutions, policies, and processes. ■

1. Migration

Out-migration is an inevitable result of disaster, and it often serves to exacerbate the impact (Hunter, 2005). However, migration can also mitigate impact by reducing the number of people that need to be assisted in the affected area. Communities that are part of (pre-disaster) existing migration systems benefit from remittances sent after a disaster (see section 3b: remittances).

How much a disaster increases or decreases migration flows depends on the existing migration context. Halliday's research in El Salvador following the 2001 earthquakes showed that El Salvador had well-established migratory flows to the United States and Canada (migration was used as an ex-ante risk management coping strategy), but that earthquake damage had no discriminatory effect and was associated with decreased net migration across all wealth categories (Halliday, 2006). Flight from hazardous areas appears to be more related to family composition, community ties, and job status than to concern for the risk posed by a given hazard. After a disaster, or in hazard-prone areas, not all households are able to migrate. The costs of migration are a deterrent, but residents also choose not to migrate because of lack of information or expectations about loss (Hunter, 2005).

There is some evidence that patterns of migration flows respond to environmental change such as desertification. In the Sahel, the composition of migrants and types of migration have changed, with more internal migration, characterized by short distance movements, shorter migratory cycles, and a greater proportion of women and children. Research in Nepal also found environmental degradation associated with short-distance movements, but with little effect on longer distance migration (Adamo, 2009). Short-term migration caused by environmental shocks is linked to a household's seasonal coping strategy.

Large-scale displacement caused by a disaster can

create protection issues. The "self-settlement" of displaced populations can expose both the migrants themselves and the communities that absorb them to increased risk (UNHCR, 2006). The speed at which migration takes place can also be a determinant of the overall impact. The more sudden and forced the displacement, the more disruptive it is likely to be to lives and livelihoods (Adamo, 2009).

Health, both mental and physical, can be negatively affected by relocation or forced migration. Research conducted following the 1988 earthquake in Armenia found that relocation following the disaster was associated with higher levels of depression as compared to households who remained in *situ*. Loss of social ties, interruption of livelihood activities, and other disruption factors caused by out-migration can all affect vulnerability (see section 4: social capital). A displaced population is also susceptible to disease outbreaks and epidemics, as is evident with the spread of cholera in post-earthquake Haiti today (Watson et al., 2007).

A growing literature on the impact of conflict displacement exists, exploring how livelihoods and entitlements play a key role in household resilience after displacement. For example, a study in Sri Lanka explored the impact of displacement upon IDPs by livelihood type. Despite the covariate nature of the displacement and the loss of income experienced across the entire sample, important distinctions between groups were identified. Livelihoods were categorized by skilled and unskilled labor, civil servants, and entrepreneurs. Entrepreneurs experienced the most substantial losses as a result of displacement, while skilled and unskilled laborers' losses were less dramatic (Amirthalingam and Lakshman, 2009).

Livelihoods programming suggests that households can be afforded some level of protection if they are prevented from liquidating their productive assets and are permitted to use those assets to cope with shocks (see section 3: financial capital). In the event of disaster-induced migration, asset stripping is common, and

attempts to protect these assets have been the focus of interventions. Oxfam GB programming in Colombia has worked with IDPs to provide productive packages containing contextually appropriate goods to improve productive capacity of those affected by displacement. These packages have been beneficial for those targeted, but mid- to long-term impacts were less clear. Most beneficiaries failed to maintain or improve the livelihood assets over the medium term, and for those who had achieved asset accumulation, pre-displacement skills or training were likely responsible for the sustained productivity (Hill, 2004). The importance of pre-disaster skills training and interventions to provide vulnerable populations with basic skills can provide resilience against future shocks and suggest that transferable human assets are a determinant of successful displacement and disaster coping.

Recommended Readings

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2. Urbanization

"Africa is urbanizing faster than any other continent and the African urban populations will more than double its 2007 level of 373.4 million as early as 2030, when 51% of its population will be urban. There will be close to 800 million African urban dwellers by that year, which will be more than today's total number of city dwellers in the entire Western hemisphere. In fact, it is conceived that by 2050 there will be more people living in African cities than the combined urban and rural populations of the Western hemisphere."

Anna Tibaijuka, Executive Director,
UN-HABITAT, 2009.

Rural-to-urban migration, in addition to natural population growth and sudden movement into a city (in response to war or famine) contributes to urban growth and the concomitant growth of informal settlements or urban slums. These areas suffer from overburdened health care systems, inadequate and insufficient drinking water, and substandard sanitation facilities and infrastructure; lack affordable and adequate land; and experience frequent food shortages (UN-HABITAT, 2009). Poor quality and overcrowded housing is a common characteristic of informal settlements, where there is little to no zoning, regulation, or building codes—but in many large cities in developing countries, poor quality, overcrowded housing is common in planned areas too. Legal title and other ownership records on the households in the settlements seldom exist. Informal settlements ("slums") are at more risk for hazards, however, and this section focuses on them.

Risk factors in informal settlements

Informal settlements are characterized by high risk for the following reasons. "Invisible" groups lack protection. Large numbers of unnoticed at-risk individuals and groups, such as the elderly, street children, recent migrants, and IDPs, lack protection and access to safety nets (ALNAP, 2009). Local authorities are unprepared or unwilling to address the needs of the growing informal urban population. Lack of infrastructure and basic services such as drainage and emergency response increases risk. Poor urban governance exacerbates the risk through ineffective risk-reduction policies and programs. People living in informal settlements usually work in the informal economy, resulting in infrequent and irregular income and a limited capacity to pay for housing, purchase insurance, and develop savings or asset accumulation (see section 3: financial capital).

Building collapse is a major issue in the course of most disasters. Informal settlements are by definition unplanned, and are often built on hazardous sites prone to floods, landslides, and earthquakes (Pelling and Satterthwaite, 2007). These areas are highly exposed to urban pollution and hazardous materials.

These areas have recently begun to face increased violence and insecurity as a result of these deprivations in resources. They are often also the hardest hit by a disaster given the poor infrastructure, limited information on affected households, and often precarious foundations, making them offer little resilience against earthquakes, floods, landslides, and other hazards.

Risk mitigation approaches

Risk mitigation approaches include understanding and mapping risks, building on local capacities, engaging communities in risk reduction, and collaborating with local authorities and non-state actors to include disaster risk reduction in urban development and planning.

Risk mapping is important for planning DRR techniques and contingency planning efforts (UN-HABITAT, 2009). Context-specific risks can be understood by mapping information systems of unplanned areas, and through collaboration and information-sharing with different local government agencies in an effort to create a unified “base map” of the region (ALNAP, 2009).

Collaboration must also take place in order to reinforce building codes and regulations advocating policies that address issues of poor housing and land, especially in earthquake-prone areas. Increasing the security of housing structures in informal settlements and preventing expansion of informal settlements onto hazard-prone land areas are key priorities for local governments. Land-use management programs should focus on limiting the extent of urban development on land sites at high risk for hazards (Pelling and Satterthwaite, 2007).

Additional preventative measures include improved drainage systems to reduce flood risk and investment in roads and firebreaks to greatly reduce risks from fires in highly populated urban areas (Pelling and Satterthwaite, 2007). In order to minimize future risks, DRR should be incorporated into all stages of a disaster response. The “building back better” concept of rebuilding to reduce future vulnerabilities presented by ALNAP connects risk reduction,

migration, equity, human rights, gender, housing, and land property rights to target smooth transitions from relief and recovery into long-term development. This can then be used as a model for future responses to disasters.

Local governance in many poverty-laden urban regions is inadequate. Efforts to enhance local governance could use risk reduction as a vehicle for strengthening community-based organizations and Community Based Organizations (CBO)-local government linkages (Pelling and Satterthwaite, 2007). Local governments generally do not focus attention on disaster preparedness and preventative efforts; thus, it is important for nongovernmental organizations to implement DRR projects into urban development (planned and informal) to cover the large gaps in urban DRR. A robust, multi-hazard approach for quick recovery, sustained development, and reduced risk is needed for CBOs, governments, and humanitarian agencies (ALNAP, 2009).

In order to identify entry points to prevent interventions from undermining household, community, and individual coping strategies, it is important to identify informal safety nets unique to urban settings (Morduch et al., 2009). Local resources and individuals should be utilized to build on and enhance local capacities and to design and implement social safety net programs. Successful slum upgrading must include a comprehensive policy framework that involves land tenure security, basic service provision, and housing improvement (Brockman, 2009).

Urbanization brings about new hazards and risks that historically have not been addressed in urban environments. One challenge is how to relocate vulnerable populations out of unsafe settlements pre- or post-disaster without disrupting livelihoods. There is a recognized need to reduce vulnerabilities through housing resettlement, yet moving populations should be a last resort in DRR programming. Urban environments possess a diverse group of livelihoods, wealth, and inhabitants, and DRR responses must be context-specific and capable of addressing the needs and impact on women, men, and other vulnerable groups (UN-HABITAT, 2009). Current tools and guidelines

must be adapted to the urban setting to facilitate an appropriate response. One difficulty is lack of data and information on informal settlements and slums, making it difficult to identify context-specific tools and guidelines. Without adequate data, assessment will be incomplete, and vulnerable groups may not be accounted for. To make up for this lack of formal data, informal institutions and community-based organizations should be utilized and identified as operational partners alongside NGOs, local authorities, and local governments.

While the local urban government is usually identified as primary actor for disaster-related functions, local governments often lack money for basic urban services and programs, let alone disaster-preparedness. Overcoming weak urban governance presents large problems. Often the greatest challenges of risk and vulnerability in urban centers emanates from the frequent inability of the formal planning and governance processes to address the full range of needs, interests, and interactions among their citizens (ALNAP, 2009).

Recommended Reading

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Pelling, M., and D. Satterthwaite. 2007. "Investigating Urban Risk Accumulation in Six Countries in Africa." AURAN.

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3. Financial Capital

A poor household without access to any kind of financial capital (savings, remittances, insurance, access to reasonable credit) can often fall deeper into poverty when hit with a hazard, either through asset depletion, the provision of large loans with exorbitant interest rates, the death of a productive member of the household,

or even simply the loss of one's own health and hence productivity. Escaping from the grip of poverty is the most obvious step for reducing exposure to hazards and would improve resilience and the ability to cope with shocks. However, for households living in disaster-prone areas or encountering the consequences of environmental change, escape out of poverty can be almost impossible (Carter and Barrett, 2006). Since poverty and vulnerability reinforce one another, there is a cyclical nature to the persistence of poverty—the poverty trap theory (Sabates-Wheeler et al., 2008). There is a baseline asset level or critical minimum threshold—bifurcation point—below which asset accumulation is unlikely (Barnett, Barrett, and Skees, 2008; Carter and Barrett, 2006; Chantararat, Mude, Barrett, and Turvey, 2009). A household asset level above this point suggests that growth is possible, albeit threatened by the possibility of shocks knocking households below the threshold (Barnett et al., 2008).

Through informal risk management at the local level, households may protect against slipping below the bifurcation point; however, in the case of a covariate shock, such as a disaster, this is less likely. Households experiencing stress will cut non-immediate expenditures, for example foregoing planned house improvements or denying themselves needed medical attention. These short-term cash savings lead to greater expense later as the roof starts to leak or the medical condition worsens and requires more costly treatments. In severe situations, households resort to more drastic coping mechanisms, including cutting food budgets, reducing the number of meals per day, or granting caloric and nutritional priority to the members most vital to the household livelihood activities. Distress migration or forced displacement can occur multiple times when families without the financial resources to recover from the drastic loss of household and productive assets are forced to relocate repeatedly or to resort to IDP camps (Brouwer et al., 2007). Once displaced, the poor are further constrained if they are required to live in displaced camps (see section 1: migration).

Without the proper financial management tools or access to financial services, households resort

to sub-optimal or harmful mitigation and coping behavior, with potential long-term ill effects for household wealth-building.⁸ Households commonly make emergency divestitures of long-term productive assets, including selling off productive assets such as livestock for cut-rate prices. For example, pastoralists sell valuable cattle, animals that might have still had breeding potential or which would have sold for a better price had they enjoyed a few more years of fattening. Covariate shocks often lead to many households seeking emergency funds at the same time, creating a glut of goods in the market and depressing the selling price. Such strategies satisfy immediate cash needs, but stunt long-term wealth-building potential and potentially pull the household deeper into poverty.

From a programming perspective, a household can avoid or even escape the poverty trap via social safety nets, savings, microcredit, and insurance. A poor household's small and unpredictable income makes the availability of financial reserves and services an important financial management tool in the event of a disaster. But few poor households have the means to set aside reserves, and when confronted with the need for cash, households must look elsewhere. Those who have remittance senders elsewhere may be able to obtain additional support (see section 3b: remittances). But in most poor communities, relatively few households have access to remittances, and most households must look to their own community for emergency credit. Pastoralists often seek loans during periods of severe drought, when they have to truck in water to keep their families and animals alive. This water costs money, leading to household debt burdens of \$50 to \$100 (Ali et al., 2005). Households are obliged to set aside concerns about security or cost and borrow from money lenders at exorbitant interest rates and often from similar sources that have cheated them in the past (Wamsler, 2007). Thus many households find their debt situation exacerbated after a disaster. In the absence of financial capital, disasters leave households not only significantly worse off but also more vulnerable to future shocks.

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Microfinance and Credit

The adaptation of financial management tools a priori can help households better prepare and cope with an oncoming disaster. Microfinance institutions could potentially play a significant role in helping clients prepare for a disaster with the provision of secure savings and access to credit. However, most microfinance institutions are fiscally constrained in the immediate aftermath of a disaster and therefore provide limited benefits. Problems of safes being looted, lack of appropriate documents on behalf of the clients, over-withdrawal of savings, and difficulty in accessing dispersed and relocated clients (in camps) all contribute to a microfinance institutions' inability to support affected households and clients. Savings groups, which also offer a potential for greater recovery, often cease to function after a disaster.

Given the value of the services provided by a microfinance institution to disaster-affected households, it is imperative that these organizations plan ahead in the case of a disaster in order to provide the much-needed access to household savings and availability of credit, as well as create accounts that incentivize household savings for future disasters. In the case of a disaster, the best liquidity management strategy for a microfinance institution is to have a contingency plan and understand all potential sources of liquidity in times of crises. The

strategies that an Microfinance Institution (MFI) can adopt are: setting aside emergency funds, gaining access to disaster fund facilities, negotiating an overdraft facility on their bank account, and developing client contingency funds that can be accessed by clients in case of an emergency. A strategy should be developed in advance of the disaster. One such strategy is the establishment of disaster loan funds (DLFs)—these are financial reserves, usually established initially by a donor grant, that allow the MFI to make loans to affected households (Kumar, 2007). In Bangladesh, one MFI created easy deposit and withdrawal access to encourage clients to build savings rather than a small compulsory account that could only be accessed when a client leaves the MFI. The MFIs that offered a voluntary savings products as part of their portfolio experienced less liquidity constraints post-disaster.

Loans also play an important role in reducing the negative impact of a disaster. For seasonal flooding or drought, loans can be structured so as to reduce required repayments during the hazard event. An MFI can issue new loans prior to a disaster that have to be specifically used to shore up a households' resilience by investing in small boats, building stronger and more flood resistant housing, etc. After a disaster strikes, an MFI can reschedule loans, provide emergency relief loans, and reconstruct loans. Several potential general lessons emerge in regards to product delivery: customize solutions according to clients' situations, empower local staff, give clients options, and protect client records and information.

Another useful innovation is the implementation of mobile banking that can then be used for emergency cash transfer and access to savings after a disaster. In the Kerio Valley in Kenya, the majority of households are pastoralists and highly dependent on livestock for their livelihoods. Environmental degradation and increased human settlements have increased the pressure on scarce natural resources, leading to inter-ethnic tension. This community was attacked and displaced during the post-election violence in Kenya. Given the remoteness of the area, food aid was too costly and insecure to deliver, so Concern decided to instead provide cash via mobile

phones. This allowed for improved communication and provision of financial capital to the otherwise inaccessible drought- and conflict-affected community.

In disaster contexts, the capacity of a microfinance institution to provide a ready and sufficient sum of cash to cover a shortfall is crucial. Though most MFIs can be significantly affected by the disaster, new and potentially useful ways of building financial resilience in the case of a disaster are being developed. These services can both potentially offer the necessary financial assistance for a household to recover after a disaster and are flexible and convenient enough to target the poor and most disaster-affected.

Recommended Reading

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Kumar, Anand. 2007. "Institutional Preparedness and Sustainability of Micro Finance Institutions during Post Disaster Scenario." *Disaster Prevention and Management* 16, no. 1.

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Remittances

Remittances are important for supporting developing countries and households, and recently have taken a more visible role in disaster mitigation and recovery. Historical examples also illustrate the rise in remittance flows following disasters in Bangladesh, Dominican Republic, Haiti, and Honduras and other Central American countries. Disaster circumstances dictated by conflict have also seen rising remittances in Sierra Leone and Albania. And in the case of Somalia and government collapse, remittances have been a lifeline for survival. For poorer countries, remittance flows are positively

correlated to natural disasters (Yang, 2008a). Mohapatra et al. (2009) find that it is countries with a larger emigrant stock as a proportion of the population that experience these post-disaster remittance increases.

Remittances are often used as a cushion against shocks in the event of an idiosyncratic or covariate emergency. Remittances are perceived as a kind of insurance for low-income households who have migrants abroad. A study done on the effect of rainfall shocks in the Philippines showed that, for households with overseas migrants, essentially all of the exogenous declines in income were replaced by remittance flows from abroad (Yang and Choi, 2007). During shocks, remittances play an important role in helping households maintain their expenditure levels. Net gifts to other households also increase with income shocks for remittance recipients, showing that remittance receipts of migrant households are being shared with other households. Therefore, there is an overall benefit to smoothing both income and expenditure for households receiving remittances as well as communities that participate in informal risk-sharing arrangements with remittance-receiving households (Yang and Choi, 2007).

Remittances provide additional financial resources for poor households that play an important role in consumption smoothing. Households in the Philippines that experienced exogenous increases in remittances were more likely to leave poverty status, send their children to school, and to invest in microenterprise (Yang and Martinez, 2005; Yang, 2008b). Remittances can help also households in advance of a disaster. Work in Ethiopia found that remittance-dependent households faced fewer idiosyncratic shocks defined by illness, suggesting a link to nutrition and biological resilience. Research in Ghana and Burkina Faso revealed that remittance recipient households are more likely to live in more resilient housing and are also more likely to have access to communications than those without remittances (Mohapatra et al., 2009). However, generally there is little evidence-based literature to support the hypothesis that remittances facilitate ex-ante preparedness and serve to reduce the extent of damage experienced by recipient households

when affected by disasters (Mohapatra et al., 2009).

The post disaster period is often characterized by agencies undervaluing the capacities of affected communities. Remittances should be viewed as an asset to the response and recovery. The impact of remittances extends beyond the recipient household. The restoration of remittance flows interrupted by disasters can be a quick and effective means of livelihood restoration (Savage and Harvey, 2007). Agencies need to account for remittances, but are cautioned against simply looking at standard assessments to measure remittances following disaster as they are unlikely to convey the importance of remittances. Pre-disaster secondary data is useful in understanding the impact of the disaster on migration and remittances (Savage and Harvey, 2007).

Though remittances represent a large portion of the financial flow to developing countries and an important form of income to poor households, there still exist gaps in financial institutions' ability to meet the needs of these transnational transactions. Many remittances are still hand-carried or sent directly via cash-cash transactions utilizing institutions such as Western Union. However, remittances can serve as a point of entry for many remitters and their families to formal financial institutions via special savings accounts. A recent study showed that when migrants are given the opportunity to open savings accounts that allow them to exert more control over the remittances, the migrant both remits and saves more (Ashraf, 2008). This represents a great business opportunity for banks, credit unions, and microfinance institutions in both the country of origin and the current migrant's residence, especially in disaster-prone areas where remittance flows can quickly expand in the immediate and short-term aftermath of a disaster.

Insurance

Insurance schemes are an important means by which to transfer risk away from vulnerable populations in risk-prone areas. Insurance is not able to prevent losses, but it does transfer risk and provide incentives for risk-reduction

activities, particularly under an index scheme (Linnerooth-Bayer and Mechler, 2009). Financial services and the availability of credit are often inaccessible to vulnerable populations, and insurance schemes offer an entry into the marketplace and access to a tool seen as necessary to cover the sunk costs associated with productive activities (de Hoop and Ruben, 2010).

Traditional indemnity insurance is laden with problematic issues for resource-poor areas. Costs for monitoring and verification of claims, as well as market imperfections associated with asymmetric information, plague programs attempting to issue traditional insurance. However, index-based insurance is a modification that seeks to avoid many of these problems. An index is established based on an objective variable that serves as a proxy for individual policyholder loss, which can be tied to rainfall, aggregate crop yields, livestock mortality, or other objective measures, and which addresses the issues of moral hazard and adverse selection (Barnett et al., 2008; Mahul and Skees, 2007). To the extent that this is not reflective of the actual loss experienced, it is termed basis risk and remains an issue with index programs. However, early indications suggest the index-based insurance systems can be successful (Linnerooth-Bayer and Mechler, 2009). These programs have a particular advantage in low-income contexts.

A World Bank program was initiated in collaboration with the Government of Mongolia in 2005 that sought to insure against livestock losses that result from extreme weather. The pilot program shows great potential, at least in the ability to cover increasing numbers of herders. The scheme is comprised of three tiers, and has integration of international technical support, national level support from the government, and private industry engagement (Mahul and Skees, 2007). Under the pilot program, individual herders shoulder the finance losses associated with an initial level of aggregate loss, larger losses are absorbed by the private insurance industry, and then the program is buffered by a state-level extreme or catastrophic loss threshold, above which the state assumes the losses as a public

safety net program. This serves to protect insurers and maintain premiums at a level that can be afforded by the target population. The index is based on regional livestock mortality and enabled by a unique availability of data permitting the establishment of mortality thresholds for various livestock species (Mahul and Skees, 2007).

Similar programs have been adopted elsewhere. A Kenyan program uses sensing of vegetative cover to predict herd losses and establish thresholds. The literature on this program uses household-level data to simulate the impacts of the index-based product on the welfare of pastoral households, but it should not be mistaken for an actual evaluation. In the absence of a true evaluation, the simulation suggests unsurprisingly that initial herd size would be the strongest determinant of product performance for households (Chantarat et al., 2009). Additionally, the simulation projected that the product works least well for the poorest, but is most effective for the vulnerable non-poor, as they are in a position to avoid the downward spiral of asset atrophy associated with poverty trap thresholds (Chantarat et al., 2009). Further simulations found that relatively subtle subsidizations that target households with herds in certain ranges could significantly increase average wealth and decrease poverty (Chantarat et al., 2009).

It is important to note that these types of insurance schemes do not appear to have been properly evaluated yet and most remain in the pilot stage. The lack of evaluations questions the effectiveness of insurance schemes in their ability to affect the economic status of participants at the household level in disaster-prone areas. Rather, evaluations that do exist in the literature tend to focus on program coverage, obstacles, and enablers to program uptake amongst other variables related to the scale-up of programs (Chantarat et al., 2009; Linnerooth-Bayer and Mechler, 2009; Mahul and Skees, 2007). The potential of insurance schemes as a DRR program is huge; however, this potential needs to first be validated before these schemes are widely adopted and funded.

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4. Social Capital

Social capital contributes towards DRR by increasing resilience for households and communities. Social capital, as defined by Nakagawa and Shaw (2004), is defined as a function of trust, social norms, participation, and networks, and is said to have the capacity to play an important role in recovery from disaster. Furthermore, research suggests that accumulation of such capital contributes significantly to social, political, and economic performance (Nakagawa and Shaw, 2004), and thus may have a role in poverty reduction. The most widely used definition states that social capital "features social life-networks, norms and trust that enable participants to act together more effectively to pursue shared objectives" (Pelling and High, 2005).

Understanding the different types of social capital in a community can help organizations better assess the likely direction and speed of adaptation and recovery (Pelling and High, 2005). Social capital is context specific, and the type of social capital will differ from one situation to the next. There are two types of interpersonal relationships that turn into social capital—bonding and bridging ties. Bonding ties are "shared between coidentifying individuals typified by ethnic and religious groups," while

bridging ties are "relationships of exchange, often of associations between people with shared interest or goals but contrasting social identities" (Pelling and High, 2005). Bonding ties are associated more with survival than development, and they are often observed in recovery from natural disaster and conflict. Post-disaster, individuals tend to withdraw from wider society and will instead turn to smaller kinship groups; this in turn can contribute to a breakdown in wider social trust and interaction and slows the flow of information, building inequity and undermining collective action (Pelling and High, 2005).

Social capital may help reduce vulnerability to risk and aid recovery following disasters. When social capital is greater, communities may act together in a more effective manner to pursue shared goals or objectives (Albeur, Braun and Schuttemeye, 2009), which may in turn increase resilience and mitigate the impact of a disaster. Social capital is greatest when linkages among groups are strong and trust binds community members together. As such, some theorists argue that social capital is likely to be greater in more economic and ethnically homogenous societies (Yamamura and Shaw, 2008); the more heterogeneous a society, the weaker the overall social capital. This argument also implies that social capital will be greater in rural as opposed to diverse urban areas.

When thinking about interventions with a social capital component, local NGOs and community-based organizations with a long-standing position in communities may be more effective than outside organizations in implementing projects that strengthen social capital, as the organizations themselves need to be embedded within the social network. In a post-disaster period, organizations can work to develop activities that strengthen trust and linkages to support successful rehabilitation. Community volunteers and organizations play the most important role at every stage during disaster response (O'Donnell, Smart, and Ramalingam, 2009), and initiatives to support these efforts are likely to aid in recovery while also enhancing social capital. Local governments have a critical role to play, but may need assistance with capacity. Organizations working in a disaster

context should balance engaging with local governments while assisting affected groups to advocate on their own behalf but must, however, take care not to omit informal organizations or vulnerable groups who may have less of a voice or presence within a community (O'Donnell, Smart, and Ramalingam, 2009). Studies have found that social capital alone does not lead to successful rehabilitation post-disaster. Rather, effective leadership within the community is the main determinant of success (Yamamura, 2008).

Nakagawa and Shaw (2004) conducted an assessment of the rehabilitation efforts following the 1995 Kobe Earthquake in Mano, Japan. They found community involvement to be a key factor in the success of the rehabilitation, particularly in the absence of extensive government support for recovery efforts. Community participation increased speed and flexibility of recovery programs and promoted inclusion of marginalized and vulnerable groups. The authors also profile a case in Gujarat, India following the 2001 Gujarat Earthquake. The success of programming in both cases was attributed to the large amount of social capital present at the community level. Thus, although the two cases differed in socioeconomic and cultural contexts, social capital and leadership were found to be the most effective elements in enhancing disaster recovery (Nakagawa and Shaw, 2004).

According to O'Donnell, Smart, and Ramalingam (2009), there is much left to be understood before organizations can promote social capital in a way that is likely to increase resilience and reduce risk of disasters. The first step will be improved assessments, which will include context-specific knowledge of the following: how social networks and paths lead to collective action; the identification of latent social capital; an understanding of local adaptations to shocks and hazards; and a means of measuring both formal and informal social resources. Once assessment methods are improved, interventions to support or enhance social capital will need to consider how to strengthen the pathways through which social resources are accumulated and how to positively engage with action being taken by local organizations and groups. Without a better understanding of the relationships, trust, and

reciprocity that combine to form social capital, it will be difficult for external actors to build upon social capital as a potential means of reducing risk.

O'Donnell, Smart, and Ramalingam raise the important issue of exclusion of certain groups. It may appear from the outside that all populations are included in a seemingly well-connected community, but this may not be the case. Outside programs or interventions must assess the extent to which all populations are accounted for and seek to include those that are likely to be particularly vulnerable or marginalized. The authors ask whether social capital is solely built from the accumulation of trust, norms, and networks over time, or whether social capital can be fostered through external interventions that change the social rules and incentives in society. Furthermore, is there such a thing as dormant social capital that can be used to reduce collective risk (O'Donnell, Smart, and Ramalingam, 2009)? The answer to these questions may determine if and how social capital can be strengthened in a disaster context in a way that does not exclude populations.

A report looking at numerous cities around the globe (Wisner, 2003) revealed that there is a large gap in understanding and approach to urban and social vulnerability between municipal officials and civil society groups. In these studies, it was evident that municipal and civil society groups were conducting parallel or conflicting risk-reducing activities in post-disaster periods. Citizens were found not to trust the municipal authorities in the cases profiled by Wisner: Los Angeles, Manila, Mexico City, and Tokyo. On the other hand, local NGOs and civil society groups may know more about the population and be trusted; yet, in the Wisner sample, they lacked technical and financial resources. When compared to the international organizations and agencies, of course, it is usually the municipalities and local governments that are lacking in resources and capacity. These various inequalities can result in a lack of coordination and coherence in disaster preparedness and recovery, and can breed a culture of mistrust that undermines social capital at all levels.

Recommended Reading

O'Donnell, I., K. Smart, and B. Ramalingam. 2009. "Responding to Urban Disasters: Learning from Previous Relief and Recovery Operations." *ALNAP Lessons* 15–16.

Pelling, M., and C. High. 2005. "Understanding Adaptation: What Can Social Capital Offer Assessments of Adaptive Capacity." *Global Environmental Change* 15:308–319.

Wisner, B. 2003. "Disaster Risk Reduction in Megacities: Making the Most of Human and Social Capital." In *Building Safer Cities: The Future of Disaster Risk*. Washington, DC: The World Bank, 188–94.

5. Gender

The common understanding about gender within the DRR literature is that women and children have greater vulnerability to disasters than men. While this generalization may be accurate in very broad terms, it is important to remember that men and women of different ages, ethnicities, wealth groups, social classes, and locations will experience disasters in different ways, and that their levels of risk and resilience differ accordingly. Gender may sometimes be the defining aspect, but this is not always the case. When gender is the most important variable in experiences of disasters, generalizations do not always hold true. For instance, there are numerous examples of the resilience and adaptability of women in pre- or post-disaster settings. And while men have fewer inherent risks than women, men are more likely to take risks during various phases of disaster management. Men are also more likely than women to be targeted for violence or attack in settings of conflict or insecurity.

In-depth analysis of how vulnerability differs across the board by gender and age is lacking, but much of the literature does recognize the need for more thorough and disaggregated data. Often, however, quantifiable impacts of interventions and programming by gender are difficult to find. Explanations of vulnerability are

more common, but these often focus on one gender only (women), without examining how vulnerability differs for men and why these differences exist. Such discussions often also ignore generational differences as a component of gender analysis.

Gender considerations have a place in all four phases of disaster management; pre-disaster, during, after, and rehabilitation. Prior to a disaster, gender differences exist in physical and social vulnerability, as well as perception of risk. Men and women cope differently during or immediately after a disaster, and gendered coping strategies have been assessed and identified in several studies. For instance, in the recovery phase in Honduras and Nicaragua after Hurricane Mitch, men primarily partook in search and rescue activities, were less concerned for their personal safety in their efforts to benefit the community, engaged in higher risk reconstruction activities, and were more likely to cope with stress through the use of alcohol. Men were also more likely to engage in gambling and criminal activity, and to abandon their families (Delaney and Shrader, 2000). Women, in contrast, were more likely to become involved in social networks, women's groups, and to participate in wider community organization. Women shouldered a greater psychological burden of the experiences of family members, particularly children and the elderly. Women experienced psychological impacts and emotional trauma as headaches and sleep disorders. Women tended to take on a range of activities and play a triple role—reproductive work, productive work, and community work—yet their role continues to be viewed primarily as mothers and housewives (Bradshaw, 2004). Post-disaster there is an increase in female-headed households, and during the rehabilitation phase new vulnerabilities such as sexual violence against women and increased levels of aggression in men may emerge. Unlike many other sources in the literature, Delaney and Shrader (2000) recognize the importance of a balanced examination by gender, arguing that when looking at gender roles the focus should not be on women alone, but also include an analysis of men's roles.

Some post-disaster interventions specifically target by gender, such as efforts to limit targeted

looting against female- or child-headed households. After the 2002 cyclone in Tonga, the World Bank sought to ensure gender-equitable rebuilding, and provided land titles to both men and women, allowing many widows to have homes in their names for the first time. Many programs, however, overlook the capacities of women, as these skills are considered to be more domestic and less applicable to recovery efforts. The World Bank/IEG report posits that the main way to increase resilience to risks and reduce vulnerability of women is through female involvement in decision making and recovery activities, as well as through incorporating indigenous knowledge and practices into programs.

Highlighted lessons learned from programming and analysis studies in general include the importance of working with both women and men to promote gender balance at the community level, the importance of including stakeholders at all levels, and the inclusion of a participatory approach to promote sustainable long-term activities (MacDonald, as cited in ISDR, 2007). The need for a pre-disaster preparedness plan that does not force female-headed households to choose between protecting their family and protecting their assets is also identified (Delaney and Shrader, 2000). Furthermore, incorporation of rights-based approaches involving equitable roles for men and women in communities, as well as capacity building for women in participation, planning, implementation, and monitoring and evaluation should be included in future programming (IRP, 2009).

To date, relatively little of DRR in practice includes a thorough gender perspective. A number of gender-focused training manuals and guides do exist within the DRR literature, but the “tyranny of the urgent” in disaster response frequently wins out over gender-balanced good practice (Bradshaw, 2004). Some of the widespread recommendations to incorporate a gender lens into DRR include collecting data disaggregated by gender and age, implementing capacity building targeted at both men and women (Delaney and Shrader, 2000), encouraging the development of community-based women’s groups in disaster-prone and

disaster-affected regions, promoting equal participation between males and females, training staff on the relevance of gender issues and gender equality, and incorporating a gender perspective into national policies.

Recommended Reading

Delaney, P. L., and E. Shrader. 2000. “Disaster and Post-Disaster Reconstruction: Hurricane Mitch in Honduras and Nicaragua.” The World Bank.

International Recovery Platform (IRP). 2009. “Disaster Risk Reduction Tools: Gender Assessments.” Philippines: Knowledge for Recovery Series Info Kit #7: Disaster Risk Reduction: Gender Assessment.

International Strategy for Disaster Reduction. 2007. “Gender Perspective Working Together for Disaster Risk Reduction: Good Practices and Lessons Learned.” United Nations Publications, Geneva.

6. Indigenous Knowledge

“Old skills, knowledge and technologies are not inherently inadequate and new technical approaches are not automatically superior.”

Twigg, 2004.

Indigenous knowledge is defined as knowledge systems, skills, and technologies that individuals in hazard-prone regions have developed over time to protect themselves and their livelihoods (Twigg, 2004). It is a body of knowledge existing within or acquired by local people through accumulations of experiences, society-nature relationships, community practices, and institutions passed down through generations (Mercer et al., 2009). Examples include body of water observation, mangrove and coral reef conservation, housing structures, and water resource management (EU, 2009).

Some of the challenges for the use of indigenous knowledge in DRR include identifying areas where indigenous knowledge is appropriate and where it is not. For example, modern early warning systems in the face of climate change

are generally more appropriate than traditional early warning methods. Climate change in general has changed the relevance of indigenous knowledge and increased vulnerability of indigenous populations. Along with climate change, pollution, over-development, and globalization have increased general vulnerability. Additionally, indigenous knowledge is not appropriate for use in epidemics, such as HIV/AIDS, that have not been experienced in the past (Twigg, 2004). Mercer et al. (2009) noted a difficulty in the identification of indigenous practices. When surveying communities on their use of traditional knowledge to prepare for a particular hazard, communities may not recognize their actions as unique. DRR strategies are often a part of everyday life. To overcome this challenge, researchers should observe communities and encourage community participation in knowledge identifying practices (cause/ effect diagrams) (Mercer et al., 2009).

Many organizations have been moving away from a top-down approach to DRR towards a bottom-up, community and participatory technique (Mercer et al., 2009). Identified priority regions for indigenous knowledge and DRR collaboration are mountain ecosystems, coastal zones, and river basins (EU, 2009). Recent studies have integrated indigenous knowledge into climate change and food security, early warning systems, rural development, urban risk reduction, and gender-focused projects. However, an overarching gap that remains in the research is that although communities have responded to their environment and adapted to change for centuries, inadequate consideration has been given to the intersection of scientific and indigenous knowledge bases for effective use in DRR programming. Generally, indigenous knowledge is underutilized and undervalued in modern DRR approaches.

After a review of Maneshra and Battagram districts in Pakistan, Komino (2008) suggests that in some cases, despite local mechanisms, indigenous coping strategies are insufficient for management of many disasters. Therefore, socioeconomic analysis and a community-based livelihood approach should be integrated into

disaster management planning and programming. Mercer et al. (2009) found that tapping into indigenous knowledge practices increases sustainability, due to enhanced community involvement, and increases cost-effectiveness by reducing the need for external intervention. The

Disaster Risk Hyperbase states that indigenous knowledge must be understandable to the user, implementable, originated within communities, based on local needs, and specific to culture and context, provide core knowledge with flexibility for local adaptation and implementation, use local knowledge and skills, and use material based on local ecology.

For indigenous knowledge to be an acceptable practice in DRR strategies, it must be recognized and validated, understood in the present context, systematically documented, value tested, appropriate practices for replication must be identified, and indigenous knowledge must be demonstrated through national and regional pilot programs (EU, 2009). Additionally, there is a need for a standardized institutional framework to incorporate into mainstream DRR. Although modern early warning systems have been recognized as the preferred technique over traditional early warning methods, GIS has been incorporated into local knowledge systems. A study in Vietnam showed the effectiveness of incorporating local knowledge into the process of mapping. In this case, indigenous knowledge was said to have provided important factual data and concepts about the social and physical environment. The involvement also aided in the identification of vulnerabilities and disaster management strategies. The study emphasized that projects involving scientific knowledge and indigenous knowledge can be incorporated into further activities, and the study could be replicated with success in other regions (Tran et al., 2007). The ultimate goal and need involving indigenous knowledge is for development and relief organizations to create partnerships with communities and involve locals in the risk management process. This is said to increase understanding of skills and practices and lead to efforts that build upon indigenous knowledge rather than replace it.

Recommended Reading

Gaillard, J. C. 2007. "Resilience of Traditional Societies in Facing Natural Hazards." *Disaster Prevention and Management* 16, no. 4.

Mercer, J., I. Kelman, L. Taranis, and S. Pearson. 2009. "Framework for Integrating Indigenous and Scientific Knowledge for Disaster Risk Reduction." *Disasters* 34, no. 1: 214–239.

Twigg, J. 2004. "Indigenous Knowledge and Coping Strategies." In J. Twigg, *Good Practice Review: Disaster Risk Reduction: Mitigation and Preparedness in Development and Emergency Programming* London: Overseas Development Institute, 131–145.

7. Overview of DRR Frameworks

The development of a standardized framework for Disaster Risk Reduction (DRR) is essential for establishing cohesion and uniform response within relief and development fields. A review of DRR literature supports this need and concludes that coordination is deficient amongst programs and across sectors. A lack of cohesion is identified as one of the largest gaps in DRR programming because it is necessary for the implementation of broader, cross-disciplinary activities for risk and vulnerability reduction. The literature expresses a strong need to integrate DRR strategies and measures within an overall DRR framework in order to address poverty reduction strategies, ensure sustainability, and strengthen country and community resilience to hazards. Furthermore, a universal framework would help to prevent the undesired effect of creating new forms of vulnerability and the exacerbation of existing ones (Benson and Twigg, 2007). This section will review several publications that have attempted to mainstream disaster risk reduction into development and disaster recovery and mitigation frameworks. Principle proponents of the mainstreaming of DRR into development include the International Strategy for Disaster Reduction (ISDR), the ProVention Project, the United Nations, and the World Bank. These primary actors also support development organizations that aim to promote policy and

procedural changes, and adjust operation practice through activities and emerging programming (Benson and Twigg, 2007; ISDR, 2004).

In order for mainstreaming and better incorporation of cross-sectoral DRR practices to occur, the literature makes clear that there must be standardized definitions, tools, methodologies, and assessments (Webb and Harinarayan, 1999). The absence of a cohesive framework incorporating levels and forms of risk presents a large gap in DRR programming. An established framework would not only facilitate measuring the effectiveness of DRR in terms of lives and livelihoods, but also produce a standard response and programming guide that can be universally monitored (ISDR, 2004).

Nearly all reviewed frameworks stress the enabling endogenous factors within political, economic, or social dimensions. Furthermore, most frameworks contain the identification of a shock and relate any subsequent processes to that event. Risk is defined as a function of hazards and vulnerability. Common elements most frequently included in DRR frameworks include the acknowledgment of certain risk factors and hazards, the identification of risk, assessment of vulnerability, contextual assessment, preparedness, immediate response, and recovery. Some frameworks specifically include a program cycle into the design, while other frameworks merely imply its presence. Additional elements present in multiple frameworks include early warning systems, the raising of public awareness or behavior change, coordination mechanisms and public ownership, and the incorporation of past lessons learned into future programming and risk management. An increasing use of community-based approaches involving community participation and local knowledge of disasters has been noted.

The majority of frameworks incorporate some element of a linear representation of the necessary steps of disaster management or mitigation. While a step-by-step process lends itself to a linear flow diagram, it does not indicate the use of a feedback loop, or present the idea of a cyclical process. Some frameworks prefer to include a wide range of concepts that could fit into DRR for a variety of contexts, and

others are developed from a more narrow scope. The Disaster Reduction Hyperbase, for example, is relevant for community-based strategies only; although key principles of the program cycle can be generalized to other contexts. Contexts and populations that may require a narrow focus or detailed framework for action include specific livelihood systems such as agricultural, pastoral, and labor-based and trade-based, as well as urban versus rural frameworks, and gender-based frameworks.

Elements identified as key factors for a generalizable framework include a feedback loop, a monitoring and evaluation system, specific evaluations of risk and the identification of forms of risk, past application of risk reduction measures, and a review of current programming. Framework success can also be determined by the incorporation of a collaborative, multi-hazard, cross-sectoral program design.

Despite the need to involve a variety of organizations in DRR, several types of hazards are under-represented in terms of organization specialties. Outside assistance or technical expertise is generally not included in these DRR frameworks, although technical assistance may be increasingly required due to the high level of expertise necessary for addressing these issues. These hazards include biological and economic hazards, and conflict-related hazards (ISDR, 2004). Social dimensions, as they relate to vulnerabilities, and recovery and disaster preparedness are also often overlooked. One of the largest gaps in the reviewed frameworks is the failure to address implications of absent political, economic, or social systems; i.e., failed states. Also excluded is the notion of holistic risk management. This concept is presented in the *HARITA Conceptual Framework*, but is otherwise missing from the literature.

Additional principles missing from the reviewed frameworks that indicate a possible need for future DRR frameworks include the need to incorporate poverty reduction strategies into project design to promote sustainability (ISDR, 2009), and the incorporation of DRR into all levels of the project cycle. Lastly, the emerging issue of climate change, in regards to the increase of frequency and magnitude, has provoked a

need for continual re-evaluation of hazards and risks to account for changes in vulnerabilities and coping strategies.

Recommended Reading

Benson, C., and J. Twigg. 2007. "Tools for Mainstreaming Disaster Risk Reduction: Project Cycle =Management; Guidance Note 5." The International Federation of Red Cross and Red Crescent Societies/The ProVention Consortium, Geneva, Switzerland.

8. Conflict and the Multi-hazard Environments

While natural disasters occur independently from conflict, vulnerability to and impact of disasters is often most pronounced in conflict-affected areas. Instability in the aftermath of a natural disaster can also exacerbate tensions and contribute to conflict. In many instances, conflict or the threat of conflict becomes one aspect of a multi-hazard environment in disaster-prone areas and therefore should be taken into account in assessment, analysis, and programming. Unfortunately, conflict too often is treated as a stand-alone problem and is not included as one of many hazards in most DRR analysis and programs. Separate from the frequent linkages between conflict and natural disasters, a conflict is a hazard in its own right, and the vulnerability of communities to conflict should be included in how we think about hazards, risk, resilience, and recovery.

Sri Lanka and Aceh province of Indonesia are two of the many possible examples where conflict and disaster intermingle (Birkmann, 2008; LeBillon and Waizenegger, 2007). Conflict was present in both locations at the time of the 2004 Tsunami and had distinct effects on the locations. In Sri Lanka, post-disaster aid was distributed in such a way that tsunami survivors were prioritized over IDPs and other conflict-affected populations. The imbalance in aid distribution served as a catalyst for increased violence (Birkmann, 2008). This is line with LeBillon's (2007) argument that disasters can create a heightened sense of identity and that grievances resulting from the event itself or the

response can serve to foster political action and change. Conflict can be seen to undermine disaster prevention and mitigation, and erode social and political capital (LeBillon and Waizenegger, 2007). In contrast to Sri Lanka, in Aceh, the shock served as a “window of opportunity” that may have helped to alter the value structures of survivors. The shared dependence upon relief fostered an environment of collaboration (LeBillon and Waizenegger, 2007). In the aftermath of the tsunami, Aceh moved steadily toward a peaceful resolution of the conflict, with communities coming together for planning of their collective future (Birkmann, 2008).

Conflict adds an extra and complicating dimension to a disaster setting, affecting and changing the concept of vulnerability. Vulnerability assessments should take into account all threats and hazards within a disaster context—including conflict—and seek to understand how these aspects relate to and potentially exacerbate each other. Vulnerability is highly dynamic in the context of conflict, and this, in turn, affects exposure to the threats associated with natural disasters. For example, assets are generally seen as increasing household resilience, but in a conflict setting the same assets may become liabilities. Livestock, for instance, is raided, and people can be targeted based on their presumed education or white-collar professions (Lautze and Raven-Roberts, 2006). It is thus critically important that DRR research and programming account for the dynamic nature of multi-hazard environments (Birkmann, 2008).

The literature does offer guidance on programming in multi-hazard settings such as demand-driven approaches to support livelihoods post-conflict, stressing contextually appropriate actions enacted in iterative fashion to build upon successes. Yet challenges remain in understanding program effectiveness due to generally sparse data (Goovaerts, Gasser, and Inbal, 2005). One example of a multi-hazard project evaluation was on a project conducted with the Ministry of Natural Resources in El Salvador from 1999 to 2004—a relatively stable but post-conflict setting—that endeavored to reduce flood risks in a flood-prone region through livelihood enhancement and poverty

reduction activities. Activities to diversify agriculture and livestock production were enacted along with other activities that sought to protect the woodlands along the riverbed, elaborate a coastal management plan, and increase local organizations’ capacities for managing risk (ProVention Consortium, 2004). Furthermore, tensions between ideologically opposed community members and local NGOs dissipated over the course of the multi-year project. Finally, the project concluded that implementation of risk reduction projects are best supported when they address livelihood enhancement and can stimulate the accumulation of wealth (ProVention Consortium, 2004).

Recommended Reading

Birkmann, J. 2008. “Assessing Vulnerability Before, During and After a Natural disaster in Fragile Regions: Case Study of the 2004 Indian Ocean Tsunami in Sri Lanka and Indonesia.” Vol. 2008/50. United Nations University—World Institute for Development Economics Research, Helsinki, Finland:

Cuny, F. C., and V. Tanner. 1995. “Working with Communities to Reduce Levels of Conflict: ‘Spot Reconstruction.’” *Disaster Prevention and Management* 4(1): 12.

LeBillon, P., and A. Waizenegger. 2007. “Peace in the Wake of Disaster? Secessionist Conflicts and the 2004 Indian Ocean Tsunami.” *Transactions of the Institute of British Geographers* 32(3): 411–427.

Opondo, S., and M. Wepundi. 2009. “Mobilizing Early Response Project: Kenya Assessment Report.” Institute of Human Security.

APPENDIX L2: INTERVIEWS

Name	Organization	Title
Sarah Bailey	ODI	Research Officer, Humanitarian Policy Group
Mia Beers	USAID/OFDA	Humanitarian Policy Advisor
Bill Berger	USAID/OFDA	Regional Development Mission for Asia
Dina Brick	CRS	Technical Advisor for Food Security
Courtney Brown	USAID/OFDA	Economic Recovery Advisor
Gay Burpee	CRS	Deputy Regional Director for Latin America and the Caribbean
Steve Catlin	USAID/OFDA	Military Liaison
Mike Delaney	Oxfam America	Director of Humanitarian Response
Francis Ghesquiere	World Bank	Lead Disaster Risk Management Specialist
Harlan Hale	USAID/OFDA	Chief Regional Advisor, Southern Africa
Susanne Jaspers	ODI	Research Fellow, Humanitarian Policy Group
John Mitchell	CARE	Director of Care Emergency Group
Laura Powers	USAID/OFDA	Agricultural Food Security Technical Advisor
Marion Pratt	USAID/OFDA	Social Science and Gender Advisor
Susan Romanski	Mercy Corps	Director of Disaster Risk Reduction
Nancy Schwartz	OMB	
Charles Setchell	USAID/OFDA	Shelter, Settlements, and Mitigation Advisor
Sezin Tokar	USAID/OFDA	Hydrometeorological Hazard Advisor
Rod Snider	The American Red Cross	Senior Advisor for Disaster Preparedness

DISASTER RISK REDUCTION AND FINANCIAL STRATEGIES OF THE POOR: DEMAND FOR, ACCESS TO, AND IMPACT OF CASH IN HAITI FOLLOWING THE 2010 EARTHQUAKE

INTRODUCTION

2010 was one of the worst disaster years in Haiti—the January 12 earthquake affected 3.7 million people, with over 220,000 killed and another 300,000 seriously injured. The subsequent cholera outbreak killed over 2,500 people (EMDAT, 2013). In addition, the earthquake led to the destruction of infrastructure and loss of services in an already beleaguered country. Prior to the earthquake, Haiti was ranked 149 out of 182 on the 2009 Human Development Index, was considered one of the poorest countries in the western hemisphere, and was identified by its weak civil society institutions, weak governance, and massive corruption. The earthquake was not the first disaster to hit Haiti, nor will it be the last. Haiti is ranked as one of the countries with the highest exposure to multiple hazards in the world (World Bank, 2005). Any hard-won gains experienced by the country are continuously jeopardized by adverse events.

The hardest hit area was Haiti's heart and center—Port-au-Prince. While most organizations have a history of responding to disasters in rural areas, urban risk presents a new challenge to response and mitigation practices; a recent World Bank report described this urban disaster context as a “game changer.” (World Bank, 2010). Often disaster recovery and reduction (DRR) programming developed for a rural context is simply transferred to urban environments (Feinstein International Center (FIC), 2010). In Port-au-Prince the reconstruction took place in a context of risk exposure, including post-election violence and a cholera epidemic. Haiti is thus a good example of the gaps in DRR programming (Attkisson, 2010), and its experience can provide lessons, given the general increased urban risk in the world.

Urban environments are diverse, including different groups and neighborhoods, and high levels of income disparity. Urban economies are also characterized by greater commercialization,

with the majority of goods and services rendered through the market. Households are more likely to rely on cash incomes and have less access to common property resources (Farrington, 2002). Therefore, in an urban setting, *financial resilience* becomes a key component of *household resilience*. However, achieving financial resilience after a sudden-onset covariate shock, such as the earthquake or a hurricane, is not a simple matter. Besides the destruction of assets and property, cash hidden in the household or held in community savings groups can be swept away, lost, destroyed, or stolen. There were high rates of theft immediately after the earthquake in Haiti, and what some households did not lose due to the earthquake, they lost to thievery. Covariate disasters increase the demand for cash by poor households but also limit its supply. Liquidity constraints arise for financial institutions, particularly microfinance institutions given their stricter regulations, and the capacity of banks and remittance transfer services is strained. Households can usually depend on family, friends, neighbors, or the community moneylender for loans, but when everyone is affected the supply of cash shrinks just when it is needed most.

The Haiti Action Plan developed by the government of Haiti in 2010 clearly states the importance of reducing the vulnerability of people living in the risk zones through disaster risk reduction and crisis management measures at a national, departmental, and local level (Government of the Republic of Haiti, 2010). In support of this Plan, our research sought to identify how low-income households in areas with diverse risk exposure have responded to the multi-hazard environment, and which enabling factors have influenced their decision making around financial resilience. By identifying coping strategies at the household and community levels, and the bottlenecks and facilitators of recovery, programming opportunities can be identified to support post-disaster recovery and mitigation of future crises.

1. Research Objectives

The study objective was to explore the financial costs to households of the 2010 Haiti Earthquake in five sites: Bel Air, Delmas 32, Cité Soleil, St. Marc, and Jacmel, and to identify the strategies of economic recovery implemented by the affected population. The sites were chosen because of their diversity and general representation of the situation in Haiti. Bel-Air and Delmas 32, both lower to middle class neighborhoods, and Cité Soleil, considered one of the worst slums in the world, were heavily affected by the earthquake. Jacmel, a town immediately southeast of Port-au-Prince, experienced significant damage, though to a lesser degree than the capital itself. St. Marc, on the other hand, north of Port-au-Prince, was the center of the cholera epidemic, and was hit hard by the 2008 hurricanes. Though St. Marc was barely affected by the physical tremors of the earthquake, it was one of the main destination points for displaced households from Port au Prince and allowed us to explore the impact of the disaster on the wider region.

Our research examined the post-earthquake demand for cash, the *availability* of cash, and the kinds of cash acquisition strategies used by households. The study questions were:

- What cash was needed and used immediately after the disaster and in subsequent periods?
- What were the difficulties or obstacles households encountered in acquiring cash?
- What were the cash strategies, i.e., how did households actually go about acquiring cash?
- How successful were these strategies?

The project builds on research conducted by the Feinstein International Center (FIC) for the Office of Foreign Disaster Assistance (OFDA) on disaster risk reduction and livelihoods (Jacobsen, Marshak, and Griffith, 2009), as well as FIC's research on the livelihoods of urban and displaced populations.¹ This study sought to address the evidence gaps in Haiti with the intention of improving DRR programming around financial access in other urban settings.

The research was carried out in partnership

with INURED (Interuniversity Institute for Research and Development) as part of its ten-year longitudinal study of Haitian household's recovery. INURED is a research and higher education establishment based in Haiti. It is a collective initiative set up by a group of Haitian and foreign researchers that conducts both quantitative and qualitative work in order to contribute to the development of high-level research and scientific training in Haiti and to improve the country's educational, socioeconomic, and political conditions. Students were involved in the project to ensure capacity building among university youth.

2. Executive Summary

Households in Port-au-Prince had to recover in an urban economy that was reliant on cash. By contrast, more rural households in St. Marc and Jacmel could rely on their land holdings, livestock, and crops, both for everyday consumption but also as a source of livelihoods. Households in Port-au-Prince spend over half of their cash on food. Therefore access to cash was one of the most important components of financial resilience.

Our study found that most households' cash stocks were completely obliterated. Since access to formal financial institutions like banks is largely unavailable to the poor, they had relied on informal saving strategies such as "savings under the bed" or participation in local savings and loan groups ("sols"). In post-disaster Haiti, these strategies offer little security. In the confusion following the earthquake, household and sol savings were trapped in the rubble or lost to thieves, or the person responsible for the sol ran away with the cash or perished. Non-liquid cash stocks are also held in assets, housing infrastructure, and business inventories. Many people's home and business are one and the same, so business infrastructure and stocks were similarly lost, resulting in diminished cash flows.

Households had to find resources to restock and rebuild their businesses. While most households were able to restock, an ACTED study done after the earthquake found that they could on average restock less than 50% of their pre-

earthquake amounts. Demand for goods was also reduced in the weeks following the earthquake. Taken together, households had a difficult time restarting their livelihoods.

The only option for households, both to recover their livelihood and to put food on the table, was to seek out cash using unsustainable financial strategies. Humanitarian support in the form of cash grants and cash for work programs was available but unsustainable. Borrowing was difficult because sources of credit were diminished. Access to banks had not been an option prior to the earthquake, and no household reported access after the earthquake. Semi-formal institutions, such as Microfinance Institutions (MFIs), which had enabled households to borrow prior to the earthquake, encountered the same problems as their clients after the earthquake. Many MFIs lost infrastructure and staff. Liquidity constraints arose because banking regulations did not allow MFIs to provide loans from customer savings, so MFIs did not have enough cash on hand allocated for credit purposes to service their customers' needs. Repayment rates on existing loans fell drastically and several MFIs had to cancel the debts. Formal banking institutions took time getting back on line and limited access to funds above 5,000 US dollars a day, and while this did not directly affect households it reduced the amount of money MFIs could loan out.

The remaining option for credit was informal services—borrowing from friends and family, and from loan sharks. However, the pool of cash as a whole was reduced, and loan sharks faced the same constraints as the MFIs. Their own losses were compounded by the losses of their customers, either because they perished in the earthquake or did not have funds to repay the loan. Loans from family and friends happened at the same rate as prior to the earthquake, but the amount of the loan was reduced.

In general, households borrowed at higher rates after the earthquake, but the amount of the loan and length of the loan payment was significantly smaller. Loans were used to re-stock businesses but also for household consumption, thereby reducing the cash available for businesses and resulting in a non-viable business model. The

ACTED study found that six months after the earthquake most businesses were not able to generate enough profit either to provide for the family or to cover businesses expenses, forcing households to continue borrowing. Households are accumulating more debt while trying to run an unsustainable business, and are being pushed deeper into a poverty trap. A World Bank study of wealth and vulnerability following the earthquake found that wealthier households experienced more losses (in income and physical assets) compared to poorer households, but were able to recover within months of the disaster, while the plight of the poor worsened over time (Echevin, 2011). This means rising inequality in Haiti, with serious implications for future disasters. ■

METHODOLOGY

The study was carried out through qualitative research conducted approximately 18 months after the earthquake. There was general survey fatigue in post-earthquake Haiti, and it was essential to partner with a locally trusted institution. INURED is a research institute in Haiti with a long-term presence in many affected communities, and our partnership significantly improved our information gathering.

The qualitative study conducted key informant and household interviews, community mapping, focus groups, photographic descriptions, and other participatory approaches over the course of three months. The enumerators were usually themselves from our target communities, and were intermittently based there, allowing them to collect ethnographic data on households' financial strategies. A team of two enumerators and one supervisor was based in each research site. The teams conducted two to three field trips lasting four to eight days each, during which they collected data from heads of households and local leaders, and conducted participant observation. In total, 25 household and community leader interviews were conducted in each of the four locations (Delmas and Bel Air were combined) for a total of 100 interviews. Three data collection instruments were used to structure the research: an observation guide, a head of household interview guide, and a community leader interview guide.

The two team leaders held periodic monitoring meetings, on occasion joined by INURED senior staff and a representative from Tufts University. These meetings reviewed the progress of the study and took appropriate corrective measures. The completed data were compiled according to a tabulation plan, then analyzed for the purposes of this report.

1. Limitations

There are several limitations to the study. The nature of the topic—finances—is a sensitive and imprecise one. There was likely some bias in interview responses, and it is always difficult for people to figure out the amount of their own

funds that were lost, saved, or invested before and after a disaster. The study was conducted in a moment in which international institutions were implementing many programs—among them financial supports for family or local vulnerable entities. This context may foster false expectations from respondents as they may perceive the field researchers as gatekeepers for aid or representative working for humanitarian agencies. These expectations may in turn affect social desirability which might be reflected in some of respondents' responses. Some of the bias limitations might have been partially addressed by working with INURED. Further, because we have used multiple sources to collect the same data, it is reasonable to assume that triangulation of data results will lead to a greater accuracy on the data collected. ■

CHARACTERISTICS OF THE STUDY SITES

The research was carried out in five sites. Four of these—Bel Air, Delmas 32, Cite Soleil, and Jacmel—were heavily affected by the earthquake. The fifth site—Saint Marc—was slightly affected by the earthquake directly but was the destination for many people displaced by the earthquake. It was also the site of the cholera outbreak, and had suffered significant damage from the 2008 hurricane season. All the sites represent different levels of damage, different stratus of wealth (though all relatively poor to middle class), and both displaced and non-displaced households.

Bel Air used to be a residential neighborhood during the colonial period, but from 2004 to 2006 it was considered lawless due to the high political unrest in the area. However, the neighborhood is bustling with activity with numerous small merchants displaying their products in the street and in front of their homes. This includes hardware stores, lotto banks, small shops, and numerous vendors selling prepared food. Though the neighborhood is not wealthy, it represents a slice of lower to middle class Haitians. The majority of the streets are either paved or covered in asphalt. There were few collapsed houses, but the streets were full of debris during the time of the research, and there was evidence of displacement, with recently constructed houses made out of tarpaulins, pieces of sheet metal, wood, and/or planks.

Delmas 32 (Acra Field) was added to the Bel Air site. The area suffered significantly from the earthquake with approximately 45% of all houses destroyed, and many displaced families from surrounding neighborhoods. Delmas 32 was divided into blocks A, B, C, D, and E. The research was carried out with eight households living in blocks C and E. Unlike Bel Air, the sanitary conditions were very poor. However, a few temporary and small shops had already popped up only months after the earthquake.

Cite Soleil is on the border of Port-au-Prince. It was founded in the 1960s and is considered the largest slum in the metropolitan area. The Institut Haitien de Statistique et d'Informatique

(IHSI) estimated in 2009 that Cité Soleil had a population of 241,055 and a density of 11,052 residents per km². Our research occurred in three high-density districts: Boston, Bas Boston (Lower Boston), and Ti Haiti (Little Haiti). Deemed a lawless zone like Bel Air between 2004 and 2006, the area still has pockets of insecurity and violence, and residents advised our research team to be cautious. There is small informal trade, mainly of sweets, fried foods, soft drinks, and alcoholic beverages. The nature of the housing (temporary shelters) meant that the area experienced little physical damage from the earthquake; however, there was loss of life, livelihoods, and psychosocial damage from proximity to the destruction in the city. There was some humanitarian support in the area at the time of the survey.

Jacmel, south of Port-au-Prince, experienced significant damage from the earthquake and was also the site of much destruction in 2008 from Hurricane Gustav. La Montagne, the thirteenth section communale, is composed of three regions, La Croix, Colin, and Bellevue, where our research took place.

Saint Marc experienced a large influx of displaced households from Port-au-Prince. Damage from the earthquake was not intensive, but Saint Marc experienced its own disaster—it was the epicenter of the 2010 cholera outbreak.

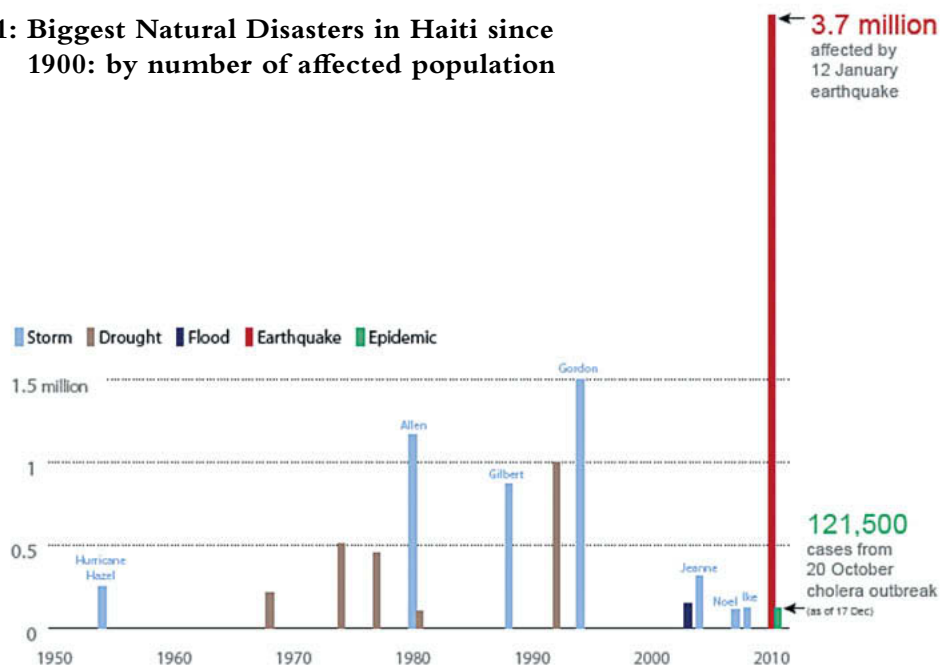
BACKGROUND

Haiti is not new to disasters. Throughout its history, Haiti has suffered cyclones, tropical storms, hurricanes, floods, and earthquakes. Each disaster has left its stain on the populace and landscape and has contributed to the chronic vulnerability of the country and its people. The 2010 earthquake was by far the most crippling. More than 97,000 houses were destroyed, and over 188,000 were damaged (Echevin, 2011). The government was crippled by the destruction of many public buildings, including the Palace of Justice, the National Assembly, the Supreme Court, the National Palace, the Port-au-Prince City Hall, several hospitals, and the Prison Civile de Port-au-Prince, allowing 4,000 inmates to escape (Sherwell and Sawyer, 2010). The earthquake destroyed half of the nation's schools and severely crippled three universities in the capital. Tremendous damage was inflicted on the water and electricity infrastructure, as well

as roads and ports in Port-au-Prince. The impact was compounded by existing deep poverty, ineffective services, massive corruption, political unrest, a cholera outbreak, and the effects of previous natural disasters on the country. The weak government in Port-au-Prince (to say nothing of the rural areas where there is general absence of government) meant much of the response happened through the international and national non-governmental agencies.

Beyond the horrific impact of the earthquake on human life, it also significantly crippled household wealth portfolios. Poverty levels were high in Haiti, with more than half of the population living in extreme poverty, and income distribution was highly unequal. According to the 2001 Household Living Condition Survey, 20% of the poorest households had 2% of total income, and 20% of

Figure H1: Biggest Natural Disasters in Haiti since 1900: by number of affected population



Source: UNOCHA. The information on natural disasters presented here is taken from EM-DAT: The OFDA/CRED International Disaster Database. In order for a disaster to be entered into the database, at least one of the following criteria has to be fulfilled: a) 10 or more people reported killed; b) 100 people reported affected; c) a call for international assistance; d) declaration of a state of emergency. The graphic represents natural disasters that affected more than 100,000 people.

the richest households had 68% of the total income. Inequality worsened following the earthquake. A World Bank report found that income inequality initially decreased (the Gini coefficient went from 0.2446 to 0.1970 in February of 2010), primarily due to higher losses amongst the wealthy. But then inequality increased between February and June, going from 0.3267 to 0.3325 for non-camp households (Echevin, 2011). On average, households lost approximately 25% of their assets (across all wealth groups). However, from February to June 2010, the author found that households in the poorest wealth groups continued to deplete their assets, while wealthier groups were able to recoup some of their losses. This suggests a *poverty trap* where the poorest households keep losing more following the disaster, while wealthy households slowly move towards recovery, further increasing overall inequality.

The different relationships between time and recovery for wealthy and poor households is indicative of household resilience to shocks and the coping strategies used following those shocks. Wealthy households experienced more losses: the richest households experienced the death of one or more income earners at a higher rate (11.5% compared to 8.7% of the entire population) than poor households and while 86.5% of wealthy households experienced asset loss, only 17.6% of the poorest did (Echevin, 2011). However, wealthy households were more likely to have reserves of savings, assets, or collateral for loans and thus were in a better position to cope compared to poorer households.

Caroline Moser identifies some distinctive features of urban vulnerability and resilience (Moser, 1998). One such feature relates to the assets the poor control. Productive or income-generating assets, such as a motorcycle but even cookware, enable household members to utilize their labor more effectively; for example, for transportation services and selling food on the street respectively. However, of all the assets, housing is one of the most important because, in addition to providing physical shelter, it can generate income through, for instance, renting

rooms or the use of its space for home-based production activities. Access to productive assets is a strong predictor of overall wealth, particularly in urban settings, and has been used in numerous studies instead of consumption or expenditure data (Bonilla-Chacin and Hammer, 1999; Gwatkin et al. 2000; Sahn, Stifel, and Younger, 1999).

In urban settings, three forms of resources affect a household's cash position: stocks, flows, and cash management strategies. All three were heavily affected by the earthquake. Stocks of natural and physical capital were either destroyed by the earthquake or looted immediately after. Income flows from livelihoods or remittances were disrupted. For income, the poor in Port-au-Prince either rely on small business and petty trade or the provision of services (taxi driver, hair stylist, etc.). Loss of stocks, the destruction of the physical place of employment, as well as lower demand, significantly reduced household flows of cash. The massive influx in aid offered much-needed support, but it also had negative impacts on the local economy by forcing private sector suppliers to compete with the free goods provided by aid agencies. For example, water vendors and medical providers were unable to compete with free water and healthcare (Clermont, Sanderson, Sharma, and Spraos, 2010).

Cash management strategies refer to the ways in which people manage or access cash, such as putting it in savings or having access to credit or insurance payouts. Both wealthy and poor households experienced a diminished cash position due to loss of stocks and reduced income flows; however, the poor suffered more with respect to cash management strategies. Wealthier households' savings were safely protected in formal institutions (banks), and they could procure loans to rebuild (at internationally accepted interest rates). Poorer households had used informal means for saving, including hiding cash inside the house, or participating in local savings groups, such as *sols*, *sabotays*, and/or *mutuellas* (See Box H1). These savings strategies failed after the earthquake.

Box H1: Informal Savings Mechanisms: Sols, Sabotays, and Mutuelles

A *sol* is a rotating savings and credit association, often referred to as a ROSCA.² It is composed of a group of individuals who deposit money regularly into a communal fund that is instantly disbursed to one or more members. One cycle of a *sol* is when all members have had a turn at the fund and then it starts all over again. A *sabotay* is similar to a *sol*, but is specific to a market setting and therefore usually meets more frequently than a *sol* to account for the higher velocity of money in trade and small enterprise. Often, members deposit daily into the *sabotay*. Both mechanisms are sources for a lump sum and are usually put to use immediately, whether towards rent, schooling expenses, medical emergencies, or reinvesting in business (Wilson, 2010).

A *mutuelle*, on the other hand, is closer to an accumulating savings and credit association (ASCA). Unlike *sols* or *sabotays*, *mutuelle* funds grow over time as households contribute more savings and then use those savings to provide small loans to one another. Members decide on all the variables associated with this mechanism to best fit their specific circumstances, such as the interest rate, the loan period, and how much each individual should save. The majority of loans are used for the same purposes as the *sols* and *sabotays*—a lump sum for big expenditures or investments. Ideally, because members contribute month after month and pay an interest rate on any loans, the fund expands and allows for loans of larger lump sums over time.

The very poor had limited financial strategies after the earthquake. Savings were lost, stolen, or destroyed. Credit was limited: borrowing from a neighbor or money lender became more difficult because overall supply decreased. Precarious land ownership rights meant proving ownership where documentation was lost, never existed, or where there were competing titles was difficult. The loss of documents limited a household's ability to access remittances, which the poor in Haiti were reliant on (Savage and Harvey, 2007). However, the Haitian Living Conditions Survey shows that while 59% of the poor receive remittances, only 36% of the extremely poor do (Sletten and Egset, 2004). Therefore, even remittances do not fully reach the most destitute (Amuedo-Dorantes, Georges, and Pozo, 2008).

In general, the poor are incredibly adroit at managing their varied but often inadequate financial portfolios, but raising a lump sum to deal with unforeseen risk or a large expense is more difficult (Collins et al., 2010). Households often are forced to resort to harmful mitigation and coping strategies. The Haiti Youth Survey (2009) showed that households in worsening economic situations used coping strategies such

as reduced food consumption (86%), reduced health spending (78%), delays in children's enrolment in school (39%), and sending children to live/work elsewhere (14%). Such short-term strategies often have irreversible long-term consequences that potentially reduce future financial resilience.

One coping strategy commonly employed is distress migration. One month after the earthquake, 604,215 people had migrated to non-affected areas while another 1,301,491 moved to settlements in the earthquake-affected areas (SNGRD, 2010). Displaced households are more likely to suffer financially because they lose their social network, and often have fewer opportunities to earn income in a new location (Jacobsen et al., 2006), and are more dependent on assistance or other outside support. In addition, they can be a financial burden to the host family. A rapid assessment carried out by CRS in the aftermath of the earthquake found that households took in between six and nine internally displaced persons (IDPs) on average (Wilson, 2010). Gaye Burpee, the Deputy Director of Programming in Latin America at CRS said that the "stress these households are

facing is difficult to believe. Many in the most remote areas must cultivate an additional 25% of their land” (Wilson, 2010). To better understand this additional stress, our study includes the destination of St. Marc and Jacmel.

Identifying means for shoring up a household’s financial resilience both prior to and after a disaster is crucial for reducing some of the negative impacts of the disaster itself. In the rest of the report, findings are presented on the impact of the earthquake on household financial resilience, access to financial services/financial management strategies, household financial coping strategies, and some recommendations for fortifying household financial resilience in the face of urban, sudden-onset disasters such as the Haiti 2010 Earthquake are made. ■

1. Impact of the Earthquake on Household Financial Resilience

The loss to physical assets was extensive. Property damages ranged from broken dishes, destroyed furniture, cracks in walls, loss of livestock, and loss of construction material, to total collapse of homes and/or businesses. Over 105,000 houses were destroyed and 208,000 damaged in Port-au-Prince. Sixty-one percent of households had their business inventories and stocks either destroyed or irrevocably affected by the earthquake (ACTED, 2011a): *“All of my merchandize was in storage and I lost it all”* and *“I lost close to 50,000 gourdes of merchandise”* (Interview Notes). Damage and loss of stocks and assets, especially housing, has a large impact on a household’s economic vulnerability, particularly in an urban setting. In rural areas such as Jacmel and Saint Marc, households that were affected by the earthquake could rely on their land or farm production as a last resort: *“I leased a parcel of land,” “It is the reserve I made from our harvest,” “It is the little reserve we had [from the harvest] that helped us to survive,”* and *“I sold chickens to my children’s father to sell in Port-au-Prince”* (Interview Notes). The same options did not exist in an urban setting.

Households experienced direct financial losses—loss and destruction of their cash savings. Most households in the sample belong to the poorest to lower middle spectrum of wealth in Haiti and have little access to formal savings mechanisms.

The earthquake destroyed many of the traditional savings practices—the collapse of buildings and the deaths that it caused adversely affected the four main informal savings traditions discussed here. The earthquake disrupted the practice of hoarding cash in a secret place within the house on a daily or weekly basis. Households working in the informal sector or those that participate in multiple commercial activities or the craft industry often carry their daily funds on themselves or store them at home for lack of better options. While it is hard to estimate how much money in savings secured in such a manner was lost during the earthquake, many of the

respondents indicated this loss: *“I saved 120 US dollars and 3,000 gourdes in a suitcase,” “I lost 5,000 gourdes in the earthquake,” “I had 2,000 gourdes under the mattress,” “I lost money inside the house”* (Interview Notes), and many more. Many participants reported the loss of savings buried under the rubble of their house or business ranging from 500 to 160,000 Haitian gourdes, or approximately 10 to 3,700 US dollars. While the actual sums might be an exaggeration in the hope of receiving aid from the enumerators, the fact that so many households had lost even some money in the earthquake given their already precarious position and the need for cash to recover paints a picture of the unreliability of this savings mechanism in the face of sudden-onset disasters.

The earthquake also revealed the limitation of the informal economic practice of sols, sabotays, and mutuelles that were common in Bel Air and Cité Soleil. Many survivors lost a lot of money because the person who was responsible for the collected money had died or disappeared with the cash: *“I was in a sol, all the money was lost by the person who was holding all the money,” “They ran away with the sol money,” “I was in a sol, the keeper of the sol died while he was in possession of the money,” “I lost my sol money as well as money for my business, close to 1,800 Haitian gourdes”* (Interview Notes). While not all participants of a sol lost their savings, many of the sols themselves dispersed following the earthquake. A participant in one of the large market sabotays in Port-au-Prince used to count herself as one of thirty members. However, many members perished in the earthquake, while others retreated to the countryside, and now the group is made up of only three members (Wilson, 2010). This significantly limits the ability for a household to raise the necessary lump sum to start the recovery process. While informal savings mechanisms allow for some opportunity for households that do not qualify for more formal financial institutions to acquire savings and raise a lump sum, the significantly lower levels of security that are related to these mechanisms make them inappropriate for areas vulnerable to sudden-onset disasters, especially considering

that it is exactly those savings that households need to recover from said disaster.

In the three sites located in or immediately bordering Port-au-Prince (Bel Air, Cite Soleil, and Delmas) there were few respondents that did not experience some damage/loss of physical assets and savings. For some, that loss occurred after the earthquake due to the high volume of burglaries that happened in the confusion immediately following the disaster: *“The house was not damaged but I lost everything, the thieves took it all”* and *“Thieves stole all my money”* (Interview Notes). Weak and individualistic coping strategies (as opposed to communal strategies) following a disaster, such as theft and robbery, tend to occur at far higher levels in urban and particularly slum communities:

...slum dwellers have little to sell (e.g. no livestock or agricultural products) to help themselves or others in need. Third, slum dwellers simultaneously and persistently experience bad conditions over a period of years, with floods and landslides causing adverse environmental changes (runoff, poor soil), the effects of which continue even after the weather has returned to normal. Finally, the lost trust in community solidarity and hierarchical structures, as well as the fear of being hoodwinked by the authorities, further promotes a dominant sense of individual responsibility and ownership at the household level, as well as a determination to “fix” things without assistance. (Wamsler, 2007)

Even more tragic than the loss of household assets and homes was the loss of human life and physical damage to individuals. While the majority of the respondents were not themselves physically harmed, most had lost a member of their family or close friends. The impact of this is twofold when it comes to overall household resilience. The first is the overwhelming amount of psychological damage that the disaster inflicted on the survivors, and the physical manifestations of that damage. Many respondents are suffering psychosomatic problems in the form of blisters on their body, high blood pressure, insomnia, and overall higher levels of stress. For example, several respondents, even 18 months after the earthquake, gave the following responses: *“My family lives in fear mostly since I lost*

my nephew,” “My heart is always jumping,” “I am so scared my body shakes,” “I sometimes feel my legs weaken and I also have something that hurts,” “I could not sleep, it is luck I am not crazy, I still cannot sleep,” and *“I would feel like my head is hollow, I am still not back to normal”* (Interview Notes). Most of the household we spoke to gave some variation of the above. Psychological trauma was not limited to respondents who had experienced the earthquake firsthand, but also included those who were living in St. Marc and had lost family and friends. Many of the respondents in St. Marc reported the above symptoms based on their emotional ties to the children, relatives, and friends who had suffered damages or died in the earthquake. Only one of the respondents reported receiving any kind of support for the psychological trauma caused by the earthquake.

Because the majority of respondents were either household heads or in some cases the only breadwinner, both the physical and psychological damage impacted their ability to provide for their family. Furthermore, the loss of other household members not only led to increased psychological suffering but often also the loss of other income earners. The number of productive household members is often correlated with higher levels of wealth, especially for the poorer cohorts, given their need to rely on numerous livelihoods in order to diversify risk and scramble together enough income to support the family. A study in Haiti six months after the earthquake found that higher wages were a result of more people working in the family. In 68% of the households receiving less than 5,000 Haitian gourdes (about 35 US dollars) a month, only one person was working (ACTED, 2011a). Loss of this support and the physical and mental trauma endured by the survivors significantly lowers a household’s income flows.

The loss of housing, family, and livelihoods has triggered the migration of survivors to makeshift or formal camps near or far from their original residence, while others travelled to stay with family outside of Port-au-Prince. Lack of livelihood options in the camps has further reduced household income flows. A study carried out by ACTED found that 40 to 60% of the population in the camps had no source of income and another 30 to 36% had an irregular

income, leaving only a small number of households that seem to have a stable livelihood flow.

Households that stayed with relatives, rather than camps, fared better. However, while the majority of these hosted families took part in some type of income-generating activity prior to the earthquake, in some regions, 80% of those households were unemployed in their host community in the months after the earthquake (ACTED, 2011a). This adds a significant financial burden on the host households. Several households in the study in both Saint Marc and Jacmel reported taking in displaced family members. One woman in Saint Marc who lost several family members in the earthquake took in not only her own relatives, but also an additional 11 strangers. While these acts of human generosity are part of what makes a household resilient to shocks (i.e., social capital), the financial stressors on the host community cannot be ignored and have to be part of the discussion of a disaster's overall impact on financial resilience, not just for those households directly affected, but also for their immediate family and friends who help absorb some of the shock.

The 2010 Earthquake has exacerbated long-standing vulnerabilities in Haiti. It has significantly destroyed household capital: physical, financial, and, in some cases, human. The resulting reduced household cash position means that the very poor, who were already struggling prior to the disaster, have come out of it with few resources to help them along with their recovery. Even the households who had savings prior to the earthquake through their informal savings and loan mechanisms mainly reported losing part or all of those savings in the disaster itself. Particularly in an urban setting, the lack of cash makes survival extremely difficult. Because households do not grow their own food, they are primarily reliant on having access to cash to purchase it. This is in stark contrast to disaster-affected households in rural settings, who can at least return to their land for some kind of sustenance. Financial resilience is key to a household's recovery, and all evidence points to the fact that the majority of the poor in the research study were not financially resilient

when it came to the 2010 Earthquake. And while the earthquake is an extreme example, it still epitomizes the losses a household faces when they live through a sudden-onset disaster, which includes hurricanes, flash floods, landslides, and tsunamis.

2. Access to Financial Services

Formal financial access is limited in Haiti, with formal and commercial banks currently lending to one percent of the population, mainly in Port-au-Prince (Whiteside and Wardle, 2009). No respondents in our study reported using a bank for either loans or savings; instead they used informal financial management practices, which draw heavily on existing social capital, and are convenient and flexible. These practices require little to no paper work, so households that lack documentation or had it destroyed are not barred from using them, and neither are illiterate or semi-illiterate populations. Interest rates and repayment rates are usually based on near-perfect information due to either proximity or prior relationships. For households with unpredictable income streams and little collateral, such informal financial services allow them to manage their cash flow and deal with everyday shocks. However, these services lack security, privacy, and the capacity to provide a large amount of credit.

Informal financial management practices can deal with idiosyncratic shocks (to individual households), but are vulnerable in the face of a covariate shock. Savings are easily destroyed or stolen, and while access to informal credit still exists, the overall pool of funds is reduced as potential lenders face the same shocks to their cash pool. Formal financial institutions such as banks and insurance companies, while less flexible and convenient, have the capacity and security to confront a covariate disaster such as an earthquake. However, formal institutions are often unwilling or unable to risk lending to the poor due to little, or perhaps even negative, returns, the high transaction costs, and little pay-off given the small size of the savings. Poor households also find formal credit prohibitive—large monthly debt repayments—and not conducive to small and irregular income streams.

Semi-formal financial institutions like Microfinance Institutions (MFIs) provide some of the security and capacity of formal institutions, with more flexibility. This sector is highly developed in Haiti. A survey conducted prior to the earthquake found that over a quarter of households with a loan utilized MFI services (ACTED, 2011a). However, MFIs operate in a more restrictive regulatory environment than other financial institutions; they are prohibited from using customer deposits to fund their loan activities, which limits their growth and loan size. An exception in Haiti is Fonkoze, which sidesteps this barrier by offering unregulated “investment accounts” to customers (Whiteside and Wardle, 2009).

There is evidence of the formal financial sector opening up to the poor—a population previously referred to as “unbankable”—mainly due to the success of the Grameen model in other countries, which has shown the potential for profit. The removal of interest rate caps and reduction of restrictive capital adequacy requirements in the 1990s led some large commercial banks in Haiti to start targeting poorer households, though primarily for savings rather than credit accounts (1.9 million as compared to 53,000 respectively) (Whiteside and Wardle, 2009). Sogebank and Unibank, two of the largest commercial banks in Haiti, have recently entered the microfinance lending market in order to deepen their market penetration, while MFIs have sought to acquire the status of regulated financial service providers, in order to fund their loan programs from customer deposits, like Fonkoze.

In the two-week period following the earthquake, cash was difficult to come by for all households. Increased demand for cash, higher prices of goods,³ and decreased cash supply left many households struggling to find a source of cash. All financial sectors, from most to least formal, were affected.

The formal banking sector closed down in the days following the earthquake, with only a few commercial banks reopening 11 days after the disaster. Even after the two weeks, banks limited daily withdrawal amounts to 5,000 US dollars. This withdrawal limit hindered the

ability of semi-formal organizations, like MFIs, to service those who did not have access to a bank. In order to stay solvent, Fonkoze partnered with the US military to airlift two million US dollars in cash from the US to its branches. While the airlift helped restoring short-term liquidity, MFIs endured long-term consequences from the earthquake in the form of loss of their staff and destruction of their infrastructure. One of the largest microcredit groups in Haiti, Finca Haiti, had to write off almost one-third of its portfolio due to the death of numerous clients or losses to their business, stocks, and income streams. Of those who continued to make repayments, over half were late. Another Haitian microbank, ACME, had to raise additional funds over the summer due to the degree of losses (Costello, 2010). The result was a significant drop in the number of households that were able to utilize microfinance services in the six months after the earthquake. A survey found that the prevalence of microfinance loans in the sample population was 17% lower after the earthquake (ACTED, 2011a).

Lack of documentation further limited access to financial services. Individuals need to present IDs to use remittance transfer services, MFIs, and banks. Those who lost their documents could not prove their identities and were therefore unable to access remittances and formal financial services.

The disruption in telecommunication services in the days after the earthquake further exacerbated the problem. Households reliant on remittances had little access to transfer services, and what institutions still provided remittance transfer services were running out of cash on hand.

Informal services were not affected by lack of documentation or destruction of infrastructure, although they also had liquidity problems. However, households reported returning to their sols and taking out credit from friends and neighbors within days of the earthquake. The next section looks at the financial coping strategies utilized by households and the insufficiency of the informal sector to meet this need.

3. Household Financial Coping Strategies and Impact

Poor households, even the poorest of the poor, create “financial portfolios” to manage unpredictable and unsteady income stream, utilizing different financial tools (Collins et al., 2010). Following the earthquake, households sought new business opportunities, tried to restart old ones, took out loans, and tried to save for the next shock. A few households reported primarily relying on emotionally oriented strategies, such as faith or simply accepting their situation. Households utilized coping strategies ranging from prayer (“*I am leaving it up to God*” (Interview Notes)) to selling prepared food near in the camps. Strategy diversification is a common approach for reducing vulnerabilities. This section explores these coping strategies and their effectiveness.

Most of our respondents had some form of savings prior to the earthquake, whether in the form of cash, participation in a *sol* or *sabotay*, or held in livestock or assets in case of an unexpected shock. Most of these households lost these savings, but a few reported having some cash, the highest amount being 7,500 Haitian gourdes (around 170 US dollars), on hand in the immediate aftermath of the disaster.⁴ Even such a small amount meant that households were able to purchase food and other needs, and some used their cash for livelihoods: “*I had 1,200 gourdes in my pocket on Jan. 12th. It allowed me to function plus I was able to use 1,000 gourdes to purchase merchandise to resell*” (Interview Notes). Most households reported spending the money on consumption goods, as expected in urban settings. Christian Aid found that less than 50% of household cash was spent on purchasing food and cooking fuel, 16% on water, 10% on education, and 9% on small enterprises (Clermont, Sanderson, Sharma, and Spraos, 2010). Households reported that cash on hand lasted about three months, allowing them to use that time to find more permanent sources of income. Access to a lump sum increased the ability to pursue more productive coping strategies, rather than relying on activities with short-term benefits and long-term costs.

Most of our respondents, however, were unable to recover their savings or had them stolen, and had to rely on support from humanitarian aid, as well as friends and family both in Haiti and abroad. Humanitarian agencies provided food, temporary shelter, water, medical care, and psychosocial counseling. Several respondents were beneficiaries of cash-for-work programs. Support from family and friends included offering refuge, temporary custody of children, fostering a child, food, clothing, or cash. Few households did not rely on social capital in one form or another. However, social capital is an asset that works best in the face of idiosyncratic shocks. After the earthquake, available resources were stretched thin, and not being able to support relatives and friends was an additional stressor on households. One exception to this was remittances, as remittance senders were located outside of the shock zone (primarily in the United States). Furthermore, while households that received cash support from their relatives described the financial support as a loan, remittances were not generally regarded as a loan.

Remittances are an important aspect of post-disaster recovery (Yang, 2008). Increased remittance in-flows followed the 2004 Tsunami (Savage and Harvey, 2007), the 2001 earthquake in El Salvador (Agunias, 2006),⁵ and the 2001 floods in South Africa (Khandlhela and May, 2006). Remittances are a good example of a lump sum transfer for households with family or friends abroad. For example, in the Philippines, households with family members working overseas were able to offset drops in income from environmental shocks due to remittance flows (Yang and Choi, 2007). Several of our Haitian respondents reported receiving support from relatives abroad that was used for everyday consumption and to restart or start small enterprises. Importantly, however, remittance receivers tend not to be the poorest of the poor. A study in Haiti following the 2004 hurricane found that middle class households were more likely to receive assistance from relatives living outside the country (Fagen, 2006). Though the initial recipient might not be the most vulnerable, nearly every person who receives remittances is responsible for others and therefore shares what they can among family members near and far (Fagen, 2006).

In addition to consumption needs, Christian Aid found that 68% of the recipients of cash funds used some proportion to start a small business (Clermont, Sanderson, Sharma and Spraos, 2010). Most respondents showed great innovation and entrepreneurial spirit, many returning to their business or a new activity within two weeks: *“Immediately after the earthquake I used to make tents for sale,” “After two weeks, I went to sell [dinner cookware],” “I sold dishes and cups,” “After one week I started the motorcycle taxi,” “After the earthquake I bought some flour to make patties that I would sell to the people living in the camps”* (Interview Notes), and so on. Less than one month after the earthquake, some respondents took advantage of the Easter/Rara and Mardi Gras celebrations to make extra income. Many respondents combined wage labor and commercial enterprise to diversify sources of income, including crafts (mason, tailor, seamstress, iron craftsman), cooking food, selling water and clay, services (taxi motorcyclist, midwife, massage therapist), and temporary jobs (street sweeping, factory work, handyman).

A small business required restocking and/or rebuilding, which came on top of other reconstruction expenses. Few households had either a stable source of income or a lump sum on January 12th. An ACTED survey found that 15% of household income went to the reconstruction of houses (ACTED, 2011a). A study by Fonkoze in 2011, following heavy and destructive rains, found that 67% of households had no other financial support outside of borrowing (Fonkoze, 2011). Similarly in our study, households reported heavy borrowing: *“I borrow money at a high rate to purchase merchandise for my business,” “I borrow money,” “I borrow money from friends to support my business,” “Friends lend me money and I buy metal drums that I turn into stoves to sell,” “My husband is a mechanic and would also get loans at a high rate for my business,” and “I borrowed 1,000 gourdes for my business”* (Interview Notes). A study of the economic situation of households in Port-au-Prince six months after the earthquake found that borrowing had increased. Prior to the earthquake, 17% of households in Port-au-Prince reported relying on loans to finance their business; after the earthquake, that percentage jumped to 27. In 2009, 53% of households contracted between one and two

loans; in 2010 this figure increased to 68%. The percent of households that contracted three and four loans doubled from 6% in 2009 to 12% in 2010. Approximately 80% of the households surveyed had some form of debt at the time of the survey (ACTED, 2011a). Households borrowed for numerous reasons, including purchase of food, rent and repairs, school fees, and rebuilding of stocks or acquiring new tools and other means of production. People relied on credit for investment and to cover large costs such as health emergencies, but also to maintain a standard of living. The significant increase in debt reveals the extent of the financial loss and vulnerability of households.

The same ACTED study revealed a shift in credit sources. Households were less likely to report borrowing from a loan shark or MFI, and almost twice as likely to hold debt with a sol or sabotay, compared to 2009 (ACTED, 2011a). This is partly because MFIs were unable to quickly recoup their cash position and partly because of the loss of ID cards necessary to take out a loan. Loan sharks suffered from a similar fate. Low repayment, combined with their own losses, contracted their availability to provide credit. Borrowing from friends and family stayed at the same rate and was the most common form of borrowing both before and after the earthquake.

A shift in credit sources also implies a shift in loan terms. MFIs provide the longest repayment periods, about five months in Haiti, while loans from institutions such as sols, sabotays, or individuals tend to be much shorter, around two months. MFIs also provide some of the lowest loan rates, compared to private individuals or moneylenders. The ACTED study found that more than half of all surveyed households did not borrow at a fixed rate, suggesting the threat of financial risk (ACTED, 2011a). The shift in types of loans and loan terms means households are unable to borrow an amount sufficient for recovery, and must rely on additional loans to stay afloat. While over 90% of households said they were able to restore some of their stock post the earthquake, it was at less than half of the pre-earthquake level (ACTED, 2011a). This has impacted the financial viability of small businesses and markets. Profits from sales

decreased in 2010 compared to 2009, and there was a significant increase in the proportion of respondents who reported needing to borrow in order to keep their business. The number of investors and volume of investments showed a steady decline in the year and a half following the earthquake (Interview Notes).

In 2009, half of the small businesses were able to cover their business expenses through profits; that percentage dropped to 43 after the earthquake, with the difference being made up by households who now have to exclusively rely on loans (ACTED, 2011a). These businesses are unable to generate sufficient profits not only to provide for basic household needs, but also to cover their own costs. This is partly due to lack of markets for goods to be sold, lower demand capacity, and insufficient stock. Add to this the additional cost of the interest rate, repaying the debt, recovering household assets destroyed in the earthquake, shelter material, medical costs for injuries sustained in the earthquake, everyday food and water consumption, and covering upcoming costs such as school fees, and suddenly it becomes painstakingly clear that these households are barely staying afloat while piling up additional debt. The result is a vicious cycle that traps small traders and professionals.

Not only do these households show a low capacity to recover from the earthquake, their recovery attempts make them more vulnerable to the next disaster. Hurricanes and landslides are yearly occurrences in Haiti, and these hazards share many of the same characteristics as earthquakes—sudden onset and covariate. Households rely more on *sols* and *sabotays* to acquire credit because of the contraction of credit from MFIs, and they and their savings are in the same precarious position as they were prior to the earthquake. When asked what are they doing to prepare for the next disaster, most households reported little ability to mitigate their future losses: *“I can’t say anything, I am leaving it up to God,” “I can’t make any preparations for the hurricane, I do not have the means,” “I do not make any preparations for the hurricane because I do not have any money to buy rope to secure the tarp,” and “The only preparations I made was to purchase a new tarp to put on the new roof”* (Interview Notes).

The 2010 earthquake led to households using a variety of rather weak coping strategies, and since then most appear to be backsliding. The slow recovery has been interrupted by other disasters: Haiti has experienced three epidemics, eight floods, and six storms, affecting almost one million people, killing over 7,000 people, and costing a quarter of a billion US dollars (EMDAT). If household financial resilience cannot keep pace with the frequency of disasters and other shocks, then poverty traps result. ■

CONCLUSIONS AND RECOMMENDATIONS

The research shows a community that is struggling for survival, and while the entrepreneurial spirit and creativity is there to balance inconsistent income flows, the financial environment is not conducive to sustain businesses. Households have to keep borrowing just to stay afloat. This is not a new phenomenon in Haiti—few households were resilient to sudden-onset disasters prior to the earthquake. The frequent contraction of credit and massive household debt is a symptom of the overall economic instability of poor Haitian households. The earthquake simply exacerbated pre-existing financial vulnerabilities and constraints.

Households are not borrowing to recover, they are borrowing to survive. However, there are few other options available to them. Informal savings and credit practices such as ASCAs and ROSCAs offer poorer households a convenient and flexible way to save, grow their savings (interest rates utilized in ASCAs), and take out loans, but these practices offer little support in the face of a covariate shock. More effective financial coping strategies need to be supported, especially in the context of urban disasters. The bolstering of alternative formal and semi-formal mechanisms is of prime importance.

In order to mitigate risk and strengthen a household's ability to recover from a disaster, we recommend that the following disaster risk reduction/mitigation (DRR/M) programs be implemented. These programs are aimed at increasing a household's access to a lump sum of cash, through more secure saving options, access to credit and insurance, and/or better access to remittances. These programs can be combined with financial literacy classes, perhaps provided by existing financial institutions, with the goal of making households better consumers of financial services.

Currently a household's best means of accessing a lump sum is transferring risk within the community through informal practices such as ASCAs and ROSCAs. Financial programs need to be designed so that households can transfer the risk out of the community via more secure

savings, access to bigger loans with better terms, insurance schemes, and more reliable remittance transfer services, while still being able to serve a population with inconsistent and unreliable income streams and low collateral.

One of the main constraints for our study households was their inability to access MFI loans given the organization's own liquidity constraints. This constraint has been identified following previous large sudden-onset disasters. After the 2004 Asian Tsunami, MFIs experienced similar problems. The process of evaluating MFI proposals for additional funds took over six months, significantly reducing the affected household's access to financial relief for everyday needs and for rebuilding their businesses and livelihoods in general (Bate, 2006).

In order to address exactly this problem, an emergency liquidity facility (ELF) was created to serve Latin America. The ELF serves as an emergency lender to prequalified Latin American MFIs, providing necessary funds to guarantee the MFI's liquidity in the face of a shock. This is achieved by pre-identifying qualifying MFIs prior to a disaster and then channeling the donor capital to the institutions within weeks, or in some cases, days (Bate, 2006). The money is then loaned at pre-disaster interest rates, with an increase in rates with every extension, up to two years. Up to this point the ELF has been effective. Following the 2005 devastation from Hurricane Stan and the eruption of the Ilimatepec Volcano in El Salvador, the Salvadoran MFI Apoyo Integral received 750,000 US dollars in emergency loans, allowing them to forgive interest, suspend fees, extend payment terms, and establish grace periods (Bate, 2006).

Another DRR/M strategy, which is the primary form of transferring risk in the face of a shock in the United States and Europe, is insurance. This financial strategy is infrequently utilized in many developing countries due to the novelty of the concept (paying for a service that you *might* utilize), prohibitive premiums, and difficulty in

assessing the degree of damage. However, in 2011, Fonkoze partnered with its insurance company Microinsurance Catastrophe Risk Organization (MiCRO) to create a product linked with their microloans that cancels loan balances, provides a 125 US dollar cash payout in an emergency, and pre-approves a new loan for when the customer is ready to borrow again (Fonkoze, 2011). All Fonkoze's microloan clients pay a small premium, which amounts to approximately 55% of the cost of the product. The product was further enhanced by providing information on better preparedness strategies, such as where households should store seed stock and cash to prevent losses.

The scheme is primarily an index-based insurance that automatically triggers payments when objective thresholds of rainfall, wind speed, and seismic activity are exceeded. This approach allows insurance providers to avoid problems of moral hazard since the payout is not based on calculating a household's losses but rather a onetime ubiquitous payment tied to an objective measure of the presence of a disaster. The system is backed by international insurance companies to guarantee that their risk is spread out while being able to provide the necessary liquidity for the MFI to pay out the insurance to their clients. MiCRO works in collaboration between several stakeholders, including Fonkoze, Swiss Re, Caribbean Risk Managers Limited, Mercy Corps, Department for International Development, Alternative Insurance Company, Guy Carpenter and Company, and the Swiss Agency for Development and Cooperation. The scheme was able to provide payout within 15 to 64 days following the reported shock to almost 7,000 clients (Fonkoze, 2011).

While the Fonkoze insurance scheme innovatively combines numerous programs for overall risk reduction (linking with previous loans, cancellation of previous debt, provision of new loans, index based, re-insured on international markets, provision of financial education, and additional risk reduction information) general index-based microinsurance has been proven successful previously in rural settings. In India, the organization BASIX introduced an index-based drought insurance product along with other financial services,

starting with the farmers they already had a relationship with. Similar to Fonkoze's product, BASIX was reinsured internationally by ICICI Lombard (Manuamorn, 2007). Fonkoze, working throughout Haiti, has demonstrated that this type of insurance scheme can be appropriately adopted for an urban setting as well.

Both the liquidity fund and the insurance schemes are a move towards providing households with the necessary funds to recover; however, what households really need is cheaper and easier access to more formal services. Mobile banking technology and branchless banking can partly lower the barriers and provide for faster access to funds, including remittances, and safer storage of savings. Branchless banking has been applied in Brazil, South Africa, the Philippines with its bank-based (SMART) and non-bank-based (GLOBE G-cash) systems, and Kenya with Vodafone's MPESA. Mobile ("branchless") banking allows customers to use a mobile phone to make payments, transfer money (a faster way to access remittances), and check their account. A study of the mobile banking program WIZZIT in South Africa found that mobile banking was far more affordable, as much as one-third cheaper, than traditional banking and therefore accessible to poor households. However, while the majority of urban Haitians own a cell phone, it is important to note that telecommunication companies in Haiti were affected by the earthquake and were down in the few weeks after the earthquake. A potential secondary constraint is access to electricity for recharging the phones. All of this has to be taken into account when resolving the best approach to providing quick and easy access to a lump sum for disaster-affected households.

Household responses to the Haiti earthquake provide insights into the opportunities and challenges following an urban disaster. The need for easy and quick access to a large lump sum is integral for quick recovery from a disaster. Without this sum, households rely on available financial strategies; in the context of Port-au-Prince, this is primarily borrowing. Given the extent of the damage, households borrow not just to reinvest in business but simply to get by. This is neither a sustainable nor appropriate

strategy for long-term resilience. When working in an urban disaster-prone context, organizations need to consider appropriate strategies to shoring up household financial resilience through more flexible, yet secure financial management strategies. Only then will households be able to “recover” post a disaster, rather than just survive it. ■

INTRODUCTION

Nepal is considered a “hot-spot” for a multitude of natural disasters including floods, landslides, drought, windstorms, avalanches, glacial lake outburst flooding (GLOF), hailstorms, fire, epidemics and earthquakes (UN Nepal Information Platform, 2010). Communities in areas vulnerable to disaster are facing rapid changes in their environmental and livelihoods contexts, which shape their vulnerability to natural hazards and their ability to respond to them. Although monsoon rains bring significant benefits to people’s livelihoods, particularly for those whose livelihoods are dependent on agriculture, they also bring real threats to people’s survival. Approximately 10,000 families a year are affected by floods, landslides, fires, earthquakes, and drought alone (Nepal Red Cross Society, 2010). Of these disasters, floods and landslides are the most frequent and in the past five years have claimed an average of 200 lives per year (Nepal Red Cross Society, 2010).

In the terai region, the low-lying plain along Nepal’s southern border, significant flood events occur almost every year. Considered the “food basket” of Nepal with highly fertile soil, the terai has experienced a boom in internal migration and is now home to about 50% of Nepal’s population, even though it only covers 17% of the geography. Although the entire terai region sees floods on an annual basis, the far-western terai has experienced a number of highly destructive floods in the past few years.

In September 2008, the region experienced the worst flooding in 25 years due to monsoon rains that arrived late and were heavy. Over 400 millimeters of rain fell in 48 hours, causing flash floods and landslides that impacted 23,600 households, killing 15 people in Kailali (Mercy Corps, 2010). Significant, though less intense, floods hit the region again in 2009, damaging housing, crops, and infrastructure, and occurred again at the end of the rainy season in 2012. Floods continue to hit communities living on the either side of the river systems on an annual

basis, limiting access to roads, destroying crops, and sweeping away assets and livestock. These floods bring significant physical damage to agricultural land and domestic property, with devastating consequences for people’s livelihoods. The main victims of floods tend to be people who are already among the most vulnerable, living in marginal areas and with threatened livelihoods.

The purpose of this study was to develop a grounded socio-culturally and economically embedded understanding of the impact of floods on people’s livelihoods from their perspectives. The study looks at livelihoods and relevant interventions that could reduce risk in Nepal’s terai, with a focus on the impact of flooding. The research also assesses the DRR programs implemented in the area and how far they reflect the livelihood strategies of the vulnerable population and the wider political-economic context in which the local population is embedded. Therefore, the key focus of the study was to explore the strategies used by the flood-affected population—both households and communities—to cope with risks associated with flooding in the terai as well as those interventions introduced by local NGOs. Three main research questions were posed:

1. How do households prepare for and mitigate the impact of flooding?
2. What makes some households more resilient than others to the effects of flooding?
3. To what degree has the current DRR programming reduced household vulnerability to the effects of flooding?

The study has been conceptualized within the livelihoods framework in order to capture exposure to various forms of risks among the vulnerable households living in marginalized areas. By marginality we are referring to the physical, environmental, and geographical vulnerability of households to flooding, as well as the socio-economic and political marginality.

1. Executive Summary

Households in the far-western terai, and specifically Kailali District, are some of the most marginalized in Nepal. The geography of the Kailali District, which is part of the terai and basically a flood plain,¹ means that households experience flooding on a yearly basis. This is compounded by other forms of marginalization: most people do not own land, or own very little, and thus have to draw their livelihoods from multiple sources; the area is mostly populated by Tharus or those who migrated over the last 50 years from the hills and many of them are landless; the area is not well-represented in the State; it is a remote and interior part with little State involvement; there is a lack of access to modern amenities and facilities/infrastructure.

Flooding in Kailali District is not always destructive and sometimes even brings important sediments that fertilize the soil. Every few years, however, the floods bring a significant loss of livestock, assets, stocks, crops, land, and occasionally lives. The timing of the flood is correlated with the type of losses. Flooding during the planting season (summer months) has more lasting livelihood effects because it destroys crops and the seeds necessary to plant next year's crop, while flooding during and after harvesting mainly affects household assets. Households living closer to the river are significantly more vulnerable to the negative effects of flooding; however, in the case of more severe flooding (such as the 2008 and 2012 floods), almost all households are likely to be affected, regardless of distance from the river.

Given the annual nature of flooding, households utilize a myriad of coping and mitigating strategies. The more the household is impacted by the flood, the more coping strategies are used. Households use a range of coping strategies, some which may have long-term negative consequences such as taking children out of school to work, or shorter term and reversible impacts, such as a temporary reduction in household food expenditure.

Households also utilize strategies to mitigate the impacts of the floods. Most of these are done in collaboration with the entire community, such as

planting bamboo or building a spur or gabion into the river. These strategies are significantly correlated with a reduced impact from the floods. However, there are several factors that affect the likelihood that a village would carry out these community-wide flood mitigation strategies. The greater the differences in wealth between households residing in the same village, the less likely they were to work together on a community-level project. The same relationship applied to other village-level characteristics. Villages where all the households were approximately the same distance from the river were more likely to work together, as were villages where the majority of households were equally affected by previous flooding. Ethnicity also played a role—ethnic diversity in a village was correlated with fewer community-level projects. In general, homogeneity led to greater community-level collaboration in flood mitigation, while heterogeneity on the village level led to more individualistic strategies.

Not surprisingly, household wealth was significantly correlated with better outcomes to flood risk. Households with greater wealth were less affected by flooding due to greater distance from the river as well as the ability to use more expensive coping strategies such as building a second story. Wealth was also correlated with utilizing fewer coping strategies with negative long-run effects. Several factors were correlated with increased wealth—whether the household had at least one household member migrating, the degree to which a household could diversify its livelihoods, land ownership, agricultural inputs, and household composition. Migration had the largest impact on household wealth for marginal households (i.e., households with low levels of education and technically landless).

Without the necessary wealth, poorer households had to rely on social capital in order to prepare for flooding and mitigate its effects. Social capital was defined by proximity to support (proxied by whether a household was originally from the village or district in which they reside) and sense of community (proxied by whether the household is an ethnic minority in the village and the overall ethnic distribution in the village). However, while wealth helped mitigate the impact of flooding no matter the severity, when

the shock was covariate (meaning it affected large numbers of households simultaneously as opposed to an idiosyncratic shock that affects individual households), social capital lost much of its potency.

The two main DRR activities taken up by international non-governmental organizations (NGOs) working in Kailali were the construction of a spur or gabion and the creation of a Disaster Management Committee (DMC). The NGOs worked with local communities to provide expertise in the construction of the spurs and gabions, as well as any materials that could not be locally sourced. Similarly, they helped facilitate the DMCs and provided necessary equipment such as life jackets, boats, and a siren. However, in both activities, it was the responsibility of the community to manage the programs, provide the physical labor for the construction, purchase any necessary additional materials, and provide upkeep for supplied materials. Households that lived in a community that had constructed a spur or gabion in the past three years were significantly less likely to report the destruction of their house, destruction of their land, and the loss of grain stores. Similarly, households that reported taking part in a DMC were significantly less likely to report losses to the grain stores, crops, livestock or destruction of their house or land. Both of these activities unequivocally help reduce household vulnerability and losses due to flooding. However, participation in these activities was not uniform across the villages. While some villages had 100% of all households in a DMC, others had less than 10%. The efficacy of these DRR interventions very much depended on the homogeneity of the community. The more diverse the ethnic breakdown, distribution of wealth, distance to river, and impact from flooding, the significantly less likely the community was to take up spur/gabion construction or join a DMC.

These findings have large implications for DRR efforts. The difference in take-up in community projects based on identified community characteristics means that in order for NGOs to be successful (or to retain the perception of helpfulness in the community), they have to target communities where these programs will

actually be implemented by the community (unless they are prepared to drop the focus on “participatory” DRR and simply build the necessary infrastructure themselves). However, this does not mean that all DRR efforts need to be dropped in heterogeneous communities, as it is the poor, marginalized, small, and minority households in these communities that are the most vulnerable. The research clearly identified the link between wealth² and household resilience to shocks. Where social capital is not sufficient for community-level projects, NGOs need to focus on livelihood programming and migration support in order to shore up household wealth. Though this is conceived as development work rather than DRR, the research shows that the impact on reducing risk and increasing resilience are the same. ■

METHODOLOGY

Primarily, the study used qualitative methods to answer the research questions. In order to address these questions, in-depth fieldwork was conducted in the far-western terai in the form of detailed interviews with local people and participant observation in the communities. The qualitative data collection was complemented by three quantitative household surveys on livelihood strategies, assets, and liabilities. These specifically examined access to financial capital (remittances, credit, lump sums, etc.), livelihood diversification within and among households, and mobility. These data are representative within the selected study sites. The first household survey (carried out in May 2011 prior to the flooding season) established a baseline of livelihood assets and strategies. The second household survey was carried out in September 2011 on the heels of an uneventful monsoon season, as indicated by the average amount of rainfall and flooding experienced by the research villages. The second survey helped with the identification of losses to households from an average monsoon season, or basically the type of losses they experience on a yearly basis. The final survey was done in November of 2012 immediately following the severe flooding in our research areas that October. The role of the third survey was to better understand the impact of flooding on affected households and short-term recovery.

In parallel to the fieldwork, a literature review on flood-related DRR programming in Nepal explored the impact of DRR efforts. This involved analyzing the DRR program documents and interviewing key agency staff involved in DRR programs in the area. On the ground, the team used an ethnographic approach to study DRR program implementation in Kailali.

The quantitative household data were analyzed using STATA. Prior to analysis, the data were adjusted for the sampling design, and each village was assigned population weights according to the village household list registration provided by enumerators during the first round of data collection. The qualitative data were analyzed

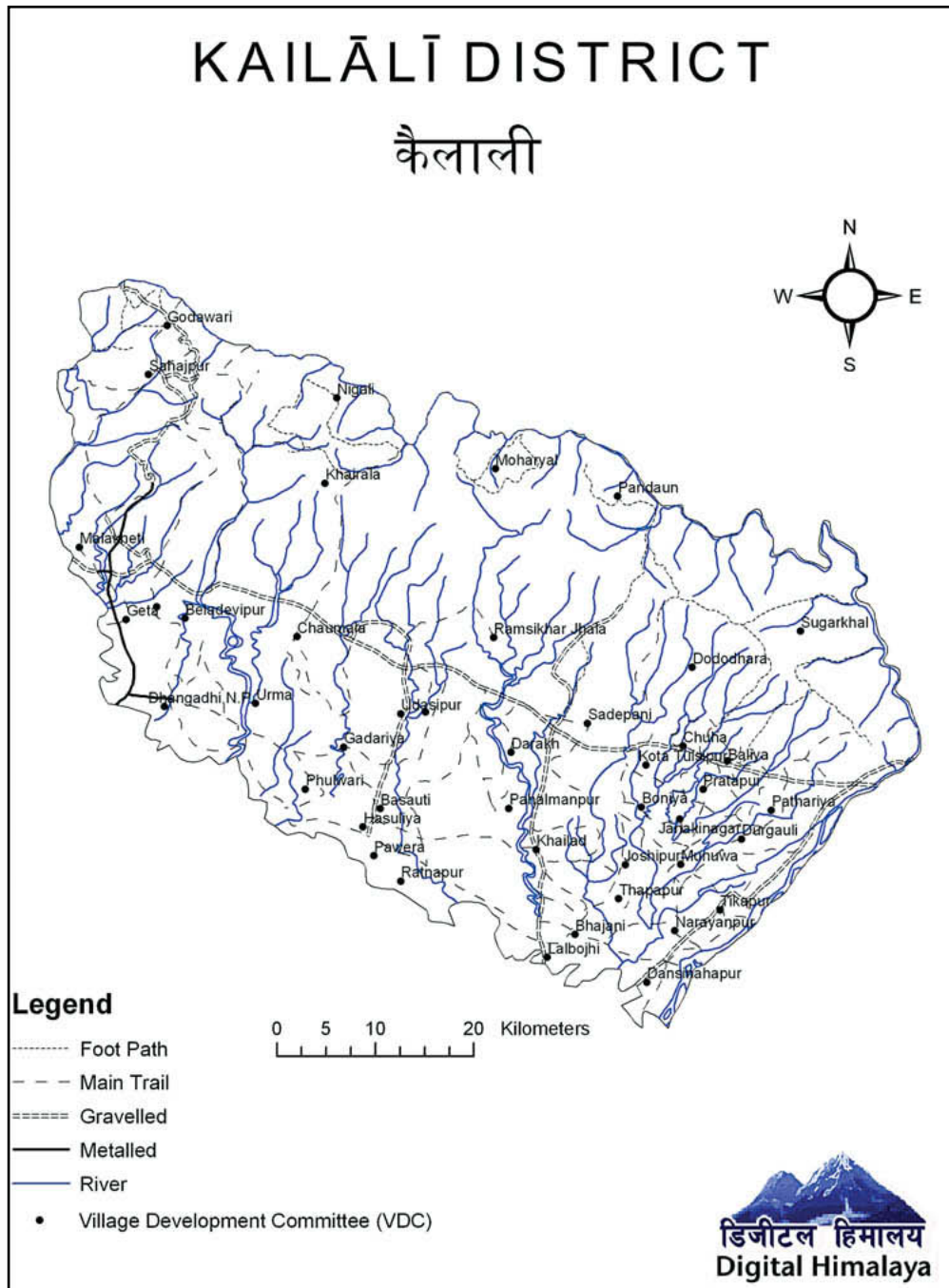
throughout the process to both help design the quantitative survey and better understand its results.

1. Sampling

For the quantitative component of the study we carried out a two-stage randomized survey in May 2011, September 2011, and November 2012. Three Village Development Committees (lower administrative units): Lalbolji, Hasuliya, and Pawera were selected for the study based on the river systems, history of flooding, and overall marginalization (see Map 1). Mercy Corps identified and provided population numbers for the most vulnerable villages in the three VDCs based on participatory assessments and proximity to rivers. We randomly selected 24 villages from the list, stratifying by VDC. Using probability proportional to size sampling we identified the number of households to be sampled from each selected village for a total of 640 households. Enumerators were then instructed to create a list of all households in the village from which we randomly drew households. A roster of all household members over the age of 16 was also carried out for a total of 2,757 respondents.

Ethnographic research as well as structured and semi-structured interviews was carried out over the course of the project. A researcher was based for the duration of one year in the research area. Several different interview techniques were utilized, including in-depth structured and semi-structured interviews, focus groups, participant observation, and key informant interviews. Key informants included staff members of NGOs working in the villages and government officials in the district headquarters of Kailali. ■

Map N1: Kailali District



Source: Digital Himalaya

MARGINALIZATION OF THE RESEARCH AREA

Terai region, including Kailali, has been historically marginalized by the Nepali State. The population is predominantly but not exclusively Tharus, who have had marginal presence in the Nepali State. Practices of bonded labor such as *Kamaiya* and *Kamalari*, which have recently been abolished, were rampant in the region, resulting in poverty, inequality, and marginalization for the poorest of the population. Following the malaria eradication in the 1960s and resettlement of the hill population, the terai's population has increased rapidly from 257,905 in 1981 to 770,279 in 2011, with an annual growth rate of 2.22% (the national average is 1.4%) (CBS, 2011). Kailali has the fifth-highest population of the 75 districts in Nepal and a relatively high population density. The Government of Nepal figures indicate that Kailali ranks 21st out of the 75 districts in terms of composite development indicators, placing it above the national average (CBS, 2003). The literacy rate for the population age six and over is 60% for males and 36% for females, with a district average of 48% (CBS, 2001).

While the district has seen increased activities of NGOs and small-scale development projects in the last decade or so, it has poor physical infrastructure and limited access to trade centers and labor markets. The region is fertile with high agricultural productivity. Almost 80% of the population practices agriculture. This hot, flat district is prone to widespread flooding during the monsoon months and has strong links with India.

1. Physical Environment and Geography

Kailali District is located in the far-western terai region of Nepal bordering India. With fertile land, flash flooding presents a constant and complex set of challenges to households residing in the region. Overpopulation and the resulting need for intensive agricultural production in the terai have stressed the wetland ecosystems. Until just the past few decades, the region consisted of lush wetland and dense tropical forest, and was considered uninhabitable. Nepal's expanding population and need for productive farmland

spurred a national campaign to eradicate the area of malaria, as well as forest clearing and wetland drainage projects that enabled human settlement. The terai population has been expanding ever since. Today, agricultural products from the fertile soil of the terai feed a majority of Nepal's population.

At the heart of the challenges facing the western terai is the fact that it is a floodplain, part of one of the largest river systems in the world, the Himalaya-Ganga. A number of rivers and streams, originating in the Hills or in the Chure Hills, flow from northern side of the terai to the south. In Kailali, the Ghuraha, Katani, and Khutiya rivers flow from the north to the south, meeting at the Mohana River, which roughly flows from west to east along the Indo-Nepal border. During the rainy season, rains in the hills fill the watershed areas and cause the Mohana River to swell and flood the villages on its banks. The study sites were situated near the Mohana, Katani, Ghuraha, and Kandra Rivers, so heavy rainfall in the watershed of any one of these rivers leads to flooding in the villages.

Wetlands do not, of course, cease to be wetlands simply because human beings decide to call them home. The terai's identity as a wetland is perpetuated not only in its name—"terai" actually derives from the Persian word for wetland—but also in its high water table, which enhances the region's soil fertility but also significantly increases flood risk. There have been numerous floods, including several catastrophic floods, in the past decade. In September 2008, the region experienced the worst flooding in 25 years. Significant, though less intense, floods hit the region again in 2012, damaging housing, crops, and infrastructure.

Poverty forces many residents to diversify their livelihood strategies across both formal and informal sectors, often migrating and/or venturing into illicit black market activities that provide some of the few available income-generating options. These geographical, human settlement and livelihood patterns combine to produce conditions of significant vulnerability

for both human inhabitants and the ecological landscape.

2. Isolation from Center of Power

Given the long distance from Kathmandu and high degree of inequality in land distribution and practices of bonded labor, the district suffers from isolation from the center of power. With the State dominated by the center in Kathmandu and by non-Tharus, Tharus, and others living in the region, feel that they have been left behind in the State formation. As indicated above, the terai region, and more specifically Kailali District, has been marginalized in the process of Nepali State formation. Land inequality, lack of land certificates, lack of citizenship cards, and practices of bonded labor meant that a large number of the population were merely subjects of the State and not citizens with rights.

In many ways, the economic survival and identity of Kailali depends on both Nepal and India. People and goods move across the border in large numbers, with the goods often smuggled due to restrictions and taxes on both sides. Goods may be subsidized in one country but not the other, while the quality and cost of services may differ significantly. When people migrate to find work, they are much more likely to go to India than elsewhere in Nepal; Kailali District is twice as far from Kathmandu as from Delhi. The region's dependence on India and the border economy impacts the connection a household living on the border might feel to the Nepali State. This is further exacerbated by the limited infrastructure in the area, compared to the rest of Nepal. Respondents often attributed the unequal distribution of services to mishandling and reception of bribes by the VDC and government officials.

The lack of services or timely provision of services exacerbates the feelings of isolation in the region. Respondents in Kailali felt, for practical purposes, quite removed from government influence. An exception to this, discussed in this report, is the presence and influence of the armed border police (Sashastra Seema Bal or SSB). In addition, there is government provision of some goods, such as subsidized seeds and agricultural materials, as

well as flood relief materials. Many of these provisions, however, are sold or smuggled over the border into India, while others are reportedly inappropriate due to poor timing of receipt.

3. Legacy of the People's War

The Nepali Civil War, or the People's War, was a conflict between government forces and Maoist rebels from 1996–2006. Kailali was one of the affected districts and the site of a number of battles between the Maoists and the security forces. Many of the youths in the study VDCs joined the Maoist movement. There have been reports of the civilian population being caught between the warring factions. Some households who supported the Maoists were forced to flee to India due to the constant harassment from the security forces, and supporters of the security forces were often harassed by the Maoists; some migrated from the region.

The decade-long war disrupted economic development and led to a large number of internally displaced civilians in the district. The qualitative research and literature review highlighted a broad range of impacts, including increased migration, decreased transportation of goods, disruption of traditional coping mechanisms, breakdown of infrastructure, collapse of local government, erosion of civil liberties and restrictions on movement, increases in informal taxation, theft, and extortion, and food and livelihood insecurity (Seddon and Hussein, 2002). Widespread rural-urban migration depleted household labor—thereby increasing the vulnerability of many households to disaster and livelihood shocks—and hampered the rural-urban transportation of food, which in turn increased food costs and food insecurity. Both parties to the conflict also disrupted food systems and destroyed critical infrastructure (Seddon and Hussein, 2002). These and other factors had negative impacts on the livelihood sustainability of the study population.

There were, however, some positive impacts on local livelihood strategies as reported in both the field research and the literature. These included a more equitable distribution of land and new systems of barter in some areas. Women in particular reported benefits as a result of the

Maoists' strong position against domestic violence. During the war, women in Maoist areas were able to be more equitably involved in agricultural decision making, were able to develop new skills, and had better representation in the people's courts (Seddon and Hussein, 2002). While the continuation of these gains is likely uneven, some respondents reported that these positive developments continued.

The conflict also affected the programming of national and international humanitarian and development organizations. Much of the development work was halted in Maoist-held areas during the course of the conflict.

The war's impact and lingering political instability in Nepal continue to be felt at the local level, and there have been no local government elections in Nepal since 1999. In the absence of elected officials, the VDC secretary (a civil servant position) and an ad-hoc (not elected) committee made up of political parties have the power to make decisions. Respondents complained about the lack of popular representation at the VDC level and felt that this was one reason for inadequate attention to the flood risk on the part of local officials. Some reported that funds and infrastructure projects (such as the expansion of gravel roads and the electric grid) disproportionately benefitted specific areas—not surprisingly, these areas were not those considered vulnerable and marginalized.

Some international NGOs frame their interventions at the VDC level and proudly note their cooperation with VDC authorities. Local populations, however, report that the VDC proceedings are neither public nor transparent, and many respondents feel actively excluded from decision making. International NGOs that work through these political structures, therefore, are tainted by this association and are unlikely to realize successful programs at the local level. ■

FINDINGS

In this section we report on flooding, characteristics of the study population, livelihoods, migration, and social capital, and presence and perception of NGO activities.

1. Flooding

The majority of households (98%) reported having experienced flooding in the past five years; this takes into account the 2008 floods, which were some of the worst and most severe in this region. The 2011 monsoon, on the other hand, was relatively light (38% of households reported being affected) and more representative of the average flooding that occurs on an annual basis in the terai, while the 2012 monsoon affected almost 80% of the population in our research area.

Flooding in the terai can be categorized into three types—kataan, pataan, and duban—based on the impact of the flood and how it affects the land. In short, kataan is the cutting of the land and is the most destructive; pataan is the deposition of sand onto arable land, making it infertile; and duban is the submersion of land, destroying household assets and killing crops if they remain submerged for several days. Duban was the most common type of flooding, with 96% of all households identifying being affected by it in the past five years. There is significant overlap between the other two types of flooding: 48% said that they had also been affected by kataan and 66% by pataan.

The flood of 2008 was due to the flooding of the Mohana River. In the memories of most respondents, this was the biggest flood that the area had seen in decades. The speed of the flood surprised the majority of villages, leaving them little time to prepare. Many households lost both their homes and livestock. At the time, the majority of houses constructed in the village were single-storied and made of mud. The houses and the grains stored within were easily destroyed by the quickly rising water. As this was just before the paddy harvesting season, many households also lost their paddy. Villagers had to leave most of their belongings behind and sought

higher ground on the Indian side. One elderly woman in Shivaratnapur described the 2008 flood as follows:

“Flood came in the morning at around 11 am. Then I went to the neighbor’s house (her husband’s brother’s sons). Three goats of that house drowned in the flood water. [The boat] came and took us to the Kosambaba (Indian side of the border, less than five hundred meters away from the village). When we reached there in Kosambaba it was already dark. We had nothing to eat. All of the kitchen utensils were lost; rice and clothes were also swept away. Next day I returned home. Flood had gone but all the land was covered with mud deposited by the flood. The mud was about knee high. All the fire woods had gone. Rice, wheat, flour everything had gone. The house floor was covered with mud and it was about knee high even inside the house.”

The 2008 flood was one of the most devastating in the area. Over 90% of households said their crops were affected, and over 60% of households reported that their house was either fully or partially destroyed. Though not to the same extent, households experience loss and damages on an almost yearly basis from flooding. The majority of households (66%) said that they experience flooding every year. The Mohana River and other small rivers in the area swell frequently in the rainy season. Comparing impact from the 2005–2010 time span (mostly capturing impacts from 2008 flood) with the 2011 monsoon, which was considered representative of the average amount of rainfall and flooding, the differences are large and significant. However, even though the 2011 monsoon was not severe, 30 % of households reported that their crops and land had been fully or partially affected. Interestingly, the 2012 survey was carried out following a severe monsoon that fell much later in the season than expected (late October) and therefore had a different impact. For example, crops were barely affected as the harvest season had been complete; however, almost 70% of households reported losing livestock.³

No matter the intensity of flooding, the

monsoon significantly reduces a household's mobility. During the rainy season, boat fare is set based on the water level. Therefore, as the water rises, transportation becomes physically and financially restrictive, limiting a household's ability to carry out daily livelihoods. Almost three-quarters of households in the study population said they had to change their routine because of difficulty in crossing the river during the 2011 monsoon, when the price of the river crossing quadrupled.

2. Study Population Characteristics

The quantitative survey captured household heads, 90% of whom were male. Of the female household heads, more than half (63%) reported being head of household on a temporary basis while their husbands worked outside the village. The remainder were widows. The majority of respondents were quite young, ranging between 18 and 29 years of age (see Figure N1).

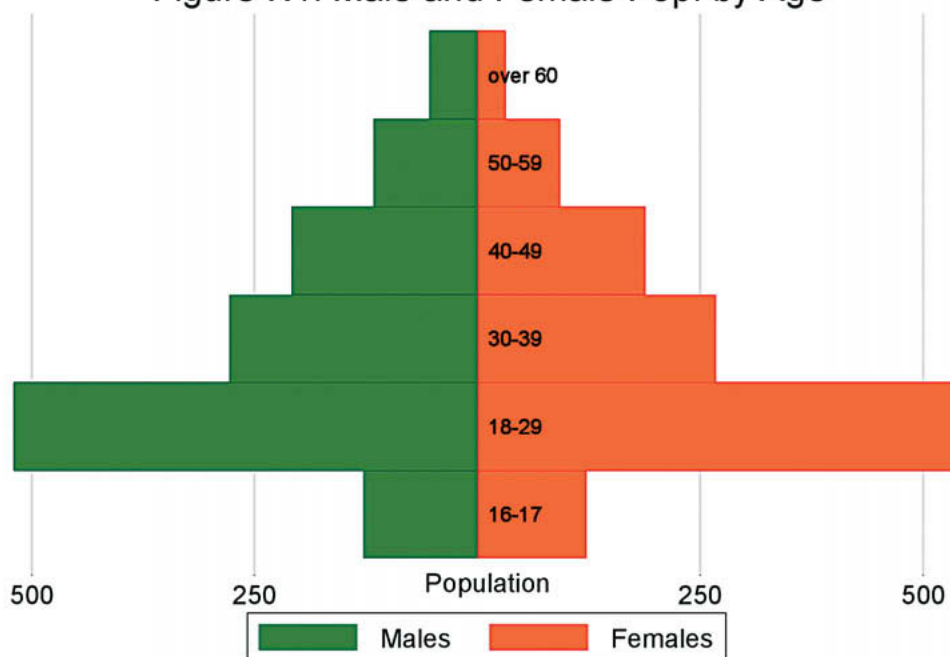
When it came to education, 24% of all household members over the age of 16 had no schooling, and 44% had either completed primary school or had some primary education. Males had significantly more education than females. Thirty percent of all female respondents had no

schooling; however, a significant proportion (25%) of females had some non-formal education, compared to only 7% of males. Literacy rates (being able to read one language) were 79% for men and 59% for women. Forty-three percent of all respondents could read at least three languages (including Nepali, Hindi, and English).

The majority of households in the area identified as Tharu (73%), the original inhabitants of the terai. The eradication of malaria in the 1960s brought a population influx from the hills, and these relative newcomers are known as *Pahadi*—literally meaning from the hills. Pahadi make up the minority in the area. In Nepal's system of social classification (region, caste, ethnicity, class) Pahadis are generally seen as higher; however, it is difficult to generalize where they stand relative to the original inhabitants of the terai—Tharu—given the complexity of the system.

Almost every household in the study population (99%) had some access to land. However, in many of the study villages, households did not actually hold a land certificate and therefore did not technically own the land they were living or working on (38% of households did not have an ownership certificate for their land). Land

Figure N1: Male and Female Pop. by Age



ownership was partly predicated on the type of land the community was built on. Many of the villages in our sample were settled on public land and therefore having a land certificate was not possible. This has a large impact on household tenure security as households without certificates are in danger of losing their land or having their land rights challenged in the future. Lack of land ownership also means that households might be less inclined to make long-term improvements if they are not sure their claim on the land is secure. In Mohanpur and Shivaratnapur, villagers have approached the government several times with the goal of acquiring land certificates for the land they occupy and use for agricultural purposes; however, a legally binding document has yet to appear.

Over half of the households in the study had access to a “marginal” amount of land—less than 15 kattha or half a hectare as defined by the Agriculture Census Survey (NSAC) in 2001. There were also a fair number of households (22%) who said they owned land outside of the village in addition to the land they owned in the village. This land was used for both agricultural purposes and for housing; the latter primarily for eventual relocation or to use during the flooding season. These were primarily the wealthiest households. The majority of households owned and worked their land or/and sharecropped on somebody else’s land, with only one-tenth of all households renting out their land to other households. However, almost one-third of households actually did both—worked their own land and sharecropped on someone else’s land. Land arrangements had to be diversified in order to spread out flood risk.

Housing consisted mainly of mud and wood structures (93%) with tile for roofing (62%). Half of all homes were two-story, and there was no significant difference in number of stories between houses that were closer to the river versus those farther away. The average house had approximately three rooms, with a range of 1–10 rooms. The majority of households used cement toilets, while 43% reported using the bush or river for defecation. Of those who had access to a cement toilet, 86% of them shared it with other households. Eighty percent of households used an ordinary hand pump for household water

access, with all but one of the remaining households using a raised hand pump. The former is privately owned and the latter is communal, but requiring less than a minute’s walking distance for the household. The prevailing fuel type was wood (88%), with a small proportion of households using bio gas (7%), cylinder gas (< 1%), and a mixed approach (4%).

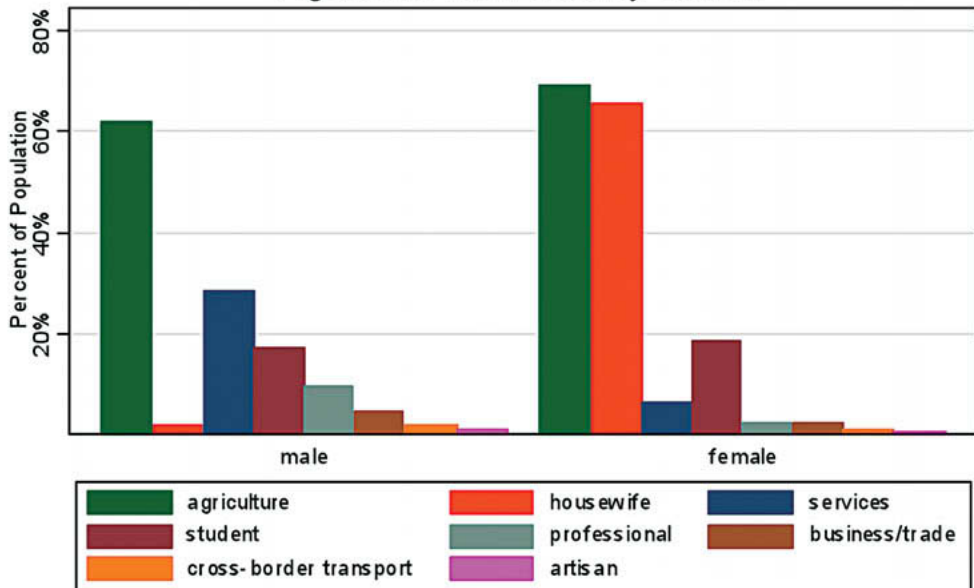
Bicycles and mobile phones were the most commonly owned assets in our sample, while less than 20% of all households had access to a computer or to the internet, a motorcycle, or a tractor. Only 4% of all households surveyed said they did not have access to any of the assets we mentioned. We also asked households about their livestock assets. Over half of all households owned small livestock (e.g., chickens, ducks, bullocks, and pigs), while less than 20% owned cows or water buffalo.

3. Livelihood Strategies

Households in the study population practiced a variety of livelihood strategies. The variety of livelihood strategies both across the population and within households is indicative of the role that livelihood diversification plays in spreading out household risk. For examples, in only 5% were all members participating in the same livelihood activity. Almost half of all households relied on at least three types of livelihood activities. Livelihoods were not only diversified at the household level, but individuals also frequently performed more than one activity. However, livelihood diversification requires a sufficient household size. Households without the necessary numbers to do multiple livelihood activities are less able to spread out risk and are therefore much more vulnerable to shocks.

Women were significantly less likely to participate in each individual livelihood activity (Figure N2) (except being a student or housewife); however, they were much more likely than men to engage in multiple livelihood activities. Though the majority of women identified themselves as “housewives,” many performed other work, with 60% of women carrying out at least two different livelihood activities, compared to only 38% of men.

Figure N2: Livelihood by Gender



Agriculture

Though the majority of households (89%) engaged in some agriculture, only 13% of those households reported practicing agriculture exclusively. The most common crops planted are paddy, wheat, potato, vegetables, and lentil. For most households, agricultural work is primarily for subsistence purposes; however, families that have access to more land produce more grains, and earn a monetary income from the sale of excess grains.

Primarily only wealthy households are able to hire wage laborers for planting and harvesting. Most households do not have enough household members to carry out all of their own planting

and harvesting and therefore rely on reciprocal help from their neighbors and family through the process of *madat* or *khanpin* (See Box N1). Both men and women, irrespective of their age, are involved in these practices.

Besides lack of land and manpower, lack of the necessary inputs for agricultural production limits a household's ability to produce beyond the subsistence level. For instance, households that do not own an engine pump for irrigation (69% of the sample) must hire or borrow one. A pair of bullocks is needed for plowing, but 47% of households reported owning zero or only one bullock. Seeds, pesticides, and fertilizer are expensive commodities. Some households take

Box N1: Khan-pin and Madat

Khan-pin and madat are common practices prevalent in the research villages. In the practice of khan-pin, villagers ask for help from their neighbors, and in return they invite them to have dinner or slaughter a goat in their honor. Sometimes, villagers might work for two or three days for free, and on the fourth day a feast is organized. In madat, households receiving the help do not necessarily provide a feast, but instead offer reciprocal help to the other households. Both practices are primarily used for harvesting paddy, wheat, house construction, or moving a house from one part of the village to another. This type of support is only practiced amongst close friends and family members, though not necessarily from the same village.

the risk of bringing in these inputs from the Indian side, where they are significantly cheaper. While moving small quantities of seeds and pesticides across the border is legal, carrying large quantities can result in confiscation of goods, harassment, abuse, or jail time. Bringing fertilizer over the border, in any quantity, is completely prohibited.

Many livelihood strategies center on securing adequate nutrition and a diversified diet. For instance, many members of the study population barter one crop for another to achieve dietary diversity. Cucumbers, gourds, and cauliflower grown on small plots adjacent to households are commonly bartered; few of these crops ever reach the market. Potatoes and rice are exchanged by some respondents, and barter takes place both within and between villages.

Other structural aspects contribute to the prevalence of the barter economy. The lack of markets near to villages means there is little incentive for growing cash crops, even though the flood plains near the river are suitable for large-scale production of items such as watermelon and cucumber. Similarly, the lack of a nearby sugar processing factory or efficient transportation means that few people plant sugar cane, although the climate is ideal, and sugar cane farms are prevalent just across the Indian border.

Cross-border Trade

Though less than 5% of all households reported carrying out cross-border trade in the

quantitative survey, the activity was mentioned frequently in the qualitative work. This is not surprising considering it is technically illegal, and therefore households might be reticent to admit their involvement in the more formal survey interview.

Goods in the Indian markets across the border are significantly cheaper than in Nepal, and many respondents cross the border to purchase goods for both personal consumption and resale. This risky livelihood strategy exposes respondents to harassment and potential extortion by local officials. There is no customs office at the border, making it impossible to pay customs duties without taking goods to Dhangadi, and hence every non-registered transport of goods across the border is technically illegal.⁴ Although there are no customs officials, both Indian and Nepalese police patrol the border looking for illegal supplies of goods, and more than 80% of households in the study population reported household members being stopped by the SSB in the past year (Table N1).

Nearly all households in the study population are engaged cross-border trade in one form or another, with important differences by gender. For example, in Shivaratnapur, a village close to the Indian bazaar of Chandan Chauki, Nepali traders pay local women approximately five rupees per kilogram of merchandise to smuggle goods from the Indian side. As shown in the table above, women are searched by the SSB as often as men, but usually just have the goods

Table N1: What Happened to Households When Stopped by SSB, by Gender

	Males		Females	
	Freq.	Percent	Freq.	Percent
only searched	473	54.12	413	70.36
physically abused	124	14.19	3	0.51
forced labor	130	14.87	6	1.02
confiscated goods	51	5.84	7	1.19
took money, no abuse	66	7.55	12	2.04
Nothing	30	3.43	146	24.87
Total	874	100	587	100

confiscated, while men can be physically abused or jailed. Anecdotal evidence indicates that the bigger traders provide a monthly bribe to the Nepalese border police in order to allow them to continue with their trade. If word spreads of more lackadaisical border police being on duty (i.e., those who accept bribes more easily), villagers tend to bring in more goods from the market and demand for goods from cross-border traders decreases. One of the main risks voiced by villagers was that if they are caught, not only are their goods confiscated, but also their transport is taken as well (ox cart, bicycle, tractor, motorcycle, bullocks) and therefore risk-averse households or those with limited financial capital to buy back these goods tend to shy away from the potentially lucrative cross-border industry (Box N2).

4. Migration

Migration was an integral component of life on the border, and leaving the village in search of better livelihood opportunities was very

common across the study population. Over 75% of households had at least one household member who had migrated for employment, and one-third of all household members migrated within the past year.

Who Migrates?

Decisions regarding migration take place at both the household and community level. Overall, migration is shown to bring positive economic outcomes to sending households. How does an individual *within his or her own household* make a decision of why he (and it is predominately male) should migrate over his brothers, sisters, or parents? Within the household, the choice of who will migrate depends on several factors. A member of the household was significantly more likely to migrate compared to other family members if male, generally more educated than the rest of the family, and married. The only exception to the married criteria was in the service sector, where *single* young males were more likely to migrate compared to their married brothers. This is likely correlated to the

Box N2: Cross Border Trade

“In the middle of the night, I heard people carrying sacks (bora). In the morning I knew that all these local boys were hired to bring fertilizers from Indian market. And as usual they were doing it in the middle of the night in order to be safe from the SSB. One villager told me that these boys will get 50 rupees per sack for bringing them from the Indian side of the border, and some of them will bring up to four sacks (200 kilograms) at a time. In the village there are four to five people who bring goods from India. Many bring goods in their dallap (ox cart);, however the use of a dallap raises the risk of getting arrested, and if arrested it can become very costly. A dallap and two bullocks cost more than forty thousand [rupees] and when villagers are arrested they also lose all the goods along with the dallap. So a cycle or dallap is only used when bringing a large quantity of hardware (construction materials such as cement, rod, bolts etc.). For safety, the tradesman does not bring the goods himself and informs the youth to run away leaving everything (both cycle and goods) if they notice a SSB when crossing the border. The main tradesman then has to bear the cost of the confiscated goods, including the transport. In the past year three dallaps have been lost to the SSB.

Fertilizer is one of the main commodities brought over the border. In India the fertilizer is distributed by the government at a subsidized price. The main tradesmen has a contact person in India who then bribes the local government official to distribute a surplus of fertilizer to the farmers and then purchase it back at a slightly higher price, but still lower than what one would pay in Nepal. It costs around 800 rupees per sack in India, an extra 50 to transport it, and it can be resold in Nepal for 1,050, yielding a 200 rupees’ net profit per sack.”

Source: Interview notes

fact that most individuals who work in the service sector migrate to India, returning only once a year at most, and hence are unlikely to have families within the villages.

Half of the male population of the sample migrated at some point in the year compared to only 22% of the women. The average age for a migrant was 30 or 31, but ranged from 16 years of age to 70, for both men and women. After reaching the peak age for migration, at 31, migration tended to fall off progressively with increased age. The average level of education for a migrant was at least some primary school, but individuals who migrated tended to be slightly but significantly more educated as well as more likely to be able to read in at least one language compared to their non-migrating counterparts.

Within the community, males from households of average wealth were the most likely to migrate. A household with migrants tended to fall in the middle quartile but was slightly, yet significantly, wealthier than a non-migrant household. However, the number of migrants per household was not relevant to household wealth, which was simply correlated with having at least one migrant, and did not increase with more migrants in the household.

The ability to migrate was highly correlated with the makeup of the household. A lack of able-bodied men (under the age of 70, male, and not disabled) within the household was a huge impediment to migration. One respondent, in a family of six (his father, himself, his wife, two younger brothers in school, and a little son) said that “one [either himself or his father] has to stay home” to take care of the family (Interview notes). Households with only one able-bodied man were only two-thirds as likely to have a member of their household migrate as those with at least three able-bodied men.

Ethnicity played a larger role in determining whether a household had someone migrate. In the Pahadi communities, both young and middle-aged men go to Indian cities such as Punjab, Mumbai, and Delhi. While long-distance migration is common among the Pahadi, youths of the Tharu community will go farther afield (i.e., India), whereas middle-aged

men go to nearby cities such as Dhangadhi.

There is also an important distinction between Pahadi and Tharu women. While Tharu women are more likely to seek work in a neighboring town or even in India, Pahadi women appear to be reluctant to leave the village for work.

Where to Migrate?

The only external migration (e.g., out of Nepal) among the study population was to India. When asked why people did not venture further, respondents explained that going to work abroad (defined as other than India) required a large amount of savings, proper documentation, and an active social network for accessing accurate information. Migration to India to work in the informal sector requires virtually no formal documents, and migration to either India or within Nepal requires small amounts of financial capital. These latter forms of migration depend mostly on having the appropriate social ties.

Households were very mobile, with the primary destination (50% of households) being a nearby economic center, with an additional quarter going to India and one quarter elsewhere within Nepal. Kathmandu was the destination for only 2% of the sample, and individuals migrating to the capital tended to be young and wealthy male professionals. Women tended to stay closer to home; for example, 35% of females said they had worked at the nearest market or village, compared to 12% of the males. In contrast, migration to India comprised only 10% of women compared to 27% of men. Individuals migrating to India also tended to be younger than those migrating to other destinations. Individuals with only some primary education tended to favor India as their destination; many of these males had dropped out of school to work in India, some out of family necessity and others of their own volition. In contrast, half of those who had completed primary school sought work in the nearest town. Individuals from poorer households were more likely to migrate to India (21% of poorest quartile of respondents compared to 2% of the wealthiest quartile of respondents). Those from wealthier households predominately sought work outside their village within Nepal or at the nearest economic center.

Duration of migration was also correlated with

destination. Most migration to India and Kathmandu was long term: respondents reported returning home twice a year or less. Short-term migration, on the other hand, was to more nearby urban centers, with respondents returning home on a weekly or monthly basis.

Why Migrate?

Marginal households are significantly more likely to have at least one member of the household migrate. Migrants from marginal households tend to go farther from home and to stay away for longer periods of time. Marginal households, on average, are significantly more likely to have household members who are unemployed or working as wage labor employees, and who are significantly less likely to be salaried. They, by definition, are landless (have less than 11 katha or .7 hectares of land) and do not have the necessary education to seek professional employment. Hence, migration, especially long term and long distance, is often the *only* option for employment for poor households, as opposed to the *best* alternative.

The decision to migrate often happens following an unexpected shock to the household that necessitates additional (and rapidly available) income. For young people there is often no choice between migration and continuation of studies. One man said, “*Last year, I wanted to send my little son to the school. But the admission fee was Rs 900, and I didn’t have that money so I couldn’t send him. Then I told him ‘I couldn’t send you to school, now you go to India and work’*” (Interview notes). In another household, the illness of the head of the household forced the oldest son to abandon his studies in order to make money to repay the loan used to cover medical care. He migrated to India in search of work (Interview notes). In other cases, those who fail to complete school may opt to migrate. As described in the field notes: “*One boy stopped his education when he failed in School Leaving Certificate (SLC). His father was asking him to continue his education but he turned his deaf ear to them ... the boy had gone to India*” (Interview notes).

Half of all households with at least one migrant reported receiving support (either money or goods) from the migrating household member. This support primarily came from migrants

working in nearby urban centers/villages or India. However, households receiving support from India were much more likely to receive cash as opposed to goods.

Marginal households report that the option of migration for one or more household members significantly improves the household economic situation and lessens vulnerability to sudden shocks. One man described it as “*We have been managing by the salt and water of India. India ko nun pani le gariyeko chha (meaning: making our living by working in India)*” (Interview notes). This distinction was also evident in the quantitative data. Marginal households who had at least one migrant in the family were significantly wealthier than marginal households without a migrant. The same correlation was not found amongst non-marginal households, whose wealth did not appear to rely on migration.

The qualitative data indicate that most migrants chose a migration destination based on the personal experiences or experiences of friends or family members. In other words, they choose destinations for which they have information. Even with the benefit of these social networks, however, migration was seen as a risky livelihood strategy. One respondent described it as “*The migrant’s life ... is like water on a taro’s leaf, not stable, not certain and can fall anytime!*” (Interview notes). Periodic shocks, such as crop failures in India, or idiosyncratic shocks, such as illness or injury, can have a big impact when a household is relying primarily on income from migrants. For instance, apple orchards in India experienced a loss in 2011, with negative ramifications for sending households within the study population. The lack of access to financial services for many migrants means that they must carry all of their earnings when they return home. Some respondents reported having been robbed while returning home and having little money to show for their months of work. Many try to spread out the risk by sending portions of their money back to the village with returning friends.

5. Social Capital

As in all societies, social capital is central to the daily lives of the study population. In particular, turning to a social network allowed people to

cope with shocks such as medical emergency and to support livelihood strategies that required more human capital than was readily available. For instance, households who could not afford to hire wage laborers depended on their family, friends, and neighbors to provide labor for planting. Social capital was particularly important for the poorer households in the study population.

The practice of *khan-pin* or *madat* was highly prevalent in the villages (see Box N1). Almost 90% of all households interviewed had one member report participating in one of these two practices. These types of exchanges usually occur only between good friends and family members. One respondent reported only asking for help of their “*Manmilne friends* (close friends). *Others may not come for help saying that they are busy*” (Interview notes). Besides friends, households also rely heavily on family. One boy told us that *gatiyaar* (paternal male relatives) work together on the planting for every household (Interview notes). Households who had greater wealth were not as dependent on this form of social support because they were able to hire wage labor when necessary.

Poorer households in the village rely heavily on their families. A man whose wife eloped with another man did not have the labor power to plant seeds, so his brothers stepped in to plant his rice seedlings (Interview notes). At times, wealthier households may deliberately pay poorer family members as laborers in order to help these relatives. Poorer households within a community may also be selected when jobs are available, as explained by a respondent who was given a job at the local school because of her family’s relatively poorer position in the town (Interview notes).

Besides the important role of social capital in everyday life, social capital also proved to be vital in helping households prepare for flooding, manage its impact, and cope with the aftermath. As with the more routine forms of social support, assistance around floods served to mitigate shock, supplement labor, and support vulnerable households.

Assistance with the arduous physical task of

home construction or improvement is a particularly important element of social capital. Before the flood season, households may need to move or construct a new house; generally they rely on friends and family to help without expecting payment. Shifting a house is a difficult task that usually takes two weeks and many individuals. If the proper support does not exist in the village, households that have relatives in nearby villages often request their assistance. Reciprocity is extremely important. One man described the relationship between himself and a friend in the village he had known since a young age: “*I come when he needs and he will come when I have to construct a new house*” (Interview notes). Other times, when friends or family assist in construction, they are treated to a special meal, possibly a slaughtered goat.

Much of the reciprocal support is on ethnic lines. Interestingly, within the Pahadi community, there is less of a culture of assistance and reciprocity in regards to house construction when compared to Tharu households, and most Pahadi households hire wage laborers when they need to engage in construction projects. While 87% of Tharu households in the study population said they had participated in either *khan-pin* or *madat* in the past year, only 46% of Pahadi households reported the same.

Other characteristics of the Tharu community point to higher levels of social capital than their Pahadi counterparts. For example, a common practice amongst Tharu women, and some men, is to go fishing as a large group. While some women told us they do it because “*It is fun to go in a group*” (Interview notes), others explained that catching fish is easier in a group. The total catch is then distributed evenly among the women.

Community support is very important during an actual flood event. Households who have houses at areas of higher elevation help others in their community as the water approaches, often by shifting grains and other assets to higher locations. Neighbors with two-story houses lend space to others to store goods during the flooding, and families whose houses were submerged may cook food and sleep at the homes of more fortunate neighbors. Households

that are heavily affected may also receive replacement grain and assets that have been lost in the floods (Interview notes).

6. NGO Activities, Presence, and Perception

In 2008, several NGOs began carrying out DRR activities in the area following the significant destruction caused by the 2008 flood, though not in all of the research villages. Villages received support from these organizations, with activities focusing on flood preparedness and post-flood relief. The preparedness activities involved education on building physical barriers (spurs) to prevent river cutting, technical advice, some financial assistance, the establishment of a community-based early warning system, and the provision of evacuation and search and rescue training and equipment (including a boat and lifejackets). Households within the study population responded positively to these efforts, which were tested in November 2012 when the evacuation preparedness system was put into full and successful effect.

While some villages were supported by NGOs and national organizations to construct spurs, others had to rely on money allocated from the government. In the communities that had a spur or gabion, over 90% of households in the community reported participating in the construction. Households that lived in a community that had constructed a spur or gabion in the past three years were significantly less likely to report the destruction of their house, destruction of their land, and the loss of grain stores. However, many respondents explained that such funds were rarely forthcoming, as bribes and special connections with government agencies were allegedly prerequisites for most government-funded or supported programming. Villages that had someone with the right political and financial capital were more likely to receive government support, with others left to fend for themselves. This phenomenon is due in part to the current state of government in Kailali, where a lack of local elections means there is little accountability or recourse for civilians.

As part of their prevention programming, the leading NGO in the area helped set up Disaster Management Committees (DMC) in some of the villages following the 2008 flood. Prior to the NGOs, DMCs did not exist in the community. However, Tharu communities did have a *Bhalmansa* (an elected community leader) who carried out some of the same activities related to flooding. The DMC is meant to help organize households in the village to build spurs or gabions on the river to prevent river cutting, sedimentation, and submersion during flooding, prepare evacuation plans, warn community members of coming floods, identify households with pregnant women or the elderly, and conduct search and rescue operations. However, not all communities have a DMC even though they lie directly on the river. In the communities that did have a DMC, participation or membership ranged from 100% of the community to less than 10%. Having a DMC and being in a place where the majority of the community participates appears to make a stark difference in the levels of flood preparedness and organization within a village. Households that reported taking part in a DMC were significantly less likely to report losses to the grain stores, crops, livestock, or destruction of their house or land.

Both construction of spurs and gabions (either with or without NGO support) and the establishment of DMCs (always with NGO support) unequivocally help reduce household vulnerability and losses due to flooding. However, as noted before, not all communities have taken up these DRR efforts. Homogeneity in the community, whether in regards to ethnicity, wealth, distance to river, or impact from flooding were all significant predictors of whether the community took up a construction project or joined a DMC. The same story line was repeated in the ethnographic work. Given that community-level mitigation projects require the majority of the community to participate, villages where households were unequally affected by the flooding or did not have the necessary manpower to take up these activities did not have them. Similarly, the greater the discrepancy in wealth, and hence in households' ability to recover, the less likely the community as a whole was to build a spur or gabion or take

part in a DMC. Though all of our villages were supported by NGOs, the level of uptake was significantly different from village to village based on these variables.

Ethnicity of the household mattered in regards to whether they joined a DMC, but there was no distinction in participants in spur construction by ethnicity. Not a single Pahadi household in our sample was part of a DMC. Household size was also correlated with participation in a DMC: the larger the households, the more likely one member of the household was part of a DMC (within the communities that had them). This is not just a result of better odds, but one of capacity. This is further reflected in the fact that while poorer communities were significantly more likely to take part in these activities, within the community it was the wealthy households that were significantly more likely to take part in construction or a spur or gabion and reported taking part in a DMC. This reflects the issue of capacity, and the poorest of the poor often have many other demands on their time.

Following the 2008 flood, many households in the study population had lost the entirety of their belongings. NGOs and the Nepalese government provided relief materials to the affected areas, with distribution supported by the VDCs.

Households that had lost their homes were given monetary compensation. However, when this type of support was given to only a few households in the village, it was decided by the villagers that the aid should instead be equally distributed amongst all households in the village. While some respondents applauded this effort, others claimed that it resulted in a more unfair distribution. Many respondents felt that the relief distribution was unfair and politicized.

Almost all households reported receiving aid following the 2008 flood. The most common form of aid was either food relief or seeds, some of which were provided at the wrong time and consumed (Table N2). Most households said they were satisfied with the aid (60%); however, 20% of households said it was not enough, 5% said it was the wrong kind of assistance, and 17% said that the method of distribution was poor or inappropriate. When looking at household responses to the different types of aid, households reported being the least satisfied with financial assistance, reporting that it was “not enough.” Respondents felt the distribution of both seeds and food was poor. Timing of relief was cited as a major problem: only 5% of households had received support within three months of the November 2012 monsoon, even though almost 80% of households were severely affected. ■

Table N2: Type of Assistance

	<i>food relief</i>	<i>shelter assistance</i>	<i>health services</i>	<i>seeds</i>	<i>tools</i>	<i>financial assistance</i>	<i>education</i>	<i>none</i>
Percentage of households	97%	15%	45%	90%	25%	11%	12%	1%

ANALYSIS AND DISCUSSION

In the following section we explore household mitigation and coping strategies in the case of a flood and how household characteristics and strategies are correlated with resilience or vulnerability to flooding.

1. Household Mitigation and Coping Strategies

In order to better understand how households responded to flooding, we asked them about coping and mitigating strategies. The most common strategy was hanging a *khatiyaa* (a hammock for storing assets), planting bamboo, or taking out a loan, followed by reducing household food expenditure and building a second story on the home (Table N3). Some of these activities were done on an individual household basis, such as hanging a *khatiyaa*, while others were community-level projects or strategies, such as erecting a physical barrier or participating in a DMC.

To note, households used the above coping strategies at various times and in response to various types of shocks (such as a medical emergency) or, in the case of the financial strategies, to afford expenses such as weddings or

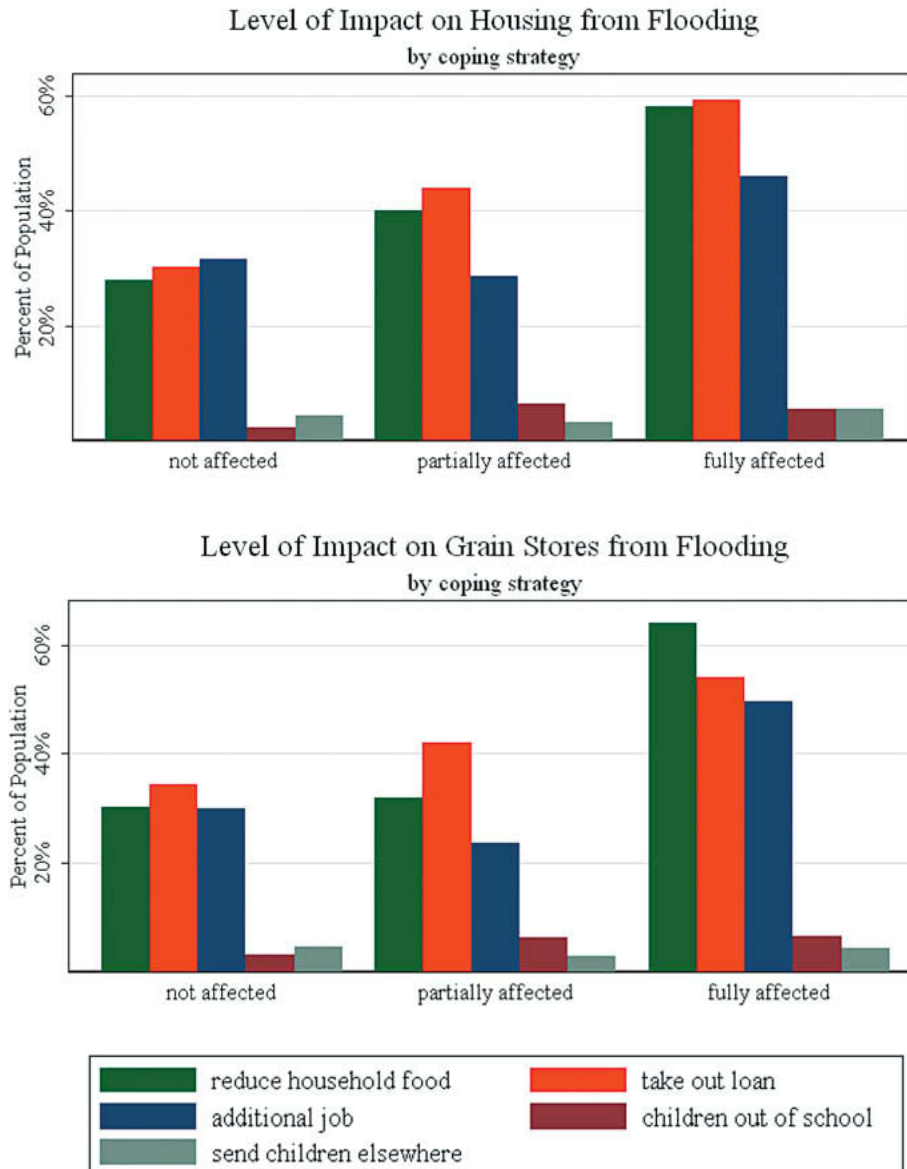
ceremonies. Households that were “fully” affected by flooding (crops, land, house, or grain stores) were significantly more likely to use the above coping strategies. This was also true, though to a lesser degree, for households that reported being partially affected by flooding. In most cases, taking out a loan was the most common choice, with over 50% of households “fully affected” reporting taking out a loan due to flooding. The only exception was if grain stores were affected, then over 60% of households said they also had to reduce household consumption, given that the grains were a source of food. Often these strategies were taken in conjunction with each other, such as taking a child out of school and sending them to live or work elsewhere, and reducing household food and searching for an additional job.

Taking out a loan was the most common strategy used by households to respond to the damage caused by flooding. The source of the loan differed based on the degree of damage to the house.⁵ Unaffected households leaned the most heavily on savings groups for loans (40% of all loans). That percentage jumped to 50% for households whose house was partially affected,

Table N3: Household Coping Strategies (multiple responses possible)

<i>Strategy</i>	<i>mean</i>	<i>Freq</i>
household members searched for additional job	31%	198
children removed from school	5%	32
household food reduced	38%	243
children sent to work elsewhere	4%	25
take out a loan	40%	256
built a second story	35%	224
planted bamboo/tree/bush	46%	294
hung <i>khatiyaa</i>	50%	320
joined/part of DMC	27%	172
made a spur/gabion	27%	172
shifted your house to another part of the village	16%	102
Nothing	11%	70

Figure N3: Level of Impact from Flooding on Housing and Grain Stores, by Coping Strategy



and to 60% for those reporting their house was fully affected (Figure N3). Less reliance was placed on family and friends as the severity of flooding increased, with the percentage of households “fully affected” by flooding taking loans from family and friends falling from 20 to 10%. This was likely due to the covariate nature of flooding: because floods affect an entire community, the availability of loans available from family, friends, and neighbors dwindles. Households who were heavily affected were also less likely to pay back their loan or provide a loan to someone else.

All three of the community-level strategies (joining a DMC, plating bamboo/tree/bush, making a spur or gabion) were negatively and significantly correlated to distance from the river: the closer a household lived to the river compared to other households in the community, the more likely they were to take part in one of these activities. The same was true of whole communities. Villages that on the whole were closer to the river and their households more homogenous in regards to distance to the river were significantly more likely to have the majority of their community

members take part in a DMC or plant bamboo, a tree, or a bush.

The impact of community-level strategies was significant. Households that reported not carrying out any of these mitigating strategies were significantly more likely to have their land “fully affected” after the 2011 monsoon season. Households who planted bamboo, joined a DMC, or made a spur or gabion were significantly more likely to have their land only “partially” affected compared to “fully” affected (Figure N4). In this regard, these three community-level strategies clearly mitigated floods for the communities that utilized them.

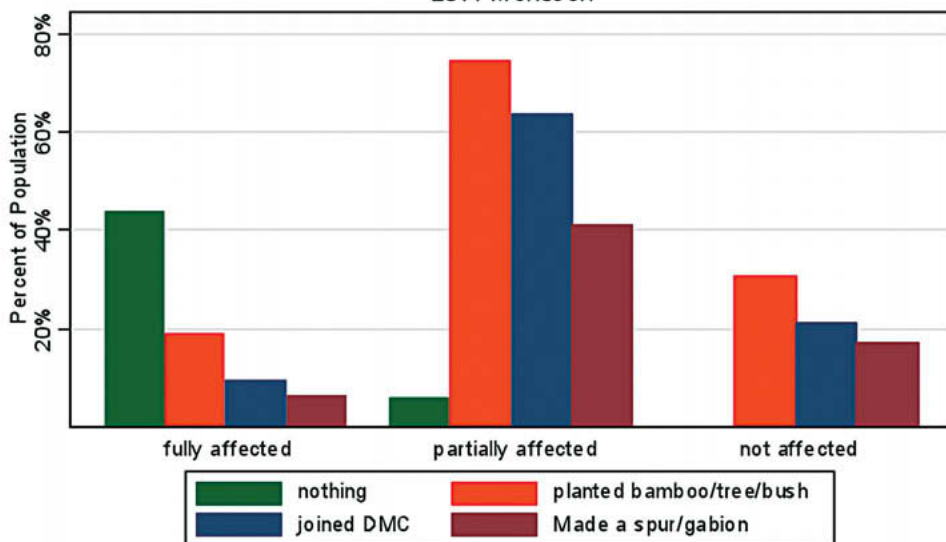
However, we found evidence that community diversity (in wealth, ethnicity, distance to river, and extent of flooding impacts) hinders participation in community-level mitigation strategies. For example, a respondent who was asked why the community had not addressed river cutting responded that the river was only cutting into the land of a few households. Lack of interest from the non-affected households meant that no community-wide action was taken. Observation at a flood mitigation community meeting indicated that households at higher elevations appeared to be the most reluctant to engage in broader flood mitigation efforts (Interview notes).

More heterogeneous communities, on the other hand, were significantly more likely to share their aid within the village following the 2008 monsoon. Wealthier households that were farther from the river were significantly more likely to say they split their assistance with other members of their village. Therefore, communities that were more unequally affected by flooding had a greater capacity for sharing aid *but* a significantly smaller probability of working on community-level flood prevention projects. In other words, post-flood assistance was more readily forthcoming in diverse villages than pre-flood prevention activities.

2. Household Vulnerability and Resilience to Flooding

The degree to which a respondent’s house, crops, and land were affected was highly correlated with distance to the river during both heavy and light flood years (Figure N5). However, the relevance of distance to the river was far more important during the 2011 monsoon. During both the 2008 and 2012 monsoon, the majority of households were affected, regardless of distance. However, for most communities in the area, distance from the river is a relative concept. Most households in the study population live extremely close to the river: half of all respondents reporting living within 10 minutes walking distance and 12% living within

Figure N4: Mitigating Strategies by Impact on Land
2011 Monsoon



one or two minutes from the river. In some communities, the majority of households resided within one minute of the river.⁶ One-third of all households in the study population experienced a decrease in distance between their home and the river over the course of the 2011 monsoon season. All communities had some households that were closer to the river after 2011, ranging from 5% of all households in the community to 60%.

Wealth

Not surprisingly, greater household wealth was

consistently correlated with less loss of household assets (Figure N6). Greater wealth meant households had the necessary means to minimize the impact of flooding and better manage risk. In addition, wealth also translated to overall lower vulnerability to flooding, as households that were better off were also significantly more likely to live farther from the river. However, the importance of wealth was most pronounced for households that lived within 15 minutes of the river.

Figure N5: Affected by Flooding by Minutes to River
Monsoon 2011

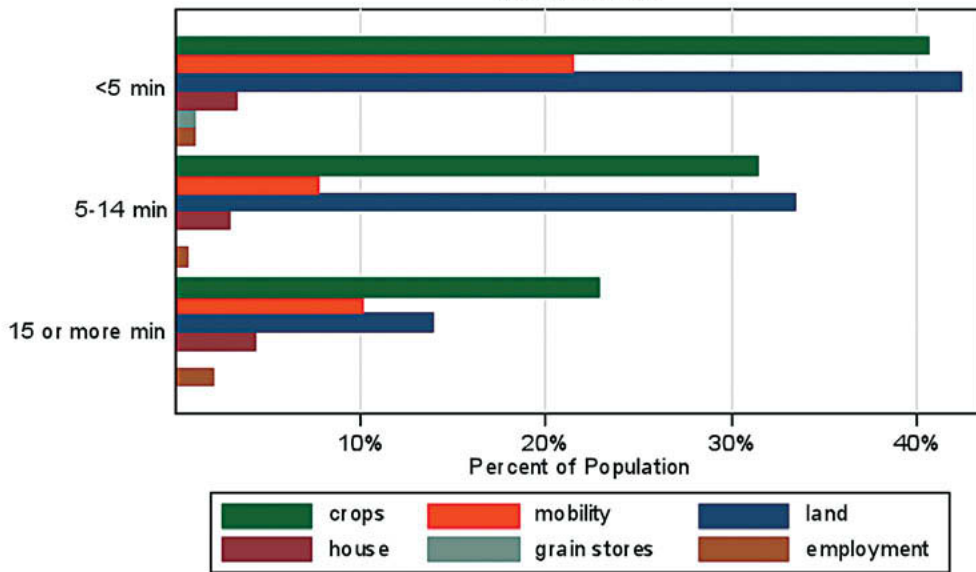
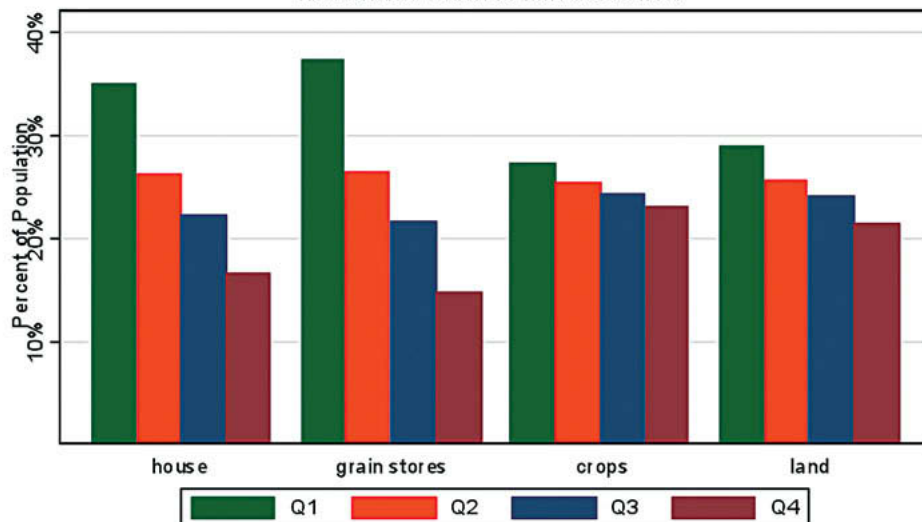


Figure N6: Affected due to Flooding (2005-2011), by Wealth Quartiles
households within 15 minutes to river



Few households were not affected by flooding in some way over the course of the recall period (2008 to 2012) and therefore most utilized some form of coping and mitigation strategies. Greater wealth, however, meant that households were significantly less likely to engage in coping strategies that might have increased their vulnerability in the long run. Households that fell into the bottom 25th percentile of wealth and whose house or grain stores were affected were more likely to reduce future human capital by sending their children to work or live elsewhere, take their children out of school, or look for additional cash either via a loan or searching for another job (Figure N7).

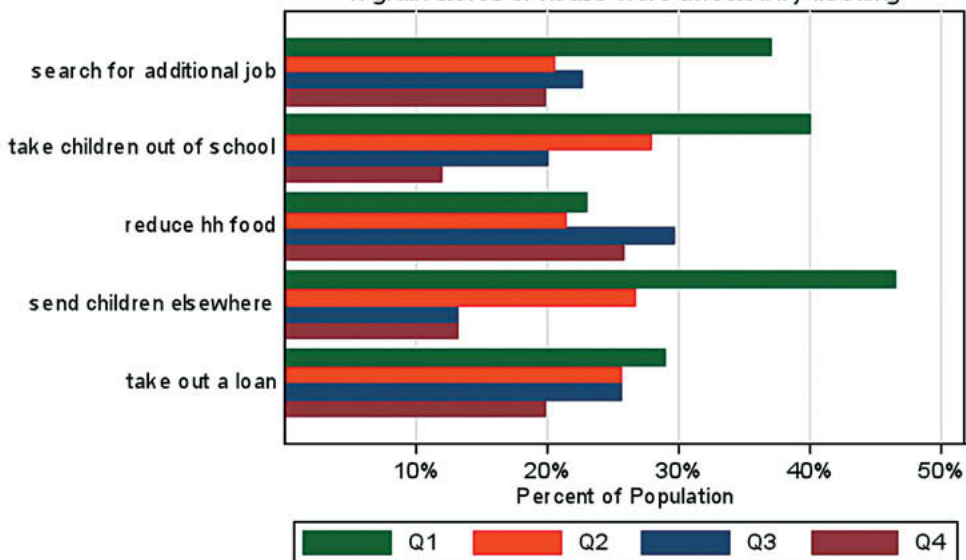
Consumption reduction, on the other hand, was more likely done by wealthier households if they had been affected by flooding. Households in the bottom quartiles that were affected by flooding had less freedom or capacity to reduce food, as they were likely already at their minimum consumption level and therefore had to utilize more extreme coping measures.

Poorer households on the whole were more likely to take out a loan in non-flood periods, but significantly *less* likely to seek a loan when affected by flooding. One individual reported, “*I don’t have any source of income and people will give loans only to those who have some source of income and can pay their money back*” (Interview notes).

Potential lenders—commercial or otherwise—were unlikely to take the risk on poorer households, especially those who were flood-affected. The source of loan also differed by wealth and flood impact. Wealthier flood-affected households were more likely to rely on a money lender, merchant, or community forest group for a loan, while poorer households were more likely to rely on a landlord, employer, or savings group. While we did not inquire about the amount of the loan, money lenders and merchants are generally able to provide larger loans than friends, family, or saving groups. The ability to access a sufficient lump sum is important for recovery.

Households also engaged in mitigation strategies that could potentially reduce the impact of flooding prior to the event. Wealthier households were both significantly more likely to be able to afford to build a second story on their house *and* to report engaging in no mitigation strategies. There was no difference in regards to wealth status and whether or not a household hung a khatiyaa or shifted their house to another part of the village. Interestingly, although overall poorer households were more likely to participate in community-level mitigation strategies—planting bamboo, joining a DMC, or making a spur or gabion—*within* the villages it was the wealthier households that were more likely to participate in

Figure N7: Coping Strategy by Wealth if grain stores or house were affected by flooding



such activities. In other words, poorer communities were more likely to take up these activities, but within those communities households who had greater wealth were more likely to take part. This finding was confirmed in the qualitative work as well. Poorer households often had difficulty sparing manpower to participate in the community activities.

Given the importance of increased wealth to resilience to the impacts of flooding, we investigated the household characteristics correlated with these higher wealth levels. We identified five main factors: i) whether the household had at least one household member migrating; ii) the degree to which a household could diversify its livelihoods; iii) access to land; iv) agricultural inputs; and v) household composition.

Firstly, households who had at least one migrant in the family were significantly wealthier. The impact of migration on wealth was the largest for marginal households. Though households in the bottom wealth quartile made up the largest proportion of migrants, migration allowed for an additional external income, making them significantly more likely to build a second story, reduce food consumption (a more easily reversible strategy than adjustments to human capital), or live farther from the river. In other words, if they had a migrant they ended up being significantly less likely to have their house, grain stores, or land affected by flooding, even when controlling for wealth and distance to river. Though migration has its risk and uncertainties, it allows households who are generally marginalized to increase their income, use more easily reversible coping strategies, and increase overall resilience to flooding.

Secondly, livelihood diversification was significantly correlated with greater wealth, allowing households to better manage risk. The more different types of livelihood activities a household took part in, the better off they were, both overall and within a community and controlling for the number of household members. More so, households in the bottom quartile and middle quartiles benefited more from taking part in multiple livelihoods than those in the top quartile. However, the data do not indicate the same benefit on wealth from

income diversification for households that did not have a single member involved in agricultural work. Households in our study site, even if working on less than 15 katha of land and therefore technically landless, still benefited from livelihood diversification activities only if they had other sources of income on top of agriculture.

Thirdly, given this reliance on agriculture for income, land ownership was highly correlated with increased wealth. The correlation likely goes in both directions, as when households acquire more wealth they invest it in additional land. Fourthly, besides land, agricultural inputs such as a dallap, tractor, and engine or pump for irrigation were strongly correlated with not just increased wealth, but also greater food security (more months of grain) and a more diversified livelihood portfolio. Households that do not have these inputs have to rely on physical labor, which diverts them from pursuing other supplementary livelihoods. It also requires additional capital. Households that do not own an engine or pump for irrigation have to rent it from a neighbor.

Fifthly, household composition was also closely related to household vulnerability. Households tended to be wealthier if they were Tharu, had a smaller dependency ratio, had a male household head, and/or had a household head with education beyond the primary level. Having a sufficient number of able-bodied working age adults (which impacts the dependency ratio) was found to be particularly and significantly important for boosting wealth.

Social Capital

Overall, higher wealth was correlated with households utilizing fewer negative coping strategies, reporting fewer effects from flooding, and living a greater distance from the river. Social capital played a similarly important role in helping households be better prepared for flooding as well as recover from its impact. When asked who helped recover household losses, the majority of households said family members living inside the village (77%), followed by help from a neighbor (23%) (Table N4). However, the ability to access and use social capital depends on proximity to the support (proxied by whether a household was originally

from the village or district in which they reside) and sense of community (proxied by whether the household is an ethnic minority in the village and the overall ethnic distribution in the village). The effectiveness of the social capital is predicated on whether the shock was idiosyncratic or covariate across the district.

Households that had a head of household who was born in the village or other village in Kailali were significantly less likely to have their house, crops, or land affected in the 2011 monsoon season. In other words, people with roots in the village had higher levels of social capital that had a preventive effect on the impacts of flooding. This was true for low-intensity flooding, but this same effect was not present for more intense flooding, as the impact was covariate and therefore affected the whole village, making it less likely that a household had friends, family, or neighbors that were in a position to help recover from the damage.

Most households relied on friends and family to help with rebuilding or fixing their houses in preparation for or following the monsoon season. Similarly, when floods did occur, many households counted on the help of neighbors to protect their home and grain stores. Therefore, households who had originally come from another district or country were less likely to have

that support. The social net in this regard appeared to extend beyond the village, but not past the general vicinity within the district, with households calling upon friends and family in neighboring villages for assistance. In regards to crops, land, and house, households that were not from the village, but came from the district (Kailali) were not affected significantly differently during the 2011 monsoon than households that were born in the village. This effect remained even when controlling for wealth.

The majority ethnicity in most villages was Tharu, with only a couple of exceptions. Recovery from flood damage was determined to be closely related to whether a household was part of the majority ethnicity in a village: 0% of households that represented an ethnicity making up less than 10% of the village recovered their losses. Just as with a household's village of origin, ethnic majority households were significantly less likely to have their house or grain stores affected. Within the villages, ethnic majority households, controlling for wealth, were significantly more likely to have shifted their house to another part of the village with the help of family, friends, and neighbors. Minority households were also significantly less likely than households from the ethnic majority to feel confident that in the future someone from the community would help them in the event of a shock (Table N5). ■

Table N4: Who helped you recover your losses following the 2012 monsoon?

	<i>percent</i>	<i>freq</i>
help from a neighbor	23%	21
help from family living in the village	77%	70
help from family not living in the village	15%	14
help from non-family living in the village	10%	9
help from non-family living outside the village	4%	4
DMC	2%	2
NGO	2%	2

Table N5: How confident are you that if you experienced a shock someone in the community would help you recover?

	<i>Majority (>50 %)</i>	<i>Minority (<50 %)</i>	<i>Minority (<10%)</i>
not confident	5%	8%	10%
somewhat confident	36%	36%	60%
very confident	58%	56%	30%

CONCLUSION AND RECOMMENDATIONS

DRR has entered the mainstream dialogue in recent years, and Nepal's particular confluence of challenges has garnered concern and increased international funding and programs.

Unfortunately, much of the attention and resources thus far has been devoted to technical capacity and scenario planning, a scientific/technology-based approach to disaster management that remains all too typical. As UN-HABITAT's "Nepal and Natural Disasters" report (2003) and other UN and Nepali government documents have pointed out, there is actually no shortage of risk analysis on many of the region's hazards. Likewise, there appears to be no shortage of international partnerships, meetings, and web-based information aimed at reducing disaster risk. But actual risk *reduction* requires further efforts and a different—and increased—emphasis on vulnerabilities, exposure, rights, and livelihoods.

The focus of our research is on a particularly marginalized area of Nepal—the flood plain of the far western terai bordering India. The area not only experiences flooding on an annual basis due to its geographical specificity, but is also far removed from the educational and livelihood opportunities and the seat of power in Kathmandu given its historical exclusion in the State formation. Several NGOs have been working in the region providing much-needed relief for flood victims as well as putting in place programming with the hope of mitigating some of the effects of flooding.

The NGO approach to DRR efforts in Nepal in general and the western terai in particular are grounded in the concept of community ownership and management of DRR efforts, and therefore in capacity building to enable such management. However, several critically important assumptions remain unstated, namely that the community supports such programming and has both the desire and the ability to participate in these efforts. This presumption can be dangerous; if inaccurate, it could lead directly to program failure, wasted funding, and frustrated community members and NGOs. The critical question is which communities take part

in these activities, and what are the household characteristics of participants *within* the communities? Having a better understanding of this has the potential to lead to more successful and better targeted programming.

Where the majority of households in a community have taken part in a DMC initiated by an NGO or in the construction of a spur or gabion, the negative consequences of flooding have been significantly reduced. Community-based DRR programming has been most successful in communities that are homogenous and where there is a shared problem. Working together as a community requires sufficient social capital to institute socially sanctioned regulations around participation but also an equal need for the benefits of those activities. Communities that are ethnically diverse are significantly less likely to take up these activities, as are communities that are unequally affected by the flooding. We found that the greater the diversity in wealth, distance to the river, and therefore overall impact from flooding, the less likely a community will carry out any mitigating activities together.

Besides overall community participation in community-level projects, it is important to note who in the community participates. Just as there are benefits to participation in community mitigation projects, there are also costs, and these costs affect the poor disproportionately. Not only do wealthy households have the option of opting out of labor contribution by providing an agreed-upon financial sum, but they also are more likely to have a sufficient number of able-bodied men to both continue their own livelihoods and contribute to labor. We found that in the communities, it was the larger and wealthier households that were more likely to participate in the community-level projects. It is therefore important for NGOs to think through how poor households can be involved without reducing their ability to invest their time and resources in their fields or other income-generating activities. Though communities generally understand their own composition, there is always the potential that non-participating households will be poorly perceived

and lose even more social capital if they do not participate in community-wide projects.

Provision of agricultural inputs would not only help increase household wealth and food security but also free up a household's time to participate in community-level mitigation projects, as well as allow them to pursue other livelihood activities, place less reliance on the need for support from already overstretched family and friends during the planting and harvesting seasons, and reduce the amount of capital spent to rent these inputs.

Households living in communities with characteristics unlikely to lead to collective DRR activities still require support to ensure greater resilience against flooding. While it is not surprising that increased individual household wealth corresponded with a reduced flooding impact, the study was able to identify specific components of household wealth associated with greater resilience to flooding: livelihood diversification, access to markets, access to cash, and financial management strategies.

The majority of households in our study primarily rely on agriculture for their livelihood. However, it is precisely this livelihood that is extremely sensitive to the impacts of flooding. The majority of households lost either some of or their entire crop during the floods of 2008. The ability to diversify household livelihoods outside of agriculture not only shores up wealth but also provides households with other sources of income in the case of a flood. Transferring the risk of flooding on livelihoods outside of the affected area, either via long-term migration to India, working in the nearby urban center, or engaging in other income-generating activities offers additional insurance. Households in Kailali already use multiple and dynamic strategies to cope with the ubiquitous risks associated with the flood plains and their own marginal position in Nepal. Therefore, it is only a matter of supporting and encouraging spreading out livelihood risk via livelihood diversification in terms of both the activity and location.

However, before the institution of vocational training for these households, it is important to note that the benefit of a diversified livelihood

portfolio was only for households that also did agriculture. Households that did not report agriculture but carried out multiple livelihood activities tended to be the most vulnerable. Therefore, any vocational or skills training cannot be done at the expense of subsistence agriculture, but has to first fortify the agricultural livelihood before providing supplemental income-generating activities rather than substitutes.

Along with an added focus on livelihood diversification, the study identified a clear lack of access to markets in the area. Participation in the labor and goods market comes with additional costs on the household: the transportation cost associated with migration, the legal and financial costs associated with cross-border trade, and the transportation costs associated with accessing the one market in the area.⁷ Increasing access to markets not only offers additional opportunities for livelihoods (legal trade, small business, cash crops, etc.) but also facilitates a move towards a more cash-exchange economy.⁸ And unlike the majority of current household wealth—livestock, assets, and housing—cash, if stored securely, is not physically affected by flooding.

Access to a cash lump sum is integral for quick recovery from the impact of flooding.⁹ While the majority of households reported taking out loans as their primary coping strategy, poorer households were significantly less likely to report having access to a loan if affected by flooding. When households are affected by a covariate shock such as flooding, internal and informal sources of cash quickly vanish. Therefore, households vulnerable to flooding risk need access to the secure financial management strategies: savings, credit, and insurance. While there are some villages that have informal savings groups, these forms of savings are highly insecure during covariate sudden-onset disasters. In order for households to be able to transfer risk out of the community, they need access to semi-formal savings and credit institutions such as microfinance organizations (MFIs). Index-based microinsurance has been making steady headway and has shown successes in India (Manuamorn, 2007). Such models should be considered for import to farmers in Nepal. Mobile banking could particularly reduce some

of the risk associated with migration—transferring and carrying large amounts of cash over a period of several months.

Another limitation to community and household flooding resilience identified in the research was the limited access and awareness of NGO programming and government support. The communities that were able to secure government and NGO grants were those that were lucky enough to have at least one individual in the community with the proper social connections outside of the community and the wealth to get past all the institutional barriers and lobby for the community. Increased awareness of potential funding and project opportunities would increase both demand for and expectation of government and NGO services.

In situations like that of Nepal where there are poverty *and* disaster *and* post-conflict dynamics in play all at once, the whole context is even more difficult than the sum of its very challenging parts. Current disaster risk analysis focuses too narrowly on protection and flood risks, when the reality is that households are vulnerable to numerous risks, and flood simply exacerbates existing vulnerabilities. Before the institution of any DRR programming, organizations need to carry out a full risk analysis that takes in the full context of the affected communities. It is the household's initial marginalization that makes them both incredibly creative in their survival strategies and highly vulnerable to flooding.

Given the findings of the study, several recommendations are made:

- Participatory DRR programming should only be carried out where sufficient social capital already exists. This offers a greater guarantee for the success of the programming.
- Where social capital exists and DRR programming can be put in place, it is important to consider some of the costs of participatory programming that disproportionately affect poorer households. The added strain of contributing time and labor might negatively impact the

household's own survival strategies.

Organizations should consider the provision of goods, such as agricultural inputs, that might simultaneously increase their capacity and therefore free up time for communal projects.

- Livelihood diversification needs to be encouraged and supported, not only in regards to a diversity of livelihood activities but also of livelihood locations in order to transfer risk outside of the community geography.
- Access to markets needs to be promoted in order to bolster a cash-exchange economy, reduce the current high costs of goods and labor markets, and provide additional incentive for livelihood diversification outside of agriculture.
- Access to financial services needs to be promoted. Cash is an integral component to post-disaster recovery and, if properly secured, is not affected by flooding in the same way that current household wealth—livestock, assets, housing—is. There are numerous opportunities to help reduce or transfer risk, such as mobile banking for migrants transferring cash, index-based microinsurance for farmers, and secure savings through formal and semi-formal institutions.
- Build capacity of local committees and community-based organizations (CBOs) in order to raise community awareness of NGO and government programming, as well as increase demand for services and infrastructure.
- In dynamic contexts, such as Nepal, organizations need to carry out risk analysis that takes into consideration the local livelihood systems, conflict and post-conflict dynamics, and overall household and community marginalization. ■

ANNEX N1: WEALTH

A key issue in constructing the wealth index is how to assign appropriate weights for the individual components (assets) of the index. We used principal component analysis (PCA), a procedure that allows for greater accuracy than a linear index with equal weights, which imposes numeric equality on all the variables.¹⁰ The PCA technique explores the relationship between a set of correlated variables and creates a single variable (the index) through the summation of the individual weighted variables, thereby reducing dimensionality without losing too much information (Chatfield and Collins, 1980). We further standardized our index in relation to a standard normal distribution with a mean of zero and a standard deviation of one.

The variables used for the construction of the wealth index were roofing material, number of rooms, type of toilet facility, whether the household could raise the equivalent of 50 dollars in a week, and ownership of the following assets: bicycle, mobile phone, dallap, solar panel, access to internet or computer, engine or pump set for irrigation, ownership of pigs, and male water buffalo. The choice of variables to include was based on internal correlation—only asset and housing variables that had a 40% or higher item-test correlation were kept. The final Cronbach’s coefficient alpha for scale reliability was .7321, signifying internal consistency and is evidence that the items measure an underlying, or latent, construct—in our case “wealth.”

Table N6: Assets Making up the Wealth Index

	scoring factor	Mean	sd	% of Index
Good quality roofing material (not mud and wood—kachi)	0.31	0.79	0.40	10%
Number of rooms (3 or more, including kitchen)	0.36	0.53	0.50	9%
Access to a latrine (do not defecate outside)	0.26	0.37	0.48	7%
Access to the equivalent of 50 dollars for an emergency	0.23	0.68	0.47	6%
Own a bicycle	0.27	0.91	0.29	12%
Own a mobile phone	0.26	0.79	0.41	8%
Own a dallap	0.38	0.55	0.50	10%
Have access to internet or a computer	0.24	0.13	0.34	9%
Own an engine pump for irrigation	0.28	0.31	0.46	8%
Own solar panels for energy	0.21	0.21	0.41	6%
Own at least one pig	0.35	0.49	0.50	9%
Own at least one water buffalo	0.25	0.23	0.44	7%
Wealth Index		-0.53	1.81	100%

Note: Scoring factor is the “weight” assigned to each variable (normalized by its mean and standard deviation) in the linear combination of the variables that constitute the first principal component.

All the index components are dummy variables—with a value of one if true, zero otherwise—so the weights have an easy interpretation: a move from zero to one changes the index by the following expression:

$$\% \text{ contribute to index} = \frac{\text{scoring factor}}{\text{sd (scoring factor)}} \times \frac{1}{\text{total index spread}}$$

This value is calculated individually for each asset and reported in Table N6. Of all the assets, having a bicycle, a dallap, and good-quality roofing contribute the most to a household's wealth, while solar panels or having access to 50 dollars for an emergency together contribute as much to wealth as simply owning a bicycle.

Using the wealth index, respondents were grouped into quartiles: the first is the bottom 25% of the population (the “very poor”), the second and third quartiles comprise the middle 50% of the population, and the fourth quartile is the top 25% of the population (the “least poor”). The difference in the average wealth index score between the very poor and the middle poor is 2.57 units (or 35% of the index), and the difference between the middle and least poor is 2.15 units (or 29% of the index). Therefore, the difference between very poor and middle poor households is 4 to 5 assets, and the difference between middle poor and least poor household is approximately 3 to 4 assets. ■

CONFLICT MANAGEMENT AND DISASTER RISK REDUCTION: A CASE STUDY OF KENYA

INTRODUCTION

The literature and the practice of disaster risk reduction tend to be overwhelmingly concerned with the prevention, mitigation, and reduction of risk of natural hazards. Yet at the local community level, people face the risk of both natural disasters and man-made crises, and they recognize both kinds of risk. In terms of policy and practice, dealing with these two categories of hazards is often rather separate. In institutional terms, both national governments and various international and non-governmental agencies often attempt to address both sets of concerns—conflict and natural disasters—but often in very separate ways. And much of the emphasis on conflict is not necessarily on risk reduction, but rather on responding to conflict once it has erupted, or on recovery (and in many cases, on stepped-up law enforcement). Prevention or mitigation of conflict has not received the attention that prevention or mitigation of a “natural” disasters has.

In recent years, there has been a major emphasis on reducing the risk of disasters. Some organizations have set a goal of allocating 10% of funding for disaster response specifically for prevention and risk reduction, but this spending is devoted to the reduction of natural risks.¹ However, the actual allocation of funds for humanitarian response goes disproportionately into emergencies caused by conflict. Total humanitarian assistance to non-conflict emergencies has remained relatively static at about \$2.0–2.5 billion per year over the past decade, while funding for conflict emergencies went from about \$3 billion in 2000 to over \$7 billion in 2008.²

Many—some evidence suggests most—humanitarian disasters today are triggered by some combination of factors, both “natural” and “human-made.” Indeed, it is the combination of factors behind any given humanitarian emergency that makes the separation of risk reduction mechanisms not only counter-intuitive, but potentially also undermines an

integrated approach to prevention and mitigation generally. There is thus some rationale in investigating the way in which various risks are mitigated. In 2012, out of a total of 34 countries reporting humanitarian crises requiring external assistance to the UN Food and Agriculture Organization Global Information Early Warning System (GIEWS), ten of these were conflict related situations, and 15 were a mix of conflict and natural hazards. Only nine were the result of natural hazards alone. This highlights two points: first, the role of conflict as a causal factor in the predominant number of disasters; and second, the likelihood of overlap between different causal factors.³ Nevertheless, in many countries and international organizations, disaster risk reduction and conflict prevention/conflict resolution/peace building have been handled quite separately, even though both are related to the incidence of humanitarian emergencies and the requirement for response.

In this report we explore the links between disaster risk reduction and conflict prevention, with a specific focus on Kenya. The overall objective is to develop a livelihoods approach to understanding and reducing the risk of households and communities who have been, or are likely to be, affected by disasters. Conflict is linked to livelihoods through both cause and effect pathways, but the linkages between conflict mitigation and disaster risk reduction at the level of policy and program are limited. This study seeks to understand those linkages at the community level, and strengthen the policy connections.

Specifically, the research was organized around three questions. The first question seeks to understand why conflict management or conflict mitigation tends to be institutionally separate from (natural) disaster risk reduction and livelihoods protection more broadly. This question was addressed in the specific context of Kenya, but also more globally. The second and third questions are much more specific to the

Kenya case study. The second question seeks to understand the institutional form that much of the peace-building or conflict resolution work has taken in Kenya—that of the *local peace committee* (LPC), or similar kinds of interventions at the local level, often growing out of civil society activism, but which has now been adopted by government in the form of *District Peace Committees* (DPCs). The third question seeks to understand the extent to which “peace-building” measures of a number of different types can actually be shown to have reduced the risk of conflict, or increase the capacity of affected communities to manage, resolve, and transform conflict—and, critically, to understand how reducing these risks impacts people’s lives and livelihoods. ■

BACKGROUND ON KENYA

Kenya is a country that faces multiple hazards. Drought has been the dominant hazard, affecting large parts of the country in 2000, 2005–06, 2009, and 2011. Floods and other natural disasters have been a frequent occurrence in some parts of the country. Conflict and human-made crises are also present, both pastoral and election-related violence are common forms of conflict in Kenya. In the aftermath of very closely contested elections in 2007 (the results of which, many observers and citizens thought, were not adequately verified), there was widespread violence, killing, and displacement and the destruction of livelihoods that accompanied these. There had been election-related violence in Kenya before, but the extent of the violence in early 2008 was unprecedented. Over 1,000 people were killed, with estimates of the number of people displaced running as high as 300,000–400,000.

The threat of drought-related emergencies is recurrent—as convincingly demonstrated by the 2010–11 drought and subsequent regional emergency. It was widely feared in some quarters that the 2013 elections may see a repeat of violence; however, due to a variety of reasons explored in this report, the elections were relatively peaceful.⁴

Kenya has long had a well-organized disaster risk management system in place—the Arid Lands Resource Management Project (recently reconstituted as the Kenya National Drought Management Authority, NDMA). ALRMP focused on response to multiple hazards, including a historical focus on food security responses to drought through the Kenya Food Security Steering Group (KFSSG)—one of its components. Another government body—the National Steering Committee on Peace Building and Conflict Management—fulfills a somewhat similar function with regard to conflict. This office serves formally as the CEWARN unit for Kenya (the Conflict Early Warning and Response Network project is officially run by Intergovernmental Authority on Development (IGAD), but with national ownership and participation). CEWARN focuses mostly on

early warning, with some effort on response, but not so much on prevention or mitigation. Furthermore, since 2008, many civil society groups have emerged to join a small number of long-standing organizations concerned with peace and conflict resolution in Kenya. These organizations are promoting civic education, conflict prevention, and conflict resolution at the local level to give people the tools to try to prevent violence, at least at a local level.

Below, we discuss in greater detail the rationale for choosing Kenya as a case study, the type of conflict and source of conflict in our two research sites, Burnt Forest and Isiolo Triangle, as well as the linkages between conflict and livelihoods.

1. Rationale for a Case Study Focusing on Kenya

A significant humanitarian emergency resulted from the conflict in 2008. Ongoing response to the humanitarian crisis was included in the 2008 and 2009 CAP Appeals and in the 2010 Appeal for people remaining in transit sites. The cost of response was significant. The Consolidated Appeal Process (CAP) Appeal for 2011 recognized on-going conflict threats and their implications for response, but conflict threats were incorporated into official preparedness and mitigation activities only in very limited ways. In the run-up to the 2013 elections, preparations were made to respond to a potential humanitarian crisis in the event of election-related violence. Numerous agencies had prepared for and had taken steps to reduce the threat of conflict, including the government, international donors, local and international NGOs, and civil society groups. Many of the civil society organizations were new and did not have any direct experience in either the humanitarian response to the conflict or other longer-term poverty reduction. Many of these approaches weren't well connected to risk management mechanisms, and the links between conflict and livelihoods were not being made very well.

This research deliberately looks at livelihood assets that risk management programs seek to improve on or build, in particular human, social capital. While the focus in many risk management programs is on financial, physical, and natural assets, this case study focused explicitly on community institutions and building social capital to manage and reduce conflict risks. One of the institutions developed in pastoral areas to help manage conflict is the Local Peace Committee (LPC). LPCs were introduced in pastoral areas affected by conflict in the 1990s by civil society activists and organizations, and were introduced in areas affected by post-conflict violence in 2008 with varying degrees of impact in the short term. But these have been strengthened in the period between 2008 and 2013. Various programs have introduced other capacity-building measures. Assessing these institutional and capacity innovations will be important to future conflict risk management efforts.

The report considers two cases in Kenya: one in the Isiolo Triangle where much of the conflict is

over natural resources and therefore has a direct link with natural disasters; the other in Burnt Forest, which experienced widespread conflict in the 2007–08 post-election violence, and where much investment was made to prevent the breakout of violence in the 2013 presidential election.

In Isiolo, the main manifestation of conflict traditionally was cattle rustling, banditry, and border grazing disputes. However, since the introduction of multi-party democracy in Kenya, the conflict in Isiolo has taken a political rather than traditional/cultural angle with high levels of political incitement (See Box K1).

Since the introduction of multi-party politics in 1991, the communities have not been motivated by gain of political power, making the conflicts deadlier and more difficult to resolve. During the period of this research, bouts of violence were witnessed in Isiolo and the neighboring Marsabit County (Moyale), which was linked with the perceived importance of controlling power devolved to the County level and the

Box K1: Political Alliances and Conflict in Isiolo

One of the parliamentary candidates for the Isiolo North constituency seat for the 2007 General Elections came from the Turkana community. The seat traditionally belonged to the Borana community, and when the Turkana candidate lost the seat by only a few thousand votes this led to increased tensions between the different ethnic communities in Isiolo, resulting in an upsurge of conflicts. Some of the conflicts manifested themselves in the more traditional form of cattle rustling, but were clearly a result of the possible upset by the Turkana candidate.

The Conflict Analysis Committee, a sub-group of the National Steering Committee on Peacebuilding and Conflict Management, was commissioned to explore the conflict in the Isiolo Triangle. In their report “Amani Papers – Conflict Dynamics in Isiolo, Samburu East and Marsabit South Districts of Kenya,” the team established that alliances were being formed. The Samburu and Rendille community were also supporting the candidate from the Turkana community, while the Borana candidate had the support of the Somali and Meru community. These political alliances were formed purely on ethnic lines rather than policy concerns. Even though the manifestation of these political alliances was in the form of “traditional” conflict such as cattle rustling and other banditry, this was not conflict over scarce natural resources but rather over political seats, and the cattle rustling was seen as a means to “punish” the different ethnic communities for their alliances.

Source: UNDP Kenya. 2010. “Amani Papers – Conflict Dynamics in Isiolo, Samburu East and Marsabit South Districts of Kenya” Amani Papers Volume 1 n. 3 (June).

accompanying community tensions (See Box K2). Another source of future conflict in Isiolo is the Vision 2030 projects in which Isiolo has been named a resort city—a flagship project in the

overall national plan. This has intensified competition over land and other resources as speculators bet on a rapid increase in the price of land close to the city.

Box K2: Moyale Conflict Dynamics

Long-standing tensions between the Borana and the Gabra communities of Moyale District since October 2011 finally escalated into a fully-fledged conflict from mid-January 2012, with the two communities engaging each other in a battle of gun shots, burning down of houses, and destruction of property perceived to belong to the rival community. In total, 48 people lost their lives and thousands were displaced.

The Kenya Red Cross facilitated community conflict resolution sessions with the leadership on both the Borana and the Gabra and also included other communities residing in Moyale who had a hand in the conflict. For example, the Borana were of the opinion that the Burji could not be arbitrators in the conflict, since the Burji have had conflict with the Borana that had not been resolved. However, the Gabra argued that the fear of the Burji was not about conflict with the Borana, but the fear maintained by the Borana that the minority communities of Gabra, Rendille, and Burji could unite against them politically and vote them out of power. Indeed at the time of the peace discussions, the Burji and Gabra accepted that they were in the process of establishing a political pact with the Rendille against the Borana.

During the negotiations it was also observed that the Borana and Gabra in Isiolo live harmoniously and do not fight amongst themselves even though there is an issue of insecurity on the ground. Some of the community leaders argued that this shows that the Borana and Gabra do not have a “natural dislike” for the other but rather blamed the problems in Moyale on the preparation for the County elections. Historically, clashes were witnessed between the two communities over resources; this was of low scale with a minimum number of deaths reported. In fact, both the Borana and Gabra leaders agreed that this was the “first time” that bodies of dead people were mutilated and children targeted, showing that the goal of the conflict was not acquiring resources in the short run but intimidation in order to have greater control in the long run via the political system. The Gabras argued that the Borana initiated the conflict when the Gabras announced their candidate for the position of County Governor. On the other hand, the Borana believe that the Gabra political elite are financing the conflict in order to displace Borana voters. The negotiations also examined who, or more broadly what ethnic group, controls public offices such as the District Register of Persons in Moyale, the office in charge of issuing National Identification Cards, a requirement for voter registration. At the request of the Gabra community, the government replaced two individuals of Borana origin who worked at the office, claiming an unfair advantage for the Borana community in the elections. The Borana in turn refused further negotiations until the two members of their community were reinstated.

The more violent manifestation of the conflict and its political basis points to a transformation of conflict in Isiolo more closely resembling the politically instigated violence witnessed in the Burnt Forest area around the 2007–08 election season.

Source: Interview Notes

Conflict in Burnt Forest revolves mainly around electoral issues. During election periods, politicians with the aim of maximizing on their votes and reducing votes to opponents engage in parochial politics of incitement and ethnicity. The combination of poverty, frustration, and general deprivation in the population makes it easier for manipulation along ethnic divides. This resulted in localized clashes in both 1992 and 1997 and in widespread violence, displacement, and killing in early 2008 after close and disputed national elections. But the election violence is rooted in historical patterns of land alienation, migration, and natural resource ownership.

These two case studies allow us to explore different conflict dynamics and the related peace-building and livelihood programming. In Isiolo, the presence of pastoral conflict allows us to look at possible links between natural disasters and conflict. The 2013 elections led to more direct questions in both Burnt Forest and Isiolo about exploring conflict as a disaster.

2. Linkages between Livelihoods and Conflict

Land is a critical issue in both Isiolo and Burnt Forest and inseparable from livelihoods for the majority of Kenyans.

As for the vast majority of the Kenyan rural population, land is the basic, and often only, economic resource from which they eke a livelihood and it is also around land that socio-cultural and spiritual relations among community members are defined and organized.⁵

Land is also a major source of conflict, precisely because of its close links to livelihoods.

Appropriation of land was seen as a motivating factor in much of the 2007–08 violence in Burnt Forest. For example, after many of the inhabitants of Rironi farm in Burnt Forest relocated to Central province due to the violence, it was reported that the farm was taken over by Kalenjin farmers and renamed Kaplalech.⁶

In the pastoral areas, competition for resources is also a leading cause of conflict—both pasture and water for livestock. Livestock production is the primary livelihood strategy in the arid and semi-arid lands (ASALs). Livestock production

accounts for 26% of total national agricultural production, and over 70% of the country's livestock and 75% of wildlife are in the ASALs.⁷

Increased scarcity of arable land, due to droughts and demographic pressures, has contributed to civil violence, including insurgencies and ethnic clashes.⁸ Pastoralists move from one place to another according to rain patterns in search of the scarce resources for their livestock. These movements occasionally take them and their livestock into other communities' territories, and if the rules of entry and sharing among the communities are not observed, conflicts erupt. During more severe droughts, as the number of available pasture and sources of water diminishes, pastoralist communities are forced to congregate in fewer and fewer places, increasing the likelihood of conflict. By the same token, fear of conflict may prevent the rational usage of resources in remote areas if security of human beings and livestock cannot be assured or negotiated (see Box K3). Any environmental decline is also closely linked to declining economic prospects as livelihood assets become less productive.

During droughts, pastoralists are mainly faced with two processes that adversely affect their capacity to support themselves and effectively raise the minimum herd numbers required to maintain their households: they face losses in their livestock capital from higher mortality rates and are forced to sell off their cattle rather than face losing them to starvation. This adversely affects their terms of trade and purchasing power, leading to serious livelihood implications. Due to the reduced purchasing power, periods of "restocking" are characterized by raiding other communities for cattle, and hence can result in conflict.

Declining economic prospects have contributed to the commercialization of cattle raiding and pastoral conflict as a source of livelihood. One of the reasons for raiding used to be the need for restocking. Thus raiding was generally seen as a cyclical process in which groups in a restocking phase raided enemies that happened to be currently better off.⁹ However, commercialization of raiding, coupled with a larger availability of arms in the ASALs, has had negative

Box K3: Natural Resource Management and Conflict Prevention in Ilaut

In February–March 2011, as the Horn of Africa drought began to really bite in arid and semi-arid areas of northern Kenya, the study team visited Meru and Isiolo districts. In both districts, government officials and local peace committee leaders were concerned about the increasing levels of violence as competition for scarce grazing and water resource worsened with the drought. Animals owned by various different pastoralist groups from Isiolo were increasingly encroaching on farmland in Meru, and indeed animals owned by farmers in Meru were also increasingly deprived of adequate grazing and water. Major livestock losses loomed for both groups, and crops failure was imminent for Meru farmers.

In both locations, local peace council members told the study team about several well-known locations in the area of Ilaut where reliable sources of water enabled access to considerable grazing resources that had, to that point, remained under-utilized—and hence perhaps offered possibilities for dry season grazing and perhaps even the means to protect large numbers of animals from the effects of the drought. However, livestock herders from both districts were afraid to go to Ilaut, because it was an insecure area, and there was no way to guarantee their own safety or that of their livestock. From an individual risk management perspective, it was preferable to keep livestock closer to areas of known security risks—and accept some losses due to the lack of grazing and water—than it was to take animals to an area with known water and grazing resources but risk the loss of large numbers of animals, or perhaps whole herds.

At the time of the visit, District and Local Peace Committees from both Isiolo and Meru were trying to convince the police to send their Anti-Livestock Theft Unit to the area to provide security, or else negotiate an agreement among various different livestock-owning communities to share the grazing area equitably. But the fear of commercialized cattle rustling required more than just an inter-communal agreement. Several months later, there were unconfirmed stories that the efforts of the DPCs had not been successful. Livestock losses during the drought in Kenya were substantial—precise figures on Isiolo and Meru were not known.

Source: Interview Notes

consequences on the region's stability. It also removes the risk management component that traditional raiding implied. Due to commercialization, raiding has been divorced from land and labor availability and excludes reciprocity, as cattle sold in the market cannot be raided back.

Environmental degradation and resource scarcity and their impact on livelihoods interact in a complex fashion with political and economic forces and can increase existing horizontal inequalities or create new ones. Declining land quality or availability, erosion, and lack of access to clean water for livestock all have a detrimental

impact on livelihoods and increase inequality, which can breed unrest and conflict.

Egregious land inequity (e.g., the district percentages of both landless population and large farm holdings are in the top 15th percentile nationwide) estimates an increase of roughly 73 casualties against constituencies with land inequity comparable to the national average.¹⁰

Inequitable access to common resources that are important to livelihoods—or even just the perception of inequitable access—is a source of conflict. The presence of fluid boundaries and territorial claims by different ethnic groups leads to numerous clashes. Much of the land in Isiolo

is trust land, which means the Isiolo County Council manages it. The Council is responsible for controlling settlement and the processing of title deeds to the population; however, the Council has been accused of favoritism and multiple allocations, as well as the privatization of formerly communally used pastures. The resulting tenure insecurity as well as the squeeze on commonly available pasture has heightened different community claims over territorial boundaries and historical claims of marginalization. This sense of victimization in turn makes practically all groups easy prey for political manipulation. Land issues are very easy to instrumentalize in the context of polarized relations between ethnic groups when political leaders are involved in a power struggle.

3. Summary

Kenya is highly prone to drought and flooding. Along with natural disasters, election violence has been endemic in Kenya, mainly following the introduction of the two-party system in 1991. Conflict in pastoral areas is frequently associated with resource access, exacerbated by drought or other acute events that sharpen competition. Over the years it has been exacerbated by proximity to national boundaries and the flow of small arms from neighboring countries. However, much of the pastoral conflict has started to transform into more political conflict, as groups vie to have a representative of their ethnicity in a seat of power.

Due to Kenya's proclivity to natural hazards and conflict, it has numerous organizations designed to work on disaster and conflict management. The structure of many of these organizations in Kenya (as elsewhere) is similar: organizations often have units or teams working on conflict resolution or peace building, on humanitarian response, and on disaster risk reduction—but these groups are often quite “siloes” and working relatively autonomously from each other, and not necessarily working towards the same goals in the same place.¹¹ Similar language is used to describe similar activities, but the activities themselves are rarely joined up or part of the same strategic plan. There is also a wide range of civil society actors engaged—one

leading expert estimates that 3,000 organizations working on “peace building” have emerged since 2007.¹²

Many of these groups have not made linkages to livelihoods issues. Yet there are both cause and effect linkages between conflict and livelihoods. The “backward” (causal) link is mainly the land issue, but the land issue is complex, with its history dating back to the colonial era, and its outcomes linked with the question of identity and power.¹³ The obvious “forward” (impact) link—in addition to the loss of life—is the loss of livelihoods through displacement, but also through the destruction of informal sector businesses during the violence, particularly in cities and peri-urban areas. But even the fear of conflict undermines rational usage of scarce natural resources in times of drought, so even the threat of violence can undermine rural (and especially pastoral) livelihoods. In this report we will explore to what extent organizations are making linkages between livelihoods, conflict, and natural hazards and whether those linkages affect overall programming impact in Burnt Forest and the Isiolo Triangle. ■

METHODOLOGY

The study is based on two different forms of information. An extensive literature review was undertaken to understand the land and natural resource management issue, conflict management processes, and the history of violent conflict in Kenya. Key informant interviews were conducted with a wide range of stakeholders, including a number of global experts, donor agency officials, and agency staff to understand the relative separation of conflict and natural disaster risk management. And field interviews were conducted with community members, community leaders, local government officials, and agency workers. Interviews were carried out in a joint collaboration between the Feinstein International Center at Tufts University, the Kenya Red Cross Society, and Nairobi Peace Initiative-Africa. Interviews took place between February 2010 and June 2012 at the national level, and locally in Burnt Forest and Isiolo, Kenya. These site visits were carried out as follows:

- Meetings with key informants, government representatives, NGO leaders, community leaders concerned with peace and conflict issues in the study areas, and victims of violence;
- Visits to IDP camps and communities to conduct individual and group formal and informal interviews and recording of these through handwritten notes;
- Debriefing sessions to discuss the main observations and emerging findings by the research team and, finally;
- Analysis and validation of findings with research team.

This field work was supplemented by additional research carried out in 2013 following the elections. This follow-up research assignment focused on understanding the way in which interventions did or did not play a role in mitigating, preventing, resolving, or transforming violent conflict in anticipation of the 2013 election.

Using purposive and snowball sampling procedures, informants interviewed by the study team were always asked if they knew anyone

with specific knowledge or experience of conflict and conflict management in the area. This person was then subsequently contacted. Interviews were conducted using an open-ended qualitative protocol. Key informants included individuals from the government, NGOs, and local civil society organizations, local and district peace committees, local community leaders as well as and community members, and internally displaced people (IDPs) in each study area. These categories were selected based on their knowledge and involvement in peace-building initiatives in the areas and included those who were affected by the conflicts. Focus group interviews with up to 10 people at a time were conducted. In all places, representation in terms of ethnicity, gender, and age was also considered. In addition to key informants and global experts, some 150 people were interviewed in the two locations prior to the election, with an additional 50 following the election. In addition, members of the study team have been involved in various peace-building initiatives or, in some cases, negotiations over inter-communal conflicts. This direct experience and the observation it permitted of conflict dynamics and the potential for conflict management informed the design and conduct of the study.

Narratives were obtained (or observed) that gave information on the perceptions and experiences of informants about issues related to violence, its causes and mitigation, peace interventions and their impact, and suggestions on ways forward. Information was also sought concerning their livelihood activities, their views on changing political conditions, how they were affected, and how they coped with and adapted to violent conflicts and evictions.

1. Limitations

One of the study limitations was restriction to access. Especially in Isiolo, the state of insecurity was such that the mobility of the researchers was restricted to the town and its close environs because of the uncertain atmosphere that followed the violent confrontations. Moreover, both the study areas in question are

geographically expansive and could not be covered comprehensively by a small team doing a small study due to limited funds and limited time.

Furthermore, the team observed that a study of this type is bound to invite socially desirable answers from those involved ranging from government officials to NGO leaders, because violent conflict is generally viewed as a “bad thing.” Responses to questions may thus not be accurate—or may put an overly optimistic interpretation on some events or perspectives. Finally, despite assurances to the contrary, the researchers were sometimes perceived to be on a humanitarian assessment mission—respondents were sometimes quick to divulge many problems they face and hence had the hope that the researchers might be aid workers who could provide assistance. These are areas worth taking in to account in future research.

Key informants were purposively chosen for their deep knowledge of the elections, the political situation of Kenya, and their strategic overview of what has been happening with respect to conflict. Others were chosen because they have been active stakeholders working on peace and livelihoods, or in particularly key sectors that have had a bearing on the situation (for instance the media). Their names emerged as a result of informed suggestions from the research partners, Kenya Red Cross and the Nairobi Peace Initiative–Africa, as well as referrals from other civil society leaders or government stakeholders. Thus a snowballing approach was adopted, where key informants suggested further useful sources of information or key informants who have had an interesting experience or who may have insights or be able to cast an interesting light on the election process and the conflict dynamics.

This has been a qualitative study and so should not be considered statistically representative, rather it is a set of observations from key informants around their observations of what the key factors are that affect conflict and its prevention. A subsequent piece of field work in May–June 2013 after the elections were over helped to demonstrate how these factors played out and the extent to which conflict was

managed around the 2013 elections. So while there was a dominant narrative that emerged from the interviews with broad consensus on the major points, there were other views that were voiced that were counter to the main emergent perspectives, and where possible these have been articulated as a counter-narrative. There is a danger here that any one voice is over-emphasized and its import exacerbated within such a small sample. Nevertheless, if taken as a broader discussion of reflections on what was happening during and after the elections in terms of conflict and the implications of this for the long term and future, then there was a rich array of feedback and learning that can be drawn on by others to inform possible future approaches and discussions on these topics. ■

CONFLICT MANAGEMENT AND DRR: A PROGRAMMING AND POLICY SEPARATION?

The objective of this section of the report is to understand the separation—in both policy and programming terms—of conflict management from disaster risk reduction and livelihoods protection more broadly. In brief: what are governments, organizations, and agencies actually doing on the ground with regard to disaster risk reduction and conflict management and why? And, is there any case to be made for greater integration of the two?

1. Separation in Conflict Management and DRR Programming

In general, there is little in the way of coordinated strategy, programming, or even operating tools between organizations that work primarily on natural disaster risk reduction and those working on conflict. Many institutions, though acknowledging the interface between conflict and natural disaster, nevertheless operate programs separately, with separate policies, teams, and operations for peace-building/conflict mitigation and natural disaster risk management. In this section we will describe this separation from a more general view, encompassing international institutions, international NGOs, and donors. We then take a more specific look at Kenya, its government, NGOs, and local institutions.

The distinction between reducing the risk of natural disasters and of human conflict is reinforced by the “The Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters.”¹⁴ One hundred sixty-eight countries are currently party to the Framework¹⁵ and use its guidelines to structure their national disaster risk policies. Because of its influence on international action in DRR, the Hyogo Framework has impacted NGO approaches as well. The Framework’s approach focuses exclusively on “disasters caused by hazards of natural origin and related environmental and technological hazards and risks.”¹⁶ The Hyogo framework emphasizes that while coordination with other hazards may be essential, they are not part of DRR framework.

As such, other United Nations organizations that use the Hyogo Framework as the main instrument through which to coordinate and/or execute DRR operations have little in the way of formal policy or program on risk reduction or mitigation related to conflict, and largely do not conceptualize disaster risk reduction and conflict reduction in similar ways. For example, United Nations International Strategy for Disaster Reduction (UNISDR) strictly states, “[DRR] aims to reduce the damage caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention.”¹⁷ A comparable perspective can be found in the language of multi-lateral agencies.¹⁸ The Joint Declaration on Post-Crisis Assessments and Recovery Planning by the European Commission and the World Bank covers some of the distinctions and commonalities of natural disaster and conflict, but does not address situations where both are present.¹⁹

Most of the major donors involved in disaster risk reduction recognize the importance of bringing conflict and other types of disasters into reduction strategies—but nevertheless house the two approaches in different departments. Some donors have made “conflict management” a crosscutting issue or have taken a “multi-hazard” approach. This terminology focuses not just on natural hazards but encompasses such threats as drought, conflict, and HIV/AIDS.²⁰ The “multi-hazard” approach is significant in that it recognizes the necessity of coordinating various types of preventative efforts; however, it does not consider conflict management as DRR. And the “multi-hazard” approach is not necessarily the dominant paradigm.

The Government of Kenya has historically handled conflict and natural disasters separately. Kenya has a well-organized drought management system in place (previously the Arid Lands Resource Management Project (ALRMP), now the National Drought Management Authority), and another government body, the National Steering Committee on Peace Building and Conflict Management fulfills a similar function with regard to conflict. The Kenya

National Focal Point on Small Arms and Light Weapons (KNFPSALW) focuses primarily on disarmament. ARLMP has sometimes served as the local level representative for KNFPSALW, so in some ways the two different systems overlap at the local level.

Kenya's National Report on implementing The Hyogo Framework originally identified "Peace Building and Conflict Management Policy"²¹ as one of five initiatives to support Disaster Management, but conflict is not mentioned elsewhere in the document. Furthermore, in a subsequent progress report on the Framework's implementation, there is no reference to conflict, suggesting that in practice the link between conflict prevention and DRR is limited at best.

The government also has a draft National Policy on Peacebuilding and Conflict Management. The document mentions collaboration with other natural disaster policies and describes them as "fundamental" to conflict management, but does not describe in detail how that collaboration will occur:

*The National Policy on Peacebuilding and Conflict Management recognizes the existence of other policies and plans that GoK is in the process of publishing and tabling in Parliament. These include the draft disaster management policy, the draft national policy on small arms and light weapons, the draft national land policy and draft policy on community policing amongst others. These policies address issues that are fundamental to conflict Management and Peacebuilding and the National Policy on Peacebuilding and Conflict Management will ensure that there will be collaboration and cooperation between different government agencies and other stakeholders in implementing activities related to these issues.*²²

Some NGOs operating in Kenya promote conflict management activities in areas affected by natural disaster but still define "disaster" in strictly a "natural-hazards" sense, which effectively means that organizations do not integrate conflict management efforts into other risk management or risk reduction programming. However, even though official mandates tend to show little direct relationship between conflict management and disaster risk reduction, on the ground the situation is often

much more fluid. Some organizations have a general mandate that does not include conflict management; however, due to the conflict context in Kenya, they do include components of conflict programming and sensitivity in the local programming.

Why the Separation?

Several factors have contributed to the separation of programming in natural disaster and conflict management. Organizations point to both the conceptual and operational reasons for this separation, sighting the differences between the programming approach in a conflict and natural disaster situation, the innate political sensitivity of conflict, the lack of flexibility of thematic budget lines, the concentration of expertise in either natural disaster management or conflict issues, as well as the preference for narrower, more specific mandates.

Conflict is seen as a fundamentally different event from a natural disaster, which therefore requires distinctive and separate programming. The perceived notion is that the conditions required for effective and sustainable disaster risk management can only be found in stable (non-conflict) environments.²³ Some of the major national DRR success stories—Bangladesh, Mozambique, Cuba, Vietnam, Indonesia, and Nepal—had first achieved a level of political stability which then allowed them to address natural disasters on a national scale (or at least this is the popular perception of these cases). Countries experiencing a high degree of conflict and low governance, such as Somalia, are seen as having a low capacity for implementing the large-scale DRR efforts necessary to realize change on a national level.²⁴

Another reason given for separate programming is that political sensitivities associated with conflict-related activities are much higher than for stand-alone, natural disaster management.²⁵ Actors in the disaster management field have an overall mandate of neutrality and impartiality in the provision of aid and implementation of programming. Work in conflict mitigation and peace building is seen by some agencies and donors as too "political" to retain the neutrality needed to continue servicing affected areas. Managers of programs that deal with reducing

the risk of natural disasters can be reluctant to deal with conflict because they are expected to work with governments, who may be on one side or the other of a conflict, whereas in natural disasters, the role of government is seen as less partisan.²⁶ Engagement with state actors in the arena of conflict management may remove the necessary perception of neutrality in a conflict—and it is feared, could hinder the peace-building process.²⁷ The need for political sensitivity contributes to an added complexity in conflict mitigation and relief operations, complexity not found in “simple” natural disaster contexts. Still, many managers recognize that from the perspective of affected communities, these distinctions are superficial, and communities face many hazards—addressing only some of them doesn’t necessarily make sense from their perspective.²⁸

Current funding structures also tend to reinforce existing separation. Budget lines for humanitarian and conflict-related assistance are usually distinct from development activities, under which disaster risk reduction (and much in the way of livelihoods programming) tends to fall. Where emergency funds are disbursed in conflict areas affected by a natural disaster, they are often tied to short-term programming (up to a year), and so cannot be used for longer-term activities that could be used for risk-reduction activities.²⁹ Funding both conflict and natural disaster management programs requires a flexibility and responsiveness that is often not found in development and humanitarian planning and budgeting.³⁰ Even if organizations are interested in adding a conflict management component to their natural disaster programming, lack of financial resources specifically earmarked for conflict impede their application and may limit the organization’s ability to effectively respond to a dynamic disaster or conflict-affected context.³¹

Current funding trends also affect the decision to include a conflict component in DRR. There has been a lot of money earmarked to address the impact of climate change. Though conflict can be conceptually linked to climate change (as for example, in United Nations Environmental Program’s (UNEP) framework),³² the relationship is far more ambiguous than between

natural disasters and climate change.³³ Given the strong links in the eyes of donors and other practitioners that DRR is primarily linked with climate change, agencies tend to stick to the International Strategy Disaster Reduction (ISDR) definition of a disaster as an environmental risk.

Organizational mandates reinforce the separation of conflict prevention and natural disaster risk reduction. The inclusion of conflict as a risk comparable to a natural disaster would involve organizations in a broad array of programming and places, making it more difficult to isolate necessary activities especially given budgets that are already overstretched.³⁴ Though organizations acknowledge the conceptual overlap and overlapping risks on the ground, they see programmatic integration as requiring many additional programming steps and expertise. Many admit that they are already over-committed to their own mandate, making change difficult. Plus, as one interviewee said “there is plenty of work to be done in the area of natural disasters without worrying about conflict.”³⁵

2. Overlap in Conflict Management and DRR Programming

Contexts in which conflicts and natural disasters overlap are daily realities for affected communities, local government, and the national and international organizations that serve them. Interventions that do not account for this complex interplay have the potential to worsen tensions and increase risk. For example, assets are generally seen as increasing household resilience to a disaster because they increase a household’s asset base that can be liquidated for cash or traded for necessary items that would allow a household to better rebound from the impact of a disaster. In a conflict setting, however, the same assets may become liabilities: livestock, for instance, are raided, and people can be targeted based on their presumed education or white-collar professions.³⁶

Some agencies have begun to bridge the gap between conflict management and DRR. UNDP commissioned a study in 2007 on the

Conflict-Disaster Interface Program,³⁷ which is part of the agency's initiative to mainstream DRR into its development operations. It examined nine countries that were simultaneously experiencing natural disaster and human conflict and concluded that the relationship between natural disaster and conflict is unique in each situation, is not causal in nature, and is influenced by different ground conditions. Whether or not responses to crises recognize the relationship between natural disasters and conflicts can have a major impact on affected populations' vulnerability afterwards. UNEP leads a disasters and conflicts program that also recognizes direct links between environmental disaster and human conflict.³⁸

In Kenya, given the strong link between conflict and natural disaster particularly in the ASAL areas, there have been efforts at integration. The 2007 UN Country Team's Humanitarian Strategy analyzed common causes for natural disaster and conflict risk and sought to address shared impacts on food and livelihood security, displacement, disease, and insecurity. The issues were similarly linked in the UN's Development Assistance Framework that identified peace-building capacity, conflict resolution, and reduction in small arms and weapons as components of disaster management.³⁹

In the last decade there has been a substantial push, led by the Government of Kenya (GoK), to develop a comprehensive DRR strategy in the country. The 2011 National Disaster Management Policy has a strong focus on disaster risk reduction, emphasizing the importance of preventive and mitigating measures to minimize the impact of a disaster. The policy goes beyond focusing on natural hazards and takes an "all hazards" approach:

This overarching disaster management policy takes an "all hazards" approach which means that the institutions, coordination mechanisms, processes and principles provided for hereunder strive to be relevant for any type of hazard or disaster scenario that may affect the Kenyan people. An all-hazards approach focuses on establishing lasting institutions and mechanisms that can be flexibly applied to any current or developing emergency.⁴⁰

Other examples include the work of the National

Steering Committee (NSC) under the National Policy on Peacebuilding and Conflict Management, which calls for collaboration between conflict management and disaster reduction organizations. For example, one of the members of NSC is the National Drought Management Authority that is primarily concerned with natural disasters. However, with the help of the NSC it integrates peace building into drought-mitigation programming. This is done through an organization called Peace Dividend. Communities in conflict and drought-affected areas are encouraged to disarm and share resources. The new National Drought Management Authority (NDMA) has a strategic response in its five-year plan around conflict—but of course given its mandate, this is mainly in drought-affected areas.⁴¹

Should Conflict Management and DRR Programming Build Greater Cohesiveness?

In the 1990s an analysis of the impact of interventions in conflict-prone areas led to the realization that aid and relief efforts can be counterproductive and inadvertently fuel violent conflict by reinforcing divisions among contentious groups. This reflection led to the "Do No Harm" philosophy spearheaded by Mary Anderson's famous book.⁴² Assistance programs were redesigned and humanitarian mandates broadened to incorporate a more conflict-sensitive approach to aid and relief. Over the last decade, proponents of conflict sensitivity have pushed strongly for it to be mainstreamed into the day-to-day activities of both peace-building and development organizations. This has occurred at the level of individual organizations/agencies, international organizations, and governments.⁴³ The principles of "Do No Harm" can be extrapolated beyond post-disaster scenarios to refer to disaster risk reduction given that they share similar concerns about increasing conflict risk.⁴⁴

There are instances where the DRR programming, carried out in a conflict-sensitive way, is a form of conflict management. This can occur in situations where the conflict is linked to resource scarcity and therefore can share some of the same root causes and objectives of DRR programming. This approach is premised on "the resource scarcity" paradigm. As such the

aim is reducing conflict over natural resources through improved water provision, better and more transparent management of natural resources, and development of a well-articulated resource sharing and management system. The interventions that have been carried out by various stakeholders have been in the form of development initiatives such as drilling boreholes, irrigation schemes, relief food distribution, and restocking. Disaster management therefore has the potential, if applied correctly, to contribute to conflict management as well as of reducing natural disaster risk.⁴⁵ For example, Kenya Red Cross, as part of its DRR programming, installs boreholes in communities that are highly prone to drought. However, because they work in areas of Kenya where much of the conflict happens over scarce resources, they work with local peace-building organizations to provide boreholes to communities in discord in a manner that forces the communities to work together and share the resources, reducing the incentive for conflict and increasing cooperation.⁴⁶

The 2011 Kenyan Disaster Management Policy proposed to take a multi-hazard, multi-risk, or all-hazard approach, (similar to some UN agencies and donors). Natural hazards, on their own, do not automatically become natural disasters. A hazard is an occurrence that has the potential to cause injury, loss of life, and damage to property and the environment, however it is “risk” and “vulnerability” that are at the core of what makes a disaster. In disaster management, risks refer the likelihood of a hazard turning into an actual disaster that affects humans; risks are rooted in the social, political, financial, natural, and physical conditions of the affected household, community, or country. Current thinking about *integrated* disaster management grew out of the dissatisfaction over a too narrow approach that focused primarily on the hazard itself and not the risk of that hazard or the vulnerability of the people and systems affected by that hazard.⁴⁷ By placing focus on the underlying causes of vulnerability rather than the “event” itself, organizations can begin to address susceptibility and resilience and deal with the basis of humanitarian emergencies. Given certain risks, a better understanding and analysis of vulnerability and hence the root causes of a

disaster would allow for better preventive measures.⁴⁸

3. Summary

There is a separation between conflict management and disaster risk reduction on a policy and programming level, with some exceptions. That separation, however, tends to be more pronounced at the international level; less so at the local level. Several of the organizations we spoke with that work on the ground in conflict contexts tend to incorporate either conflict sensitivity or peace building into their programming, even if overall policy does not prescribe it. For some international organizations, the decision to incorporate conflict and disaster management rests on the country-level offices.

Given that such a large proportion of natural disasters occur in conflict settings, more and more organizations are exploring integration. One of the forms that this takes is the adaptation of a multi-hazard, multi-risk, or all-hazard approach. This approach focuses on the underlying causes of vulnerability and resilience to a disaster, be it conflict or natural, something that is absent from the current definition of disaster risk reduction. By placing focus on the underlying causes of vulnerability rather than the “event” itself, organizations can potentially address susceptibility and resilience and deal with the basis of humanitarian emergencies. This is the current evolution of thinking about overall risk management.

However, there is also an argument against integrating conflict management and natural disaster management programming. Much of this argument rests on the assumption that trying to address both conflict and disaster risk could reduce the efficiency of specific programming, and the two might not be successfully managed together. This remains largely an assumption—there exists little evidence to determine whether there is an added benefit to increasing household resilience when addressing both conflict and disaster simultaneously. Much of the programming we reviewed bases “success” on whether outputs were delivered and the program

carried out rather than on any measures of impact. This is not specific to examining the impact of conflict and disaster management integration, but disaster risk reduction in general.

So whether there is a case to be made for greater integration of the management of hazards is perhaps a context-specific question. It is fairly clear that, to date, these have been managed in separate spheres of policy and practice. We have argued that to some extent, this separation of different kinds of hazards into different programming and policy realms has probably resulted in opportunities lost for better impact in overall risk reduction, or risk management. And clearly, local communities are vulnerable to both kinds of hazards, so focusing only on one, as a matter of national or organizational priority, seems shortsighted.

There is little doubt organizations have specific capacities, and no one organization can do everything. Likewise, government departments and ministries (and for that matter, donor agencies) have specific mandates. And there continues to be the perception that interventions that deal with conflict are “political” whereas interventions that deal with natural disasters are, if not apolitical, at least less politically fraught than conflict. On the one hand, this makes organizations hesitant to engage with conflict prevention. On the other hand, the principles of engagement with conflict tend to suggest that some of the same characteristics of engaging in humanitarian action apply equally to peace making. Much of the perception tends to revolve around the way in which governments perceive the issue.

In Kenya, with a history of both conflict and natural disasters, the policies of the government seem to be toward increased integration of the management of different kinds of risk. Therefore, Kenya offers a good case for exploring these issues in greater depth. ■

ACTORS AND ACTIVITIES IN CONFLICT MANAGEMENT IN KENYA

Conflict management refers to actions taken to contain, or at the very least mitigate, ongoing violent conflict by limiting the scale of destruction and suffering, or any potential spillover effects into other geographic areas.⁴⁹ Over the past five years, Kenya has witnessed an unprecedented growth of conflict resolution or conflict management initiatives in the aftermath of the 2007–08 political violence. Many of the new conflict management organizations that have emerged over the last five years are Civil Society Organizations (CSOs) and NGOs. CSOs have come to be considered particularly suitable for conflict management work because they are considered more “flexible” than government or international institutions. Thus flexibility is manifested in the wide range of activities provided in conflict and post-conflict situations, including confidence-building between conflicting parties, lobbying for peace, psycho-social care, awareness-raising, retraining of ex-combatants, and organizing reconciliation events rather than focusing on belligerents. Generally, they are thought to be more knowledgeable about local institutions and are therefore more likely to represent the interests of the local communities.⁵⁰

There has also been an added focus on “traditional institutions.” Traditional institutions are seen to be resistant to violent conflict—the underlying assumption being that “the potential for peace building, such as authentic leadership, already exists in the particular region or community and hence is rooted in its ‘traditional culture.’”⁵¹ Traditional institutions may also endorse violent conflict as well. These may be elders, local chiefs, and other types of community leaders. These groups or individual have been the focus of conflict mitigation, establishing dialogue between communities, initiating peace projects, and other conflict management activities.

A concept central to the current conflict management approach is the “paradigm of participation” according to which broad representation reflecting the diversity of civil society is a cornerstone for giving voice to the

subordinate and marginalized in peace forums. Such empowerment is critical to leveraging the bargaining power of local communities vis-à-vis powerful national and intergovernmental bureaucracies. The vision is that by including people in decision making who are perceived to be disadvantaged or marginalized we will promote a fairer and more equal society.

However, while CSOs and traditional institutions are meant to reduce conflict among individuals or communities, it is understood that conflict generally only occurs in a permissive environment that enables group leaders to prefer violence as a mode of political bargaining. The choice to use violence to achieve a certain end is not inevitable. A “window of political opportunity” helps to explain why, among some groups under some circumstances, violence breaks out—both within and across state boundaries—and why, among other groups in very similar circumstances, it does not:

Mass violence results when leaders see it as the only way to achieve their political objectives and they are able to mobilize groups to carry out their strategy. Without determined leaders, groups may riot but they do not start systematic, sustained campaigns of violence to achieve their goals; and without mobilized groups, leaders are unable to organize a fight.⁵²

Part of the peace agreement signed by the coalition government in February 2008 included establishing institutions that are intended to look into long-term injustices. Hence the government and international institutions have also designated more broad programs to help reduce an environment that is conducive to conflict. “Those strategies include putting in place international legal systems, dispute resolution mechanisms, and cooperative arrangements; meeting people’s basic economic, social, cultural, and humanitarian needs; and rebuilding societies that have been shattered by war or other major crises.”⁵³ For example, the International Criminal Court is currently investigating into the responsibility for the 2007–08 post-election violence, and several

Kenyan leaders are under indictment, including the current president. Other efforts in Kenya include the Truth, Justice and Reconciliation Commission, the National Steering Committee for Conflict Management, the National Cohesion and Integration Commission, and the Uwiano Platform, which brings together key partners under one structure.

This section focuses on examples of different types of local interventions carried out by NGOs, CSOs, and district and local peace committees, as well as their impact on conflict management. Considering Kenya's socio-economic background, we focus on a widespread type of peace interventions. There has been a recognition of the role of multiple causal factors and interests at work in these conflicts, and hence the plethora of conflict management approaches deployed by those working in and on such conflicts.

1. Examples and Impact of Activities

Community Dialogue

Much of the community dialogue is done through local structures, the most common and institutionalized of which are the Local and District Peace Committees established through the Government of Kenya—built on the success of Peace Committees in Wajir that were convened by civil society actors.⁵⁴ With contemporary District and Local Peace Committees, a location chief, and therefore representative of the government, would go to a village and ask the community members to nominate 15 people, based on DPC guidelines and representative of women, elders, and youth, to a village (sub-location) peace committee to discuss conflict issues. The goal of this institution is to develop a consensus at the village level of the conflict and associated problems of that village and each of the represented groups. The LPC provides a venue to discuss specific issues or conflicts that have arisen.⁵⁵ The 15 members from each of the sub-location peace committees would then meet with other sub-location peace committees and elect 15 individuals to represent them on a local (location) peace committee. The same process happened on the

division and district level leading up to the District Peace Committees.

In both Isiolo and Burnt Forest, a high level of animosity exists between the different groups: “community relations have been characterized by hatred, acrimony, blame games, and fear.”⁵⁶ The goal of the community dialogues is to restore trust and a common bond, minimize suspicion amongst the affected groups, and move towards reconciliation. Dialogue immediately after a conflict is initiated to restore the trust necessary to allow communities to work and live together. Most organizations have also attempted to set up structures to allow for ongoing community dialogue with the aim of preventing the breakout of future conflict.

One interviewee working for a local peace organization in Burnt Forest recollected an incident in which her organization's vehicle was almost burnt down by irate IDPs because of her ethnic identity. Her organization had to start the conversation and reconciliation process through communicating via letters. It took three months for the victims to open up and feel comfortable enough to work together.⁵⁷

The work carried out by these peace committees is partly done in order to provide a space for discussion, but also for mediation between parties in the event of actual conflict. Their aim is to resolve ethnic conflict involving land disputes, theft that was blamed on a specific ethnic group, and other issues of conflict through dialogue. (See Box K4). The idea is that dialogue would allow communities to open up, to discuss issues that they could not openly discuss before, and permit for different ethnic groups to discuss these issues under one roof.⁵⁸ This allows individuals to hopefully work out problems through the LPC, rather than resulting through violence.⁵⁹ If a problem cannot be resolved in the Local Peace Committees, then it is taken up to the District Peace Committees and eventually to the NSC or to the police.

Box K4: Wareng District Early Warning and Conflict Resolution

Sometime in December 2011, a group of people from the Kalenjin community in Eldoret hired a public service minibus to transport them to their rural homes just near the border of Wareng and Nandi Districts. The public service vehicle was being operated by a crew who come from the Kikuyu community. The whole of Eldoret and outlying areas witnessed some of the worst election violence following the disputed elections in December 2007, and the two communities were pitted against each other over a host of grievances stemming from land ownership and perceived historical injustices.

Once the vehicle reached the destination, the passengers recanted on the amount of fare they had previously agreed to with the crew and refused to pay up, sparking a heated argument. The passengers raised the alarm, and though it was late at night, fellow villagers came to the rescue of their village mates. However, after a lengthy and stormy confrontation the passengers finally relented, agreeing to honor their deal and soon, the public service crew was on their way back to Eldoret. But this was not to be—what they did not know was that the group that had hired their vehicle had used their mobile phones to call their friends in Eldoret town, claiming that the crew had robbed them of their money. So, on reaching Lemook, about ten kilometers from Eldoret, they found the road blocked with stones. A mob of Kalenjin youths pulled the driver and his tout from the vehicle and started slashing them mercilessly with machetes. The driver succumbed to his injuries but the tout managed to escape and upon his arrival in Eldoret alerted his friends of the incident.

Enraged members of the Kikuyu community vowed to avenge the death of the driver and converged at Langas, where they blocked the road as they planned the revenge attack. A potentially explosive conflict situation was in the offing.

When a member of the District Peace Committee was informed of the unfolding events, she rushed to the scene and started pleading with the crowd not to retaliate and give peace a chance. She had by then communicated with the District Commissioner and area chief of police who arrived at the scene soon after. They were able to convince the angry crowd that the culprits would be brought to book. Towards this, they set in motion the process of convening a joint peace meeting for the Kalenjin and Kikuyu at Lemook the following day to discuss ways of diffusing the situation.

Following lengthy deliberations by members of the two communities, the Kalenjin agreed to identify the culprits—both those who had started it all by claiming to have been robbed and those who actually attacked the vehicle crew. That same day, seven suspects were arrested over the killing of the driver and the assault on the tout. Over the next few days, several other people were arrested and charged in connection with the incident. Public service vehicle operators who had vowed to withdraw their services went back and an inter-ethnic conflict was prevented.

Source: Interview Notes

Besides LPCs and DPCs, NGOs, CSOs, and various local organizations also utilize community dialogue for peace building. These organizations generally foster dialogue in groups broken down by gender, age, ethnicity, or

religion focusing their efforts individually on women, elders, youth, and/or warriors. Many coordinate or invite the participation of LPCs or DPCs in the dialogue sessions. Local organizations, such as the CJPC, utilize parallel

peace dialogue structures that feed into the LPC and DPC structure. They help organize peer dialogue groups—women, elders, and youth. These groups discuss what is happening locally, and the intent is that their discussion and concerns funnel upwards to the location peace committees, then to the DPCs, and are therefore linked to the national (NSC) peace committee structure.

Other civil society organizations are involved as well. For example, Rural Women’s Peace Link (RWPL) helps organize dialogue between women from different ethnic groups. Breaking down dialogue by ethnicity, gender, age, religion, etc. allows individuals to discuss issues specifically pertaining to their group. In some cases, representatives are then chosen from each group to discuss conflict on a larger level, while other organizations use these categories to initiate dialogue between different ethnic groups. This allows for a common bond to develop based on gender and the assumption that women and children are the main victims of conflict. The Peace Caravan in Isiolo takes a similar approach as Rural Women’s Peace Link, but with a special focus on professionals and warriors. However, where RWPL brings women together on the basis that they are the main victims of conflict, professionals and warriors are seen as the key actors in perpetuating conflict. Professionals, many of whom do not live within the districts, but rather in urban centers, such as Nairobi, have the financial resources and connections that help fund much of the conflict in Isiolo.⁶⁰ Where professionals are perceived to fund the conflict, warriors are seen as one of the main perpetrators of conflict. Therefore, the goal of facilitating dialogue between these actors goes beyond reconciliation, with the end goal of conflict prevention.

The impact of community dialogue as a means of *reconciliation* after conflict was seen by many respondents as positive. Peace-building structures with a focus towards community dialogue were able to relieve initial suspicion, and communities were able to interact and return to the status quo—“students can go to school, people intermingle in trade centers, intermarriages are ongoing, casual work is done together, Kalanjin can now book a Kikuyu lodge at night.”⁶¹ This

was apparent in the return of trade between the communities and the opening up of schools: “children from Tharaka and Tigania can now go to school together.”⁶²

The impact of community dialogue as a means of *preventing future conflict* is more difficult to ascertain. Several institutions referred to the return of stolen assets and livestock as an indicator of peace building as well to anecdotal evidence of victims forgiving their neighbors who might have looted, burned, or even killed their relatives. “Some people who burnt houses or looted the property of the IDPs have since repented of what they did, and even returned looted property to the rightful owners. In other cases, there has even been reconciliation between people who had family members killed and those who did the killing.”⁶³ Other potential indicators of peace building are the return of IDPs to their farms, sometimes by invitation from the perpetrators of the violence.

Part of the criticism from some respondents was that dialogue-based approaches seem to be about re-establishing the *status quo ante* and hence are not capable of addressing underlying problems that are at the root of conflict. At face value, there is no reason why dialogic approaches could not be applied to more underlying issues, but there is limited evidence of this having been done. One positive example is that two communities, after participating in the community dialogue sessions, came together and agreed on electoral boundaries that they successfully brought to the district.⁶⁴

In Isiolo, community dialogue sessions in 2011–12 with professionals and warriors have led to fewer numbers of raids and stolen livestock in the participating communities, as well as evidence of different ethnic communities sharing the same pasture for grazing.

The DPCs have also reported some success in the community’s perception of them as arbitrators of conflict, with the hope that problems can be peacefully resolved without the outbreak of violence. Their effectiveness in some areas can be witnessed by the fact that communities are more willing to inform them if there is a problem

rather than turning to violence. In Eldoret, the DPC is often called in to help resolve varied situations that go beyond their mandate, such as criminal cases of rape, theft, and arson. They have even contributed to three arrests in the past year.⁶⁵

However, there is also evidence of the limited impact of dialogue. Several respondents lamented that for all the positive change happening in the communities, the sense persists that they could again be incited to violence. A village head in Isiolo commented that they have been having peace dialogues in their community and still conflict breaks out. There is fear that some individuals who actively participate in the peace dialogues might not be genuine in their transformation as they still hold on to the materials looted during the violence from their neighbors. Furthermore, when some of the

underlying causes such as “land” are mentioned they revert to the attitude that their neighbors are “foreigners.”⁶⁶ Similar responses are triggered when politicians attend the meetings and speak divisively.

Connector Projects

The best example of a connector project is the Amani Mashinani approach initially implemented by CJPC (Catholic Justice and Peace Committee) that utilizes dialogue (See Box K5), but goes one step further and combines it with financing small community connector projects such as building roads or bridges between affected and different ethnic communities. The novelty of Amani Mashinani was the convergence of development or livelihoods projects and fostering dialogue between the aggrieved communities for the goal of reconciliation.

Box K5: Amani Mashinani

Amani Mashinani (peace in the village) is an initiative of the Catholic Diocese of Eldoret. The Bishop and his Diocesan staff had been involved in several peace initiatives through seminars and trainings in hotels or facilities usually located in urban centers or towns. Initially, these involved representatives of the Pokot and Marakwet communities who have been involved in long-running raids over resource access and control and cattle rustling. These people were expected to go back to their communities and impart the lessons they had learned during the training. However, before long, the conveners discovered only the same faces kept on attending the seminars and upon further investigation discovered these people had lost the confidence of their villages. This discovery prompted the Bishop and his employees to devise another strategy of ensuring that they reached out to the village residents who were the real perpetrators and victims of violence—hence the term *amani mashinani*. In short order, their efforts bore fruits through directly engaging communities in dialogues. It is this tested strategy that the Bishop employed in the aftermath of the 2007–08 post-election violence in stopping the conflict and restoring peace among affected communities in Eldoret and its environs, which were hard hit.

The Bishop and his staff acted quickly by adopting lessons learned from previous peace initiatives with the Pokot and Marakwet communities as well as that gained from experiences of the 1992 and 1997 clashes and applying them to the new situations in Burnt Forest, Kimumu, Timboroa, Munyaka, and other areas affected by the post-election violence. They adopted a 12 step-by-step approach in grassroots peace building, which achieved some remarkable results despite the mitigating factors:

1. Analysis, Intervention, and Interruption
2. Protection, Sanctuary, and Relief for the Affected

Continued on next page

3. One-to-One Meetings
4. Small Group-to-Small Group Meetings
5. Sharing Food
6. Intra-Ethnic Meetings
7. Airing of Grievances
8. Preparation of Agenda and Inter-Ethnic Meetings
9. Reporting Back and Consultations with Communities
10. Peace Connector Projects
11. Social Contract
12. Monitoring and Ongoing Development of the Agenda

The implementation may differ from one specific area or situation to the other, but the 12 steps proved effective in bringing communities together again.

Source: Interview Notes and the book, Amani Mashinani

The use of “connector” projects to foster peace is not isolated to CJPC’s Amani Mashinani program. In our research we encountered incidences of unassisted efforts at community dialogue and “connector” projects. In one of the communities torn by ethnic violence, a member of the community started a nursery school that deliberately tries to get children from both communities and was built in a “neutral location” so that one ethnicity cannot claim sole ownership of the school. The parents meet to discuss the management of the school. The feeling of the interviewee was that these multi-ethnic meetings are critical not only to running the school, but also in fostering a joint purpose and commitment between the communities.⁶⁷

Early Warning and Monitoring

LPCs and DPCs are tasked with the reporting of any potential conflict. Community members are mobilized to participate in reporting “early warning” signs to their Peace Committees. The DPC in Wareng has even established a SMS line for reporting purposes. In response, the DC or chief may call meetings to find out the cause of the problem and address the issue immediately. For example, in Eldoret, community members reported the printing of leaflets—a mechanism by which one community spreads leaflets during the night warning another community that they should leave or they would be attacked, a tactic that invokes fear in the hope of displacing specific ethnic populations. This information

was reported to local organizations and government, enabling a rapid response to confront the problem.

Early warning is not only the prerogative of the government-sanctioned Peace Committees, but also some organizations involved in peace building. IOM (International Organization of Migration), for example, similarly works with LPCs to report on signs of potential conflict, using a similar set of indicators. This approach is referred to as “community scanning,” whereby if anyone hears anything worrisome they immediately report it to the chief, other local leaders, the DC, and the IOM office in Nairobi.

The established peace groups are also used for conflict monitoring. During the 2008 post-election violence in Burnt Forest, the women’s peace structures put in place by the RWPL were used to report conditions on the ground to the RWPL. They would call from camps, communities, and police stations, reporting offences committed and their location. In one instance they were able to provide information on the movement of a group of young men headed in the direction of a community of a particular ethnic group. RWPL in response was then able to contact the local Bishop in order to intervene and intercept their procession.⁶⁸ In Isiolo, where livestock theft and raids are a large component of the conflict contexts, DPCs are tasked with monitoring and recording

incidences, and alerting authorities. While DPCs appear to successfully report potential incidences of conflict, unfortunately the response to early warning signs has sometimes been erratic and confused, and some distress reports are treated casually by the local security apparatus.

Shelter Construction

Shelter construction was one of the most prominent activities carried out in Burnt Forest following the post-election violence by the Japanese government, African Development Bank, IOM, KRC, and the Danish Refugee Council. Most of these organizations combined the construction of housing with peace building and used a conflict-sensitive approach. Kenya Red Cross, for example, provided houses to members of both communities, so as not to exacerbate the existing animosity between them. Labor was sourced from both communities as a way of deepening the reconciliation work. IOM provided housing material, encouraging the recipients to put up the structure themselves and then hire someone from the other community to help with mudding the walls. During the construction, the two communities are meant to share food and re-establish their relationship. DRC integrated housing construction for returning IDPs with community dialogue sessions.

The provision of shelter and its construction via a conflict-sensitive and peace-building approach had the two-fold goal of meeting a household's basic needs to allow for faster recovery and community reconciliation. Though the provision of housing materials fell far short of meeting the immediate needs of re-establishing some kind of livelihood security, three years after the post-election violence there is now a large gap in terms of recovery between households that received housing materials and those that did not. In compounds where many of the households were still living in tents, many could not afford tractor hire and had to cultivate their plots by hand. The chairman of one of the farms said, "Though there were many other needs at the time, the provision of housing was the critical single factor that enabled people to get back on their feet."⁶⁹

Livelihood Activities

Livelihood programming focused on building up human capital, financial capital, and physical capital. Interventions with the goal of increasing human capital were most visible in Burnt Forest. Part of the rationale was with an eye towards youth who were seen as some of the main perpetrators of the post-election violence. It was reasoned that one of the causes of the violence was a low level of youth employment, and idleness. In Wareng, youth initiatives were funded by USAID, providing young people with training on computer literacy. Mercy Corps carried out trainings on leadership, financial literacy, investment, and savings for youth through group work. Women from both communities were targeted for business and micro-enterprise training, carried out in mixed ethnicity groups to promote reconciliation and build trust. The Burnt Forest Market was also rebuilt, with an understanding that it would be mixed—Kikuyu and Kalanjin stalls—to provide a shared location for women to carry out their micro-enterprises. Micro-grants were provided to women, youth, and returning IDPs. Youth had to form multi-ethnic groups and compete for the micro-grants. Returning IDPs and members of the host community were selected to receive a 15,000 Kenyan shilling grant in order to avoid breeding resentment. Youth employment was also addressed by the creation of a cash-for-work program.

Agricultural inputs were a large part of livelihood-for-peace type interventions in Burnt Forest. CJPC, in partnership with CRS, provided seeds and fertilizer to returning IDPs. The US Embassy provided fertilizer and dairy cattle with the agreement that the offspring of the dairy cattle were to be shared with a member of the other ethnic community (Kalanjin or Kikuyu) to foster reconciliation.

In Isiolo, some organizations have developed projects whose aim is to reduce inter-community tensions arising over contested resource allocation (see Box K6). These projects were aimed at integrating peace-building objectives into development projects. As such, some of the projects were aimed at creating sustainable livelihoods and sources of income, especially through diversification outside the pastoralist

focus on cattle economy. These projects are located in areas that have traditionally been considered as violence hotspots due to scarcity of resources.

Civic Education

Oxfam, RWPL, and the Amani People's Theater Group provided information around the ICC and the 2011 constitutional referendum in order to demystify the process and make sure individuals had the right information to make an educated decision. Prior to the referendum, the Amani People's Theater Group went to

communities, identifying literate populations and distributed booklets of the proposed constitution so that the literate population could read and then translate it into the local language for their communities. The goal was to provide factual information on the referendum and dispel some of the false rumors that were circulating at the time.

The land issue was also addressed. The Amani People's Theater Group engages in street theatre around cattle rustling, competition over natural resources, and the land questions in communities

Box K6: Establishing Peace Pacts through Livelihood Projects

During the 2011–12 drought response, KRC adopted a two-pronged response. One was to address the immediate humanitarian needs of communities in the form of provision of food, water, and health care. The second was to address the longer term needs of communities through diversification of livelihoods by putting in place long-term projects targeting addressing the livelihood needs. As such the essence of such an approach is that it puts people at the center of the analysis and is cross-sectoral.

Understanding the asset base—land and livestock, human, financial, and social capital—is important, as this will give an indication of the degree of drought resilience that a given community will have. Under the objectives of these long-term projects, KRC argued that it was important to “build back people’s livelihoods. With the drought accelerating the depletion of livelihood assets of vulnerable communities, it is important to ensure that robust recovery initiatives are developed, implemented and linked to ongoing development programs.” Moreover, KRCS consciously noted the immediate linkage between compromised livelihoods and conflict among the nomadic-pastoral communities. Therefore, a key objective of the long-term projects was to reduce conflict among pastoral communities.

These projects were implemented in 22 different sites across the country for a period of between two to three years. Whereas it is too premature to measure the impact of these projects, gains are already being recorded with regards to peace building. For example, one of the projects located in the Tot-Kolowa area of the Marakwet and Pokot District borders in Northern Kenya has already been a key factor in creating a peace pact between the Pokot and Marakwet communities who have been traditionally in conflict. Under this project, water for irrigation is to be pumped from the Marakwet side the Pokot territory to establish an irrigation scheme. With the Pokot territory having no source of water for irrigation, this project provides an opportunity to diversify livelihoods in a community that has been predominantly pastoralists. The Marakwet, having agreed to supply water to the Pokot, established a strong basis for a peace pact between the two communities. At the request of the Pokot, KRC was able to facilitate dialogue between the two communities to establish a long-term peace agreement. In this sense the project is not only addressing the long-term needs of both communities, but it is also a connector project providing an opportunity for warring communities to rally around a common cause.

Source: Interview Notes

to establish dialogue, provide information, and sensitize and empower communities. This is done in different communities that are then brought together to discuss and work towards resolution. The Isiolo Human Rights Network also carries out advocacy in Isiolo around conflict over land. In Burnt Forest, CJPC hired a lawyer to work with communities in order to draft a memorandum regarding the land issues to share with the Truth, Justice and Reconciliation Commission.

The RWPL worked with women to discuss and confront issues of political accountability, identification of negative politics, creating political awareness and accountability, and sensitizing women on their rights, with the hope that this information would deter them from being rallied by politicians during the election season. Part of this process was via the creation of Wareng Bunge (grassroots parliaments) to bring together women in order to discuss current affairs.

Youth are also targeted by Mercy Corps for civic education. Elders are brought in as mentors with the objective being to give youth a voice in the government and facilitate an environment in which they can come together, discuss issues, and propose solutions. The program exposes youth to current issues and how they are related to their demographic.

Disarmament

In Isiolo, a “voluntary” disarmament exercise was announced in 2010, but many respondents thought that no meaningful disarmament was done. While the majority returned firearms on a voluntary basis, some groups were never disarmed. This leaves other communities vulnerable to preemptive attacks. Others also point to the long lapse of time, usually 4–6 months, before the actual policy is implemented. This is likely to create a window in which those who hold guns may either find ways of concealing their weapons or move on to safer neighboring divisions.⁷⁰

The failure of disarmament is partly due to the historically militaristic approach to peace in Isiolo by the government, and has so far

produced more bitterness, suspicion, and fear of the government. Hence the low levels of legitimacy the government enjoys in the area. A report compiled by the Kenya National Focal Point on Small Arms and Light Weapons with the Ministry of Foreign Affairs of Denmark makes the following alarming observation that “the number of the weapons has increased from 300,000 to between 530,000 and 680,000 despite various measures that have been put in place to address the problem.”

Security Sector Reform and Policing

Senior government officials have accepted that there was very little to show regarding the success and effectiveness of community policing: “We attach a great deal of importance to community policing but we have not done well in that area.”⁷¹ The same official also blamed the Treasury for withholding funds meant for equipping the two services. Moreover, while some legislative reforms have been rolled out, including police recruitment, salary review, and welfare reforms, a new police-training curriculum that is currently being implemented by the police training colleges, preparation of training curriculum, and the drafting of five Bills,⁷² have yet to “trickle down.”⁷³ As for policing done by community members, similar to the DPCs, the impact is marginal given the slow or nonexistent response of the government security forces.⁷⁴

2. Constraints to Conflict Management Programming

In the past five years the number of NGOs, CSOs, DPCs, and loosely organized community groups that have been established in the name of conflict management has grown substantially. However, many of these organizations have no clear objectives besides a vaguely defined intent “to reduce conflict.”⁷⁵ Many peace-building activities are not guided by any underlying grounded theory or overall strategy, and much of the work is uncoordinated—either internally amongst themselves, or with government or other grassroots efforts. For example, in Isiolo, there are multiple NGO-funded projects under the theme of conflict early warning. These included engagement with communities during periods of relative resource stress such as

droughts with the goal of diffusing tensions, whereas ostensibly such effort should be coordinated under the District Steering Group (DSG). Many NGOs do not share with the DSGs information on the type of programming they will be carrying out in their districts.⁷⁶ In both of the research sites in 2011 and 2012, DPCs were quite effective at conflict early warning and monitoring, but they have often not been supported by a corresponding rapid response from the government—either local administration or the police. By the time of the 2013 election, this situation had changed significantly in Isiolo. There is limited networking between local NGOs and the DPC with regional organizations such as IGAD-CEWARN in order to strengthen the local capacity of peace interventions and to coordinate better response to distress situations. The limited exchange of knowledge between decision makers, practitioners, researchers, local communities, and local government is an obstacle to effective peace interventions.

The lack of coordination means that conflict management activities, such as inter-community dialogues, might appear ineffective in preventing future violence. While there is evidence that dialogue through DPCs or NGOs is a good means for fostering reconciliation between different parties, if there is no concrete follow-up that addresses the cause of conflict by other institutions (livelihood programming) or government (security, disarmament, prosecution of offenders), the peace might be easily broken due to elections or other instigating factors. As a result, a potentially useful mechanism—inter- and intra-community dialogue—often seems ineffective in preventing conflict.

While inter-personal exchanges may address mistrust, suspicion, and hatred, they need to be accompanied by a more concrete programming that addresses root causes. NGOs and government should collaborate more effectively with DPCs and exploit their core competencies in order to better integrate the peace-building effort of DPCs with development programming. DPCs, on their own, do not have the capacity to address the numerous root causes of conflict; their goals should be to identify potential conflict (early warning) and notify appropriate

channels, mitigate where possible, and provide a venue where inter-personal or local conflicts can be resolved. However, this is only a short-term approach, and is ineffective without complimentary efforts by NGOs and government to address the core and long-term causes of conflict—political impunity, landlessness, poverty, etc. For example, one of the main differences between Isiolo and Burnt Forest is the government provision of police and overall security in Burnt Forest, compared to Isiolo. This has had a large impact on the ability of DPCs to carry out their work. In Isiolo, DPCs have only managed to work in the Central Division of Isiolo County, but much of the conflict is in the periphery and pastoralist zones; community outreach at the village level has been particularly extensive in Burnt Forest.

The comparative advantage of DPCs, CSOs, grassroots organizations, and their participatory methodology is that they have a direct link to the pulse of the community. However, NGO- and government-organized peace meetings do not always take advantage of this. One of the main complaints heard over and over in interviews was that many of the organized peace meetings had poor representation of government officials and influential politicians, as well as of members of the local communities directly affected by the violent conflicts.⁷⁷ In most meetings, those perceived to be community leaders (local MP, councilors) have always had an erratic attendance and commitment record and/or refused to attend.⁷⁸ The majority of the representation was made up of NGO officials, individuals with varying levels of influence among ordinary people.

Currently, in Kenya governmental and nongovernmental peace-building interventions are mostly located in urban and semi-urban areas and involve formal training and “peace” meetings with a smattering of youth and women representation. By and large, these have yet to engage the real perpetrators and victims among local people. Moreover, local institutions are sidestepped and are, in some cases, perceived to be the problem, without any critical analysis of conflict situations. This problem of representation has been marked out as critical to sustaining peace initiatives, especially given the

increasing involvement of civilians as both perpetrators and victims in violent conflicts. This is consistent with studies, which indicate that the role of politically influential individuals is crucial because they can use their credibility and position to influence governmental officials and the broader society, and yet since they are not officials they have more flexibility to participate in the process and will be more open to change given their distance from the decision-making process.⁷⁹

Limited funding, the associated volunteerism, and lack of transparency in selection criteria all limit the ability of DPCs to identify and mitigate community-level conflict. DPCs function on shoestring budgets with very little logistical support. The little they have obtained is in the form of security escorts and transport, which have been provided inconsistently. To plug financial gaps, members have resorted to soliciting support from wealthy community members (especially in Isiolo), relying on the voluntary spirit of participants, internal fundraising, and NGO contributions.

While one of the more effective components of DPCs is their ability to be in touch directly with the community, reaching people on the ground has been difficult. Visits to the grassroots are usually only undertaken once a week, if that. Notably, the voluntary nature of such work has taken a toll. Given the large distances DPC members have to travel to reach their communities, they are sometimes unable to afford to travel when called for. In the eyes of one informant, “The DPC people are town guys and so they never reach the villages.”⁸⁰ We found that some of the most successful DPCs were those that had members who were able to have access to personal funds that allowed them to be much more responsive to their community needs.⁸¹

In some cases, ethnic identity and political inferences have constrained the work of peace committees. This was reflected in both the ethnic stereotyping in discussing the drivers of conflict as well as the actual “peace” work. Warring communities are “identified” and expected to come to the table for peace negotiations. The view amongst many, even in

the peace-building community in Isiolo, is that “Samburu cultural warrior rites are a major cause of violence” while “the Meru are perceived as silent participants in conflict.”⁸² The Turkana were described as “outsiders,” “lazy,” “violent,” while the Meru as “inciters,” “people who bankroll and misuse Turkana for their ends,” and “expansionists.” Borana and Somali are seen as “corrupt, insular, and given to exploiting other pastoral communities.”⁸³ Similarly, in Burnt Forest, Kikuyu were described as “outsiders,” “expansionist,” “insular,” and “people who do not reciprocate help offered to them,” while Kalenjin were described as “un-accommodative,” “warrior-like,” and “given to violence.” This creates conditions in which it is difficult to make even initial steps in peace building.

The view of communities and ethnicities as monolithic further guides the conflict management approaches, causing whole communities to be criminalized and treated as culprits when one unknown member of that community is implicated in cattle rustling. During the research, security forces undertook disarmament operations in communities that were raiding others. During these operations, male adults were asked to give up their guns or face severe punishments. The assumption right from the onset of such operations was that being an adult male of a certain ethnicity means you are more likely to possess a gun.⁸⁴ Indeed, as argued by Birch and Waqo (2003) regarding dilemmas of communal punishment, on the one hand it is seen as having contributed to improved security, while on the other, when it is not possible to get information on the person who committed the crime, it is seen as often targeting, with no legal basis, innocent parties of the same clan rather than the actual culprit.⁸⁵

3. Summary

In this section we discussed some examples of the types of activities, their impact, and constraints to successful programming in Burnt Forest and the Isiolo Triangle. Most people interviewed suggested that the impact of their work is immeasurable, and anecdotal evidence tends to suggest that the general acceptance of “peace” is indicated by such empirical facts as students can now go to school, people

intermingle in trade centers, intermarriages have taken place, people carry out casual work together, "stolen" goods have been returned, and that "a Kalenjini can now book a Kikuyu lodge at night."⁸⁶ The number of rebuilt shelters, number of tools and seeds distributed, number of meetings held, and number of IDPs returned have also been mentioned as indicators of the impact of their work.

The absence of overt conflict (called "quietism" by some observers) was thus cited in both study areas as the overall "indicator" for program impact. Indeed, "peace"—defined as the absence of conflict—seems to be the default answer by most actors in the evaluation of the success of their work. In several interviews respondents mentioned peaceful referendums, peaceful "peace rallies," etc. as evidence of the impact of their work.

While the evidence may not be measurable *per se*, the effect has been to succumb to the force of the "reverse logic" of peace building, by which is meant that where conflict is absent then *ipso facto* their work is successful. And as a result, "their effectiveness is conceived as 'natural' or common sense ... as grounded in unquestioned assumptions about social change and interactions."⁸⁷ This perspective ignores the "legacy of bitterness"⁸⁸—the cumulative grievances resulting from either previous conflict or from the historical causes of conflict—which undermines any simplistic notions of success. Whereas *negative peace* (a law and order view) is the absence of direct violence, *positive peace* includes in addition the absence of structural violence, and cultural violence, which offers people the normative justification for using violence against the "other." Moreover, peace is also defined as a continuous process rather than a passive state.

This is not to say that there has been no impact, but rather that many of the organizations working around conflict management have not set explicit criteria and indicators of success, making the measurement of impact extremely difficult. Where attempts at measuring impact are made, they are often linked with managerial standards, targets, and deadlines or financial accountability. Efficiency and specialization of

organizational roles to ensure effectiveness is the main priority in many of the programs we explored. There is also a sense that donor policy concerns and priorities are driving peace programs and are the measurement of their impact, especially in terms of their short-time horizon and their concern for financial accountability. This tends to work against the need to see peace building as a long-term venture and the fact that performance accountability is equally important. Consequently, efficient fund utilization, number of activities held, and number of program beneficiaries are all used as proxy measures for program impact.

Just as there are severe constraints in how these organizations measure impact, we similarly found constraints to the programming itself: lack of coordination between peace-building programs, no follow-up or support from the government on incidences reported by the DPC, programs do not address root causes of the conflict, programming does not target the rural communities directly involved in the conflict, and limited funding. In the next section we explore the 2013 election and how international, national, and local conflict management programming contributed to the prevention of violence. ■

CASE STUDY—2013 KENYA ELECTIONS

On March 9, 2013, following a tense but relatively peaceful election, the Independent Electoral and Boundaries Commission (IEBC) declared Jubilee Coalition's Uhuru Kenyatta president-elect.⁸⁹ Kenyatta won with 50.07 percent of the vote, which barely passed the threshold for victory.⁹⁰ Despite some clashes preceding the vote, and following the court's decision, the nation avoided a repeat of the 2007–08 post-election violence. The 2013 elections were the most peaceful since reintroduction of multi-party politics in 1992.⁹¹ In this section we explore some of causes of the different outcomes in terms of election-related violence in 2007 and 2013, and their implications for conflict management programming.

1. Factors that Prevented Conflict in 2013

The availability of resources meant that stakeholders had the luxury of planning well ahead of time for the 2013 election. Various platforms were developed early on for coordination between the major stakeholders, such as the important Uwiano Platform, where government agencies and civil society worked together. Nevertheless, some members of civil society also noted that their sector was scrambling at the last minute with coordination mechanisms. This necessitated some last-minute adjustments, with active members stepping up and taking lead roles supporting coordination and collaboration in key potential geographic hot spots.

One way of analyzing the situation is to consider the factors and types of peace-building activity or conflict management mechanisms that were in place at the national or County and local levels during, prior to, and post the election period, and look at their perceived role, efficacy, and influence on whether or not conflict took place in any particular location. In this section we discuss some of the factors that contributed to reducing the possibility of conflict surrounding the 2013 elections.

National Level Factors Considered to Have Influenced Election Behaviors

A number of factors at the national level help to explain the different outcomes in 2013 compared to 2007–08:

Political Alliances: One of the major factors in the 2007–08 elections was the way the lack of transparency and accountability of the Electoral Commission of Kenya and associated delayed announcement of the presidential election results was allowed to feed into an ethnic dimension that tapped deep historical grievances. In the aftermath of the 2007 elections, there were large-scale attacks on the mostly Kikuyu migrant communities in the Rift Valley, and retaliatory attacks against Kalenjin or Luo communities in other places. Thus one of the traditional ethnic “fault lines” since independence was played out along political party lines. The anger at the announcement of the presidential election and the loss by the ODM exacerbated the feeling that once again they had been cheated or disadvantaged by a perceived blatant manipulation of political power; in this case the perceived rigging of the voting.

In the 2013 elections, the two major competing political coalitions were the Coalition for Reform and Democracy (CORD) and the Jubilee. Importantly, the political party alliances did not reflect the same set of historical ethnic rivalries. In this case the winning party consisted of an alliance between the Kikuyu and Kalenjin leaders. Thus the two communities that had seen such violence in 2007–08 were within *the same* political alliance rather than opposed against each other. While there were apparent reported tensions within this alliance and reports of some degree of unhappiness at the grass roots level within this “marriage of convenience,” many respondents nevertheless considered this a major factor for the lack of violence.

The International Criminal Court (ICC): In response to the 2007–08 Post Election Violence (PEV), Kofi Anan oversaw a peace agreement that took a meaningful look into the nature of the violence. When Anan was able to reach the end of negotiations in February 2008, several conditions were put into place that have changed

the way Kenya operates today. There was renewed energy and momentum for determining who was responsible for the violence and for holding perpetrators accountable: out of the negotiations came the Commission Report, which went straight to the ICC prosecutor with names. This resulted in ICC pressures and subsequent indictments of several people.⁹²

The influence of the International Criminal Court (ICC) on the behavior of the senior stakeholders was also perceived to have been significant at the national level. The indictment of prominent figures in the Kenyan political scene by the ICC for their actions in the 2007–08 elections (including the newly elected President and Deputy President)—all accused of crimes against humanity in the 2007–08 presidential elections⁹³—has been very visible in the media. This reportedly shaped the political alliances discussed above. In the views of some respondents, this allowed the election to be framed as a referendum against the ICC and a defense of the sovereignty of Kenya. However, the public debates around the ICC gave a very clear message to all election participants and leaders that their behavior was under international scrutiny and that there were potential consequences for inciting violence this time around. The fact that there was also a senior media person indicted demonstrated that *all* actors, not only the political leaders, should consider their actions and be responsible.

The Institutional Framework: One of the issues in the 2007–08 elections was the failure and lack of trust in some of the key institutions involved in the election, notably the electoral commission. Confidence in the Kenya Electoral commission was very low and the judiciary was considered to be corrupt so people considered that there had been no viable options in the event of an election dispute.

In 2010, Kenya adopted a new constitution, representing the greatest change in governance in the country and resulting in 47 County governments – a much more decentralized and representative system.⁹⁴ The election tested the power of the new constitution, which emphasized decentralization of power, created accountable government, and sought to prevent

the violence of 2007–08 by sharing resources more equitably.⁹⁵ A number of new institutions were also formed under the auspices of the 2010 referendum. These included the National Cohesion and Integration Commission (NCIC) established under the National Cohesion and Integration Act of 2008.⁹⁶ The NCIC has the mandate to promote reconciliation and contribute towards a peaceful and integrated Kenya. Its vision is of a peaceful, united, and integrated Kenyan society. The NCIC has employed a series of activities aimed at promoting tolerance, acceptance of diversity, equal opportunities, and peaceful co-existence of persons of different ethnic and racial communities. It also monitors various forms of discrimination as well as hate speech and harassment on the basis of ethnicity. Hate speech and incitement of violence had been identified as a major contributor to the post-election violence of 2007–08. Other institutions established or renovated included the Interim Independent Electoral Boundary Commission (IEBC), and the Truth, Justice and Reconciliation Commission (TJRC). Additionally, there were major overhauls to the Judiciary.

The reaction of the defeated Jubilee coalition leader to the election was that he felt that it had been stolen, but instead of using the words “mass action” he said, “I do not want you to protest, I do not want violence, I want to go to court.”⁹⁸ If it is true that leaders can incite individuals to violence, then his words might help to explain the peace.⁹⁹ Kenyans also said the calmer atmosphere this time was in part because of far greater trust in the reformed judiciary that ruled on the disputed vote, and because the CORD leadership was quick to accept the verdict despite their frustration.¹⁰⁰

Coupled with these higher-level changes was the reformulation of the provincial administration and the devolution of local government to the County level—a change brought about by the new constitution. This meant that in the 2013 elections there were six possible positions to be voted on at the local level, rather than simply the position of President. This created a new series of opportunities for voice and representation, replacing the “winner takes all”

politics that had historically been taking place at the national level. With the prospect of devolved governance and resources, the tensions have been reduced at the national level and possibly enhanced at or displaced to the new County level. At any local level, the elected positions during the 2013 Kenya elections included:

- *The President*
- *The National Assembly Representative*
- *The Senator (National Level—County Representative)*
- *The Women’s Representative (National Assembly—County Representative)*
- *The County Governor*
- *County Assembly Ward Representative*

The Security Forces: The different behavior of the security forces in 2013 was also considered a significant change from that of the past. A change in leadership within the police with the appointment of a new Inspector General of the Police marked a change in attitude and behavior, as the new Inspector General was known and respected for his willingness to work with civil society and other stakeholders, and this assisted enormously in the new collaborative approach adopted in addressing election violence in 2013.¹⁰¹ The election is likely to have benefitted from the deployment of 100,000 police forces across Kenya, which sent a message to citizens that their actions were being monitored.¹⁰² Under the new constitution, if a citizen introduced violent rhetoric, there was monitoring, tracking, and reporting of that hate speech. For this reason, it would have been difficult to incite Kenyans in the same way as in 2007 and 2008.¹⁰³

The preparedness and much improved deployment of the security forces with a sophisticated containment policy played a significant role in preventing violence throughout the country in 2013. The security forces were also reportedly far more responsive to feedback from other stakeholders in terms of their own impact on crowd dynamics and the perception of people towards them.¹⁰⁴ Thus, for example, when a heavy police presence was considered to be inappropriate, the police force withdrew from certain public occasions to a far less visible and “provocative” profile (sometimes having shown an initial large presence as a

deterrent). The police were also far more proactive in their crowd control, particularly in the informal urban settlements where large public meetings were not allowed, and any gathering of more than a few people close to the elections, before and after, was dispersed. Even large social gatherings did not take place, with funerals and weddings postponed. This responsible and more active policing, with increased presence and deployment in known hotspots or areas of concern, was in stark contrast to that of 2007–08, when the violence took state and other actors largely by surprise and when the behavior of security forces even catalyzed or played into the violence. In the previous election, even where there had been possible early warning signs, these had not been integrated into any conflict prevention planning and therefore had been left unaddressed.¹⁰⁵

The Role of the Media: The Kreigler Report noted that prior to the 2007–08 elections, there had been a liberalization of the media sector, but with no clear regulatory and legal framework, which resulted in a proliferation of different new media, both print and radio. Without a strong regulatory framework, some considered that the media had been very partisan in their coverage of political events and that in 2007–08, some of the vernacular FM radio stations in particular were accused of contributing to the incitement of violence.¹⁰⁶ The consequence of this was that the media sector invested heavily in self-regulation in 2013. Some respondents even suggested that this strayed into the area of self-censorship.

The Media Council of Kenya (the independent regulatory body for the media) developed a code of conduct and guidelines aimed at helping journalists to provide “comprehensive, accurate, impartial, balanced and fair coverage of the elections.”¹⁰⁷ In the front cover of the guidelines is also a list of 21 of the major media houses in Kenya who publically committed to adherence to the guidelines in the elections of 2013. Coupled with the production of the guidelines was a substantial investment in training of journalists in “conflict-sensitive reporting.” As a result, the media were careful not to report events in any way that might potentially raise tensions or increase the possibility of violence.

Respondents noted the far more responsible way in which the media behaved in the 2013 elections. It was noted that this sometime manifested itself in tensions within media houses, as reporting was toned down by local reporters so as not to sensationalize or enflame relationships, while at the center the media were keen to report more actively on what was taking place out in different locations.¹⁰⁸

Other Factors Limiting Conflict

As well as the formal factors noted within the institutional structures of framework of government, there was also a set of other factors that were broadly within the public or civil society domain.

Public mood: The whole nation and indeed the international community was deeply shocked, with the majority of people appalled, at how the violence in Kenya unfolded and escalated following the 2007–08 elections. While acknowledging that there were many structural issues just below the surface, Kenya has been relatively peaceful since its independence and so large-scale, national, and brutal violence was shocking and completely unexpected to most people. While there had been violence around elections in the past, it had been fairly limited in extent and localized in the Rift Valley. Given the large number of deaths as well as the number of displaced in 2008, interviewees note that the nation was traumatized by the experience, and those who had not witnessed the violence first-hand had seen the behaviors and associated disturbing images through the media.¹⁰⁹

There was a consensus between political elites and the citizens alike not to allow Kenya to almost erupt into civil war again.¹¹⁰ Formal analysis of the 2007–08 post-election violence took place through two commissions, but at the level of the community there was also a large amount of soul-searching around roles, responsibility, and “our part” in the experience. This also extended to the media, the business community, and the religious communities, many of whom engaged in processes of self-examination resulting in various reforms, guidelines, and considerations of how to change their behaviors and actions in 2013. The overall effect of these actions and consequence of the

experience was that the majority of people had a “never again” attitude to the possibility of violence.¹¹¹

Public Scrutiny: There was a greatly expanded set of observers to the elections compared to the past, with both formal and informal election monitors. Members of churches and other civil society groups “took their time” when voting at the polling booths to ensure that they could report issues at polling places in real time. Further scrutiny was formalized through the work of NCIC monitoring “hate speech” at political rallies. This monitoring—both formal and informal—was backed up by the more strategic presence of the security forces as noted above.

Accountability: As a result of both the formal and informal soul-searching related to responsibility for the 2007–08 experience, as well as the work of NCIC, respondents considered there emerged an increasing sense of stakeholders being accountable for their behavior, actions, and for what they said in the public arena. This new responsibility led to a series of public signing of pledges from politicians (instigated by the Kenya Red Cross and others) to eschew violence and its incitement during the election in 2013, in a similar way to the endorsement of the self-regulation of the media houses.

Saturation of Peace Messaging: All respondents noted the heavy emphasis on peace messaging that was coming from virtually all sectors of society: government, media, the political leaders themselves, religious leaders, women leaders, youth leaders, as well as civil society and a large variety of NGOs and CSOs. The business sector was vocal, with peace messages to their constituents as well as public messages. For instance, there were large banners at all the flower factories in Naivasha. Large corporations paid for advertisements, and business leaders went on media to give messages of peace. Some respondents noted that the nature of this consistent and overwhelming expression of peace had a “peace at all costs” flavor to it. One interviewee referred to it as “*bombing the people with peace*” as a way to describe the combined effect of specific targeted messaging

and the broader blanket approach to this kind of messaging adopted by all stakeholders. While this constant messaging had some impact, a perhaps perverse result was that there was little opportunity for dissenting voices to dispute whether this was actually healthy or had a social cost that might come back to bite later.

County Level Factors Considered to Have Influenced Election Behavior

There were additional factors that were being played out at the County level. These varied from County to County, but appear to be fairly similar overall. In the early stages of analysis by civil society following 2007–08, there was an assumption that the hotspots where conflict occurred would inevitably be the same areas where the potential risk in 2013 would be highest. There were a number of conflict mapping and analysis activities being undertaken during this time—the National Conflict Mapping and Analysis process (NCMA) during 2011 as well as other complementary activities undertaken with various civil society actors. It was not until a relatively late stage in 2012 that a look at the County level under the umbrella of NSC revealed a range of different issues that might be expressed in violence.¹¹² The analyses were undertaken to consider factors such as the ethnic balance and potential voting blocks in the counties, previous patterns of voting, how voting had been undertaken during the constitutional referendum, voter registration, party affiliations—as well as the existing issues of competition over land and natural resources, social and economic dynamics, and relationships between various groups in the County. Important historical events where relationships between key stakeholders had been sour or contentious (for instance, displacement in past elections) were also assessed. All of these dynamics were now placed and assessed within the broader context of devolution and decentralization.

This comprehensive level of analyses in the Counties had never before been undertaken. It revealed a complex and fractured pattern and set of relationships and issues that could play out in a number of ways in the future. With respect to the 2013 election, some areas and previous hotspots receded in importance, while others

such as Tana River became more significant as potential conflict hotspots. Others such as Mandera remained constant for a variety of reasons.

“Negotiated Democracy:” One traditional response to ethnic conflict and competition in the past has been to separate the two competing factions through the creation of a new district. There appears to have been little substantive effort at negotiating social compromises. Given the extent of homogeneity or heterogeneity in the ethnic balance in any County, the emerging concept of “negotiated democracy” is now being discussed by stakeholders. The notion behind negotiated democracy is that leaders of different groups or political parties discuss the optimum way to ensure that there is a “fair” representation of different factions or ethnic groups across the different positions being elected or appointed in the County. This apparently may take various forms, such as agreeing not to compete for certain positions, or balancing the County assembly, creating ethnic alliances, and so on. The key point being that this is discussed *before* the elections take place. The extent to which this reported process of “negotiated democracy” actually took place in the various counties that were prone to electoral violence would require a much more in-depth analysis, but civil society interviewees reported this process as becoming increasingly important, and suggested that in the future the practice might become even more common. The idea suggested is that if some of the more contentious possibilities are agreed beforehand or prevented from occurring and there is relative consensus in the approach used to achieve this result, then the possibility for violence will be reduced, and people will feel less dissatisfied with any electoral process. There are important real and potential conflict issues expressed within this example that will need to be addressed more broadly in the future as the political system matures to prevent escalating ethnic violence, such as:

- The trend towards land and resource “ownership” across different clans or ethnic groups in pastoral areas—with its assumed associated political representation;
- The potential accompanying lack of tolerance of minority ethnic groups of clans within these geographical area and

administrative areas;

- The need to develop political and administrative leadership that represents the interests of all groups equally, not just the interests of their particular group when in power.

These areas are where the role of “negotiated democracy” could come into play in preventing violence by ensuring that there is “fair” representation of the ethnic groups.¹¹³ However, a fear associated with “negotiated democracy” is that, while helping to keep the peace, the democratic process may be manipulated and undermined through this type of agreement. The extent to which negotiated democracy actually happened in 2013 is difficult to determine. In Isiolo, key informants were divided on the question. On the one hand, many informants stressed that the elections had been fair, open, transparent, and fiercely contested (as evidenced by the close competition and number of votes of the different candidates) and that this was a result of “normal” transparent election competition. On the other, some key informants stressed that there had been discussions prior to the elections between the leadership of the various ethnic groups to see how best to reflect ethnic power and population balances within the County. In the case of Isiolo, informants considered that imbalances reflected in elected positions might be addressed through representation in the County assembly and the careful appointment of ethnic leaders in positions that are within the mandate of the governor to appoint. In other words, interviewees in Isiolo suggested this as a departure from the old national “winner takes all” system, by ensuring that each group will at least have some representation at some level, together with some of the accompanying resources for its constituency—which in turn diminishes the importance of any given electoral outcome.

In Isiolo there are five main ethnic groups: the Borana, Somali, Meru, Samburu, and Turkana, with the Borana being the majority. The key to negotiated democracy in Isiolo was therefore how to ensure that the minority groups had some representation and did not feel completely dominated by the Borana. Key informants were mixed in their reporting of whether or not some

form of “negotiated democracy” had taken place. The upshot, however, was that the elections in Isiolo were peaceful, there was a relatively high voter turnout, and the elected leaders in the end did to some extent represent the cosmopolitan make-up of the population. Whether this outcome was “negotiated” or was just the fortunate outcome of political competition this time around is not entirely clear. Unfortunately, the research period in Isiolo was insufficient to be able to organize to meet with these main political actors.

District Peace Committees and Peace

Committees: Traditionally, peace building in the ASAL areas adopted a pattern of peace committee formation in the community, trainings, and community dialogues—particularly after an event to “normalize” the situation and possibly to return stolen cattle or compensate for death or injury to humans. Significant time and effort has been invested in the training of the District Peace Committees (DPCs). These trainings often cover various topics including conflict management, peace building, conflict resolution, and mediation training. The ability of DPCs and LPCs to address underlying problems is limited, and they are rarely in a position to address root causes of conflict. Nevertheless, the peace committee as a mechanism for managing conflict in areas where government may be weak and areas expansive is considered by many observers to be a significant success in the Kenyan context. This is evidenced by the incorporation of the concept of the peace committee, which emerged out of a civil society effort in Wajir, into the government structures (although to date, the structure has no formal constitutional basis). The National Steering Committee (NSC) has a mandate under the Office of the President to address national issues of peace and conflict, and this body has introduced the District Peace Committee (DPC) across the country. DPCs were very active in the election period, mainly organizing peace dialogues, maintaining early warning mechanisms, and keeping communications lines open with more formal authorities and between different groups. Where necessary, they had access to the rapid response fund mechanism at the national level under the umbrella of the NSC.¹¹⁴

Respondents in Isiolo considered the comprehensive work of dialogue undertaken between groups at the community level (often, but not exclusively, through the DPC or LPCs) to be a significant factor in keeping the peace during the elections. There had been considerable anxiety within all stakeholders that there might be election-related violence, because in 2011 and in 2012 there had been worrying signs that violence was escalating, and 2012 in particular witnessed some nasty outbreaks of inter-ethnic violence that resulted in house burnings, deaths, and a series of revenge killings. Fighting in the town was a common occurrence. It was not until a heavy investment in cross-community discussions was made, catalyzed by community leaders, organized by the inter-faith forum, as well as other civil society members, that the situation was brought under control. On analysis it became clear that most people did not know why they were fighting, but that it was clear that politicians and leaders were manipulating the situation. In the run-up to the elections there was a large stakeholder meeting held in Isiolo involving politicians, elders, government, and others to agree on how best to campaign, and where and when to hold rallies. This and other examples of dialogue at the grass root level were examples of the work of DPCs and other civil society stakeholders such as the churches.

2. Summary

The 2013 elections were relatively peaceful with little dispute over the final results, particularly when compared against the 2007 elections. A combination of different mechanisms operating together and collaborative work between stakeholders, coupled with an investment in voter education, media self-regulation, improved behavior from politicians—and perhaps most importantly the preparation and preparedness of the security forces—all played a role. What is harder to say is the *extent* to which the each of the different elements was significant within the whole panoply of interventions and different activities.

Some of these interventions appear to be more significant than others. For instance the effective containment approaches adopted by the police were significantly more sophisticated and

proactive than during previous elections. The security forces were supported by many other actors and stakeholders through early warnings and advice. Nevertheless, even considering the role that peace institutions played, it is probable that the influence of the policing was more important in ensuring the lack of election-related violence. The early warning role of peace-building organizations was critical, but this time around, early warning was linked to a response that largely involved the security forces. At the same time, as noted above, the security forces were more sophisticated in their approach to prevention.

Despite the peaceful elections, a large number of the interviewees at the national level were of the strong opinion that conflict, and the many issues that drive it are still just below the surface and that violence may yet still erupt in the future. The election was not peaceful simply because people did not fight. The mood of people was described as being “numbed with peace” or the interviewees used phrases such as that “justice was drowned out.” In other words, there were injustices done—but if people did not think that an outcome was fair, they simply kept quiet as they did not want a return to violence. In the views of many respondents, there did not appear to be space for debate in case the discussion got “out of control.” Discussion about difficult national issues such as ethnicity was stifled rather than facilitated. In the fear of allowing the genie out of the bottle and not being able to control it, there was instead a sense of over-control. No one wanted to be seen as the “person who did not want peace.” This does not mean that, overall, it was not a fair election, but rather there was limited opportunity to explore or challenge whether it was or was not.

There was heavy investment in keeping the peace and preventing any outbreaks of violence in 2013, but now that the elections are over, many in the peace-building sector sense that there has been little progress on real issues. While there was no major election violence, most of the root causes have not been addressed. In interviews there were fears expressed that the situation was still very fragile and there remains the possibility of conflict occurring in the near future as a result of the unaddressed issues. ■

CONCLUSION AND RECOMMENDATIONS FOR PRACTICE AND RESEARCH

Kenya had a shocking insight into the potential dangers of unchecked violence through the experience of the 2007 elections and 2008 post-election violence. This demonstrated how inadequate all stakeholders—including government, the security forces, and the peace-building sector—had been in their ability to control events. This research has sought to place peace building and conflict mitigation in the range of activities around mitigating the risk of humanitarian emergencies. In the case of the 2013 elections, the risk had both local and national facets and dangers associated with it. So there was recognition that risk-reduction and preparedness was needed at both levels to address the potential for violence.

The relative lack of election violence in 2013 suggests at least a degree of success to this approach, in terms of preparedness and levels of containment activity. The combination of organizations with different mandates aiming their activities towards prevention and reduction of the risk of conflict worked well. One of the key factors for the overall success of the prevention of violence in the 2013 elections, aside from the enormous level of activity and availability of resources, was the high level of coordination and collaboration between diverse organizations and institutions. This level of alignment is perhaps unique compared to risk reduction activities that are routinely undertaken concerning natural disasters or protracted conflict—and it was at least partially possible *because* of the experience of 2008. In 2013, everyone foresaw the possibility of repeated conflict, and many institutions were well prepared to deal with it. Thus the nature of the risk in the case of the 2013 elections was unusual when comparing it with more routine risks of either natural disaster hazards or the risk of violent conflict, because it was known in advance when it would occur, it was a single event, and it was national in nature.

The major difficulty comes with addressing DRR principles to the more chronic unforeseeable issues associated with conflict, particularly in the ASAL areas. While it is

possible to identify higher-risk locations and indeed times where and when the likelihood of conflict is increased, it is much more difficult to prepare for and even prevent these events in the same manner as nationwide elections. It is for these types of conflicts that the DPC model in Kenya was established.

Thus this analysis might question the extent to which the investment in skills development around mediation, conflict mitigation, and peace building translates into increased peace. The DPCs and other peace actors now have increased abilities that they are able to put to use, but the fundamental drivers of conflict are not necessarily being addressed. Following the 2008 violence, some semblance of normalcy did return, and this is sometimes credited to “peace work” that was conducted in the aftermath of the violence. But this is indeed one of the criticisms leveled against “peace work” generally: that—irrespective of intent, work seems to be more concerned with re-establishing some kind of *status quo ante*. And the success of such work is “measured” in those terms—rather than in terms of either preventing further conflict or addressing the causes of conflict.

Skills at the individual or even community level have not been shown to be capable of addressing some of the larger issues, such as historical grievances between ethnic groups, that are played out in the national arena. As evidenced by the research into the situation in Isiolo, without a functioning justice system the impact of conflict mitigation activities at the community levels are likely to be limited. They clearly need to be linked to a working system of law enforcement and justice, whether customary or statutory, or a combination.

The main criticism against peace-building approaches is that they do not deal (or at least, *have not dealt*) with the underlying issues. While the rhetoric of addressing underlying grievances is ever-present, much of the actual observable activity in conflict management is less about addressing the underlying problem than it is about trying to put a stop to violence when it is happening, or getting people back to talking to

one another after violent conflict has broken out. This is actually a shared characteristic between peace building and DRR in a natural disaster hazard context. When discussing DRR some might take the position that DRR work is not mandated to tackle the “root causes” of whatever the potential disaster might be; rather it simply enables vulnerable communities to deal with the consequences in ways that minimize risk to human outcomes. However, there is an obvious significant difference between man-made disasters and natural disasters, which is that while it may not be possible to tackle the “root causes” of natural disasters, it is possible (indeed imperative) to address those of potential man-made disasters such as conflict.

The work of the DPCs and the majority of peace-building organizations has been around the prevention of the escalation of conflict, and the ability of individuals within the peace committees to respond to incidents once they have occurred. So if the “normal” drivers of “everyday” conflict have not changed, then one will not see any change in the levels of conflict being experienced by the community—except that perhaps someone might intervene to try to stop the overt violence, and law enforcement might be notified more quickly. In the case of Isiolo, the conflict has reduced—not as a result of the change in conditions or drivers, but rather in the institutional response that the government takes, so that there is real accountability rather than a culture of impunity. Whether (and precisely where) law enforcement and justice are placed within the spectrum of peace-building activities is a separate issue, but without these fundamental pieces of the governance equation in society, peace is very difficult to achieve. Without systemic functional institutions that can deal with injustice, conflict will likely continue, as there is little chance of breaking cycles of violence, revenge, or struggle to address the injustice. Peace-building activities by themselves in this context will have limited impact.

Nevertheless the DPCs have played an acknowledged role in the early warning realm with reporting potential issues to security authorities where appropriate. The early warning component of DPCs is one obvious link between natural disaster reduction and conflict,

but even the early warning function is somewhat *ad hoc*. The response to conflict early warning is relatively constrained by the capacity of DPCs and other actors on the ground.

One place where peace-building programming specifically works to address root causes is when those root causes are related to resource competition. For instance in ASAL areas, peace-building activities often take an approach to limit the competition and reduce the underlying source of conflict. This may be through the introduction of additional water points or improved rangeland techniques that seek to improve the resource base available to the competing groups. Addressing other types of conflict, particularly those involving arable land, are less amenable to this approach but still must be dealt with in the longer term. In Counties such as Isiolo there appears to have been insufficient investment in addressing some of the root causes of conflict—in part because of the lack of a sufficiently specific conflict analysis, lack of capacity, the lack of resources, and perhaps most importantly, the lack of political will.

Many organizations see a link between conflict and livelihoods, and indeed incorporate some elements of livelihoods into peace building and conflict management. But much of this is *post-hoc* provision of inputs, goods, and services for people displaced; reconstruction of housing that had been destroyed, or training for youth based on the observation that unemployed (and particularly male) youth are the main group perpetrating the violence (if not necessarily always the party instigating it). These may all be helpful things to do, but they likewise are mostly not addressing the underlying issues. Again, this is not to conclude that these aren't useful things to do, but many of these activities are less about enabling ways of reducing the risk of conflict than they are about restoring the situation to “normal” afterwards.

Increasingly with the introduction of conflict-sensitive approaches, most NGOs in ASAL and conflict-affected areas are blurring the edges further and further between traditional sectoral programs involving livelihoods or education and active peace building that may attempt to address

the root causes of conflict. For instance the Kenya Red Cross, having moved from the pure humanitarian end of the development spectrum, is now looking at introducing such elements as resource-sharing agreements and conflict management into their work in these areas: programmatic boundaries are increasingly flexible. An acknowledgement that conflict is multi-causal and encompasses multiple sectors also implies a responsibility to address the nexus between sectoral programs and conflict.

Significant differences arise about the wisdom of humanitarian agencies engaging in peace building. Some agencies, tired of simply binding up the wounds of conflict, have begun to invest significant program resources into peace-building programs. But a number of respondents argued that there is a good reason why humanitarian agencies steer clear of peace building. First is the issue that engagement with actors in conflict may compromise the principle of neutrality unless that engagement is restricted to the question of humanitarian access. The second is the politics of risk reduction—it is seen to be okay to work on natural hazards but not to work on political hazards. On the other hand, peace-building principles and some humanitarian principles appear to overlap—the most obvious example in Kenya being the work of the Kenya Red Cross Society as a trusted “honest broker” in situations like the conflicts in Moyale or Tana River. That is, as a result of their obvious humanitarian principles of independence and impartiality, KRC had the credibility with all communities in the conflict to mediate a cessation to the violence.

In longer term approaches, the distinction between “peace building” and “development” or “strengthening livelihoods” needs to be broken down so that peace building is mainstreamed into sectoral. For example, Oxfam reported attempting a technical support approach whereby each livelihood program was supported by a technical peace builder who could ensure that conflict-sensitive approaches stakeholder relationships, and a broader strategic approach was taken into account. According to the informant, there were signs that this was yielding results, but unfortunately the costs associated with the additional personnel that were required appeared to be prohibitive.

In considering long-term risk reduction approaches to conflict issues, particularly with respect to areas where livelihoods and competition over natural resources lends itself to the blurring of the edges between peace building, addressing root causes of conflict, and DRR, it is worth more deliberately exploring a variety of models that blend the lessons learned and approaches of DRR, conflict transformation and integrated livelihoods programming. Some organizations in Kenya have done this, though it is rare to see more than one organization at a time in one area taking this approach. One of the lessons learned from the 2013 elections is that a combination of a common purpose and a relatively integrated approach has significantly more impact than a more “siloed” approach, but it also requires considerable investment in coordination. But it could yield an enormous benefit in terms of stability, the improved effectiveness of the programs, the creation of a stronger foundation for long-term development, and a reduction in the impact of conflict and the associated costs of ongoing humanitarian responses.

This discussion is timely as most organizations that were interviewed noted that their peace-building grants are coming to an end, and the larger programs funded by USAID are also ending; this drying up of resources will then flow on to affect national partner organizations. For instance, Pact’s Kenyan Civil Society Strengthening Program (KCSSP) is ending in September; the Mercy Corp program LEAP (Local Empowerment for Peace) has already ended in July 2013; and the IRC program PIK (Peace Initiative Kenya) is also due to end in September. Others are also ending soon. This represents a sharp drop in the number (and budget) of peace-building programs in the NGO sector. It is also likely that following the peaceful implementation of the elections there will be a considerable reorientation of the resources from all donors towards other interventions, and there seems to be a particular interest in the devolution process as a target for support.

However, despite the largely peaceful outcome of the elections, Kenya remains prone to conflict, and a multi-sectoral approach needs to be adopted if stability is to be achieved. This requires a far more sophisticated approach to peace building

(and the reduction of the risk of violence) to be adopted, which includes a deep investment in addressing the different causes of conflict. The suggestion of an integrated approach to peace building is perhaps not new, but it still remains to be put into practice in a meaningful way. It would be a grave mistake to simply stop funding conflict prevention and peace building; rather a new approach should be developed with an accompanying investment in addressing the root causes of conflict that hinder Kenya's development.

Given the findings of this study, several policy recommendations are made:

- Community-based peace-building programs should be broadened to address root causes rather than focus primarily only on conflict management approaches. Simply closing conflict programs down as the elections have passed “peacefully” is a shortsighted and potentially dangerous option.
- Donors should consider allocating funds and supporting programs that specifically address the historical grievances that are fundamental conflict fault-lines within Kenyan society and have been shown to be deep national hurts that can be tapped into for political ends and can erupt in violence.
- Conflict mapping can help to prioritize the most fragile of the new Counties, where there are fears of conflict breaking out during the devolution process. A comprehensive, coordinated approach can then be developed to assist these Counties through the devolution process.
- Agencies that normally focus on livelihood development programs and who are working in conflict-affected areas should adopt, not only conflict-sensitive or Do-No-Harm approaches to their work, but should also either partner with a specialist peace-building agency or ensure that specialist peace-building/conflict transformation technical assistance is embedded in their programs to put addressing root causes of conflict at the center of their efforts, rather than having only sectoral objectives.
- Conventional Disaster Risk Reduction approaches and peace-building approaches should be better integrated at the local level, even if some degree of specialized capabilities

for both are required.

- Ensure that development activities in Counties use the County-based “conflict priority” documents that are to be shortly available to the public as the initial basis for designing programs, in whatever sector, to be mindful of the key conflict issues in that environment.

Regarding further research, several more observations include:

- Further research on the topic of “negotiated democracy” should be conducted to understand the phenomenon and the extent to which it is a positive force for peace and stability, or whether it has a less favorable impact by preventing conflicts from being aired and addressed.
- A more fundamental problem with risk reduction research has been highlighted by this study. Research on risk-reducing interventions can only really show impact if the risk being mitigated by activities under study actually manifests itself—and then only if there is a meaningful comparison between communities where interventions were practiced and communities where they were not. There are many instances of DRR research where communities have been monitored, but the risk has not materialized in an actual shock, or no comparison is possible because the coverage of the intervention is general. In this case, the Kenya case study was selected *because* there was a strong likelihood of repeated conflict around the 2013 election, given the experience of 2008. However, interpreting the results of this study are difficult precisely because the elections were such an obvious source of contention that many actors—government, donors, NGOs, and civil society—all mobilized to prevent a repeat of the violence of 2008. While that effort can largely be judged a success in terms of limiting repeated violence in 2013, it is very difficult to extrapolate the findings about peace-building activities around the 2013 elections to other, less predictable but nevertheless ever-present, sources of conflict. ■

POST SCRIPT: PRESENTATION OF THE RESEARCH AND ROUND TABLE DISCUSSION

1. Background to the Round Table

As a means of feeding back the findings from the study, and of generating discussion within the DRR and peace-building communities in Kenya, the study team held a presentation and round table discussion on the study and the issues growing out of it on July 9, 2013 at Kenya Red Cross. Some 25 persons or organizations were invited to attend; in the end 18 actually made it. The main report notes that in Kenya, as in other contexts, the overlap between the natural hazard DRR community of practice and the peace-building community of practice is small. People and organizations from both communities were invited—more actually attended from peace-building organizations.

Dr. James Kisia of Kenya Red Cross chaired the session. Dan Maxwell briefly presented the background to the study, and the methods and approach of the Kenya study; Ahmed Idris of Kenya Red Cross presented the empirical findings. For the remainder of the half-day round table, the following questions were discussed.

1. What was the role in the relatively peaceful outcomes of the elections of local, community-based peace-building activities? What was the role of livelihoods protection or other DRR activities?
2. Did the effort put too much emphasis on “keeping the peace” rather than electoral fairness?
3. What do you see as the future role and relevance of the District Peace Committees? How does the experience of 2008 post-election violence and the 2013 elections shape this role?
4. What are the main lessons to learn from this? The possibility for election-related violence was very visible, known well in advance, etc. Will lessons learned in the election period help in other, less easily foreseen conflicts?
5. What are the implications going forward for peace-building activities and other programs aimed at risk reduction?

2. Main Points from the General Discussion

DRR and livelihoods interventions in Kenya need to be underpinned by a strong conflict analysis, and one of the purposes of livelihoods work is to reduce the long-term threat of conflict. But the policy context isn't clear. The National Steering Committee for Peace Building and Conflict Management (NSC) is the relevant government body for peace building; the National Drought Management Authority (NDMA) is more the lead agency on DRR (given that drought is the predominant hazard). At least for an interim period, the National Cohesion and Integration Commission (NCIC) has a mandate to promote peaceful relations between different ethnic and racial groups and also to serve in an advisory capacity to the government. There is often good collaboration on the ground, but not yet in policy. The National Peace-Building Policy is still being developed—now in the Attorney General's office.

There remains some confusion about the role of District and Local Peace Committees (DPCs/LPCs). Are they about peace-building organizations growing out of civil society, or are they reporting/early warning mechanisms for government security forces? On the ground, information from DPCs is shared up and shared horizontally—with information going to local government and security forces, and also to the NSC. The perception is that DPCs are part of government, but in fact they should be seen as separate (a point that was debated for several minutes—which in itself is indicative of the widely varying perceptions). There was a strong sentiment from some members that peace messaging (from across the spectrum of government, political leaders, civil society, and the private sector) contributed to “peaceful” outcomes of the elections. But there was less agreement on exactly what this means for the future. There is now a very fragile peace, described by one person as “peace built on impunity.” The issue of “underlying causes” to conflict remains largely unaddressed, despite all the activity in peace building of the past several

years. All this means that the lack of violent conflict is good, but there remains a lot to be done to build real peace. DRR and “developmental” approaches to peace assume that conflict can be resolved by addressing the underlying resource constraints that sometimes lead to conflict. That may be, but it is expensive. There was no consensus as to whether increased resource availability is the key to peace building.

There are certainly livelihoods-related causes of some conflict in Kenya—both in the PEV-affected areas and in the Arid Lands areas, but organizations should be careful about “blaming” livelihoods as the root cause of conflict. In many of the conflicts leading up to the 2013 elections (including Moyale and Tana River), the immediate conflict was about politics—“people crossing the river to vote.” However, long-standing struggles over resources and the control over resources that would result from winning the election were issues behind the immediate politics.

There was significant discussion about “negotiated democracy.” Negotiated democracy is meant to get beyond the argument that politics is a zero sum game in political economy terms. While negotiated democracy is not necessarily the ultimate answer, it is a step in the right direction. However, the fear is that negotiated democracy may tend to quash the narrative of dissent. Conflicts are cyclical because there is never sufficient attention to the structural (underlying) issues. Peace builders have a sense of a “winner-takes-all” character to politics. Negotiated democracy is meant to be a negotiated alternative to that. But negotiated democracy has to put it in context—it isn’t a panacea.

There was also a good deal of discussion about District Peace Committees (DPCs) and their role. DPCs came out of civil society experience in the Arid Lands areas and regional (IGAD) engagement around the Conflict Early Warning and Response Network (CEWARN) project. During the 2008 PEV, the government decided to copy them elsewhere. But they didn’t grow out of those contexts, so there was a misfit between institution and context. There have been some growing pains, but peace-building

organizations have worked successfully with them. For example, in Tana River, DPCs highlighted the problems before they broke out into full-scale conflict (but they weren’t able to contain the conflict). In the past, the response would have been military, with the civil society approach of dialogue and problem solving, getting people to talk to each other, etc. missing. Now there has to be a mixed approach of dialogue and security force intervention.

Early warning (whether from DPCs or other sources) needs to be linked to a variety of responses, not just a security force response. It also needs to be linked to dialogue and mediation, as well as to livelihoods interventions.

But DPCs have the reputation of consisting mainly of community elders. Where DPCs work well, they have been broadened beyond the “elders,” and have diversified their approaches. The perception, however, is also that they are government structures. The community chooses its DPC’s members, but they are mandated by government action (not by official policy or legislation yet), so the perception of a sort of “dual role” continues to persist.

There is also the issue of the Terms of Reference for DPCs. When the research was carried out, the District Commissioner was the “patron” of the DPC. One couldn’t say it was not part of government. But this has now changed. There are rules that require DPCs to be independent. For example, the Wareng case from the research highlighted the role of the DPC in returning items stolen during PEV. It was done confidentially so that stolen goods could be returned, but without victimizing those who chose to return stolen items. But that meant that DPC had the information about who returned what. If DPCs were linked to the criminal justice system, this would never have happened. DPCs are sometimes used for other purposes by businessmen, or by politicians, because they offer a forum or platform for public purposes.

Lastly, DPCs are very dependent on the personalities of individual leaders. They need to be institutionalized—made independent of personalities. With capacity building, they can become more independent. There is a need for

more in-depth research on DPCs—both their strengths and weaknesses. But it would have to be a very different study from this one: nationwide in terms of representation, and in-depth on this one institution, not a survey of all institutions and actors.

Civic education and education around the new constitution is very important to the way forward. The greatest hope for peace is devolved government. But devolution has raised a lot of hopes, and this optimism will be wasted if people don't see results. Civic education is critical to ensure that devolution works for the people.

It is difficult to talk about sustained peace when there are still all the same structural causes of violence, when young people still can't find jobs, and guns are easily available. Youth empowerment and employment are critical issues. But levels of education are very low, schools are few in the informal settlements, and the only ones who are doing well are criminals. Government after government has talked about addressing the "youth problem." Addressing root causes is expensive and complicated.

There is a questioning of the directions that donors are going with this agenda. There had been big money for "peace-building" projects in the run-up to the elections, but the emphasis is now clearly shifting to other areas. Part of this is support for government devolution, and part of it is simply pulling back now that the elections were held without major incident or outbreaks of violence.

All this is why there is a need to emphasize the conflict/livelihoods link: any of the youth now say, "talk, talk, talk, but you can't eat peace—Tumesota na amani (we are 'broke' with peace)." They say it laughingly now, but participants fear they may say it with bitterness later. ■

ACRONYMS

ACME	Asociacion por la Corporacion Microenterprise
ACTED	Agency for Technical Cooperation and Development
ALRMP	Arid Lands Resource Management Project
ASAL	Arid and Semi-arid Lands
ASCA	Accumulating Savings and Credit Association
BASE	Backward Society Education
CBO	Community-Based Organization
CEWARN	Conflict Early Warning and Response Mechanism
CJPC	Catholic Justice and Peace Committee
CORD	Coalition for Reform and Democracy
CRS	Catholic Relief Services
CSO	Civil Society Organization
DDC	District Development Committee
DMC	District Management Committee
DPC	Disaster Preparedness Committee
DPC	District Peace Committees
DRR	Disaster Risk Reduction
DSG	District Steering Group
ELF	Emergency Liquidity Facility
FIC	Feinstein International Center
GIEWS	Global Information Early Warning System
GLOF	Glacial Lake Outburst Flooding
GoK	Government of Kenya
IBEAC	Imperial British East Africa Company
ICC	International Criminal Court
IDP	Internally Displaced People
IEBC	Independent Electoral and Boundaries Commission
IHSI	Institut Haitien de Statistique et d'Informatique
INGO	International NGO
INURED	Interuniversity Institute for Research and Development
KFSSG	Kenya Food Security Steering Group
KNFPSALW	Kenya National Focal Point on Small Arms and Light Weapons
KRC	Kenya Red Cross
LPC	Local Peace Committee
MCK	Media Council of Kenya
MFI	Microfinance Institution
M&E	Monitoring and Evaluation
NCIC	National Cohesion and Integration Commission
NCMA	National Conflict Mapping and Analysis
NDMA	National Drought Management Authority
NGO	Non-governmental Organization
NPI	Nairobi Peace Initiative
NRCS	Nepal Red Cross Society
NSC	National Steering Committee
NSAC	Agriculture Census Survey
ODM	Orange Democratic Movement
OFDA	Office of Foreign Disaster Assistance
PC	Peace Committee
PCA	Principal Component Analysis

PEV	Post Election Violence
ROSCA	Rotating Savings and Credit Association
SL	Sustainable Livelihoods
SLC	School Leaving Certificate
SSB	Sashastra Seema Bal (India's Armed Border Force)
TJRC	The Truth, Justice, and Reconciliation Commission of Kenya
UNDP	United Nations Development Program
VDC	Village Development Committee
WFP	World Food Programme

DEFINITIONS AND TERMINOLOGY

Many of the definitions were taken directly from the ISDR: Terminology web page: <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>. The terminology used in conflict programming, specifically with a focus on prevention, varies widely. Though often used interchangeably, technically they mean different things, though with significant overlap.

Capacity A combination of all the strengths and resources available within a community, society, or organization that can reduce the level of risk, or the effects of a disaster.

Capacity may include physical, institutional, social, or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability.

Climate change The climate of a place or region is changed if over an extended period (typically decades or longer) there is a statistically significant change in measurements of either the mean state or variability of the climate for that place or region.

Changes in climate may be due to natural processes or to persistent anthropogenic changes in atmosphere or in land use. Note that the definition of climate change used in the United Nations Framework Convention on Climate Change is more restricted, as it includes only those changes which are attributable directly or indirectly to human activity.

Conflict Management Conflict management has been defined as the process of “planning to avoid conflict where possible and organizing to resolve conflict where it does happen, as rapidly and smoothly as possible.”¹

Conflict management is often taken in an organization context to mean “designing effective macro-level strategies to minimize the dysfunctions of conflict and enhancing the constructive functions of conflict in order to enhance learning and effectiveness in an organization.”²

Conflict management is taken as a corollary to peace building in Kenya—the national government body charged with enabling peace building in Kenya is the National Steering Committee on Peace Building and Conflict Management. In identifying the activities designed to achieve the goals of conflict, four thematic clusters are mentioned.³ The “security” cluster includes (but is not limited to) the following activities: humanitarian mine action; disarmament, demobilization, and reintegration of combatants; disarmament, demobilization, and reintegration of child combatants; Security Sector Reform; and small arms and light weapons.⁴ The “socio-economic foundations” cluster consists of: physical reconstruction; economic infrastructure; infrastructure of health and education; repatriation and return of refugees and IDPs; and food security.⁵ The “political framework” cluster consists of democratization (parties, media, NGO, democratic culture); good governance (accountability, rule of law, justice system); institution building; and human rights (monitoring law, justice system).⁶ Finally, the “reconciliation and justice” cluster involves: dialogue between leaders of antagonistic groups; grass roots dialogue; other bridge-building activities; Truth and Reconciliation Commissions; and trauma therapy and healing.⁷ Smith underscores the utility of combining together various techniques and activities in a given situation, so as to finely tailor a program to the unique situational needs.⁸

LPCs came out of the need to supplement the lack of provision of security and justice for civilians due to low state capability. LPCs quickly moved beyond providing the space for dialogue, to the creation of ad hoc but innovative security structures associated with the fact that government was distinct both psychologically and geographically from the population.⁹ Peace Committee members are elected from the community without the interference of the government and local politicians

(according to their guidelines, though this does not always happen in practice—see Question Two for more details).

Conflict Prevention Conflict prevention, as a discipline, was developed soon after the end of the Cold War.¹⁰ The UN defines conflict prevention as “an action to prevent disputes from arising between parties, to prevent existing disputes from escalating into conflicts, and to limit the spread of the latter when they occur,” which he essentially defined as synonymous with preventive diplomacy.¹¹ Michael Lund offers a more comprehensive definition, noting that:

*Conflict prevention entails any structural or interactive means to keep intrastate and interstate tensions and disputes from escalating into significant violence and to strengthen the capabilities to resolve such disputes peacefully as well as alleviating the underlying problems that produce them, including forestalling the spread of hostilities into new places. It comes into play both in places where conflicts have not occurred recently and where recent largely terminated conflicts could recur. Depending on how they are applied, it can include the particular methods and means of any policy sector, whether labeled prevention or not (e.g. sanctions, conditional aid, mediation, structural adjustment, democratic institution building etc.), and they might be carried out by global, regional, national or local levels by any governmental or non-governmental actor and which address the structural causes of conflict and foster institutions which will promote the kinds of distributive and procedural justice that have been shown to make violent conflict less likely (emphasis added).*¹²

Of all the terms defined here, “conflict prevention” is probably the one that most includes a long time-frame, identifies structural causes of violence, and attempts to deal with them before they are manifest in overt violence. It is less applicable to dealing with violent conflict once it has broken out.

An example of conflict prevention is the Conflict Early Warning and Response Mechanism (CEWARN) in the Horn of Africa. Since the Horn of Africa is a region that is haunted by conflicts ranging from intra-state and inter-state to cross-border community conflicts, CEWARN was established in 2000 under the auspices of the Intergovernmental Authority on Development (IGAD). The idea of CEWARN is to predict conflict, anticipate it, and be able to respond in a timely fashion.

Conflict Resolution Conflict resolution is predicated upon the idea that conflict arises because of different beliefs, competition for resources, or inter- and intra-group difference, and the “perceived incompatibility [can be eliminated] and conditions [created] that foster common goals and values.”¹³ This viewpoint suggests that while conflicts are inherent in social life, not all conflict is unequivocally bad. According to one set of definitions, conflict resolution deals with procedures to de-escalate conflict or prevent further escalation, through “conflict settlement,” which goes beyond procedural matters to take up substantive ones dealing “with enough of the issues that parties are willing to give up their . . . struggle,” to what they call “conflict resolution, an agreement in which most or all of the issues are cleared up.”¹⁴

Problem-solving negotiation activities are at the heart of conflict resolution. It is at this point that adversarial groups meet and work (or are helped to work) towards a mutually beneficial and agreeable solution. There is a strong focus in conflict resolution theory on the role of the intermediary (the conflict resolution professional); such an individual can assist in the negotiation process. Some definitions of conflict resolution emphasize conflict transformation in conflict resolution, defined as an activity in which the “very relationships among the contesting parties are changed, and the “underlying tasks of structural and cultural peacebuilding” are engaged.¹⁵

Conflict Sensitivity Conflict sensitivity has been defined as “understand[ing] the context in which [an organization] operate[s]; understand[ing] the interaction between [an organization’s] intervention and the context; and act[ing] upon the understanding of this interaction, in order to avoid negative impacts and maximize positive impacts.”¹⁶ Practically, it is geared towards “avoid[ing] inadvertently escalating the conflict situation, and ideally also contribut[ing] to peacebuilding, e.g., by providing space for dialogue between rival groups at the district or local level, or by using mixed community committees and participatory approaches that includes conflicting parties.”¹⁷ Ideally, the inclusion of a conflict-sensitive approach is a boon both to violence prevention activities and to development activities.

Much of contemporary conflict sensitivity owes its intellectual roots to the work of Mary Anderson and the “Do No Harm” initiative (Anderson 1996) on limiting the extent to which humanitarian and development aid exacerbate conflict (and the potential to support peace building or conflict resolution). Activities in conflict sensitivity, centered on the three part definition above, include: undertaking an in-depth conflict analysis, linking the analysis to an organization’s programmatic cycle, and “plan, implement, monitor and evaluate [an] intervention in a conflict-sensitive fashion (including redesign when necessary).”¹⁸

Conflict Transformation Conflict transformation, as defined by John Paul Lederach, is meant to capture the dialectical nature of conflict— that it both transforms and is transformed by the conflict actors. It is therefore a natural occurrence and cannot be simply eliminated or controlled. Lederach writes that “transformation as a concept is both descriptive of the conflict dynamics and prescriptive of the overall purpose that building peace pursues.”¹⁹ This implies a prescriptive nature to the term “conflict transformation,” where conflict on its own can have negative consequences, but with proper mediation and an understanding of the conflict and the culture within which it occurs, the consequences of conflict can be positive.

*A transformational approach recognizes that conflict is a normal and continuous dynamic within human relationships. Moreover, conflict brings with it the potential for constructive change. Positive change does not always happen, of course. As we all know too well, many times conflict results in long-standing cycles of hurt and destruction. But the key to transformation is a proactive bias toward seeing conflict as a potential catalyst for growth.*²⁰

Conflict transformation is a process that requires addressing underlying patterns and causes of the conflict, and engaging with the elements of the society that might be supporting it. Thus, dialogue is seen as a fundamental, though not the only, tool to promote constructive change.²¹

Coping Capacity The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster.

In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards.

Disaster Risk Management The systematic process of using administrative decisions, organization, operational skills, and capacities to implement policies, strategies, and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards

Disaster Risk Reduction The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

The disaster risk reduction framework is composed of the following fields of action, as described in ISDR's publication of 2002, "Living with Risk: A Global Review of Disaster Reduction Initiatives," page 23: risk awareness and assessment including hazard analysis and vulnerability/capacity analysis; knowledge development including education, training, research, and information; public commitment and institutional frameworks, including organizational, policy, legislation, and community action; application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments; early warning systems including forecasting, dissemination of warnings, preparedness measures, and reaction capacities.

Early Warning The provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response.

Early warning systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population; and undertaking appropriate and timely actions in response to the warnings.

Mitigation Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation, and technological hazards.

Natural Hazards Natural processes or phenomena occurring in the biosphere that may constitute a damaging event.

Natural hazards can be classified by origin, namely: geological, hydro-meteorological, or biological. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion, and temporal spacing.

Peace building Peace building is also a relatively new term, having been popularized in the early 1990s by former UN Secretary-General Boutros Boutros Ghali. Initially used in reference to a point on "a conflict continuum that passed from pre-conflict prevention through peacemaking and peacekeeping," the term was broadened in its usage throughout the 1990s and 2000s.²² In an attempt to refocus the term, the following definition for peace building is utilized:

Those actions undertaken by international or national actors to institutionalize peace, understood as the absence of armed conflict ("negative peace") and a modicum of participatory politics (as a component of "positive peace") that can be sustained in the absence of an international peace operation. If there is a trade-off between these goals, the immediate absence of conflict, in our view, should take priority over participatory politics if peacebuilding is the frame of reference.²³

Hence there is an emphasis on bringing violent conflict to an end, but also an emphasis on subsequently addressing the causes of violent conflict. Peace building may draw on various elements discussed above. Another definition, provided by joint Utstein study, defines peace building by its goals, which are:

- To provide security;
- To establish the socio-economic foundations of long-term peace;
- Likewise to establish the political framework of long-term peace; and
- To generate reconciliation, a healing of the wounds of war and injustice.²⁴

Preparedness Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

Prevention Activities to provide outright avoidance of the adverse impact of hazards and means to minimize related environmental, technological, and biological disasters.

Depending on social and technical feasibility and cost/benefit considerations, investing in preventive measures is justified in areas frequently affected by disasters. In the context of public awareness and education, related to disaster risk reduction, changing attitudes and behavior contributes to promoting a “culture of prevention.”

Relief/Response The provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.

Resilience/Resilient The capacity of a system, community, or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Risk The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted, or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions. This is conventionally expressed by the notation: $\text{Risk} = \text{Hazards} \times \text{Vulnerability}$. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability.

Beyond expressing a possibility of physical harm, it is crucial to recognize that risks are inherent or can be created or exist within social systems. It is important to consider the social contexts in which risks occur and that people therefore do not necessarily share the same perceptions of risk and their underlying causes.

Risk Assessment/Analysis A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods, and the environment on which they depend.

The process of conducting a risk assessment is based on a review of both the technical features of hazards such as their location, intensity, frequency, and probability; and also the analysis of the physical, social, economic, and environmental dimensions of vulnerability and exposure, while taking particular account of the coping capabilities pertinent to the risk scenarios.

Risk Reduction Risk is the “probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted, or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.”²⁵ Disaster risk reduction is “the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.”²⁶

Note that this all of this is presumed to be in the context of natural hazards. No particular definition of risk reduction with conflict is in common usage (i.e., not in the UNISDR nomenclature or other common source).

Vulnerability The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

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END NOTES

EXAMINING LINKAGES BETWEEN DRR AND LIVELIHOODS: LITERATURE REVIEW

- 1 The livelihood framework attempts to organize the various factors (assets, policies, institutions, processes, and outcomes) in a vulnerability context (shocks, disasters, trends) which constrains or provides opportunities and shows how these components relate to each other (DFID, 1997). See Appendix D for the full Livelihood Framework.
- 2 EM-DAT: The OFDA/CRED International Disaster Database, <http://www.emdat.be/database>.
- 3 ISDR Terminology: Basic Terms of Disaster Risk Reduction, <http://www.unisdr.org/english/library/lib-terminology-eng%20home.htm>.
- 4 ISDR Terminology: Basic Terms of Disaster Risk Reduction, <http://www.unisdr.org/english/library/lib-terminology-eng%20home.htm>.
- 5 ISDR Terminology: Basic Terms of Disaster Risk Reduction, <http://www.unisdr.org/english/library/lib-terminology-eng%20home.htm>.
- 6 For a list and evaluation of frameworks used in the field refer to Appendix L1: Section: Overview of DRR Frameworks.
- 7 Some examples are *The Disaster Reduction Hyperbase* framework for at-risk communities, the *Incorporation of Hazards in the Project Cycle* (Benson and Twigg, 2007), the *Integration of Disaster Risk Concerns into Country Programming* framework (Benson and Twigg, 2007), the *Mainstreaming Disaster Risk Reduction into Development Projects in Hazard-prone Countries* framework (Benson and Twigg, 2007), the *Oxfam HARITA Conceptual Framework* (OXFAM, 2009), and the *World Vision Disaster Management Cycle* (World Vision, n.d.).
- 8 See Wamsler, 2007; Pouliotte et al., 2006; Brouwer et al., 2007; among others.

DISASTER RISK REDUCTION AND FINANCIAL STRATEGIES OF THE POOR: DEMAND FOR, ACCESS TO, AND IMPACT OF CASH IN HAITI FOLLOWING THE 2010 EARTHQUAKE

- 1 In 2006–08, Tufts/ FIC designed and conducted studies in three cities in cooperation with IDMC—Khartoum, Abidjan, and Santa Marta (Colombia)—using a profiling strategy that allowed us to estimate the number of IDPs living in urban areas and generate comparative information. In 2010–2011, we have implemented additional surveys in Cairo, Nairobi, Aden (Yemen), and Mae Sot (Thailand). See full report, case studies, and methods annex at <https://wikis.uit.tufts.edu/confluence/display/FIC/Refugees+and+Forced+Migration>.
- 2 For more, see Shirley Ardener and Sandra Burman, eds. *Money-Go-Rounds: The Importance for Rotating Savings and Credit Associations for Women*. Oxford, UK: Berg, 1995.
- 3 The price of goods increased, steadying in February and returning to pre-earthquake values in April. FEWSNET Price Bulleting Archives, January–July of 2010.
- 4 The proportion of households that had cash on hand was higher in Cite Soleil than in Bel Air given the significantly lower damage to piecemeal-constructed houses in the slum compared to the concrete structures in Bel Air.

- 5 Dovelyn Agunias, 2006, “Remittance Trends in Central America,” Migration Information Source (MFI), April 1. See www.migrationinformation.net/pdf/Migration_Information_Source-Central_America.pdf.

LIVING IN THE MARGINS: COPING WITH FLOOD RISKS AND MANAGING LIVELIHOODS IN NEPAL'S FAR-WESTERN TERA

- 1 Several rivers crisscross through Kailali District. The main ones are Mohana, Khutiya, Kandra, Karnali, Ghuraha, Kandra, and Likma Rivers.
- 2 Our study did not collect data on income or consumption. Instead we constructed a “wealth index” based on housing and asset ownership (Montgomery et al., 2000; Filmer and Pritchett, 2001). The index was used throughout the analysis. For a description of how the index was constructed, refer to Annex 1: Wealth.
- 3 Information on livestock loss was unfortunately omitted from the first two surveys, so it is impossible to compare across.
- 4 According to the Nepalese law, though a Nepali or Indian citizen can cross the border without a visa, when it comes to goods, they have to pay customs for each good worth more than one hundred rupees, and certain types of goods are completely prohibited (such as cement, fertilizer, iron rods, sugar, onion, etc.).
- 5 We decided to only look at housing for this analysis, because, unlike crops and land, the impact on housing by flooding is more uniform and easier to homogenize, given the wide disparity between how much land a household owns and the land quality.
- 6 All households in the Bandargauri community, 92% of households in Belaha, and 82% of households in Chhotki Puruwa are within one minute from the river.
- 7 On average, it takes four hours to get from the research villages to the nearest market.
- 8 Currently, over 40% of households still reported a reliance on bartering to acquire goods.
- 9 Please refer to the Haiti case study, “Disaster Risk Reduction and Financial Strategies of the Poor: Demand for, Access to, and Impact of Cash in Haiti Following the 2010 Earthquake” for more details on financial resilience to disasters.
- 10 Another option would be to treat each component separately in a regression. This approach creates weights—the linear coefficients—but makes any inference about the impact of an overall increase in wealth impossible

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