Community learning on disaster risk management in Dominican Republic

VII DIPECHO ACTION PLAN FOR THE CARIBBEAN
Community learning on disaster risk management in Dominican Republic
Consultant team:
General coordination: Claudio Osorio
Technical advisor: Mirko Rennola
Edition: Mariana Ramírez
Design and layout: Norca Amézquita
Audiovisual production: Celestino González
Translation: Laura Pérez, Lori Nordstrom and María Laura Mazza

DIPECHO partners: Plan International, ACPP - IDAC, Intermón Oxfam - IDDI, Spanish Red Cross - Cruz Roja Dominicana.

Special acknowledge to people and institutions involved and the real protagonists in these stories: men, women and children from different communities.

All pictures included have been taken from audiovisual material produced by Celestino Gonzalez, otherwise the picture credits re show properly.

European Commission Humanitarian Aid & Civil Protection
Caribbean Office
Santo Domingo, D.N.
República Dominicana

http://ec.europa.eu/echo/
Santo Domingo, March 2011.

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Introduction

About this capitalization
This capitalization is part of the joint activities conducted by Intermón Oxfam/IDDI, Plan International, the Red Cross and ACPP/IDAC under DIPECHO Action Plan VII for the Caribbean, financed by the European Commission’s Directorate-General for Humanitarian Aid and Civil Protection.

As on previous occasions, this capitalization gathers the experiences of the partners, but this time with a different approach:

Recording in a document the experiences carried out by risk management experts in the region is of little use if it does not offer support, or at least inspiration, to other experts. Based on this premise, it was decided that, for the first time, only one tool implemented by each partner involved in the Dominican Republic DIPECHO Action Plan VII would be capitalized.

The reason for changing the approach with respect to previous years has to do with space limitations and the degree of detail that is necessary for the experience to be replicable. Describing a complete project in 10 pages only provides a quick overview of the intervention, but from the perspective of the other institutions’ experts, that does not constitute a significant contribution. Devoting instead those same pages to the examination of a single tool allows for the incorporation of details that can be useful to the other partners and can promote the possibility of replicating the experience, which is ultimately the goal of this report.

About the methodology
In choosing the right tool for capitalization, it was essential for all the partners to reach a consensus. This was achieved by taking into account the following factors:

• The opinion of each partner regarding the element to be capitalized, according to the objectives of this report, the experience and the outcome.
• The opinion of the other partners. This aspect was significant, as it answered the question: “Would you like to learn in detail about the experience of the other partners?”
• The partner’s identification with the tool in question. Although all the partners worked from a common risk prevention approach, each has its own degree of expertise in the fields that they identify with and which distinguish them from the rest.

About this report
• The document presented here consists basically of five chapters, with the following contents:
  • The Intermón Oxfam/IDDI experience;
  • The Plan International experience;
  • The Red Cross experience;
  • The ACPP/IDAC experience;
  • The joint experience.

The first four chapters deal with the tool selected for capitalization by each partner. A brief introduction outlines the context of the project, the project itself and where and how the tool in question is implemented. Next, background information on the tool is provided, along with an explanation of how it is structured, the stages involved in its implementation and the achievements obtained or any results that need improving.
This practical content is illustrated throughout the chapter with quotes or testimonies from the tool’s direct beneficiaries: these are the voices of community members, leaders and volunteers, which are conveyed so as not to lose sight of the fact that behind the technical aspects involved there are human beings with views and opinions regarding how the project has impacted their lives.

The fifth and last chapter has a similar structure, but it focuses on the joint experience that all four partners conducted for a Knowledge, Attitudes and Practices (KAP) study. This study was performed by each of the partners involved and it entailed adopting a common language and guidelines with the aim of having a better understanding of each other’s experiences.

About the country
Understanding the approaches and objectives of the projects carried out under DIPECHO Action Plan VII requires proper knowledge of the situation of the Dominican Republic. The natural disasters to which the island is exposed, the country’s legal and political conditions, and the social characteristics of the population determine the selection of target communities and the approach necessary to obtain the desired outcomes.

Because of its geographical location, the Dominican Republic is highly vulnerable to disasters, in particular, tropical cyclones, tornados, floods, landslides, forest fires, and earthquakes. According to the UNDP’s Global Report on Reducing Disaster Risk (UNDP, 2004), an average of more than one million people are physically exposed to floods, and over six million to hurricanes.

An analysis of the effect of Hurricane Georges in the Dominican Republic (ECLAC, 1998), confirmed later by IADB studies, revealed that the greatest impact (almost 75% of all economic losses) was caused by inadequate spatial planning leading to increased and avoidable vulnerability to natural disasters (floods, landslides and severe soil erosion). Improper design, poor quality and inadequate maintenance of constructions were the second most important cause of vulnerability.

Therefore, a proper approach to risk management in the Dominican Republic entails taking into account the multiple factors involved, including the lack of national data on vulnerability factors. More so than the natural disasters themselves, all of these variables represent the areas where prevention efforts can be most effective and are the focus of the various projects implemented by the partners participating in this Action Plan.

About the projects and tools
All the tools presented here deal with a particular variable of the specific issues that affect the Dominican Republic, within the context of the project in question. In this way, they offer solutions for issues such as protection for inadequately built houses in vulnerable areas; community education for prevention, mitigation and response; and cross-institutional coordination at different national levels.

The fields of action also vary, as they were conducted in different provinces, each with their own specific characteristics. This is particularly important because despite the diversity of situations in which each partner worked, the tools are still fully replicable in other contexts.

The following map shows the geographical distribution of each partner’s actions:

With respect to the nature of the projects, they each have similar characteristics aimed at strengthening community preparedness for disasters. The analysis of each specific tool is where the differences between the work of the partners are most evident: Intermón Oxfam/IDDI carried out infrastructure works; Plan International conducted community sensitization and education efforts; the Red Cross focused on risk management mapping and lobbying actions; and ACPP/IDAC addressed the strengthening of the National PMR System.

As noted above, the KAP study was used to guide, fine-tune and measure the impact of the work of the partners, and thus complements the projects implemented by each partner.
The report presents a more detailed description of each tool, which can be complemented with the information included on the CD and DVD provided as related products of this account. The CD contains a catalogue of documents and publications prepared by each partner under its project, and the DVD is a video documentary featuring the history, testimonies and human faces of each tool analyzed. Reading and viewing these three products provides a sufficiently detailed knowledge of all the experiences capitalized, thus making it easier to replicate them in different contexts. We hope that this will contribute to the incorporation of the ideas and experiences presented here in future Action Plans.

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15 Mass awareness raising/school safety guides.
Las Lilas, El Barco, Los Cocos and Los Guineos in the Santo Domingo district of Los Tres Brazos are four communities on the Ozama river bank that suffer the continuous onslaught of the gray, garbage-ridden river waters, and the landslides that cause even greater chaos to a scenario characterized by the absence of urban planning.

To improve the living conditions of the people in these areas, Intermón Oxfam and IDDI conducted physical mitigation works in strategic evacuation routes and in temporary shelters used during emergencies. The inclusion of the population in the works resulted in communities that are more aware and committed to securing their own safety.

**THE REALITY**

The banks of the Ozama and Isabel rivers are lined with small, makeshift houses that from a distance seem mounted almost on top of each other. Most of the people who inhabit them used to live in the countryside but have migrated to the city in search of a better life, only to find themselves in precarious socioeconomic conditions.

They built their houses without any technical criteria, so the constructions are not made to withstand strong winds, floods or landslides. Schools, health centres and public infrastructure have all been erected directly on the riverbank or in areas that are routinely flooded. These settlements have spread out rapidly and their population has swelled, increasing the risk to which their inhabitants are exposed.

“When it rains, all the water comes down, garbage and sewage clog up the road, and you have to wait for the rain to stop so you can throw water and sweep everything away. During the last hurricane, the houses collapsed and slid downhill, because they were not standing on solid ground.”

Francisco Cuevas (community member, Las Lilas)
FINDING A SOLUTION

The project
With the goal of contributing to reduce the impact of future disasters in the Dominican Republic, Intermón Oxfam designed the project “Community preparedness for the reduction of vulnerability to disasters in the Los Tres Brazos sector, East Santo Domingo, Dominican Republic.” The project, which had a duration of 15 months, was aimed at enhancing community preparedness in the most vulnerable populations of areas frequently affected by natural disasters.

The process
To implement the project, a process of Community involvement and participation in risk reduction was carried out. This process must be understood in relation to the four components of the project, namely: education or community sensitization; cross-institutional coordination; policy advocacy; and mitigation works. This last component, which is the tool analyzed in this chapter, must be considered in that context.

Small-scale mitigation works are in themselves enough to reduce the level of risk and improve the degree of community preparedness to respond to emergencies, but their benefits are very limited if they are not part of an integral risk reduction programme. Therefore, the community was given active participation in the planning and implementation of the works. This not only cut costs, it also served to develop and strengthen the capacities of the community in terms of preparedness to respond to disasters.

How it was born
To select the communities where works would be conducted, members of Intermón Oxfam and IDDI conducted field visits to the settlements on the banks of the Ozama and Isabelas rivers. After three months of interviews, data gathering and analysis of past experiences, they chose four communities in the Los Tres Brazos sector: Las Lilas, El Barco, Los Cocos and Los Guineos. The possibility of disasters, the context of vulnerability and the previous experience of the partners involved were the criteria used for selecting the communities.

The next step was identifying the kind of works and devices that would meet the following needs of the communities:

- Appropriate places to provide shelter for families who have to abandon their homes during emergencies and disasters. (Shelters with decent, sanitary and safe conditions.)
- Expedite routes to evacuate people from high-risk areas to safe areas or shelters. (Facilitating movements during emergencies.)
- Ensuring that the community recognizes when the risk has increased or an emergency is imminent. (Facilitating the community’s understanding/awareness of the changing dynamics of the risk to which it is exposed.)
- A basic system for rainwater and sewage drainage. (Preventing water from accumulating in the community and producing floods and spreading diseases.)

Once the target communities had been determined, an intervention strategy was designed in a way that ensured the involvement of the community in the identification and selection of the sites of the works, as well as their construction, maintenance and proper use.

What are small-scale mitigation works?
The International Strategy for Disaster Reduction (UNISDR) defines “mitigation” as “the lessening or limitation of the adverse impacts of hazards and related disasters.” Intermón Oxfam and IDDI add to this definition, stating that mitigation must be “a secure investment that provides safety for all people,” and that works “should not be built on risk.”

“Everyone has gotten involved thanks to the meetings held before the works began. At these talks, we discussed what we were going to do to get the community involved in the project, and there were quite a few meetings to inform everyone about what would be done, and how and when it was going to be done… I’m the facilitator; I’m the one who goes out to look for people when something needs to be done, the engineer lets me know and I talk to people, and gather them up to participate under the engineer’s instructions. There isn’t one member of the community who hasn’t participated; we work a full day. We start out at 8 a.m. and work until 6 p.m., sometimes even into the night. Last night, we worked until 11 p.m., digging ditches and breaking up dirt, so we can finish the project ahead of schedule.”

Ángel Rafael Reyes
(facilitator and vice president, community hub, Las Lilas)

“The next day we go out—people are very involved. I’m the facilitator, so people know that I was the one who went to the meetings before. I’m the one who goes out to look for people, and meet with them. People are very involved in the project, so they come out and participate. They’re already used to meeting with us, and talking about what’s going to be done, and when. They get involved, because they’re organizing and doing work that needs to be done in their communities. They don’t want to leave their homes, so they stay and work, both day and night.”

Margarita Silverio
(facilitator, member of the community committee, Las Lilas)

Margarita Silverio’s words were shared in a recent group of displaced people. They are telling her that they’re organizing and doing work that needs to be done in their communities. They don’t want to leave their homes, so they stay and work, both day and night. They’re already used to meeting with us, and talking about what’s going to be done, and when. They get involved, because they’re organizing and doing work that needs to be done in their communities. They don’t want to leave their homes, so they stay and work, both day and night.

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These works seek to improve the community’s capacity to respond to emergencies and disasters. This is done through a range of approaches, including: reducing the impact of hazards; providing relevant infrastructure, services and equipment to alert the community in the event of an imminent disaster; and supplying key elements for immediate response.

**Data sheet**

**Name:** Small-scale disaster mitigation works.

**Key actors:** Intermón Oxfam (financing/technical assistance in identification and prioritization of small-scale mitigation works); IDDI (co-financing/sensitizing local and municipal bodies/community training/design, planning and implementation of works); municipal government (state backing/technical inspection/supplying heavy machinery); local institutions—Church, Red Cross (community mobilization); Community Disaster Prevention, Mitigation and Response Committee (facilitation and identification of potential small-scale mitigation works); community hub (transportation, storage of the necessary materials and equipment for the works/unskilled labour).

**Objective:** Reducing the vulnerability of community members.

**Secondary objectives:** Strengthening capacities, establishing tools and improving awareness of the urban population in four communities of the Los Tres Brazos sector, east Santo Domingo.

**Implementation period:** March 2010 to January 2011.

**Beneficiaries:** Families living in or using the affected communities.

**Number of beneficiaries:** A total of 23,280 people from the four communities. This includes the school population from the schools covered by the intervention, people who are likely to use the shelters set up in the schools (200 in Otto Martínez and 150 in Santo Tomás de Aquino), homes that benefited from drinking water supply (51) and/or sewage system (54), and families in floodable areas or areas bordering evacuation routes, as this increased their home value.

**Indirect beneficiaries:** Not applicable.

**Location:** The communities of Las Lilas, El Barco, Los Cocos and Los Guineos in the Los Tres Brazos sector, east Santo Domingo.

**Length:** Ten months (including construction and work with community leaders, municipal authorities and local bodies).

**Cost:** Implementation: €68,000. Human resources (local and expatriate technical team): €60,000.

Support documentation

During the stage of identification, planning of activities and implementation of the small-scale mitigation works, the most important technical documents produced were the following:

- “Community Hub Manual”: Indicates the tasks, roles and responsibilities of these groups in the planning, construction and maintenance process for the small-scale mitigation works.3
- “Presentation of Mitigation Works – Community Preparedness for the Reduction of Vulnerability to Disasters in the Los Tres Brazos Sector, East Santo Domingo, Dominican Republic Project”.4
- “Technical Approach Guide for Small-Scale Mitigation Works”: This guide outlines the project indicators, namely:
  - Installation of water supply, sewer systems and sanitary facilities in two shelters located close to the communities and improved in line with international standards.
  - At least two evacuation routes improved and duly signalized in line with international standards and early warning signals.
  - Two water collection systems improved, one for rainwater and the other for sewage.

Development

For the project’s design, and more specifically for the mitigation works, the following activities were conducted:

- Identifying and strengthening the capacities of the community members who will help in the implementation and maintenance of the works.
- Identifying, designing and prioritizing works.
- Carrying out the works in shelters, rainwater and sewage collection systems, and installation of early warning systems, and making sure they work properly.

These activities gave way to a number of specific actions, which concentrated on an intense community involvement and capacity-building. These actions are listed below, in chronological order:1

1. Meeting of Intermón Oxfam and IDDI technical team to get acquainted with the project.
2. Meeting of the IDDI technical team to plan and program project activities and launching in the community.
3. Meeting with community leaders and municipal authorities to coordinate the start of the activities.
4. Project launching event at Los Tres Brazos.
5. Twelve-session cycle (three per community) that included training for the identification, prioritization and design of infrastructure rehabilitation work.

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2 Initially the project was set to begin in January, but it was delayed due to the support provided by both IDDI and Intermón Oxfam staff to relief efforts in Haiti in the wake of the earthquake.

3 When construction of the small-scale mitigation works was completed, the process of delivering/transferring the works to the community and the municipal governments began, taking up the last three months of the project. The aim of this stage was to ensure that the community (“community hubs”) will correctly use and maintain the small-scale mitigation works. While a maintenance plan is designed for these works, it does not include an estimate of costs or resource procurement to ensure proper operation. Some of the leading maintenance actions considered for the small-scale mitigation works included in this experience were: inventors for stems in the early warning system (EWS); paint for signalling evacuation routes and EWS; drinking water supply and sewage systems installed in communities and schools.

4 Adapted from the document “Presentation of small-scale mitigation works – Community preparedness for the reduction of vulnerability to disasters in the Los Tres Brazos sector, East Santo Domingo, Dominican Republic Project”.

5 Participants at the sessions included members of the Intermón Oxfam and IDDI technical team, members of community emergency committees and the “community hubs” from the sector in which the works were to be conducted.

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“I’ve been living here for 12 years. It’s very hard to climb these steps, you get tired easily and have to stop to rest. It’s also kind of dangerous: my boy, who’s smaller, fell down over there once and he had to get a cast. They’re going to put a handrail and that’s going to make things easier; nobody will fall. The facilitators also counsel us, teach us how to behave if there’s a hurricane or an earthquake. First we have to help the children, and then we have to help each other so nobody’s in danger. We feel safer, and more sure of ourselves.”

Rosa Méndez (community member, Los Guineos)
6. Meeting to plan and program activities with community leaders.
7. Reconnaissance visit to the project’s intervention area, accompanied by community leaders and IDDI technical staff, both for physical works and social actions.
8. Meeting and field visit to assess the needs prioritized by each sector’s community leaders.
10. Surveying requirements of shelters and prioritized works for their respective designs.
11. Designing the works prioritized.
12. Preparing the preliminary design document for the works.
13. Meeting to discuss the designs and budgets with the project’s technical team.
14. Submitting the preliminary designs and budgets of the prioritized works to the IDDI project coordinators.
15. Meeting to discuss the designs and budgets with the project’s technical team, and official meeting with Intermón Oxfam.
17. Construction of the small-scale mitigation works.
18. Delivery and transferring of the small-scale mitigation works to the community and the municipal government.

The above process began in the fifth month of project implementation and lasted through the following ten months, up until the end of the project.

Once community leaders and municipal authorities learned the scope of the small-scale mitigation works planned, the leading actions conducted in each of the four communities involved were:
• Reconnaissance visits, with the participation of community leaders and technical staff from the project to identify possible sites for intervention.
• Forming the “community hubs” in the areas involved.
• Training members of the “community hubs”.
• Construction of the small-scale mitigation works.

The implementation of the small-scale mitigation works had a cost of approximately €68,000, of which €50,000 were from ECHO, €9,000 from an IDDI contribution and another €9,000 from Intermón Oxfam.

In terms of human resources, the cost of the project’s local and expatriate technical team engaged in these small-scale mitigation works is estimated at approximately €60,000, as per the project’s mid-term progress report. However, this does not include the unskilled labour provided by the “community hubs” and the municipal government’s contributions in the form of materials and transportation.

6 Maps and photographs were obtained from these visits.
7 Initially it was set to begin in the third month, but it was delayed due to the support provided by both IDDI and Intermón Oxfam staff to relief efforts in Haiti in the wake of the earthquake.
8 For a detailed description of the works, see the Annex.
9 Preferably someone with experience in risk management issues.
10 In hiring skilled labour, priority was given to workers within the community.
11 Digging, cement mixing.
“Look at my feet [all covered with cement]. I help out because what I do helps us all. It makes me feel good to work. Besides mixing cement, I work with the pick, I shovel dirt and carry the cement mix down. I do a bit of everything.”

Lucila Guzmán (community member, Los Guineos)

OUTCOMES

Achievements

• Community involvement
Community leaders and bodies, as well as the community itself, participated in the identification and prioritization of the sites where the works would be conducted, and in the implementation of the works. This ensures ownership and avoids misunderstandings about who and how the works were identified, as such misunderstandings could jeopardize the implementation of the project’s other activities.

• Involvement of other actors
Responsible bodies from the target sectors—such as the Ministry of Education in the school community and the municipal government and Civil Defence in the evacuation routes—were actively and dynamically engaged.

• Using the works to educate
The retaining walls built for the works were used as “educational walls” to highlight messages that warned the communities against risks and taught them how to cope.

• Integrated works
All the small-scale mitigation works were carried out in a consistent and complementary manner, and care was taken not to have them too far apart from each other, so that, for example, the early warning systems were located near the homes that would need to use the evacuation routes, which led to the shelters that were improved by the project.

• Added value: Risk visualization
While the goal of the small-scale mitigation works to improve disaster response capacities implemented under this project is to better prepare the community to respond to natural disasters, these works are also tangible and concrete aspects of a capacity-building and training process that otherwise is often seen and perceived by the communities merely in abstract and intangible terms. Thus, the small-scale mitigation works not only diminish the physical vulnerability of the communities and make it easier for them to respond when a disaster hits, they are also a permanent beacon in the community, which constantly reminds and teaches the community about the risks it faces.

Input Use

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<td>Maps, charts, photographs</td>
<td>Location of the mitigation works / use of topographic data for designing the works' photographs for documenting problems and work progress.</td>
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<tr>
<td>Training and capacity-building material</td>
<td>Sensitizing and training activities for the community and in particular the “community hubs”.</td>
</tr>
<tr>
<td>Building tools</td>
<td>For preparing and carrying out mitigation works. Most tools are later donated to the Community Disaster Preparedness and Response Committees.</td>
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<tr>
<td>Building materials</td>
<td>These will depend on the design and type of works to be implemented.</td>
</tr>
<tr>
<td>Signaling paint</td>
<td>To mark evacuation routes and paint other relevant emergency signs. The paint should be reflective and resistant to extreme conditions.</td>
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“People have come from other places to see what the project is like, how we participate and how it can help them too. A lot of people have come, even human rights people. Some people think that this was done because of me, but no: I’m just here to encourage others, to get this done. We’re doing it for everyone. Because we’re all going to benefit.”

Ángel Rafael Reyes (facilitator and vice president, community hub, Las Lilas)

“The fire department trained us in emergency courses, teaching us, for example, how to put out gas tanks if a fire breaks out.”

Ángel Rafael Reyes (facilitator and vice president, community hub, Las Lilas)
• Greater understanding of the risks
The small-scale mitigation works accomplished in Los Tres Brazos will be a permanent beacon in the community that constantly reminds and teaches people about the risks to which they are exposed and the actions that need to be taken, long after those responsible for implementing the project have left the area.

Including small-scale mitigation works in integral risk management programmes legitimizes the implementing institutions in the eyes of the community and facilitates understanding of risk exposure, how to reduce risks and how to prepare for emergencies.

• Planning according to the weather
The time of the year was taken into account in planning when to carry out the actual works, and the most stable and favourable weather conditions for each work were picked.

• Sustainable experience
A number of actions were carried out to ensure sustainability: involving the community in the identification, construction and maintenance of the works; handing the works over to the municipal government and the community for their use and maintenance; and designing a maintenance plan together with the “community hubs”.

• Replicable experience
Although these works must respond to the specific hazards, risks and vulnerabilities of the target community, and the designs are not likely to be replicable in other areas, the process and the activities can easily be adapted to other contexts. Elements to be taken into account are: the process was designed based on a pre-existing level of organization in the community; the works were determined by the needs of the community (and not by what “specialists and experts” thought should be done); and there was a high degree of involvement and participation from the community and municipal authorities.

Difficulties and lessons learned
• 2010 Haiti earthquake
The earthquake in Haiti meant that part of the technical staff of IDDI and Intermón Oxfam had to focus on institutional support for relief efforts in that disaster. This delayed the start and reduced the time and pace of the process of transferring the works to the community and the municipal government.

• Transfer of knowledge to the community
In planning this type of activities it is necessary to set aside enough time to transfer the works to the community and the municipal government. This process should not coincide with the end of the project, as any delay can jeopardize the proper delivery and transfer of the works, which could in turn affect their sustainability.

• Failure to prioritize works
The absence of clear criteria for prioritizing the small-scale mitigation works that needed to be carried out resulted, on the one hand, in a large number of “possible” small-scale mitigation works and, on the other, a drawn-out discussion process between IDDI and Intermón Oxfam to prioritize and select the works to be done. This was solved with the production of the “Technical Approach Guide for Small-Scale Mitigation Works.”

• Variation in prices of basic inputs
The increase in the prices of construction tools and materials (possibly due to the Haiti earthquake) and the reduction in the funds the project had initially expected meant that some of the works programmed had to be suspended.

“We’ve been able to integrate the community with the school. It used to be hard to go up and down this narrow road, and here at the school we had a water and electricity problem. The students are part of the community. We’re not working alone; we’re working together. When we need the community, the community is there to support us. And when the community needs the school, the school is there to support it. We won’t get the same results if the school and the community work separately.”
Francisca de los Santos Belén (principal, Otto Martínez School, Las Lilas)

“Besides the work itself, which is really nice, they used part of the walls to map out the evacuation route and indicate which way we need to go if there’s an emergency. It’s really nice and clear. When the kids go up to school in the morning I can hear them saying, “Look how pretty it is,” and they stop to read the sign. And they say, “No, I’m not going to mess it up.”
Ángel Rafael Reyes (facilitator and vice president, community hub, Las Lilas)

“I’ve been living in the area for 20 years and I know it inside out. When the water rises, it comes really fast and we need to get out quickly. If we stay, it swallows us up and drowns our children. But with these works, we can climb up there faster and we don’t have to be afraid that the kids will slip when they’re going up, because now they have the handrail.”
Danilo Sánchez (community member, Los Guineos)
During the month of July 2010, 447 children from nine schools in the provinces of Barahona and Pedernales in the southwestern region of the country spent their summer vacation taking part in RM educational activities. The children, aged nine through 12, attended one of nine camps implemented by Plan International to teach them about risk prevention. They learned through games about how to act before, during and after the hazards faced by their communities.

In November of that same year, when Hurricane Tomas threatened their homes, their knowledge was put to the test. The result: not only did they know where the shelters were located and what the best evacuation routes were, but their parents and families knew as well. The camp’s strategy had proven effective: through the training of children and adolescents and participatory activities targeted at their parents, the six communities where these summer school camps were held were prepared to confront the disaster.

**THE REALITY**

Barahona and Pedernales are two provinces in the southwest Dominican Republic. The social conditions and geographical location of these provinces make them susceptible to natural disasters, and rural communities are the most highly exposed to threats. With zinc-roofed houses, lack of access to drinking water, difficulties in public transportation and contamination of natural resources, these communities are far from being in an optimal state to confront disasters. Hurricanes and flooding are the main hazards they face, and their vulnerability is heightened by poverty and a lack of disaster preparedness. Pollution and inadequate health services aggravate the situation and foster the outbreak of respiratory and gastrointestinal diseases, conjunctivitis, dengue, malaria and leptospirosis.

**SUMMER CAMP**

"**Ponte Alerta**" ("Be Alert")

**BRIEFLY...**

“In the past we had no knowledge of anything: we were waiting for problems to happen, and they rained down on us. In ’78, during Hurricane David, a lot of houses collapsed, the river flooded, and you couldn’t cross to Barahona. No lives were lost, but we lost a lot of fruit and coffee crops. It was a difficult time, we weren’t prepared with food reserves and there were women who gave birth on the roadside.”

Alinda Cuello (community leader, La Guázara)
FINDING A SOLUTION

The project

In light of the state of vulnerability of the communities studied, Plan International designed the project Strengthening community work for disaster risk reduction (DRR) in the southwestern rural areas of Barahona and Pedernales, Dominican Republic, which was implemented over the course of 15 months. The objective was clear: to increase the resilience and reduce the vulnerability of communities in coping with disasters.

The process

Among the different actions aimed at bringing people together to pursue this common objective, the community sensitization strategy was key. This strategy was aimed at empowering the community and making them active participants in education around risk prevention.

It was implemented by working with people from the community. Groups of adults and of children and adolescents were provided with training on risk prevention, so that they could subsequently take on the role of “multipliers” in their communities.

Different tools were developed and used to implement the strategy, including training materials for “Community Networks for Disaster Prevention, Mitigation and Response”, the camp guide and the school camp. The last two are closely linked and will be described here in more detail.

“The network entails the education of community leaders and training so that at times of risk, the community is ready and trained to confront natural disasters. Our community is vulnerable in the back and front areas of La Lista. This is a prevention, mitigation and response network that always keeps track of the news and is able to communicate with those who are not as well connected to communications.”

Miguel Esteban Almonte (representative and coordinator of the community network in La Lista)

1 The Project was executed between 15 October 2009 and 15 January 2011.
2 Official name: “Strategy for the training of multipliers, education and community sensitization”
3 For PLAN, the term “multipliers” refers to individuals from the community who participate in the sensitization of the rest of the community, and are referred to in other DIPECHO partner programmes as “facilitators”.
4 Fictional name for the material known up until now as the “School Safety Guide”. Because a definitive name has still not been adopted, we have chosen to refer to it this way in order to avoid confusion with textbooks developed by the Ministry of Education.
5 “School camp” is used to refer to the overall strategy of the camps that were operated, which in this case numbered nine in all.

THE TOOL

How it was born

In order to disseminate the knowledge acquired by the groups who had received training, Plan International decided to bring these “multipliers” of knowledge to the schools. The idea was to carry out the activities developed in the camp guide in schools.

This original strategy could not be implemented, because it would have entailed interrupting regular classes. This would have clashed with the Ministry of Education’s 1000 x 1000 strategy, which is aimed at ensuring a full 1,000 hours of quality class time for all of the country’s students.

Inspired by the initiative developed by Intermón Oxfam/IDDI in urban areas under DIPECHO Action Plans V and VI for the Caribbean, which was used again in the current DIPECHO Action Plan, as well as other regional initiatives, Plan International then decided to organize a summer school camp, where children and adolescents could be brought together without interrupting regular classes.

The effectiveness and replicability of this tool is demonstrated by the fact that it was used again by Intermón Oxfam/IDDI under the current DIPECHO Action Plan for urban and rural areas. The school camps are easily replicable in different social and institutional contexts, which has also been confirmed by this Plan International experience.

What is the camp?

The school camp is a place for play and recreation for children and adolescents aged nine to 12 who are students at the schools in the communities where the project is carried out. The camp was created to provide a venue for activities aimed at education and community sensitization through the dissemination of key messages on risk management, which would subsequently be spread by multiplier effect both in the participants’ schools and homes.

During one month of summer vacation (July), the schools were opened in order to operate the school camps in them. The camps operated from Monday to Friday, 9:00 to 12:00 noon. Over the four weeks of the project’s duration, the camp participants worked on different subject areas related to risk management (RM) and children’s rights, through play and recreational activities that kept the children and adolescents engaged and interested.

Expected outcomes

- Children, adolescents and adults in community groups to disaster- and people in the media, civil society organizations (CSOs), schools and the private sector have greater knowledge of risks and vulnerabilities, stemming from the prevention of local hazards.
- Communities are better prepared to respond to floods and hurricanes (through the strengthening of the CCMRR, CIRE and CRE institutions, greater knowledge of evacuation routes and evacuation; and evacuation practices.
- After project completion, there is greater institutional coordination among local governments, civil society and the CEN for the adoption of DRR tools and good practices.

Miguel Esteban Almonte (representative and community coordinator of the community network in La Lista)

Fact sheet

Project name: Summer School Camp for Children on Risk Management

Objective: To facilitate work with the educational community (parents, teachers and students).

Secondary objectives: To disseminate the basic elements of risk reduction without interfering with regular class hours. To provide a suitable and safe teaching space during the summer vacation.

Implementation period: 4 to 30 July 2010

Target beneficiaries: Children and adolescents aged nine to 12 in the nine communities where the PONTE ALERTA (“Be Alert”) Project activities were carried out.

Number of target beneficiaries: 50 children and adolescents per camp (nine). The total number of participants was 447.

Indirect beneficiaries: It is estimated that each child trained will have a fivefold multiplier effect. This means that the indirect beneficiaries would include the members of approximately 10,000 people in all, in addition to teachers, school directors, and personnel responsible for administration, integration and/or supervision of national, regional and district education policies.

Location: Provinces of Barahona and Pedernales, Dominican Republic (communities of Oviedo, Colonia de Juancho, Juancho, Bahoruco, La Lista, La Guazama, La Quebrada, Los Arroyos)

Length: Four weeks

Cost: €2,200 per camp (supplies and consumables, payment of monitors; does not include consulting fees)

For the legislative term 2008-2012, the Ministry of Education has launched a campaign called Mission 1000 x 1000, which addresses two key issues in the educational sector: the recovery of classroom time to comply with the school calendar, and a sustained effort by all actors in the educational process to ensure quality education for all children and adolescents.
What is the guide?

Plan International formulated three interrelated documents that we refer to collectively as the camp guide, which provides the methodological and teaching guidelines for the camps. The documents give a detailed description of the programme, a list of materials and supplies needed for preparation, and theoretical and practical pointers for conducting the related activities.

The three documents are:

- Guide for facilitators: Outlines the planning process and guidelines to be followed by the teachers and monitors in charge of the camp.
- Guide for participants: To be used by the children for their work in the classroom.
- Guide for families: Includes homework-like activities that the children are expected to do at home with the help of their parents.

Development

The school camps were held in each of the communities where the project was implemented, in all of which there was a primary school. The project’s implementation involved a number of additional activities beyond the running of the camps themselves:

- Preparation of the camp guide. This in turn was carried out in different stages:
  - Hiring of a consultant to draft the three manuals with their respective educational approaches, methodologies and activities to be carried out. This stage lasted four months (March-June) and required an investment of approximately $20,000 USD (€16,000). It was undertaken by an educational sector professional with recognized experience at the national level.
  - Testing and validation of the guide through risk management training workshops for teachers and monitors. This stage lasted one month (June) and required an investment of approximately €120 for each workshop.

- Meetings with the Ministry of Education of the Dominican Republic (MINERD) and the Regional Department of Education and Culture to obtain the authorization of each. This entailed direct involvement by technical personnel from the educational district.

- Purchase of the necessary materials: workbooks, manuals, balls, ropes, hoops, t-shirts for the children, and others. The planned budget was $3,000 USD (approx. €2,200) per camp for the purchase and distribution of materials and payment of the three monitors at each.

- Direct work with the directors and teachers at the beneficiary schools.

- Meetings with the parents of the children and adolescents participating in the camps, who were invited in order to obtain their commitment to:
  - Submitting written authorization for their children to participate in the camp.
  - Complying with the camp’s hours of operation, providing their children with breakfast before sending them to camp each day, and participating in the homework assignments which the children would be bringing home.
  - Sending a snack for their children to the camp every day.
  - Accepting the reasonable margin of risk entailed by their children’s participation in tours of their communities.

- Monetary support (incentive) for each monitor (three per camp): The amount of this support was approximately €100 per monitor.

- Supervision by Plan International-Dominican Republic technical staff of the proper implementation of the guides in the project execution areas.

Maintenance stage: The month after the implementation of the camps, the experience was evaluated. Since the camps were held, the children have participated in different activities aimed at disseminating key risk management messages.

“There was a guide for the children, one for the families and one for us, the monitors. The 50 children that we trained were multiplied because their brothers, sisters and parents learned what they were learning at the camp. They learned how to design emergency plans. They worked on everything in the guide with their children.”

Zoila Alcántara (camp monitor, La Lista)
Implementation

• Basic structure

The camps were structured around the four weeks of the project’s duration. For each week, content around a different theme area (summarized in a slogan) was developed. The content included the dissemination and promotion of children’s rights in both normal and emergency situations, as well as the basics of risk management. Each week resulted in a specific output, which when combined comprised the Family Emergency Plan (guide for families).

The four theme areas were:

1. “Soy lo máximo” (I’m the greatest): Activities to raise self-esteem and a painting contest with the family unit as the subject matter.

2. “Abre tus ojos, Ponte Alerta” (Open your eyes, be alert): Activities related to the campaign to promote the key risk management message, “Be Alert!” and definition of the theoretical framework of risk management and risk variables (hazards x vulnerability / capacities = risk, or HxV/C=R).

3. “Manos a tiempo” (Hands in time): Discovery and practical learning activities carried out in the field, such as visits to vulnerable areas in the community and temporary shelters (including the identification of risks in emergencies).

4. “Respeto y valoro mi cuerpo” (I respect and value my body): Self-knowledge, personal care, hygiene, promotion of the focus on protecting children in emergencies.

With the guides serving as a learning platform, the four theme area phases alternated between exchanges focusing on theory (recognizing the variables of risk, as summed up by the formula HxV/C=R); and periods of practical learning and recreational/play activities (icebreakers, role playing, drills, drawing, games, etc.). Special mention should be made of the use of the game Riesgolandia (the Spanish language version of Riskland) as a learning tool throughout the duration of the camp, as well as the students’ participation in a regional contest for drawings by children and adolescents on the subject of disaster risk reduction.

“The family plan meant getting together and knowing what to do when there was a disaster, the starting point, the evacuation route, etc. We learned that when facing any situation we must stick together, be aware and agree on what to do.”

Santa Ramírez (volunteer, La Lista)

Riskland

Riskland is essentially a board game, but it is played on a giant board on which the children can stand and move around. The players learn what they can do to reduce the impacts of a disaster by answering questions and advancing along the board’s winding path. One particular advantage of the game is that its questions and rules can be adapted to the specific conditions of each community.

“Of all of the activities, the “Be Alert!” programme had the biggest impact and was where we gained the most experience. The games that the children liked best were the evacuation game, safe area-unsafe area, and the Riskland game. That was where they learned to identify shelters, safe areas and vulnerable places. They learned things while they were playing.”

Yeuris Miguel Gómez (team monitor, Polo)
**Human resources**
In each camp there were three monitors (one monitor for every 17 children, three groups per camp). The monitors were responsible for carrying out the activities described in the guides with the children in the three groups. When it was possible, teachers from the schools were directly involved in this work. When this was not possible, cooperation was sought from people in the same community who had educational training and experience in working with children and had been approved by the children’s parents.

The three monitors were assisted by two “multipliers” (sometimes older children and adolescents from the beneficiary school itself) who provided their support to the camp on a volunteer basis, with prior authorization from their parents.

**Value added: Support for the community sensitization strategy**
In parallel with the school camps and after the camps were finished, children and adolescents who had participated in the camps were selected to serve as multipliers. Each was responsible for making use of everyday children’s activities to highlight risk management issues. The activities included theatre and dance groups, sports tournaments and songs, as well as the “Riskland Olympics”. The idea behind all of these activities was to take advantage of any channel of communication or recreation to disseminate key messages of children’s rights and RM.

The implementation of the summer school camp validated a working methodology for addressing RM with children and adolescents that could serve as a model for a teaching approach that is replicable and adaptable to different contexts and populations. As was mentioned earlier, the camp itself was an initiative replicated from prior experiences.

Plan International, in an effort to systematize this experience in order to replicate it in other areas where the organization works in the Dominican Republic, is carrying out a process of “abstraction” of the capitalized experience, so as to expand its applicability to more standardized content and to target populations that are not limited to children and adolescents, but also include the adult population, who could be reached through more recreational and entertaining activities.

**Achievements**

**Knowledge incorporated into daily routines**
The high level of participation by children and adolescents resulted in a major impact on everyday recreational activities in the community. The key disaster reduction messages that were promoted filtered into a variety of recreational spaces.

**Involvement of different actors**
Both the municipal governments and the private sector played a part in this initiative. The direct commitment of some town councils was reflected in high rates of community participation, and some businesses offered their services and assistance to facilitate the implementation of the camps. Some provided transportation, while others donated food.

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**I learnt about the summer camp by Plan. I like a lot recreational and play activities. Everybody stand up and sung “El piojo”, then we made dolls and things like that. The teacher gave us papers to draw. The homework have to be done joint with the family in order to engage them to work together to be alert.”**

Ronald Valdés (student 8th grade, La Lista)

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**“Here the lagoon has overflowed right up to the street and we have had to evacuate to the school. Before we would do it when the street was already flooded, but now we’ve learned that if there is a hurricane or storm warning, we have to be prepared in advance and not wait for it to arrive. We have been given equipment, we have carts, shovels, helmets, flashlights. When something is about to happen, we use these materials to clean up garbage from the community and the channels where the water runs, to be prepared before disaster strikes.”**

Zoila Alcántara (camp monitor, La Lista)

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**Replicable experience**
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**“I chose a spot under a tree, gathered the people together and talked to them about disasters. They gained a lot of experience and were able to learn a bit about disasters.”**

Alba Rosa (multiplier, La Guázara)

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**“A little while back there was a storm heading straight for us, for Barahona. As Civil Defence director, I went to the most vulnerable part of town to see the state of the situation. I realized that people hadn’t slept there, they had stayed at the homes of relatives. In other words, they had taken the measures that they were taught to take.”**

Nelson Suero (teacher and Civil Defence director, La Guázara)
Community proactivity
Community involvement led to a proactive attitude that helped to overcome challenges in some cases. One example is a specific case that took place in Polo: although they were unable to participate in the monitor training workshop, two young multipliers from the project took charge of the camp in La Q de Polo using the camp guide as their sole source of methodological support.

Family responsibility
Parents were responsible for providing food for the children and adolescents during the implementation of the camps. They accepted this responsibility as their contribution to the common effort to carry out this initiative, thereby breaking with a longstanding attitude of expecting everything to be “free”. This approach was clearly a very good decision and helped promote a sense of shared responsibility among the parents for the organization of the camps.

Difficulties and lessons learned
“It’s too bad that more kids couldn’t take part, since it was limited to 50; that was the only bad thing. We had to let kids in as observers, because they wanted to be there, lots of them. In my group I had more than I should have had, and so did the other monitors.”

Zolla Alcántara (monitor, La Lista)

“I think it was perfect, all that was missing was more training for the multipliers.”

Yeuris Miguel Gómez (monitor, Juancho)

The schedule
During the implementation of this initiative, some difficulties were encountered in reconciling the schedules of families with those of the institutions involved. The fact that the camps were held during school vacation time did not pose a problem for families, who had no prior commitments, but it did cause difficulties for the teachers. This is something that should be kept in mind, since teachers might have other activities already planned during summer vacation, and town councils could also have other commitments.

The budget
The budget required for the operation of the camps was approximately €2,200, although many of the materials can be reused in coming years. As a result, the initial investment in materials and documents should be ensured with a commitment from the authorities (if not the national authorities, then at least local authorities), which could be complemented by the participation of private sector entities.

Logistics
The need to ensure the availability of all of the necessary inputs for camp activities (materials, games, documents, etc.) results in a significant logistical load in the preparation of the camps and entails the need to work in collaboration with the authorities and the private sector. In order to be ready to begin implementation in July, the preparations started in the month of March.

Bureaucracy
Working with the local levels of MINERD (regional and district) proved much quicker and simpler than work at the national level, given the slowness of bureaucracy at the central government level. While a formal introduction at the highest levels of the ministry is required, it is recommended that arrangements be initiated at the local level in parallel in order not to interrupt work in the communities.

The key role of advocacy and lobbying
The sustainability of the tool is closely tied to links between the school camp and public education and cultural policies. The inclusion of RM as a cross-cutting theme in all subject areas, as well as an increase in budgetary allocations for extracurricular activities, are primarily policy questions that are tackled by advocacy and lobbying work complemented by another area of intervention under DIPECHO Action Plan VII for the Caribbean.

The effective inclusion of RM in the school curriculum will require a lengthy process of gradual modification and adaptation of national education policy. At present, although the Dominican government considers that RM has already been incorporated in the school curriculum, it has also expressed the need for training, materials and tools in order for the country’s teachers to cover these issues in their classes.

“We viewed the camp as a highly important activity, because Polo is one of the most vulnerable municipalities in the country. We helped with transportation and food, and we are looking for ways to turn the camp workshops into two- or three-year courses. The ways we were able to interact with the initiative showed us how much can be done when we work together.”

Andrés Ruiz Peña (mayor, Polo)

“We as teachers felt compelled to interrupt our vacations. We ended up with almost no vacation time, but we thought that the work we were doing was worth it, because children are the future and the present. The more capacities that people have, the less risk they face from hazards and vulnerabilities.”

Nelson Suero (teacher and Civil Defence director, La Guázara)

“The school now has an emergency plan. We created it after the camp, because that’s where the idea came from. It isn’t right to learn so much about social sciences – which is important – but not know what to do in case of a disaster. Mitigation should be part of the curriculum: we have to work on this continuously, not only as part of a project, and spread it to the community.”

Maria Altagracia Molina (school director, Oviedo)
In the municipalities of Santiago, San Francisco de Jacagua and Tamboril there are communities exposed to a variety of risks. These communities have different characteristics, and this calls for an approach that focuses on their own particular needs. This is the approach that the Dominican Red Cross has adopted through a general strategy: community-based mapping for risk management.

Hazard mapping is not a new initiative, but in this case, there was greater value added that should be taken into account: the mapping process was detailed and differentiated and the maps were subsequently socialized among relevant actors. The participation of the inhabitants of each community in defining their own hazards, vulnerabilities and capacities is one of the keys to the success of this initiative, which is easily replicable despite its specificity.

**THE REALITY**

A total of ten communities participated in the Dominican Red Cross project. These are ten communities with different origins, nationalities, social conditions and locations (in urban, peri-urban and rural areas). What they share in common is their vulnerability, and more so, the types of hazards they face: they are all highly exposed to hydrometeorological phenomena and earthquakes. Located close to waterways, they know first hand the effects of floods and overflowing rivers.

Bella Vista, Hoyo de Puchula, Hoyo de Bartola, Rafey Centro, Rafey Nueva Luz, Rafey Rincón de Oro, El Cambrón, La Playita, Boca de Licey and Arenaso all suffered major losses (material and human) as a consequence of the flooding caused by Tropical Storms Noel and Olga (2007). In the municipality of Santiago, they are the most vulnerable communities.

**Community-based mapping and map socialization for risk management**

**BRIEFLY...**

“Not long ago it was full of houses here, and then the river came and took everything away, including my house. If I had been at home, I would be dead. I’ve lived here for many years. I came here when I was 14, and now I’m 65. All kinds of things have happened here. I’ve seen them toss ropes to rescue people and pull them up when the river rises.”

Maria Elena Cruz
(community member, Hoyo de Bartola)
FINDING A SOLUTION

The project
To strengthen disaster preparedness, the Spanish Red Cross (CRE) and Dominican Red Cross (CRD) executed the project Building a preparedness culture in the Yaque del Norte River basin in order to decrease the impact of hazards in the lives of the most vulnerable people. As its name implies, the project was aimed at building a culture of prevention in the targeted communities, in the framework of the National Risk Reduction System at the national and local levels. The length of the project was 15 months.

The process
The building of an adequate preparedness culture depends on developing the capacities of the lowest social strata up through the highest. For this reason, it is essential to establish a process of strengthening community capacities for disaster preparedness and response, aimed at this goal. This process, which forms part of the VCA (Vulnerability and Capacity Assessment) methodology of the International Federation of Red Cross and Red Crescent Societies (IFRC), has been used by various institutions and especially by DIPECHO partners throughout the region of Latin America and the Caribbean, and has also been exported recently to other regions of the world.

One component of this process is the tool that will be analyzed in this chapter: community maps. The community-based mapping and map socialization for risk management, as it is formally called, is a strategy that the CRD has been developing and utilizing since 2004 in different projects and programmes implemented in the Dominican Republic. It currently covers more than 250 communities that are particularly exposed to and affected by flooding and hurricanes.

The innovation involved in this particular experience relates to the level of detail incorporated into the maps and the process of sharing and dissemination of the maps among the communities, relevant community institutions and local authorities.

“The Red Cross came to the community and met with the local residents’ board and we made the contacts with the community. A community network was created so we could learn how to give first aid and what to do in the community in the event of a disaster. They gave the whole network a course on VCA, where we drew a spatial map, according to the technician from the Dominican Red Cross.”

José de los Santos Fermín (vice president of the community network, Hoyo de Bartola)

THE TOOL

How it was born
As mentioned earlier, the VCA strategy developed by the IFRC played a key role in the preparation of maps in this project. A number of the methodological aspects of this strategy1 were incorporated into the initiative carried out in Santiago, such as a diagnostic assessment, community participation, the gathering of information and an evaluation of the risks faced by the community, among others.

Some of the steps adopted from this methodology were the following:
• A rapid diagnosis of the situation, involving the participation of all sectors of society (public, private and other organizations) as well as groups of women, youth, children and the elderly, who are often the groups most seriously affected when hazards turn into disasters.
• A review of the most important past events in the community’s history, from the time it was founded up to the present, so that all of the participants are aware of the emergencies and disasters that have affected the population and the events that have led up to them.
• An assessment of community-related organizations and institutions, so that participants can sketch community maps that make it possible to situate infrastructure, hazards and vulnerabilities, capacities and resources, and other important elements for risk reduction in the community.
• The design of a community disaster preparedness plan, which can contribute to strengthening the capacities of the local population and eliminating or reducing the vulnerabilities of the people at risk.

Expected outcomes
• Vulnerable communities have increased knowledge, skills and resources for confronting disaster mitigation, preparedness and response activities.
• Examples of partnerships and cooperation have been developed towards reducing underlying risk factors through mitigation measures in targeted communities and schools.
• Increased Red Cross institutional capacity for disaster management at national and community levels.

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THE TOOL

How it was born
As mentioned earlier, the VCA strategy developed by the IFRC played a key role in the preparation of maps in this project. A number of the methodological aspects of this strategy1 were incorporated into the initiative carried out in Santiago, such as a diagnostic assessment, community participation, the gathering of information and an evaluation of the risks faced by the community, among others.

Some of the steps adopted from this methodology were the following:
• A rapid diagnosis of the situation, involving the participation of all sectors of society (public, private and other organizations) as well as groups of women, youth, children and the elderly, who are often the groups most seriously affected when hazards turn into disasters.
• A review of the most important past events in the community’s history, from the time it was founded up to the present, so that all of the participants are aware of the emergencies and disasters that have affected the population and the events that have led up to them.
• An assessment of community-related organizations and institutions, so that participants can sketch community maps that make it possible to situate infrastructure, hazards and vulnerabilities, capacities and resources, and other important elements for risk reduction in the community.
• The design of a community disaster preparedness plan, which can contribute to strengthening the capacities of the local population and eliminating or reducing the vulnerabilities of the people at risk.

Expected outcomes
• Vulnerable communities have increased knowledge, skills and resources for confronting disaster mitigation, preparedness and response activities.
• Examples of partnerships and cooperation have been developed towards reducing underlying risk factors through mitigation measures in targeted communities and schools.
• Increased Red Cross institutional capacity for disaster management at national and community levels.

1 A practical summary of the VCA strategy is provided by “Educación, Organización y Preparación Comunitaria para la Reducción del Riesgo” (Community-based Education, Organization and Preparedness for Risk Reduction), an IFRC publication, which is also the first module in the series “Mejor en Presente” (Better Be Prepared), available online at:
http://www.america.org/desastres/educamp/reciclarmapa.htm
“We learned not to throw garbage in the river, because it can block its flow. People weren’t aware of this before, but now they carry their garbage farther up. Sometimes children get sick. Dengue comes from the river… Adults protect themselves more, but the kids swim and fish there. There are lots of problems here because of so many diseases. It’s strange that there is no cholera here, with an evacuation route before.”

José de los Santos Fermín (vice president of the community network, Hoyo de Bartola)

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José de los Santos Fermín (vice president of the community network, Hoyo de Bartola)

Usually, the entire process described above and the information that is gathered and generated (over a period of approximately six months of community work) are systematized in a “VCA workbook” that is often simply filed away, instead of providing the community, local institutions and authorities with the opportunity to make use of this information generated by the community itself.

The experience presented in this chapter demonstrated how the CRD and CRE promoted the use of this information through its dissemination, and above all, how the maps created through the VCA methodology were used and disseminated for the purposes of risk management.

What are community maps?

Community maps are graphic representations of the participating communities, which are set up in strategic areas of the community to increase understanding. This experience in particular also included the socialization of the maps, which means that the following features should be considered in defining them:

• They are created by and for the community.
• They reflect the information gathered and generated through the VCA process, and sensitise communities to the hazards, vulnerabilities and risks in their immediate surroundings.
• They highlight the community’s capacities and how to enhance them.
• They relate to the VCA process carried out in the community.
• They are not risk maps.
• They are the basis for the preparation of the Community Disaster Contingency and Evacuation Plan.
• They facilitate the identification of the types of small-scale mitigation works needed and where they are needed.

It should be emphasized that in order for the mapping process to be carried out properly, VCA courses were given to all interested participants. Otherwise, people would not have had the necessary skills to identify the indicators required for the map.

The beneficiaries are the community, the municipal government, and risk prevention institutions.2

2 For a detailed list of targeted individuals and institutions, see the Annex.

Development:

During the design of the project, the following activities related in some way to community-based mapping and map socialization were planned:

• Workshop for the review and validation of documents and work materials related to VCA, Community Disaster Risk Reduction Networks, community-based training and other materials used by the CRD and/or IFRC for disaster risk reduction.
• Creation of the Community Disaster Risk Reduction Networks and work teams.
• Work with Community Disaster Risk Reduction Networks on the VCA methodology and contingency plans.
• Socialization of the VCA results, using banners, spatial maps and printed documents.
• Socialization of the contingency plans in the community and schools.

The activities directly related to mapping and map socialization were the following:

• Training of CRD branch staff and volunteers in the VCA methodology.
• Presentation of the project objectives and activities to the municipal authorities, community leaders and local institutions.
• Creation of a Community Disaster Risk Reduction Network in each community.
• Implementation of activities and sessions established in the VCA methodology3.
• Mapping.

3 Prior to this project, the CRD first developed the VCA methodology and subsequently created the Community Disaster Risk Reduction Networks.

Fact sheet:

Project name: Community-based mapping and map socialization for risk management.

Key actors: Spanish Red Cross (coordination), Dominican Red Cross (design and implementation, through the Santiago de los Caballeros branch, the National Rescue and Emergency Programme, and the National Risk Management Programme).

Objective: To strengthen disaster preparedness for more effective response at all levels.

Secondary objective: To contribute to reducing the impact of future disasters in the Caribbean region through the training of vulnerable populations in areas that are affected by natural hazards on a recurring basis.

Implementation period: October 2009 to February 2011.

Target beneficiaries: Inhabitants of the designated communities.

Number of target beneficiaries: 14,330 people, of whom 11,995 are from the communities participating in the project and 2,335 are from schools where the project activities are carried out.

Indirect beneficiaries: The entire population of the participating municipalities (through the strengthening of capacities for coordination, planning and response at the municipal government level and in local CRD branches), a total of 697,687 people.

Teachers and parents of students at the schools where the School Safety Course (CUSE) was implemented, who would therefore have learned about risk prevention, an estimated total of 11,675 people.

Location: Municipality of Santiago (Sector Bella Vista, Hoyo de Puchula, Hoyo de Bartola, Bella Vista, Hoyo de Puchula, Hoyo de Bartola), Municipality of San Francisco de Jacagua (El Cambrón, La Playita) and Municipality of Tamboril (Boca de Licey, Arenas).

Length: 17 months.

Cost: No information available.
After completing the “spatial maps” which are drawn by hand by the community itself and contain every one of the houses and other buildings and infrastructure (schools, health centres, churches, shops, streets, etc.) in the community, as well as the main natural landmarks in the surroundings (rivers, ravines, trees, etc.), a process of field testing and validation by the community was carried out, after which any necessary corrections or improvements were incorporated.

The activities in each one of the communities participating in the project began one month after the project itself was initiated, with the arrival and ongoing work in the community of the CRD promoter. In addition to providing training, the CRD promoters worked alongside the community throughout the entire process. In approximately six months, all of the necessary information for the preparation of the maps was gathered; this time period also included the entire process of community training and implementation of the VCA methodology.

The cost associated with the implementation of the VCA methodology in each community is approximately €6,000, while the cost of the subsequent work on fine-tuning and disseminating the maps is estimated at €2,000.

**Implementation**

**Basic structure**

Once the key inputs to draw up the “spatial maps” were obtained through the VCA methodology, the following activities were carried out to produce the final output and socialize it with the community:

1. Review of existing information (from the VCA workbook and “spatial map” drawn by the community)
2. Field testing and correction, with the community, of the information contained in the “spatial map,” “resources/capacities map” and “hazards/vulnerabilities map”
3. Georeferencing and digitization of the maps drawn up by the community
4. Location and extraction of satellite images from Google Earth
5. Socialization of georeferenced and digitized maps with the whole community
6. Socialization of georeferenced and digitized maps with the municipal government and local institutions (Civil Defence, firefighters, etc.)
7. Fine-tuning of the georeferenced and digitized maps
8. Reproduction and distribution of the georeferenced and digitized maps to the Community Disaster Risk Reduction Network, CRD branch, municipal government and local institutions.
9. Creation of a community billboard with the georeferenced and digitized maps
10. Uploading of the georeferenced and digitized maps to the CRD map database
11. Uploading of the georeferenced and digitized maps to the Google platform.

Once the georeferenced and digitized maps had been completed and validated, they were shared with the various different actors in the format best suited to their needs: with the community (on billboards), the Community Disaster Risk Reduction Network (on banners), the municipal government (as printed and digital maps), the firefighters and Civil Defence (printed maps), Red Cross branches (printed and digital maps), and the CRD national headquarters (digital maps).

The following flow chart illustrates the different activities involved in community-based mapping for risk management:

“We explained to the people what the best evacuation routes are, how to get out if a disaster comes at night. We are very grateful to the network because it has taught us a lot of things. We now have a health care team that was trained to give first aid in the event of an emergency.”

José de los Santos Fermín (vice president of the community network, Hoyo de Bartola)
As an example, we present here the “transformation” undergone by the information gathered through the VCA process until it finally takes shape in the georeferenced and digitized maps:

![Satellite image - Google Earth](image1)

<table>
<thead>
<tr>
<th>Human resource</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| CRD methodological coordinator | Methodological design of the VCA process  
Training and guidance of facilitators  
Supervision of cartography and SIG specialist  
Systematization and lessons learned |
| Promoters | Training of the community in VCA methodology  
Facilitation and monitoring of VCA process in each community |
| Community Disaster Risk Reduction Network working group | Participation in VCA work sessions  
Contribution of information to the VCA process  
Completion of the VCA workbook  
Sketching of “spatial maps”  
Guidance and support for the cartography specialists in the community |
| Cartography and SIG specialist | Validation and correction of “spatial maps”  
Digitization of spatial maps  
Georeferencing of spatial maps |

7 Steps were taken to ensure that the participants in these working groups include representatives of the community of different ages, genders and sectors (including children, adolescents, the elderly, men, women, etc.).

![“Spatial map” sketched by the community](image2)

![Georeferenced and digitized map](image3)
8 Para conocer el detalle de los mapas entregados, y el uso que Cruz Roja espera que se haga de ellos, remítase a Anexo.

**THE OUTCOMES**

**Achievements**

It is not yet possible to analyze the achievements made in terms of the fulfilment of the expected outcomes, since the implementation stage of the tool had not been completed at the time this chapter was written. Nevertheless, a number of significant achievements and lessons learned from the experience can be envisaged.

**Involvement of a diversity of actors**

The participation of the communities, municipal governments and local institutions (CRD branches, firefighters, Civil Defence, town halls, churches, Mothers’ Centre, etc.) is crucial in the preparation and validation processes. Still pending is observation of the potential use that will be made of the tool by the different actors involved in future actions for preparation and response in eventual emergencies and disasters, as well as in land planning and development.

The communities, Community Disaster Risk Reduction Networks and Red Cross branches involved in the mapping and map socialization processes should be the first to demonstrate their usefulness in future emergency and disaster preparations and response. Once the benefits of the maps are made evident at the local level, they could be spread to higher levels.8

**Sustainable experience**

The sustainability of this experience depends on the use made of the maps by the different actors involved to plan for and respond to future emergencies and disasters. However, there are certain “practical” issues that need to be considered to ensure the sustainability of this tool, such as:

• Updating of the maps, due to changes in the individuals/information from the Community Disaster Risk Reduction Networks; construction of new homes and destruction of existing homes; new vulnerabilities or hazards.
• Dissemination to new households, actors or authorities.
• Deterioration caused by extreme weather conditions (sun, wind), accidents, vandalism, etc.

To address some of these issues and thereby ensure the sustainability and longevity of this tool, it would be helpful if the following materials were available to the Community Disaster Risk Reduction Networks:

- Posters/pamphlets of the map for updating when there are new households and institutions in the community.
- Stickers or a similar means to update the information on the billboards to ensure that they remain useful and “survive” any changes in contacts and/or contact telephone numbers.

**Replicable experience**

Replicability will depend on the knowledge and skills of the community where the maps are developed. For its part, the VCA methodology has more than proven to be easily adapted to different contexts.

It is recommended that institutions working with the VCA methodology for risk reduction establish contact with municipal authorities and local institutions and promote dialogue with the community and society in order to work together to build capacities and reduce vulnerabilities.

**Long-term contribution**

Now that these types of maps have been drawn up and socialized in more than 250 communities in the Dominican Republic, the CRD plans to consolidate the cartographic information and make it available on the internet (through Google Earth and the CRD website) so that other actors have access to the relevant information from the community and can take it into account when designing risk management and/or land planning and development initiatives. Those who develop these georeferenced and digitized maps in the future could contribute to feeding the databank that the CRD intends to create to cover high-risk areas in the Dominican Republic.

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8 Para conocer el detalle de los mapas entregados, y el uso que Cruz Roja espera que se haga de ellos, remítase a Anexo.

José de los Santos Fermín (vice president of the community network, Hoyo de Bartola)

“The emergency plan grew out of the VCA courses. The courses were given in several sessions over a period of time until the community was able to understand the needs they face and their risks. Through the community network and people from outside the community we took part in VCA sessions. The community created its own maps, while being taught by them.”

Carlos Fernández (promoter, Dominican Red Cross)
Everyone participates
The participation of a diverse range of community members in the process of preparing the maps, including children, adolescents, the elderly, minorities, women and men, made it possible to obtain information that might not have been evident otherwise. The fact that all members of the community can “see themselves” on the map (their homes, their schools, their shops, etc.) made it inevitable for every household to get involved in the process.

Difficulties and lessons learned
• Wide geographic coverage
Some of the communities covered a very large geographic area, which is why in the end the work focused on the most vulnerable part of the community.

• Different views
Within communities, there were different opinions on existing resources and vulnerabilities, evacuation routes, etc. Field visits were organized in order to reach a consensus.

• Map reading
When people are unable to interpret maps, it is vital to sketch maps by hand with the participation of the community. While these maps may not be rigorously exact, they will make a difference in the event of an emergency.

• Community networks
The strategy used by the CRD in this project of creating a Community Disaster Risk Reduction Network in each community before initiating the VCA process enormously facilitated community participation throughout the entire process.

• Non-standard symbols
The symbols used on the maps do not follow any existing standards, which could make them difficult to understand for users with greater experience in risk management and/or land planning. As a result, it is recommended that official symbols be used, or, when these do not exist, the symbols used by national institutions that deal with these areas.

• Community understanding
To facilitate visibility and understanding by the people in the community, an adequate number of billboards should be planned in accordance with the characteristics of the community itself. In addition, it should be specified as clearly as possible from the beginning of the process, using the community itself as a reference, what the “borders” of the map will be (since these are not necessarily the borders of the community as such), because there will inevitably be information, individuals and resources left off the map.

“The drill we did was very easy because we now had an evacuation route. People moved quickly when they heard the alarm. This is a very vulnerable area, so the community needs to be prepared. When they put up the map the situation will be even clearer.”
Jaqueline Rodriguez (community network member, Hoyo de Bartola)
In the Dominican Republic, Law 147-02 on risk management clearly establishes that municipal governments are responsible for risk management within the borders of their municipalities. In a country that is regularly struck by national disasters, one would logically expect the administrative authorities to be well organized, leaving no room for doubt as to who should take action in the event of an emergency, as well as when, how and where.

But the reality on the ground is quite a different matter. Although there is a body that joins together the municipal authorities and local emergency response institutions (known as a “Municipal Disaster Prevention, Mitigation and Response Committee”), informality reigns in the absence of a clear structure. Therefore, when the Asamblea de Cooperación por la Paz (Assembly of Cooperation for Peace, ACPP) and Instituto de Acción Comunitaria (Institute for Community Action, IDAC) designed the Municipal Risk Management Unit in the municipalities of San Pedro de Macorís and Ramón Santana, they made a significant contribution. As a small, technical body, the Risk Management Unit is a municipality-based entity responsible for guiding, coordinating and supervising all participants involved in risk management. Essentially, it serves to efficiently join all forces together to promote a culture of prevention and avoid uncoordinated, unprepared response actions.

THE REALITY

The province of San Pedro de Macorís has one of the highest rates of vulnerability in the entire country. The province lives under the threat of cyclones, hurricanes, tropical storms and floods, and the characteristics of its population serve to aggravate the situation.

The communities chosen within the municipalities of Ramón Santana and San Pedro de Macorís suffer from extreme poverty, illiteracy, racial and gender discrimination, malnutrition, a lack of access to information, education and basic services, and a lack of social organization, among other issues. The fragile institutional structure and weak culture of disaster prevention and risk management do nothing to remedy this situation.

“BRIEFLY…”

“In 2004, during Hurricane Jeanne, even three-storey houses were flooded. Back then there were no cellular towers, and you had to go up on the roof to pick up a signal. We spent two days like that until someone finally managed to make contact outside the municipality.”

Rafael Chong Martínez
(RMU director, Ramón Santana)
FINDING A SOLUTION

The project
In light of the state of vulnerability of the communities studied, ACPP designed the Community-Based Disaster Preparedness Project for Vulnerability Reduction in Communities Located on the Soco River in the Municipalities of Ramón Santana and San Pedro de Macorís. The objective of the project, which was carried out over the course of 15 months, was to reduce the vulnerability to disasters of the population of the Dominican Republic.

The process
To execute the project, ACPP promoted a municipality-based cross-institutional work process, which focused on improving cross-institutional coordination in risk management and entailed the implementation of different tools.

The key step in the process of improving cross-institutional work at the municipal level was the creation of the Risk Management Unit (RMU) in both of the municipalities involved (Ramón Santana and San Pedro de Macorís). While the municipal RMU will be the focus of this chapter, we should also mention that the development of municipal maps to chart capacities, hazards and risks, and the resolutions passed by the Sala Capitular (municipal council) of both municipalities to create the RMUs, were also two essential components for the implementation of the new units and should be considered in conjunction with them.

"As institutions we have primarily depended on help from city hall, but now we are better in tune because we have a department [the RMU] that deals with this issue. The project has still not concluded and the mechanism isn’t fully in place, but we are already working in better coordination with the other institutions and city hall."
Rodney Peña (Civil Defence director, Ramón Santana)

TOOL

Community-Based Disaster Preparedness for Vulnerability Reduction

PROJECT

Municipality-based cross-institutional work

PROCESS

Municipal Risk Management Unit

EXPECTED OUTCOMES

- The 1,177 inhabitants of Paso al Medio, Batey Soco and Boca del Soco communities are better prepared to face potentially disastrous natural phenomena; they know the risks affecting them and the actions to undertake before, during and after a catastrophe.
- The Municipal Disaster Prevention, Mitigation and Response Committees (34 members, in total) from the Municipal Councils of Ramón Santana and San Pedro de Macorís have risk management mechanisms in place, with the creation of the Risk Management Unit and the preparation of their own Municipal Emergency Plans.
- The institutions that are part of the National Prevention, Mitigation and Response System have effective risk management mechanisms in place and have increased cross-institutional coordination between local governments, civil society and institutions that are part of the CNL.

THE TOOL

How it was born
The idea of the creation of the RMU inside each municipality was included from the beginning in the project's identification process. The underlying idea was to foster a simple but key structure for the risk management work that each municipality must carry out, in accordance with the law, but which was not being undertaken in a structured way.

In practice, risk management work at the municipal level has been carried out on an informal basis and with little planning. Action plans mainly focus on major events that take place in the communities (the festivities for the Day of Our Lady of Altagracia, Holy Week, Christmas, etc.) and specific emergencies. Added to this was a lack of knowledge and technical capacities, as well as a situation in which the will and priorities of municipal leaders depended on the will and priorities of the national, regional and provincial governments.

A law that is not implemented
Law 147-02 on Risk Management and its regulations for implementation (Decree 932-03) clearly establish the responsibility of each municipal government for the definition and application of risk management policies within the municipality's territory.

The structure designated for these purposes is the Municipal Disaster Prevention, Mitigation and Response Committee (CM-PMR). Under the coordination of the municipal government, the Committee brings together the various risk prevention entities (Civil Defence, Red Cross, Fire Department, etc.) and is given autonomy to exercise its functions of prevention, mitigation and response. The municipal committees are meant to work in coordination with their counterparts at the national, regional and provincial level.

However, despite the legislation in force, the means and mechanisms for its implementation remain vague, and depend almost exclusively on the good will and willingness of the political authorities (mayor and/or council members), without a clear pre-established structure able to carry out these functions effectively and efficiently on an ongoing basis.

In terms of decentralization, the relationship between the municipal and higher levels remains biased by the lack of clear rules and procedures to ensure the coordination and collaboration promoted by the law. This has resulted in a vacuum of responsibilities, which is sometimes filled by the provincial or national levels. At the regional level, the problem lies in the operational capacity or establishment of Regional PMR Committees. Their non-existence or non-functioning has resulted in dysfunctionality at the provincial and municipal levels.

Therefore, the municipal-level Risk Management Unit was born from the need to establish a functional technical body representing the municipal government within the Municipal PMR Committee. This entails a necessary paradigm shift in the design, implementation and follow-up of risk management policies at the municipal level, through ongoing concerted efforts focused not only on emergency response but also on fostering and promoting a culture of prevention and corresponding policies.

Rafael Amiama (Department of Beautification and RMU director, San Pedro de Macorís)

1 The full text of the law is available at the website of the Dominican Emergency Operations Centre (http://www.coe.gov.do/).
What is the Risk Management Unit (RMU)?

The Risk Management Unit (RMU), promoted by ACPP and IDAC, is a municipal body aimed at facilitating the risk management work carried out by the municipal authorities throughout the Municipal Disaster Prevention, Mitigation, and Response Committees (CM-PMRs).

The RMU is an internal entity of the municipal government and represents it in the operational and administrative tasks of the CM-PMRs, through the assignment of dedicated, permanent human resources with well-defined roles, structures, functions, and processes.

From a technical point of view, the coordinator or director of the RMU is the person who will preside over the operations of the CM-PRM. While this will reinforce the links between the municipal council/mayor and the CM-PMR, it is also aimed at promoting greater dynamism in the functioning of the Committees.

At the same time, the CM-PRMs will actively participate alongside the RMUs in the formulation of municipal plans, maps, and other tools to be used at the municipal level in the areas of risk management.

With regard to the community networks, the links are more hierarchical, since the RMUs will be able to coordinate actions aimed at ensuring the economic and technical sustainability of the networks.

The RMUs should also coordinate direct prevention, mitigation, and response actions with the networks, and follow up on municipal policies that target communities.

In addition, the RMU will play an important role in the promotion and formulation of land planning and regulation in the municipality, integrating environmental and risk management policies so that preventive environmental management can contribute to environmental protection and risk reduction.

Fact sheet:

Project name: Municipal Risk Management Unit

Actors involved: ACPP and IDAC

Emergency response institutions: Civil Defence, Dominican Red Cross, fire departments, public health. The structure of the RMU was assessed and validated through a resolution passed by the Sala Capitular or municipal council (evaluation and validation of the RMU structure and ratification of its constitution and functions).

Objective: To facilitate the technical and operational coordination role of the municipal government in the work of the Municipal PMR Committee.

Secondary objectives: To enhance the effectiveness and efficiency of the coordinated management of human, technical and logistical resources in disaster prevention, mitigation and response efforts within the municipality’s territory.

Implementation period: June 2010 to November 2010

Targeted beneficiaries: Institutions responsible for the design, implementation, and follow-up of risk management policy at the municipal level as established by Law 143-02 (Departments of Planning, Environment and Natural Resources, Public Works and Communications, Education, Agriculture, Public Health and Social Assistance, the Armed Forces, National Police, Civil Defence, Red Cross, Fire Department, Water Resources, Drinking Water and Sanitation, Housing, and other municipal bodies). The Units will also include two representatives of civil society organizations chosen from among trade union, professional or community associations, emergency response institutions (Civil Defence, Dominican Red Cross, fire departments, etc.), 14 members of the Municipal PMR Committees of Ramón Santana and San Pedro de Macorís, 10 representatives of the municipality from areas on the banks of the Soco River, and civil society representatives who have a particular stake because they live in highly vulnerable areas.

Number of targeted beneficiaries: 54 direct beneficiaries, in addition to functionaries from the institutions listed above.

Indirect beneficiaries: Residents of the municipalities of San Pedro de Macorís and Ramón Santana, as well as areas on the banks of the Soco River, who will benefit from the improvement in the system.

Location: Municipalities of San Pedro de Macorís and Ramón Santana in the province of San Pedro de Macorís.

Length: Six months for the establishment of the units and three months of follow-up.

Cost: Approx. €3,650 (lobbying and equipment).

Development:

The preliminary activities undertaken by ACPP and IDAC prior to the creation of the Municipal RMU included the following:

- Lobbying: For this initiative, ACPP and IDAC scheduled meetings, formal communications, working lunches and informal meetings, both bilateral and in small groups, with authorities from the municipal government responsible for risk management in the municipality. It should be emphasized that while the objective of promoting greater dynamism was specific to the project implemented by the DIPECHO partners, the underlying need for greater operational capacity and effectiveness on the part of the CM-PRMs had already been recognized and given priority by the most operationally active disaster risk reduction bodies (Civil Defence, Dominican Red Cross, fire departments, among others).

- Identification of the degree of vulnerability in the municipality: Surveys, bibliographic research, mapping, etc. were used to obtain the necessary inputs to advocate for greater priority on risk management on the agendas of local authorities (mayors and municipal councils). In particular, the ACPP-IDAC initiative proposed a municipal mapping activity that served to spark the interest of the population and local authorities.

- Policy advocacy: The work to promote the municipal-level RMU was linked to the policy advocacy work undertaken by the DIPECHO partners at the national level, particularly through the risk management seminar, which formed part of a larger forum that encompassed a month of meetings, debates, fairs, and other activities. The three-day seminar brought together different national and international institutions to promote reflection on risk management-related public policies.

- Identification of key municipal actors: Once the work strategy had been defined, the individuals within the municipal government who were most closely linked to risk management issues (urbanization, projects, planning, education, culture, etc.) were identified, and subsequently sensitized and given training.

- Inclusion of the Sala Capitular: After the preliminary contacts had been made and a commitment, albeit informal, had been established, the creation of the Municipal RMU turned out to be a relatively simple process. The mayor of the municipality tabled the proposal before the assembly of aldermen and councillors (the Sala Capitular), which analyzed the proposal and put it to a vote. When this approach is used, if the initiative is approved, the creation of the Municipal RMU is backed by a resolution passed by the Sala Capitular itself, which makes the RMU a municipal government body for all effects and purposes.

“The map is excellent, the best thing that could happen to us. It shows us where the community’s vulnerabilities are, so now we know where the problems are. We have a way of confronting them, and we didn’t have that before.”

Luisa Ramírez (vice president of Sala Capitular councillors, Ramón Santana)

2 The maps are from the National Geological Service and include a technical assessment of hazards.
The decision to submit the creation of the RMU for deliberation by the Sala Capitular was a sound one. As a result, the commitment obtained from an individual member of the government (such as the mayor) is turned into an official and collegiate institutional commitment from the municipal government itself. This way, the existence and functioning of the RMUs are not tied to any particular persons or political stripes, which ensures greater sustainability over time.

The costs of the creation and follow-up of the RMU include:
• The human resources involved in national and local coordination: two people over the course of six months (two hours per week per person)
• Office and computer equipment (€2,000)
• Operating and communications materials and supplies (€2,000).

It should be mentioned that the costs of the creation and follow-up of the RMU cited here do not include the salaries or honorariums of the staff involved in the initiative, since these figure as usual (and specific) allocations from the municipal government budget.

Implementation
• Basic structure
The Municipal Risk Management Unit is defined as an “internal” entity within the structure of the municipal government, and represents it in the work of the Municipal PMR Committee.

While the municipal government is actually the entity delegated as responsible for the coordination of the CM-PMR (through a technical and operational coordinator), practice has demonstrated the need to establish a body, within the municipal government itself, that is able to carry out these functions on a permanent and ongoing basis.

The Municipal Risk Management Unit should be provided with a physical premises, equipment and staff permanently assigned to the main functions. Its organizational model could be the following:

- **Head**
  Responsibility: To transmit guidelines to the municipal government and the director of the Municipal Risk Management Unit on all issues related to risk management at the municipal level. To supervise the activities and approve the resources necessary for the implementation of the municipal risk prevention and mitigation system.

- **Director**
  Responsibility: To assist the head of the unit, and coordinate and direct the staff responsible for Institutional Management, Plans and Projects, and Operational Applications. To coordinate actions with the different institutions directly and indirectly involved in the municipal risk management system.

- **Institutional Management**
  Responsibility: To serve as a liaison with the different administrative departments and supervise the logistical procedures needed by the Risk Management Unit.

- **Plans and Projects**
  Responsibility: To plan and design all projects related to risk management throughout the municipality. To work in coordination with the director and department liaisons for the implementation of the different risk management projects.

- **Operational Applications**
  Responsibility: To implement all of the plans and projects endorsed by the unit head and supervise their implementation with the different parties involved, providing progress reports, so that the unit head and director, together with Plans and Projects, can monitor the results and incorporate any corrections necessary.

- **Information and Communications Technology**
  Responsibility: To provide assistance and research on any technology that can be used for the implementation of all risk management plans and projects, for both prevention and operational purposes.

- **Secretary**
  Responsibility: To manage all of the unit’s information documents, both internally and externally. To maintain an organized and functional database. The Municipal RMU works directly with municipal-level emergency response institutions (Fire Department, Civil Defence, Red Cross, Public Health Department, etc.) in work related to attending to the needs of the population; and also within the CM-PMR in the definition of risk management policies, promoting community education and sensitization without necessarily involving more distant administrative levels such as the provincial, regional or national levels.

- **Human resources**
  RMU members do not participate as individuals, but rather as representatives of a unit or department already established in each municipal government. As a result, its members may differ in accordance with the structure of each municipal government.

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3 This is the structure that was adopted by the RMU in San Pedro de Macorís, but it is flexible and can be adapted to the conditions of the municipality where the initiative is carried out. For more details, a complete organogram of the San Pedro de Macorís RMU can be found in the Annexes.
The maintenance costs of the RMU include:

- Permanently assigned human resources from within the municipal government (including a secretary)
- A vehicle (may be contributed from local inventory).

There is no stipulated minimum amount for the maintenance of the Risk Management Unit. The annual budget will depend on the programming submitted at the end of each year by each of the offices. The structural costs are minimal: the staff who work in the units are already permanent staff employed by the municipal government, which means that expenses such as salaries and per diems are already covered by the municipal budget. The only extra expenses would be office supplies (printer cartridges or toner, paper, pens, pencils, etc.).

**THE OUTCOMES**

**Achievements**

- **Involvement of the authorities**
  The two RMUs planned for were created with the direct participation of the corresponding policy makers in the respective municipal councils. The commitment to the initiative secured from the municipal authorities ensured adequate leadership, promotion and supervision of the RMU’s activities. Both elected political representatives and administrative staff were involved (municipal hall, Sala Capitular, councillors), and their commitment was materialized in the allocation of physical premises specifically for use by the Municipal RMUs.

- **Participation and inclusion of emergency response institutions**
  Streamlining the operational coordination of the work of emergency response institutions (Civil Defence, Red Cross, Fire Department, Public Health Department, among others) reduced bureaucratic obstacles and the protagonism of certain institutions in attending to the needs of the population (through the sharing of technical personal, logistics and transportation, supplies, etc.).

The involvement of emergency response institutions during the initial proposal and implementation phases contributed to the successful implementation of this initiative, ensuring a more practical and operational approach.

- **Vulnerability mapping**
  Facilitating disaster prevention and mitigation work in areas bordering the municipal capital through more complete and timely land planning work based on improved prior identification of vulnerabilities and community sensitization.

- **Incorporation of risk management in municipal policies**
  Raised awareness on the part of the municipal government for the potential mainstreaming of risk management in municipal policies (for example, a draft proposal for land use regulations in San Pedro de Macorís, improvement of the rainwater drainage system to prevent floods, etc.).

- **Strengthening of the municipal role in risk management**
  Thanks to the designation of personnel specifically devoted to the design, implementation and follow-up of risk management policies, municipal governments have brought the issue closer to the beneficiary population in the municipal territory. The key change has been reflected in the acceptance by the municipal authorities of risk management responsibilities within municipal borders, on an autonomous basis complementary to the provincial and national coordination bodies (CP-PMR and CNE-COE). In this way, the municipal authorities have taken the reins of territorial management from a disaster risk reduction perspective demanded by the local populations themselves.

- **Sustainable experience**
  Although the implementation phase of this initiative had not been completed at the time this chapter was prepared, it was already possible to observe that its sustainability would depend on the following factors: the unity and active participation of all political and emergency response authorities; the presence of specific personnel (secretarial or technical); the integration of the RMU as a department within the municipal government.

At an external variable, the creation of the National Risk Management Fund, which could finance prevention, mitigation and response projects through municipal governments and their policy management bodies, could give a major and long-term boost to the aims of Law 147-02.

“We validated the actions of first response institutions and the municipal hall. We have fine-tuned coordination: there is no duplication of functions or unnecessary spending.”

Pablo Polanco (director, eastern region, Civil Defence)

“Three years ago, when the/unity was created, I said to the mayor, who has provided the physical space for the RMU offices. The mayor is very interested, because the hazards facing the province and municipality directly involve him. What is needed most is team work and collaboration.”

Cruzan Manuel Ascencio (former alderman and mayor’s aide, San Pedro de Macorís)

“When the authorities are aware of the needs, they are not going to create obstacles for community organization. It is crucial for the leaders to work together.”

Salvadora Sabino (deputy mayor, San Pedro de Macoris)

“It gives me great satisfaction to work with the community. At the Red Cross we benefit from working together with the other institutions, because we complement one another: fire, rescue... We also got involved with the support of the municipal government.”

Guillermo Prandi (Red Cross, San Pedro de Macorís)
Replicable experience

This experience has demonstrated that the RMU can be replicated in other contexts, as long as the following conditions are in place: sensitivity on the part of municipal bodies and the presence of a work team interested in and committed to the mainstreaming of risk management in the municipality; availability for meetings with other emergency response institutions; sensitized communities that are aware of their vulnerabilities; individual will and commitment to team work.

Difficulties and lessons learned

• Coordination of schedules

Municipal government personnel, especially the elected representatives, have very full schedules, and it was not easy to reconcile schedules for joint meetings.

• Need for technical training

The level of technical knowledge of the personnel assigned to the Municipal RMU was not always adequate, which led to the need to invest in training.

Political dependence

An intrinsic weakness of the experience lies in the major role played by political will. On the one hand, in this experience, strong political commitment and participation was a key factor in facilitating and streamlining the process, but on the other hand, their absence could represent an insurmountable obstacle, leading to a dead end. To reduce the risk of failure, emphasis should be placed on the education and sensitization of the authorities and the population through ongoing lobbying work.

Favourable conditions

A municipality of larger size with adequate technical and policy capacity in territorial management creates favourable conditions for investment in the RMU. The larger the area covered by the municipality, the greater the availability of human, financial, logistical and technical resources, and the better the results of specific investment in this strategy.

Strategic approach

It is also recommended that when approaching the municipal authorities, it is best to begin with an individual authority such as the mayor, as opposed to a collegiate body like the Sala Capitular or municipal council, where the decision-making process is lengthier and more complex. The strategy adopted by ACPP/IDAC in this experience was to first obtain the support and acceptance of the proposal by the mayor’s office, who then tabled and endorsed the proposal in the Sala Capitular, where it was ratified. Finally, the more operationally oriented work will be carried out with technical personnel, who are not political representatives, which will make the process much quicker and smoother.
The “Disaster Knowledge, Attitude and Practice (KAP) Study” is a tool for gathering information on existing knowledge, attitudes and practices connected with disaster risk reduction (DRR) of local authorities and specific communities. The country’s first study in this area was conducted under DIPECHO VI to address the need to include common indicators and measurements for the objectives of the different projects. This experience was implemented again in DIPECHO VII in view of its importance in enhancing projects, from the design stage to the final evaluation.

**THE REALITY**

The work conducted by DIPECHO partners is concentrated in highly vulnerable provinces and communities, as defined in each of the projects implemented. Vulnerability is in part directly determined by a community’s level of education, information and capacity to respond to potential risks in its environment.

An in-depth understanding of these skills in the target population is then essential to determine the right approach for each project and to systematize it. Having a tool that facilitates the gathering of information before and after the project is critical, more so if such a tool applies a methodology that enables cross-project analysis. The KAP study addresses that need and therefore has been widely accepted by all the DIPECHO partners in the current Action Plan.

**BRIEFLY…**

“We’ve had some very serious problems with the river in the past. People used to drown when it flooded. The older ones would help the others out, but there was only that one narrow way out; there was no evacuation route. Now we have this really good project, because it mapped out the main route for evacuation, and taught us to remove the garbage from the street and to not dump it in the river.”

Julia Altagracia Ramírez (member of the Hoyo de Bartola community network)
How it was born
Traditionally, KAP studies have been used in different social research projects in the field of first aid and health care, and in this case the study was adapted for risk management purposes. The Dominican Republic was the site of the first attempt to harmonize and adapt KAP methodology to DRR actions at the country level. This was done under DIPECHO VI, where the need for all project proposals to share one specific objective and one impact indicator (to measure that specific objective) emerged. The KAP study on DRR conducted under DIPECHO VI was based on the work carried out in Central America by the International Federation of Red Cross Societies and Oxfam. Under DIPECHO VII for the Caribbean, partners from the Dominican Republic held several meetings to address ECHO’s request for a joint KAP baseline with a commonly agreed on methodology. This was also possible thanks to the longer timeframe that enabled the inclusion of a stage for designing the project and negotiating with ECHO.

What is the KAP study?
The “Disaster Knowledge, Attitude and Practice (KAP) Study” is a tool for gathering information on the knowledge, attitudes and practices that exist in connection with disaster risk reduction (DRR) among local authorities and in specific communities. In the case of this experience in particular, the KAP study was designed jointly by all the Dominican Republic DIPECHO Action Plan VII partners. The aim of this tool is to define a baseline for implementing, monitoring and measuring the impact of each of the projects under implementation. Through various data gathering instruments, it collects information that is then analyzed to obtain a picture and a diagnosis of the target populations. This chapter will capitalize the methodology and KAP questionnaire, which as will be shown below, are highly replicable in other contexts.

Importance of the KAP study
A KAP study conducted at the beginning of a project can define the starting point scenario and provide a snapshot of the risk management knowledge, attitudes and practices of the population of specific communities, thus making it possible to adapt a project’s intervention strategy accordingly. A KAP study performed at the end of an intervention makes it possible to evaluate any progress or changes in terms of risk management related KAP in connection with the project’s activities, especially when many of those activities are educational or management related KAP in connection with the project’s activities.

• Main activities
The KAP study includes the following main activities:

1. Drafting the terms of reference to hire consultants to coordinate the study with the aim of obtaining:
   a. a detailed methodology proposal;
   b. a work plan (with a day-by-day schedule);
   c. draft formats and guidelines for data gathering and subsequent data analysis;
   d. a detailed financial proposal.

2. Reviewing documentation and secondary sources. This involves gathering and examining all the basic documentation available for the project, including, among others: project reports, logical frameworks, strategies and intervention plans. These inputs, which are supplied by the bodies that participate in project implementation, provide a comprehensive view of the scope of each project. General information concerning DRR issues and the study’s target populations will also be gathered, including:
   a. Any previous KAP studies conducted in the intervention area or obtained from other international sources (through the Internet);
   b. EDESA studies and reports, ONS (National Bureau of Statistics) Census (2002), poverty studies on the Dominican Republic, other health indicators from the Ministry of Health;

   “My son learned about mitigation and disasters. He tells me what we have to do if there’s a storm; he learned to draw and play new games. The camp is a great help for kids. They come out knowing how to take care of themselves, about their rights and obligations, what to do, how to defend themselves, they learn not to let anyone touch them and how they need to watch out for other people. They learned what they have to do and when to do it.”

Santa Ramirez (community member, La Lista)
C. Risk management legislation and information on the extent to which it is enforced nationwide.

3. Interviews and meetings with people responsible for project implementation. Interviews with key persons and meetings with technicians responsible for the implementation of each project, with the purpose of discussing the scopes and strategies that will be applied or are being applied. These meetings also help the research team have a better understanding of the target communities.

4. Defining the study’s variables and indicators. The consultant sets the variables for the study on DRR-related Knowledge, Attitudes and Practices in accordance with the indicators defined in the projects’ logical frameworks. At this stage, it may be necessary to develop additional indicators to facilitate the study’s qualitative and quantitative assessments. The indicators adopted will be reflected in the questions included in the questionnaires and interviews, arranged in different data gathering tools.

5. Developing the data gathering tools. Bearing in mind the desired outcomes and the indicators for each KAP variable, it will be necessary to develop data gathering tools (such as scripts for in-depth interviews, questionnaires, checklists and/or observation lists) that will ensure a complete and proper collection of primary data at every level of the population.

6. Delimiting the area of the study and updating maps. Using sketch maps (drawn up by the Primary Aid Units, the Municipality or the National Bureau of Statistics), existing mapping is updated through field visits to identify any new housing in the communities. Groups will be formed in each community to draw up and/or update maps in the field. These groups will be assisted by the research team and will verify existing maps, updating them and incorporating any new houses that have been built.

7. Tool validation is done with the projects’ teams through a phased process with the aim of incorporating useful inputs to enhance data collection. Partners first review the questions and any possible answers that may be given, modifying if necessary the questionnaire’s format and wording. Next, a survey training session is held for local teams, with the participation of the technical team working in the field and the facilitators in charge of field surveys. This is an interactive process that simulates the actual survey in the field. The training session includes designing a work plan for the surveys, sample distribution and analysis, interviews, presenting the survey forms and explaining how to fill them out, interviews and survey distribution, and validation work through a field exercise in one of the communities in each project. Training is thus done together with tool validation. In the case of the experience of the ECHO partners in the Dominican Republic, a training session was held in each institution (one-day sessions per institution), and was later applied in the validation in the field.

8. Administering the questionnaire. After the local teams have been trained and logistics have been established, the dates to administer the questionnaire are set for each community. Work teams are then formed to administer the questionnaire to selected households (two survey takers can administer approximately four to six questionnaires in one hour, including the time it takes them to go from house to house). Formal statistical criteria must be used for household selection in each community, so as to obtain a representative sample of that community’s population. In the Dominican Republic experience, the selection of households was done within a range determined in turn by the location’s population universe. This made it possible to cover the entire territory of the communities and ensure data consistency and representative samples.

9. Questionnaire processing. Assistance and support for the field teams in the task of entering the information into the database. Statistical analysis of the information gathered in the field surveys: the information is entered into a computer database specially designed for this purpose with the SPSS (Statistical Package for the Social Sciences) software, used to process surveys, present frequencies and cross-tabulate variables. The data is processed to create tables and graphs for the variables and indicators defined in the questionnaire, which are major inputs for the final report.

10. Drafting the final report of the study and its executive summary, which includes validating and socializing the findings with the project team and beneficiaries.

- Costs and human resources
  The consultancy has a cost of approximately €7,000 per project.

- Other resources available for the study
  To perform the study, the consultancy must have resources to cover the following:
  - Cost of the training workshops for the field teams;
  - Logistics for proposal presentation meetings;
  - Logistics for the meeting to present the results at the end of the consultancy.

The consultancy team was made up of three people that met the following requirements:

- Master’s degree in the field of Social Sciences, or proof of equivalent work experience;
- Knowledge of DRR issues, including an understanding of the hazards, vulnerabilities and capacities context of the Dominican Republic (and preferably of the specific area);
- Proven experience in KAP studies and other research methodologies; statistical skills (use of SPSS, Epi-Info and other statistics software) for data analysis and database design;
- Proficiency in written Spanish and excellent analytical skills.
**Tools**

- **Variables and indicators**
  The projects implemented under DIPECHO Action Plan VII for the Caribbean employ a DRR action strategy that takes into account the elements that characterize each partner’s field of expertise, as well as the particularities of each geographic area. But the projects all have a very similar intervention logic, which makes it easier to identify common KAP variables for the study. The table below shows an example of KAP variables related to intervention components and/or outcomes and indicators used to establish the study’s baseline (already validated).

**Table of KAP intervention components and variables**

<table>
<thead>
<tr>
<th>Intervention component</th>
<th>KAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social, economic and demographic aspects</td>
<td>General</td>
</tr>
<tr>
<td>Institutional and legal framework</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Identification, evaluation and monitoring of risks and early warnings</td>
<td>Knowledge / Attitude</td>
</tr>
<tr>
<td>Education and knowledge management</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Reduction of underlying risk factors</td>
<td>Attitude / Practice</td>
</tr>
<tr>
<td>Preparedness for efficient response and effective recovery</td>
<td>Practice</td>
</tr>
<tr>
<td>Emotional coping capacity</td>
<td>Attitude</td>
</tr>
<tr>
<td>Physical recovery capacity</td>
<td>Practice</td>
</tr>
</tbody>
</table>

Source: Technical and Economic Proposal – Baseline for DIPECHO Projects

All the indicators should be defined in line with the region’s actual priorities. Projects implemented in highly heterogeneous regions require questionnaires with specific questions for a region area, or else multiple-choice questions should be used.

It is essential to acknowledge that while the intention is that the baseline resulting from this study be restricted as much as possible, both formally and strictly, to the data and its statistical analysis, it also has an interpretative approach that is focused on a holistic understanding of the phenomena studied in the contexts or natural environments of the study’s source populations, as it requires measuring the changes that can be attributed to the project. For this reason, it is preferable to choose local consultants (or consultants with ample knowledge of the region), as that way any potential bias in the interpretation of the data collected can be corrected.

- **Data gathering**
  With the desired results and indicators at hand, a number of tools are then designed to gather primary data at every level of the population.
  Each tool is related to a specific population, which is at the same time a source of information and a target of the project’s activities:
  - **a.** Questionnaire for a survey of adults in selected households;
  - **b.** Interview scripts for focus groups (local networks and project technical teams);
  - **c.** Interview script for individual key actors (bodies and authorities)2 and educational institutions.

**Before starting: Determining the sample for the household adult survey**

In the case of household surveys, the number will depend on the reference universe, as well as on how it is distributed and scattered in each of the selected communities.

In a KAP study on DRR jointly conducted by all the projects, taking into account all of the communities may not be a viable option, as it is too time consuming and costly in terms of human and financial resources.

An analysis of the characteristics of the communities in the study revealed that they could be aggregated in homogeneous groups according to:
- Geographical location (coastal, mountain, urban/peri-urban, rural);
- Socioeconomic characteristics (marginal and non-marginal sectors, poverty levels, vulnerable groups, etc.);
- Similarities in size (population density).

The consultancy team considered that the best approach was to define strata that gathered homogeneous communities, and then apply a simple sampling technique3. In the case of the specific experience that is being capitalized here, this method resulted in a confidence level of 95-95.5% for each project, with a 4.1-4.8% margin of error. Overall the selected sample achieved a confidence level of 98% and a sampling error of 2.7%.

**A. KAP survey**

A questionnaire is prepared with questions for each indicator requiring quantitative information from the KAP survey. These same questions can also be used in the KAP survey that will be conducted to measure results at the end of the projects.

In most cases, the questionnaires used have featured closed-ended questions, to prompt answers that give a clear and accurate picture of the facts being measured, minimizing any unnecessary dispersion in the range of possible answers.

2 Persons responsible for Municipal Emergency Committee (CM-PMR), and national institutions, National Emergency Committee (CNE), NGOs, Government.

3 For further details, see Annex.
Example of closed-ended questions:

| 01 | Hurricanes or cyclones |
| 02 | Tropical storms |
| 03 | Floods |
| 04 | Landslides |
| 05 | Earthquakes |
| 06 | Tidal waves or tsunamis |
| 07 | Prolonged droughts |
| 08 | Environmental pollution |
| 09 | Forest or sugarcane plantation fires |
| 10 | Other (fires, traffic accidents) |
| 11 | DN/NA (Go to question 16) |

Source: Technical and Economic Proposal - Final Evaluation

This can be a very difficult exercise, as the understanding and perception of the phenomena studied pass through multiple filters, but the experience of the technicians involved enabled a better approach.

Another positive aspect is that the questionnaire can also include statements that assess the respondents’ knowledge (although it can also be adapted for attitudes and practices) in connection with community disaster preparedness.

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>An alert is a warning of imminent danger given by the authorities to increase caution and take necessary precautions</td>
<td>T</td>
</tr>
<tr>
<td>A yellow alert indicates less danger than a green alert</td>
<td>T</td>
</tr>
<tr>
<td>A red alert indicates more danger than a yellow alert</td>
<td>T</td>
</tr>
<tr>
<td>Anyone in the community can issue a danger warning and it has to be followed</td>
<td>T</td>
</tr>
<tr>
<td>Only official authorities can issue alert warnings</td>
<td>T</td>
</tr>
<tr>
<td>If there is a risk of natural disaster the authorities must inform the population of the location of shelters and safe places in each community</td>
<td>T</td>
</tr>
<tr>
<td>An organized community is less prepared to prevent damages, as different opinions are voiced and people have difficulty agreeing on decisions</td>
<td>T</td>
</tr>
<tr>
<td>Only the people in the community have the responsibility of preventing damages</td>
<td>T</td>
</tr>
<tr>
<td>Only the central and municipal governments have the responsibility of preventing damages</td>
<td>T</td>
</tr>
<tr>
<td>Proper garbage collection is a good measure against floods</td>
<td>T</td>
</tr>
</tbody>
</table>

Source: KAP Survey, March 2010. In KAP Survey Results Report, INTERMON-OXFAM and IDDI.

B. Focus group discussions

A minimum of six (6) focus groups are formed with beneficiaries, the projects’ technical teams and government officials. This methodology makes it possible to obtain direct opinions and perceptions regarding the project’s implementation, results and impact on the communities.

Interviews with key persons and educational institutions

A minimum of two interviews are conducted with key individuals from the project’s target areas. The individuals interviewed are municipal and provincial government officials, heads of local and provincial committees, teachers and other persons who can provide qualitative information for inter-institutional coordination in emergency and/or disaster responses in the beneficiary communities, municipal and community strengthening strategies, means of communication and strategies for addressing the main hazards to which the project’s target population is exposed, thus identifying elements that can enhance the coordination and efforts promoted by the project through its intervention.

• Data processing and analysis for the final report

The analysis of the data collected can be primarily descriptive, although different cross-analyses can be conducted at a later time. The reliability and validity of the tools used, the training of the interviewers and the type of sample used guarantee representative results.

When all the quantitative and qualitative data have been collected, a matrix is produced for each project containing the indicators of the logical framework with their corresponding baseline. Additional data is added to these matrices from the study’s report, which also includes graphs and statistical results obtained in every community/municipality.

The presentation of the results was done through tables, graphs and percentages:

- Simple analysis (measuring frequencies);
- A segment with general recommendations (or rather qualitative analysis) was included for each institution based on the analysis of the focus group discussions and the review of documentation;
- The comparative analysis will now be performed with the final results and the lessons learned;
- Relevance, efficiency, effectiveness, impact and potential sustainability (EU criteria for final project evaluation).
The study’s report is divided into three sections:

General information (family, housing, child labour, other social aspects)

<table>
<thead>
<tr>
<th>Level of schooling</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No schooling</td>
<td>8%</td>
</tr>
<tr>
<td>Less than three years of elementary school</td>
<td>11%</td>
</tr>
<tr>
<td>Between third and fifth grade of elementary school</td>
<td>22%</td>
</tr>
<tr>
<td>Between sixth and eighth grade</td>
<td>25%</td>
</tr>
<tr>
<td>Not completed high school</td>
<td>22%</td>
</tr>
<tr>
<td>Completed high school</td>
<td>5%</td>
</tr>
<tr>
<td>Higher education</td>
<td>7%</td>
</tr>
</tbody>
</table>

Total 100%

“With respect to the level of schooling of the people interviewed, 8% said they had no schooling, 11% had finished at least the third grade of elementary school, 22% had up to third-fifth grade of elementary schooling, and 25% had up to sixth-eighth grade. Twenty-two percent had partial secondary education, while 5% had completed secondary education. Seven percent had higher education.”


2. Disaster knowledge

“The majority of the people interviewed (78%) consider that their house is exposed to some form of hazard. Twenty-one percent believe their house is not exposed to any hazards.”

Respondent’s perception of risks their house is exposed to

Source: KAP Survey, March 2010. In KAP Survey Results Report, Asamblea de Cooperación por la Paz (ACPP) and IDAC.

3. Disaster-related attitudes and practices (effects, behaviours, institutions...)

“Fifty-eight percent of respondents said that both they and their families know what to do in the event of danger. Forty-one percent said that neither they nor their families know what to do in such circumstances. One percent did not answer the question.”


Data analysis consists primarily of recording the frequency of responses from all the adults, children and adolescents in the communities. For some specific issues the responses of adults, children and adolescents are cross-tabulated and compared to reveal differences in the perception of those issues. Similarly, responses are compared across communities to check for significant differences in answers.

Lessons learned

“We had no awareness until the Red Cross came. We weren’t organized. Every time the river rose, we’d start to get people out, but we really didn’t know what we were doing, because we hadn’t been trained right.”

Eusebia Useta (community member, Hoyo de Bartola)
OUTCOMES

KAP study for establishing a baseline (starting point)
The most appropriate and effective way to use the KAP study would be to incorporate it into a wider Monitoring and Evaluation System, as a baseline. This would make it possible to assess, guide, readjust and learn from the experience and the progress of the project. Unfortunately, the human resources and time necessary for this are not always available, and it becomes even more complicated in the case of activities that require the coordination of multiple partners. Also:

(-) the occurrence of major disasters (such as the Haiti earthquake) can drastically affect and impact the results of a KAP study and especially of a baseline study;
(-) it can be used to strengthen/prioritize certain issues over others;
(-) it does not help the internal learning process of institutions, as it does not monitor or assess the causes that generate the need to live with a risk;
(-) it only measures impact up to six month after the project.

KAP study for a diagnosis (context snapshot)
It helps provide an initial approximation to the target communities, but:

(-) it can be of little use if it comes too late (after the first three months);
(-) “It does not explain the whys,” so it fails to analyze or study the causes of certain RM-related knowledge, attitudes and practices.

Costs and human resources
A negative aspect in the normal implementation of the project is that in the initial phase it requires the allocation of human resources for a long period (from one to three weeks). However, it can be very useful as a first implementation activity, as it allows the team to become familiarized with the communities where the intervention will take place.

Survey takers vs. facilitators
The experience revealed that it was not a good idea to use the organizations’ facilitators to carry out the surveys, as there was a risk of obtaining biased results. Both external or internal survey takers can be used, but they must be from other communities.

“...The greatest challenge faced by interventions that seek to reduce disaster risks at community level is measuring progress when no disaster has occurred. The KAP methodology offers a means to address this requirement, by evaluating changes in attitudes and practices that suggest an improvement in the community’s capacity for coping with extreme rainfall during a hurricane... It is a methodology that allows for the consideration not only of quantitative indicators but of observations, signs that may be determinant in the kind of actions that need to be prioritized in a community that has to live with the risk of disaster.”

Jocelyn Lance (Manager, European Commission, Directorate-General for Humanitarian Aid and Civil Protection - ECHO)
All the tools analyzed throughout this report have provided lessons that are worth taking into account in future projects. One of the greatest achievements, however, has been the consensus reached among the partners with respect to the experiences and tools that should be capitalized.

Each DIPECHO partner had a large and integrated project, and choosing from among the range of tools the one tool that could best be replicated in other contexts was only possible thanks to the will and coordination of all the partners working in the Dominican Republic. The partners conducted a process wherein everyone provided input and listened to each other’s opinions, and this was vital not only in terms of choosing the best elements for this work, but also towards obtaining a complete capitalization that was complemented by each and every experience.

Thus, Intermón Oxfam and IDDI provided full information on their small-scale mitigation works, including the strategies for integrating the community that enabled them to save costs and keep the beneficiaries constantly motivated.

Plan International’s experience demonstrated how small details can help enhance school camps. For example, persuading the parents to give their children breakfast before sending them to the camp activity entailed a cultural change that is not easily achieved.

The mapping activity conducted by the Red Cross involved a different approach to charting out hazards, risks and vulnerabilities. Georeferencing, the involvement of the entire community – from the youngest to the eldest – and the socialization and visibility of the maps generated a tool the beneficiaries could take ownership of and found more useful.

Lastly, ACPP and IDAC proved that institutional and political changes can be attained in risk management, at the lowest possible cost and integrated into the existing legal framework and the elements available in the Dominican Republic. The creation of a Risk Management Unit entails more than merely establishing an administrative department. It involves sustained political influence, technical support and cultural insertion efforts.

The work connected with the KAP study revealed the benefits of a joint experience, and the same applies to the capitalization itself, which has provided a body of material and strategies that anybody interested in risk management can use. It is now up to each partner to take into account the work and innovation of the other partners, and examine how they can best be used for their own projects.

The order for carrying out the activities and the key steps to be taken in each experience will be the same regardless of the context in which the tool is used. Some of the considerations to bear in mind are the need for institutional coordination, different ways of innovating and involving and motivating the communities in the experience itself, and the importance of having legal and political support.

The rest, as noted from the start, are just details and different approaches that can serve as inspiration for other partners or can be implemented directly by them. For example, the way that the Red Cross maps were drawn up as a collaborative effort in Santiago, or the games or inclusion of parents in the camps organized by Plan International, are ideas that can help enhance the experiences themselves.

Considered in general terms, none of the projects or tools may be a particularly new experience for those working in the field of risk management, as risk management experts are familiar with mapping, camp activities, mitigation works and institutional involvement. But the contributions and strengths provided by the experiences covered here (including the audiovisual material) are found in the day-to-day work, in specific actions and in the community voices whose input would have otherwise been ignored.

The benefits of diversity

The wide range of risks and hazards to which the target communities are exposed, in addition to their specific sociocultural characteristics, led each partner to reach conclusions that focused on the local conditions of the area in which they conducted their respective projects. This does not, however, make it harder to derive lessons from the experiences or replicate them in other contexts.
Annexes

CHAPTER: INTERMÓN OFDFAM/IDDI

Details of small-scale mitigation works
Specific actions of different kinds were undertaken as part of each of the small-scale mitigation works, as described in the following table:

<table>
<thead>
<tr>
<th>Community</th>
<th>Small-scale mitigation work details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Callejón CCMO</td>
<td>- Construction of 140 linear metres of drinking water supply system with household connections.</td>
</tr>
<tr>
<td>Las Litas</td>
<td>- Construction of 83 linear metres of rainwater and greywater drainage system made up of networks of pipes of different diameters, with household connections.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 97 linear metres of walls to stabilize hillsides.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 97 linear metres of walls to stabilize hillsides.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 190.45 linear metres of access routes (roads and/or stairs) with iron handrails and/or banisters.</td>
</tr>
<tr>
<td></td>
<td>- Paintings on evacuation route to increase its visibility in times of emergency.</td>
</tr>
<tr>
<td></td>
<td>- Construction, supply and installation of early warning signals.</td>
</tr>
<tr>
<td></td>
<td>- Renovation of the areas - around the evacuation route for soil stabilization in these neighbouring areas.</td>
</tr>
<tr>
<td>Los Guineos</td>
<td>- Renovation of a set of windows.</td>
</tr>
<tr>
<td></td>
<td>- Renovation of bathrooms.</td>
</tr>
<tr>
<td></td>
<td>- Cleaning of bathroom fixtures.</td>
</tr>
<tr>
<td></td>
<td>- Renovation of drinking water supply system (installation of pumps and tanks).</td>
</tr>
<tr>
<td></td>
<td>- Repair of leaks in roof.</td>
</tr>
<tr>
<td></td>
<td>- Installation of an electrical power system on the outside of the shelter, including an inverter.</td>
</tr>
<tr>
<td></td>
<td>- Upgrading of rainwater drainage system (construction of a filter well).</td>
</tr>
<tr>
<td></td>
<td>- Installation of an early warning system.</td>
</tr>
<tr>
<td>Callejón Taveras</td>
<td>- Construction of 66 linear metres of drinking water supply system with household connections.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 82 linear metres of rainwater and greywater drainage system made up of networks of pipes of different diameters, with household connections.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 37 linear metres of walls to stabilize hillsides.</td>
</tr>
<tr>
<td></td>
<td>- Construction of 121 linear metres of access routes (roads and/or stairs) with iron handrails and/or banisters.</td>
</tr>
<tr>
<td></td>
<td>- Paintings on evacuation route to increase its visibility in times of emergency.</td>
</tr>
<tr>
<td></td>
<td>- Construction, supply and installation of early warning signals.</td>
</tr>
<tr>
<td></td>
<td>- Renovation of the areas around the evacuation route for soil stabilization in these neighbouring areas.</td>
</tr>
<tr>
<td>Los Cocos</td>
<td>- Renovation of the bathroom fixtures in the children’s area.</td>
</tr>
<tr>
<td></td>
<td>- Renovation of the running water supply system (installation of pumps, tanks and electric power supply).</td>
</tr>
<tr>
<td></td>
<td>- Upgrading of the water tank area. Acondicionamiento de área de cisterna.</td>
</tr>
<tr>
<td></td>
<td>- Installation of an electrical power system on the outside of the shelter.</td>
</tr>
<tr>
<td></td>
<td>- Installation of an early warning system.</td>
</tr>
<tr>
<td></td>
<td>- Cleaning of bathroom fixtures.</td>
</tr>
</tbody>
</table>

1 In this case, early warning systems entail the installation of sirens, traffic lights (to indicate the level of warning) and bells on the evacuation routes.

CHAPTER: DOMINICAN RED CROSS

Beneficiaries of community mapping

<table>
<thead>
<tr>
<th>Who benefits?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The community</td>
<td>Sharing and learning about the hazards, vulnerabilities and capacities in their community (sensitization).</td>
</tr>
<tr>
<td>Community Disaster Risk Reduction Network</td>
<td>Highly visible information on community billboards featuring resources (evacuation routes, shelters, etc.) and community contacts responsible for dealing with emergencies.</td>
</tr>
<tr>
<td>Community Disaster Response and Evacuation Plan</td>
<td>Participation in the Community Disaster Risk Reduction Network.</td>
</tr>
<tr>
<td>VCA workshop, Community Disaster Response and Evacuation Plan and small maps</td>
<td>Detailed information on hazards, vulnerabilities, capacities and individuals/institutions responsible for risk reduction in each community.</td>
</tr>
<tr>
<td>VCA workbook, Community Disaster Response and Evacuation Plan and small maps</td>
<td>VCA workbook, Community Disaster Response and Evacuation Plan and small maps, which provide key contact information and information on the situation of vulnerable communities in the municipality.</td>
</tr>
</tbody>
</table>

Distribution of the maps and the use that the CRD expects each actor to make of them

**Actor: The municipality**
- **Format:** Billboards with maps to be displayed in the community (fixed strategic points in various locations).
- **Use:** To sensitize and inform the community about the Contingency Plan and evacuation route.
- **Size:** BILLBOARDS (METALLIC STRUCTURES) 4 FEET X 3 FEET AND 7 FEET HIGH, ON GALVANIZED SCREENS FRAMED WITH 2-INCH GALVANIZED TUBES, 2 HORIZONTAL AND 2 VERTICAL.
- **Format:** Banner to sensitize and inform the community about the Contingency Plan and the different community actors. Also distributed to the local CRD branch and the Municipal Disaster Prevention, Mitigation and Response Committee (OM- PMR) to facilitate dissemination, coordination and decision making among the different actors in the risk reduction system at the municipal, regional and national levels.
- **Size:** BANNER 3 FEET X 4 FEET

**Actor: National Emergency Commission (ONE)**
- **Format:** Digital, paper
- **Expected use:** Information management, updating and comparison with other sources of information, distribution, disaster response contacts, humanitarian aid planning.
- **Actor:** National Land Planning Office
- **Format:** Digital, paper
- **Expected use:** Information management, updating and comparison with other sources of information, distribution, disaster response contacts, humanitarian aid planning.

2 The community billboards feature the same map as the “small maps” provided to the Community Networks, Red Cross branches, local institutions and municipal governments.
**KAP STUDY**
**DIPECHO ACTION PLAN VII PARTNERS**

For the selection of samples, the number of direct beneficiaries in each project community was considered with the aim of obtaining a representative sample at that level of disaggregation. The level of confidence applied ranged from 90 to 95.5%, depending on the size and characteristics of the population. The margin of error ranged from 4.1 to 10%, depending on the characteristics of each community. For the selection of the sample for a community, the following formula was used:

\[
\begin{align*}
n &= \frac{k^2+p+q+n}{(p^2-n)(1-p)n} \\
&= \frac{K^2+p+q+n}{(p^2-n)(1-p)n}
\end{align*}
\]

Where:
- \(N\) is the size of the population or universe.
- \(K\) is a constant and represents the level of confidence assigned from 90-95.5%.
- \(e\) is the desired sampling error. It ranges from 4.1 to 10% depending on the size of the study’s universe and its characteristics.
- \(p\) is the proportion of individuals in the population who have the study characteristic. This is generally an unknown and it is usually assumed that \(p=q=0.5\), which is the surest option.
- \(q\) is the proportion of individuals in the population who lack the study characteristic, that is, \(1-p\).
- \(n\) is the number of surveys to be administered. Under the parameters defined for each community, the total sample would be 1,767 individuals, distributed by project and by community, according to the following table:

In the case of the specific experience capitalized here, a representative sample for each level of disaggregation is defined. At the level of each project, the confidence level ranges from 95 to 95.5%, while the margin of error ranges from 4.1% to 4.8%. Overall the selected sample has a confidence level of 98% and a sampling error of 2.7%.

Once the project sample is obtained, it must be stratified proportionally in the communities to obtain a community sample. The community sample must in turn be stratified to cover all segments of the population, according to sex, age, nationality, and roles (government officials, teachers and others). This level of disaggregation will provide valid information for every community in each of the indicators that require information from the survey.


CRUZ ROJA - Informe de Resultados Encuesta sobre Conocimientos, Actitudes y Prácticas ante Desastres. 2010.

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PLAN INTERNACIONAL - Informe de Resultados Encuesta sobre Conocimientos, Actitudes y Prácticas ante Desastres. 2010.


Otros:

Documento de contribución al Sistema Nacional de Prevención, Mitigación y Respuesta a Desastres, marzo 2009.