Community Participation in Disaster Management: Reflections on Recent Experiences in Honduras and Nicaragua

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Abstract
In natural disasters, the communities that experience the least damage and recover the fastest are those that can rely on mutual support systems and on their own resources. This chapter describes two recent World Bank projects, one in Honduras and one in Nicaragua, that attempt to strengthen community disaster management capacity. The projects are highly participatory, aiming to develop community disaster committees and mitigation action plans in eighty-five municipalities over the next four years. While grounded in the notion that disaster awareness and planning are best managed by local governments and by civic leaders, the projects also identify important roles for national governments, NGOs, and private sector groups who can give support through technical know-how, information analysis, and early warning to community-based organizations.

I. Background
Since 1925, Honduras and Nicaragua between them have experienced nine earthquakes, eighteen hurricanes or tropical storms, two volcanic eruptions, twelve floods, a tsunami, and a drought, to mention only the major catastrophes. The human, environmental, and economic toll has been devastating. After Hurricane Mitch, both governments began working with donors to strengthen their capacities to reduce the harmful effects of disasters in the future. In the past, disaster management focused on national priorities: developing a centralized emergency reaction force (including capacity to manage technical information), retrofitting infrastructure, and revising building codes. This time, however, both governments are designing disaster management policies from the ground up, building on local strengths that proved key to survival during Hurricane Mitch (see box 1).

In 2000, a Honduran law restructured the Permanent Commission of Contingencies (COPECO), the existing disaster response agency. COPECO now coordinates a national system involving emergency response committees at the municipal level (CODEMs) and at the local level (CODELs). The CODELs inform, organize, and train communities to prevent, cope with, and recover from natural disasters.
In Nicaragua, the Civil Defense has long relied on local committees (comités locales), which are trained in emergency response. Under the World Bank project, the local committees were incorporated into the newly formed National System for Disaster Prevention, Mitigation, and Response. This organization receives equipment and training to bring all 150 municipalities up to a standard level of preparedness, including first aid, search and rescue, and communications operations.

II. Community Participation in Local Risk Assessment
Recognizing that risk is best managed in advance and at the local level, the Honduran and Nicaraguan governments supported a new approach to risk management that was grounded in community participation. In each country an overall vulnerability assessment determined which municipalities were most at risk from natural disasters. Sixty municipalities in Honduras and twenty-five in Nicaragua were selected to participate in a five-year project.

**Box 1. Participatory Disaster Management**

**Community-based flood warnings**
Sophisticated hydrological and meteorological stations, which measure and analyze key river flows and rainfall, have been donated to Honduras and Nicaragua. The stations were linked to central computers, which sent information from affected areas to the capital city and the weather institutes. Unfortunately, the stations had an average life span of three years before succumbing to neglect or vandalism. Even when they were functioning, the information generated was rarely translated into early flood warnings. Before Hurricane Mitch, the Organization of American States (OAS) experimented with low-cost, low-tech flood warning systems in four watersheds in Honduras and Nicaragua. Using simple but strategically located materials (PVC piping and string) they relied on people from affected communities to make daily readings, analyze information, and warn in case of floods. When Mitch hit, the communities using these participatory flood warning systems had long since evacuated their homes. No lives were lost in these communities. The governments of Nicaragua and Honduras are now building their early warning systems on community management, financed by the World Bank disaster mitigation loans.

**The work of the Garífunas with the Red Cross in Honduras**
In 2000, after Mitch had laid waste to many villages, the Red Cross implemented a risk awareness and emergency response capacity-building program for forty-three communities of Garífunas, in the north of Honduras. The Garifuna population, descending from African slaves and Island Caribs, has a long history of physical isolation as well as social vulnerability and exclusion. The work of the Red Cross included forming local committees and workshops on capacity building for community leaders, risk mapping, and preparation of emergency plans. To be effective, the Red Cross needed to overcome differences in language and culture, as well as the mistrust of the Garífunas due to longstanding ethnic tensions. However, the communities were finally receptive to the program, and they improved their emergency response capacity. The Red Cross continues to visit the communities on a monthly basis to provide refresher courses and to check on the committees.
In Honduras, work began with the assistance of CATIE (Tropical Agricultural and Higher Education Center), a consulting firm with experience in disaster prevention and mitigation. CATIE’s long-term objective is to develop an informed and responsible community, capable of managing its own natural risks through active local participation in land-use planning as well as in prevention and mitigation measures. Its first activity in a community is forming a local Disaster Mitigation Committee, representative of the community, to participate actively in the project and to disseminate its benefits. This committee is elected during a project launch workshop, which convenes community leaders, civic representatives, municipal leaders, and the public at large.

A capacity-building activity starts immediately after the formation of the committee and includes a discussion on the meaning and implications of strategic planning and risk management. Next comes a risk-mapping workshop, at which the committee locates areas prone to flooding and landslides on a large aerial photograph of the area. These zones serve as a basis for a more comprehensive hydrologic and geologic study that is then carried out separately by CATIE. After discussing other risks and hazards with the community, supplemented by site visits and consultations with local focus groups, CATIE combines the community information and the scientific data into a comprehensive risk map, which details the area’s physical, socioeconomic, and environmental vulnerability. This risk map also shows physical mitigation measures recommended by the community members and the consultant, such as critical installations, lifeline infrastructure, and emergency shelters, existing or planned. In return for its participation, the community receives the final risk maps, which serve as a basis for discussions about municipal and inter-municipal development planning.

In Nicaragua a similar component focuses on consolidating Disaster Management Committees and promoting Preventive Planning, a pilot group of twenty-five municipalities undertaking vulnerability assessments and disaster mitigation planning. The National Secretariat for the Prevention, Mitigation and Response to Natural Disasters has already launched the process of selecting consultants to carry out hazard analyses, which involve mapping vulnerability, identifying mitigation measures, prioritizing these measures, and creating action plans. The consultants will also prepare long-term land-use plans that identify areas at risk and areas to be developed and appropriate actions to prevent developing settlements in vulnerable areas in the future.

**III. Project Development**

**A. Experience to Date**

To date, the first part of the assignment in Honduras has been carried out: local committees have been formed and are currently being trained in risk management, while hydrologists and geologists are mapping natural risks.

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1 In Nicaragua the comités locales have existed since the Sandinista regime. Following Mitch, the World Bank supported the comités at risk of short-term flooding and landslides by financing training and equipment. Extending this work to all municipalities is contemplated in the ongoing Disaster Vulnerability Reduction Project.
In each municipality, local committees are not only formally established but are also very active and enthusiastic about the project. For instance, the local committee of Valle de Angeles has prepared a detailed work plan including objectives (such as risk management workshops, physical mitigation measures, and capacity building) and corresponding activities (vulnerability assessments, reforestation, street cleaning, emergency workshops). Community members who will carry out physical measures are expected to work in exchange for food, helping to reduce overall project costs.

In Ajuterique, the committee includes a ten-year-old boy, who reportedly adds a lot to discussions in terms of energy, receptivity, and originality. He is expected to disseminate what he learns among children of the municipality. In Santa Ana, the committee has spontaneously proposed to form sub-committees to spread knowledge, capacity, and work results at the local level.

In all the municipalities included in the project, local committees have identified on aerial photos the sites where risks are greatest. While this risk identification task is based on an analysis of natural physical conditions—frequency and level of inundations and landslides—it also creates a context for a wider discussion involving emergency reactions, absence of shelters, potential interruption of communication, and lack of information on emergency procedures. This discussion sets the tone for a second series of workshops on risk management strategies.

Communities were at liberty to form committees however they wished, and different structures emerged. Some committees were directly incorporated into the existing emergency committee (CODEM) or organized as an auxiliary formation of the CODEM, whereas others were set up as a temporary project counterpart or as a municipal entity. While information exchange and replication may not be facilitated by these differences, all the committees nonetheless share a common mandate and basic composition. A greater legitimacy emerged from committee members’ ability to determine how they would be structured.

Diagnostic and planning activities built awareness among the participating communities that natural disasters are not simply acts of God or the result of bad luck, but a mix of human activities and natural conditions, which can be mitigated with careful planning and management.

**B. Streamlining Risk Assessment into Municipal Planning**

CATIE’s work in Honduras also includes an important component of municipal planning, which aims at creating conditions that prevent natural events from becoming catastrophes. It consists of the participatory elaboration of an urban development plan, building on the risk map prepared in previous phases. This plan must, at minimum (1) include a municipal development vision, (2) specify possible uses of land consistent with the development objectives and the risks identified, (3) define an implementation strategy, (4) identify impact evaluation mechanisms and indicators, and (5) describe updating procedures. This component has not yet started, but it is expected to be one of the most important activities
of the project as it will integrate risk management and land-use planning, thereby creating the conditions for integrating real risk prevention into the development planning process instead of treating risk management as a separate issue.

The Nicaraguan project parallels this component with its Preventive Planning phase.

C. Next Steps
CATIE’s final task in Honduras will involve supporting communities in the identification and implementation of mitigation measures. Once the urban development plan is final, the local committees, assisted by CATIE, will prepare Action Plans for Mitigation and Prevention. The plans will list and prioritize micro-projects to be carried out during the next ten years in each municipality. These micro-projects can include structural measures like building retention walls, retrofitting shelter, or reforestation, and non-structural measures like conducting awareness campaigns or improving building codes. The participatory micro-planning process should allow for a clear sharing of responsibilities and a real involvement of communities. The Honduras Social Investment Fund (FHIS) has already begun a dialogue with government to make funds available to communities that have completed the risk assessment exercise. Construction and other implementation activities would then be carried out through community-based contracting. To qualify for FHIS funding, the projects will need a community management and maintenance plan.

The Nicaraguan project has a working relationship with the Emergence Social Investment Fund (FISE) to finance and execute the mitigation projects identified in the previous phases of the project. Thanks to FISE and the Nicaraguan Institute for Municipal Development (INIFOM), the tradition of local participation and community management has been incorporated into a Community Planning Manual. The vulnerability assessment and reduction exercise uses the manual and forms a key part of the Unified Planning System, formally established in April 2001 to link the planning work of INIFOM, FISE, and the municipalities. The vulnerability assessments will give municipal planning in Nicaragua its first physical context, by providing maps and a strategy for municipalities to plan their land-use and development programs.

IV. The Role of National and Sub-National Government
Although community participation is key to effective risk management before, during, and after natural events, some important activities cannot be carried out at the local level. Taking a national perspective can generate greater efficiency and economies of scale. The types of activities to be carried out at the national level include technical analyses, emergency warning, and coordination of risk management initiatives.

In Nicaragua, the damage wrought by Hurricane Mitch ultimately led to the passage of a law in April 2000 that established a National System for Disaster Prevention, Mitigation and Response. It also created an Executive Secretariat under the Office of the President to coordinate government agencies and ministries, regional and local government, and civil
society groups. The Executive Secretariat is mandated to integrate and promote disaster management policies, programs, and activities at all levels. The National System includes local governments and the line ministries, as well as specialized agencies such as the Nicaraguan Institute for Earth Science Research (INETER), the Civil Defense, the Social Fund, FISE, and INIFOM. Without the Executive Secretariat playing a coordinating role, these agencies would not have included disaster management in their plans, nor would they have come to the assistance of municipalities looking for help with prevention and mitigation activities.

While Nicaragua has formalized a National System, in Honduras a spontaneous group emerged as a result of the World Bank project, which brings together COPECO, the Ministry of Environment (SERNA), the Association of Municipalities of Honduras (AMHON) and the Ministry of Finance. SERNA is in charge of administration and control of hydrologic resources, including measurement and evaluation. It is also responsible for watershed management and protection, hazard mapping, and emergency warning. COPECO, the national agency charged with emergency response, trains, equips, and coordinates the local disaster response committees. The third partner, AMHON, is actually a nonofficial organization formed by the municipalities of Honduras to represent their interests and lobby the national government. The very fact that AMHON sits on a major committee with two central government agencies chaired by the Minister of Finance demonstrates a new form of coordination between central and local governments to deal with disaster mitigation.

National government oversight and coordination remain essential for effective risk management, but national initiatives are not always exploited to the fullest extent. For instance, according to CATIE, the Honduran government created an environmental fund for mayors who need financing to reduce their municipality’s vulnerability to natural risks, but it was insufficiently announced and advertised. Few mayors are aware of its existence, and even fewer use it. Given the government’s limited reach and resources, the role of NGOs and private sector organizations in disaster prevention and mitigation cannot be understated. (See box 2.)

V. What Can Go Wrong?

The wrong answers. Preventive land-use plans, which take natural disaster impacts into account in defining land uses and, in particular, in designating land as unsafe for development, are the most powerful tools for disaster prevention. However, as is widely acknowledged in municipal development studies, plans are not enough. Frequently the land set aside as off-limits becomes a site for squatters and others who cannot afford the costs of living in planned developments. Therefore, preventive plans must be accompanied by an effective local system of enforcement if they are to work, and the best systems rely on community vigilance of areas at risk. Preventive plans must go beyond simply identifying land at risk; they should include locating suitable land to cover the range of needs of a growing municipality. The preventive approach is new to development planning and should be supported and watched over the coming years. Given the
important differences in the level of land-use planning practices in each municipality, it is already clear that a case-by-case approach will be needed to assure that risk prevention is fully integrated into municipal development planning.

The wrong timing. All NGOs expressed difficulties with approaching communities at the right time and with the right strategy. Building partnerships takes time, and attempts do not always have a positive outcome. For example, when CARE tried to implement a capacity-building program in twelve communities of Tegucigalpa, Honduras, two of them were simply not interested. Moreover, communities are more receptive to physical measures than to capacity building, which may seem too abstract. In some urban areas, communities have become accustomed to receiving external assistance, especially following disasters. Thus, they can be reluctant to undertake risk management on their own. The lack of collective memory in new urban areas can also be an obstacle when trying to raise risk awareness. When community members have actually never experienced a natural disaster, it becomes harder to rouse their interest in prevention, particularly in the face of other basic needs, such as water, electricity, and transportation.

Box 2. NGOs Lead the Way to Community Participation in Disaster Management

In their reliance on community participation for disaster management, the Honduran and Nicaraguan projects are building on experiences pioneered by NGOs. Following Hurricane Mitch, CARE, Catholic Relief Services, The Red Cross, CATIE, and the Cooperative Housing Foundation, to name a few, worked with affected communities to develop strategies for recovery and for facing future disaster events.

CARE’s approach emphasizes risk prevention and mitigation through community participation with the objective of reducing the probability of life and property losses. CARE’s methodology was piloted in twenty communities in three Honduran municipalities and adopted by the Nicaraguan Executive Secretariat for Disaster Prevention, Mitigation and Response. In Guatemala, as part of its Mitch Recovery Program, CARE created Local Emergency Committees, which are now in place and ready to respond to any event. The Catholic Relief Services developed a regional program for disaster mitigation, REMIDE (Proyecto Regional para la Mitigación de Desastres), which includes building disaster response capacity in local communities through, for example, the identification of emergency shelters and procedures. Participating communities provided labor and a portion of the materials needed to implement mitigation measures. CATIE has promoted risk management capacity building in two groups of Honduran municipalities (mancomunidades): six in Copán and ten in Reitoca. In each case, CATIE worked with municipalities to ensure that preventive measures are a part of the municipal development plans. CATIE has also established local environmental funds, financed through tourism, taxes, and by donor grants, to cover costs of mitigation measures. The Cooperative Housing Foundation (CHF) also worked with communities in two Honduran municipalities to carry out risk assessments and to identify and implement mitigation measures under Proyecto Impacto, a post-Mitch program financed by U.S. donations. In this case, private sector groups provided technical assistance or facilities. CHF reports that prevention is such an economically justified concept that private sector participation was relatively easy to leverage. In one of the municipalities, the project resulted in the creation of a mitigation department at the municipality, showing the awareness raised locally.

In both the Honduran and Nicaraguan projects, the door has been opened for more participation from NGOs and the private sector. NGOs are encouraged to offer creative methods to work with communities under the risk assessment and mitigation planning phases. The governments, both national and local, are relying on participation from civil society to develop local capacity.
**The wrong strategy.** Daily problems of insecurity, unemployment, and insufficient social and physical infrastructure are much more threatening than a hypothetical flood or landslide. Consequently, the history, particularities, and priorities of each community must be taken into account when trying to promote risk management at this level, or the community may simply not be receptive to any effort. Further, UNDP has stressed that communities most vulnerable to natural events frequently have a disproportionately high number of illiterate members. Tools and strategies for training and capacity building must therefore be adapted so that all can participate.

**The wrong approach to the community.** Lastly, it can sometimes be tempting, for the sake of time and efficiency, to implement participatory projects directly at the community level without the intermediate participation of a committee. However, the sustainability of such an approach is questionable and most NGOs recognize that. Although building the capacity of a local committee to manage its own risks alone is very difficult, sustainable development requires such efforts.

**VI. Lessons Learned**

The World Bank-financed projects are still at a very early stage, but initial activities have aroused great enthusiasm among communities and are fully supported by municipalities. Although a relatively new concept, participatory risk management has been tried on a small scale by many entities over the past three years, and it is already possible to draw some lessons from these experiences. The main conclusion is that participatory risk management brings great benefits in terms of ownership and direct savings in losses from disasters. But community management is a challenge! While the problems vary from locale to locale and sustainability requires patience, great achievements are possible.

Bringing real community participation to risk management is a difficult task, and all actors in the field recognize that it is very energy consuming. However, patience and listening are often rewarded with great achievements, to which all the examples described above can attest. CHF’s slogan *pequeño proyecto, gran impacto* (small project, big impact), summarizes its experience that even projects limited in scale may bring large benefits to communities.