

Local Risk Management and Disaster Preparedness in the Andean Region

Systematization of best practices and lesson learned

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This document has been elaborated under the framework of the Regional Project "**Systematization and Dissemination of Best Practices in Disaster Relief and Local Risk Management in the Andean Region**". The Bureau for Crisis Prevention and Relief (BCPR) of the United Nations Development Program (UNDP) takes the responsibility of promoting this regional initiative, with the objective of making it available for different regional, national and local actors linked with these issues. This project is also of interest for the Disaster Preparedness Program of the Humanitarian Aid Department of the European Community (DIPECHO), who promoted the idea and, together with BCPR-UNDP, provided the financial support required for its execution.

It is important to acknowledge the collaboration of the Latin American Network for Social Studies in Disaster Prevention (LARED) in the elaboration of this document.

ECHO/TPS/219/2003/04008 * UNDP/0036053 –Third Plan of Action DIPECHO.

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Provided by Projects

Design and diagram:

graphus 290 2760

Press: Noción

Copies: 1000

Print in Quito - Ecuador

January, 2005

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CONTENTS

INTRODUCTION	5
THE ANDEAN COMMUNITY AND RISK MANAGEMENT	13
Agreement points... and disagreements	
CASE STUDIES	23
• BOLIVIA	25
Strengthening of institutional competence in risk management in the department of La Paz: Chima Case	25
Caso Chima	
-Supported by UNDP-	
Strengthening of local competences for natural disaster prevention in northernmost of Potosi	26
-Supported by DIPECHO-	
SUKA KOLLUS	27
-NATIVE Experience-	
-Project PROSUKO-	
• COLOMBIA	31
Disaster prevention and relief component of the strategy of alliances for territorial programs for peace and development	31
-Supported by UNDP-	
Strengthening of the local competences in prevention and reduction of natural disasters in six municipalities of the Quindío department	33
-Supported by DIPECHO-	
Guardians of the mountain side	34
-NATIVE Experience-	
-Municipio de Manizales-	

• ECUADOR	37
Emergency project in favor of populations at risk due to the ash fall from El Reventador volcano – Napo and Sucumbios provinces - Ecuador	37
-Supported by UNDP-	
Strengthening of local and Civil Defense competencies in disaster preparedness	39
-Supported by DIPECHO-	
Re-vegetation Project of the Esmeraldas city slopes	40
-NATIVE Experience-	
• PERÚ	45
Rehabilitation of the affected zones of Arequipa and Tacán – Earthquake 2001	45
-Supported by UNDP-	
Development of local competencies for disaster response and mitigation in communities vulnerable to earthquakes in the Moquegua, Torata and Samegua districts	47
-Supported by DIPECHO-	
Urban Self-managed Community - Huaycán	48
-NATIVE experience-	
• VENEZUELA	53
Project to support the emergency in Venezuela	53
-Supported by UNDP-	
Program for disaster prevention in communities and institutional strengthening in response to disasters	56
-Supported by DIPECHO-	
CATUCHE social consortium	57
-NATIVE experience-	
FROM THEORY TO PRACTICE	61
What we say... What we do	
LESSONS LEARNED	109
Reflections in light of the case studies	
LEARNING FROM THE LESSONS	117
Andean Strategy for Disaster Prevention and Relief (EAPAD)	

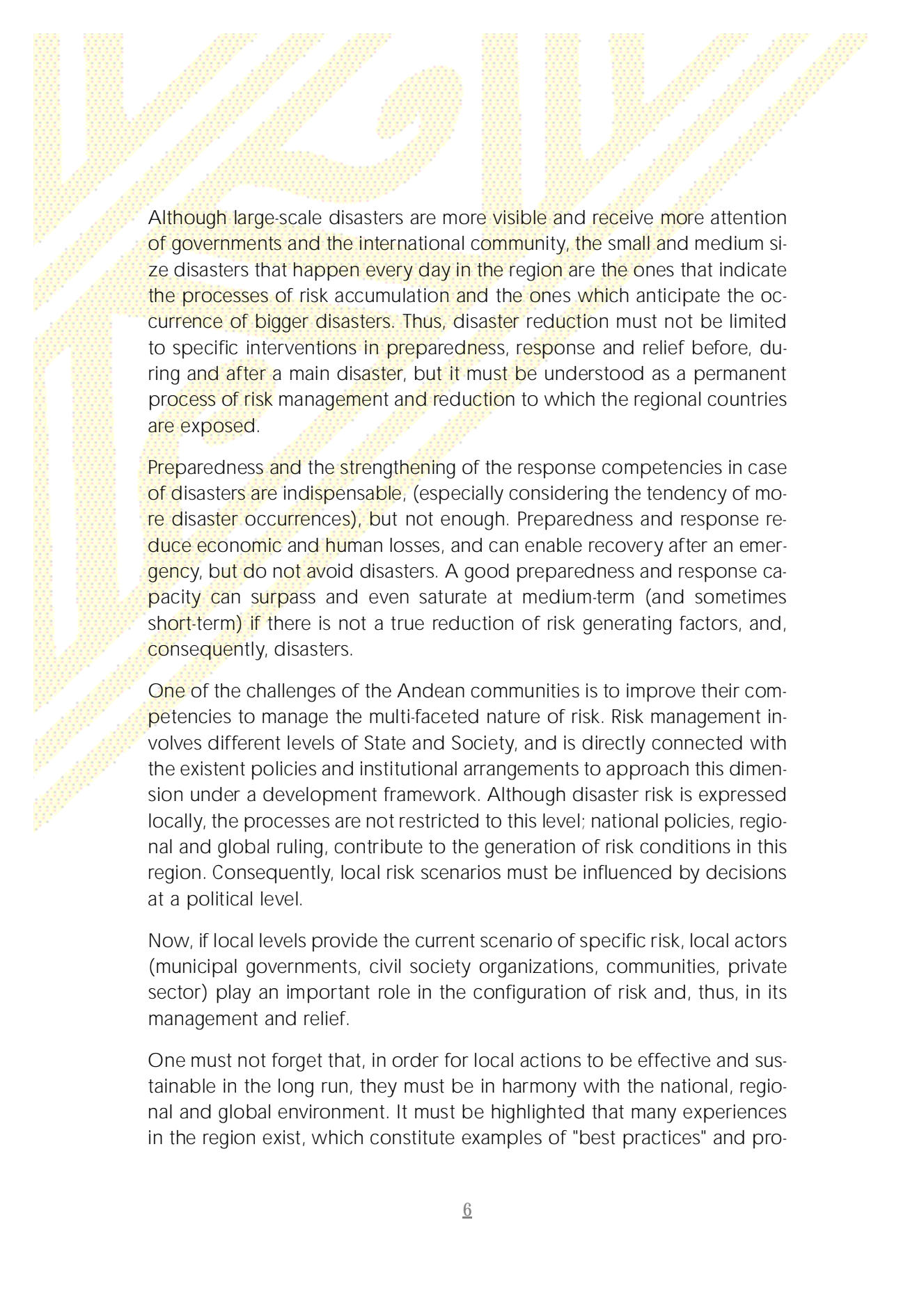


Introduction

The Andean Community, conformed by Bolivia, Colombia, Ecuador, Peru and Venezuela has more than 113 million people in a territory of 4.710.000 Km². The continuous disasters of different impact that occur in the region are indicators of a high and increasing risk, created by the interaction between geophysical and climatic phenomena, and the range of explicit vulnerability of the Andean societies.

The region is exposed to natural threats such as volcanic eruptions, earthquakes, tsunamis and hurricanes. However, the most frequent disasters are associated with socio-natural threats, where factors such as environmental degradation magnify the frequency and intensity of flooding, land slides, drought and forest fires. The increasing vulnerability of the Andean region towards these threats is concentrated in those social and economic sectors with less access to resources and in the population inhabiting risk areas under precarious and unsafe life conditions.

The risk accumulation process is linked with the dominant development patterns in the region that favor the degradation of eco-systems, proliferation of human settlements in risk areas (due to lack of urban planning), inadequate infrastructure design and construction, high economic dependency, poverty, political instability, among others.



Although large-scale disasters are more visible and receive more attention of governments and the international community, the small and medium size disasters that happen every day in the region are the ones that indicate the processes of risk accumulation and the ones which anticipate the occurrence of bigger disasters. Thus, disaster reduction must not be limited to specific interventions in preparedness, response and relief before, during and after a main disaster, but it must be understood as a permanent process of risk management and reduction to which the regional countries are exposed.

Preparedness and the strengthening of the response competencies in case of disasters are indispensable, (especially considering the tendency of more disaster occurrences), but not enough. Preparedness and response reduce economic and human losses, and can enable recovery after an emergency, but do not avoid disasters. A good preparedness and response capacity can surpass and even saturate at medium-term (and sometimes short-term) if there is not a true reduction of risk generating factors, and, consequently, disasters.

One of the challenges of the Andean communities is to improve their competencies to manage the multi-faceted nature of risk. Risk management involves different levels of State and Society, and is directly connected with the existent policies and institutional arrangements to approach this dimension under a development framework. Although disaster risk is expressed locally, the processes are not restricted to this level; national policies, regional and global ruling, contribute to the generation of risk conditions in this region. Consequently, local risk scenarios must be influenced by decisions at a political level.

Now, if local levels provide the current scenario of specific risk, local actors (municipal governments, civil society organizations, communities, private sector) play an important role in the configuration of risk and, thus, in its management and relief.

One must not forget that, in order for local actions to be effective and sustainable in the long run, they must be in harmony with the national, regional and global environment. It must be highlighted that many experiences in the region exist, which constitute examples of "best practices" and pro-

vide tools that can be applied in different situations, showing how the strengthening of local abilities can favor or increase the security of socially vulnerable groups.

Despite the variety of experiences, until now there has been no promotion of systematization processes that allow the evaluation of achievements and accomplishments on the subject, as well as rescuing lessons learned that can be replicated and adapted to other contexts.

In view of this reality, the Bureau for Crisis Prevention and Relief (BCPR) of the United Nations Development Program (UNDP) takes the task of promoting the Regional Project "Systematization and Dissemination of Best Practices in Disaster Relief and Local Risk Management in the Andean Region" with the purpose of making it available to the different regional, national, and local actors linked with the issue. This project is also of great interest to the Disaster Preparedness Program of the Humanitarian Aid Department of the European Community (DIPECHO), who promoted the idea and, together with the BCPR-UNDP provided the financial support for its execution. The project has been formulated and is being executed by UNDP within the framework of DIPECHO's Third Plan of Action.

The current regional project that started in May, 2004, has achieved the compilation of approximately 60 experiences in the Andean Community. Fifteen have been selected as "case studies", three experiences per country, in order to systematize them through a participative process involving regional, national and local actors. The case studies are the basis for extracting lessons, systematizing processes and interventions, and recovering best practices that help to improve future interventions in disaster preparedness issues, and also producing knowledge as a basis for developing policies, strategies, programs and tools for Local Risk Management (LRM).

The selection criteria for cases have been:

- Experiences promoted or supported by local actors (municipalities, NGO's, communitarian organizations), including initiatives supported by UNDP and DIPECHO.
- Traditional experiences of local risk management based on local know-

ledge.

- Sustainable experiences, easy to be replicated, low-cost, with appropriate technology and culturally sensitive.

In the compilation are included initiatives that reduce or control disaster risk through:

- Strengthening of local competencies to face possible disasters.
- Improvement of the organizational capacity through disaster preparedness actions in at community level.
- Strengthening of links between communities and national levels of disaster relief.
- Favoring of real-time access to appropriate information about threats and establishing communitarian systems of early warning.
- Control the exposure of society to physical phenomena through retentive structures (barriers, terraces, channels, walls, etc.) or other measures such as territorial zoning with a preventive focus.
- Use of traditional and local knowledge for risk management.
- Reducing future risk through normative control and incorporating disaster risk in development interventions.

After compiling the experiences, the parameters used to identify best practices in local risk management processes have been:

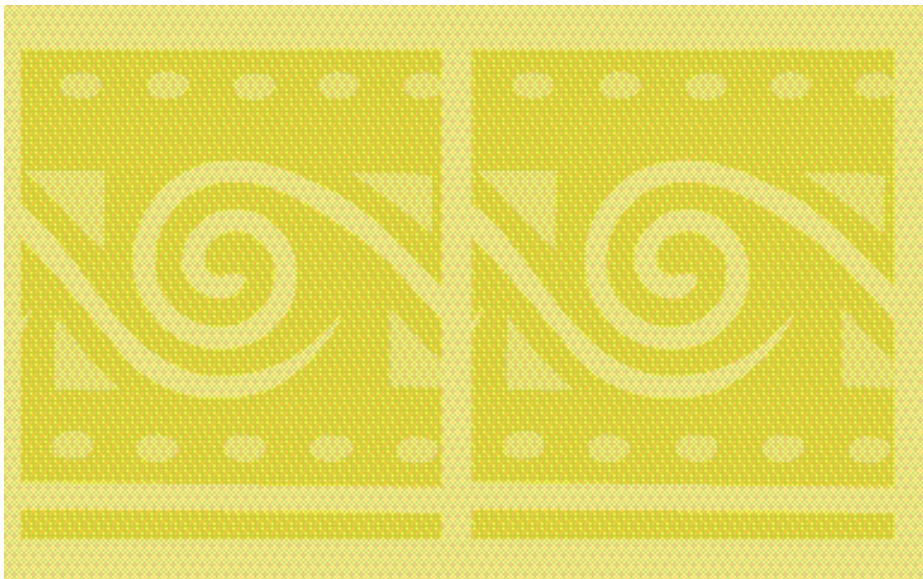
- Participation and empowering of populations at risk and their organizations through permanent institutional mechanisms.
- Integration processes with social actors at different territorial levels and from different sectors.
- Mainstreaming and integrality
- Looks for sustainability and to establish a close relationship between development and its management.
- It is a social process and not a product.

The recovery and acquisition of the information was done in three stages.

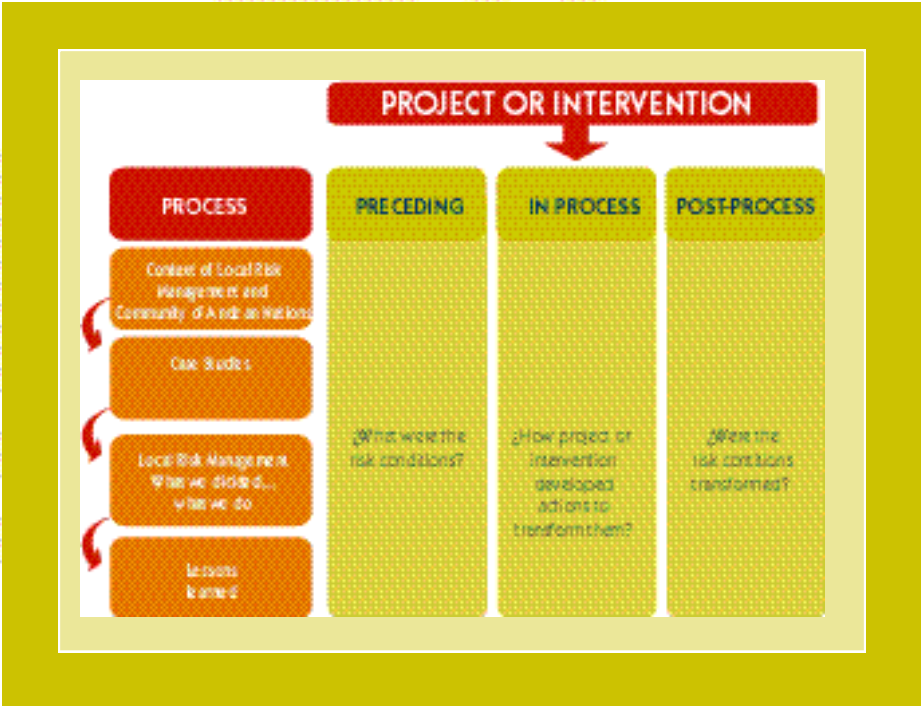
First, the review of documentation generated by the projects and other related institutions. Second, in-situ interviews were carried out, which allowed direct access to the particular experience of the actors. Third, and last of this first phase of the project, promoting in each country, national and local workshops for the information validation and systematization with participation of the actors linked to the project. All this work was possible thanks to the national systematization team assigned to the project in each country.

Through the execution of five National Workshops and six Local Workshops for Experience Exchange in the five Andean countries, we could identify key actors linked to local risk management issues, and extract lessons learned from the experiences compiled in these countries. Besides, it is necessary to highlight the promotion of alliances and coordination established with the different regional, national and local actors, which allowed creating workgroups in each country, committed to communicating the accomplishments and defeats of the experiences developed in the region.

The work presented here tries to contribute with the task of "reading and interpreting" the process by analyzing cases through a series of key ques-



tions: how was the situation and the context before the intervention?; What circumstances promoted the intervention and what was it?; What is left after the intervention? Thus, the structure of this document has the following logical content:



The Project wants to select and analyze experiences through their incidence in the risk generating causes. We intend to achieve that the results of the analysis contributes to strengthen the knowledge and competence of the actors that participate in local development processes to transform these risk conditions. We look forward to making an effort that contributes to transforming social, economic and environmental causes of disasters, as well as promoting the strengthening of local competences in risk management, which are articulated by national policies and correspond with the social, cultural, and economic reality of each country, guaranteeing its sustained development.

The main audience of this document is a series of regional, national and lo-

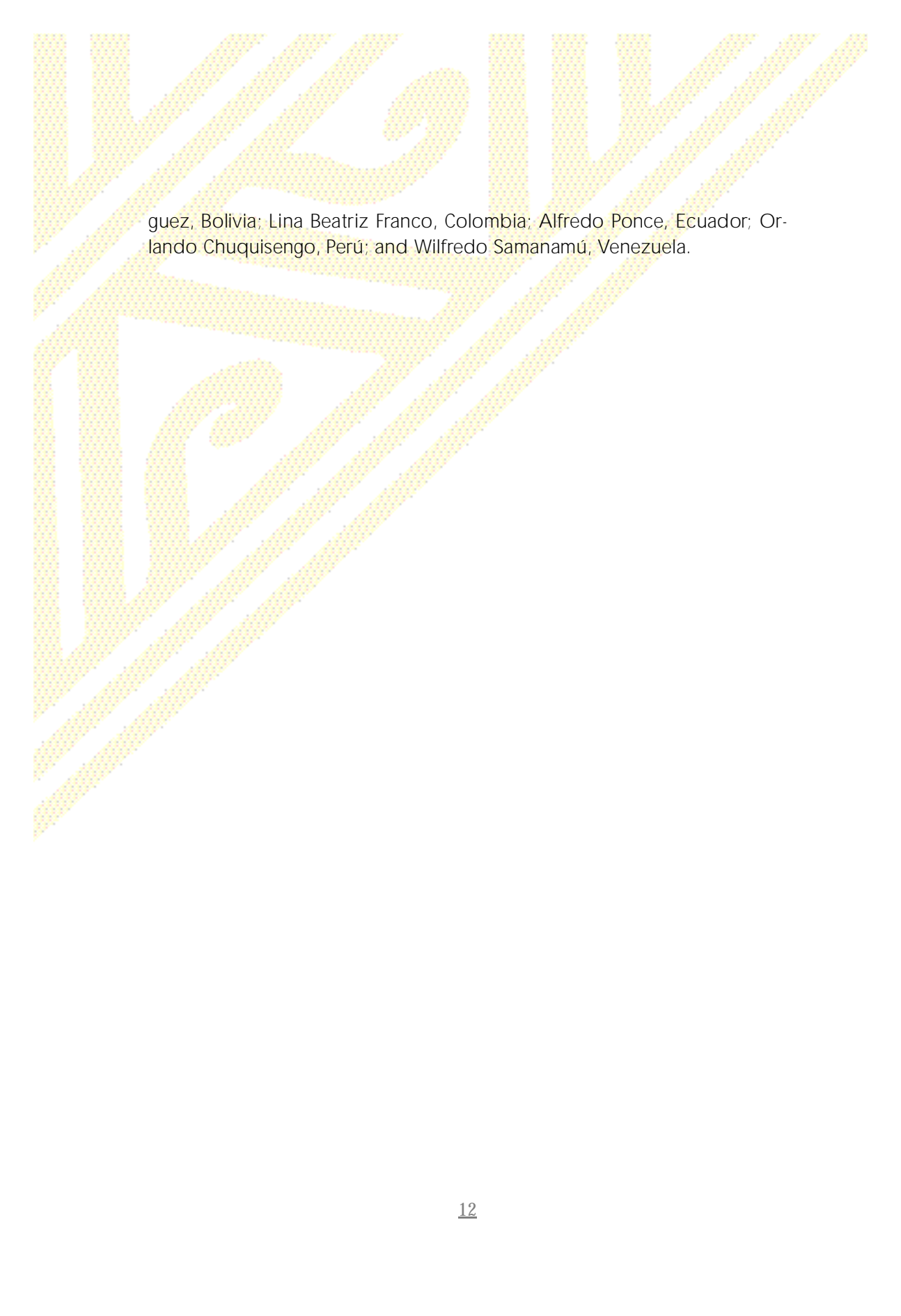
cal actors that promote risk management initiatives at a local level. These are:

- Regional Organizations: Andean Commission for Disaster Prevention and Relief (CAPRADE) and the General Secretariat of the Andean Community (SG-CAN).
- National Organizations: Central Government, sector Ministries, national risk management systems, inter-institutional teams for risk prevention, private sector, international cooperation agencies, international and national financial institutions, international and national NGO's that work with disaster risk reduction of and local development.
- Local Organizations: Municipal Governments, association of municipalities, decentralized organizations of national systems, communitarian organizations, neighborhood associations, etc.

This first product presented here will be attached to a public document, which will be of interest and useful for local development agents and, especially, for decision makers with direct or indirect incidence in local development processes, at different levels (central government, sector ministries, municipal governments, communitarian associations, private sector, NGO's, international cooperation agencies, financial institutions, etc.). This document compiles a set of proposals (methodologies, instruments, tools, etc.), and best practices referenced through case studies around disaster preparedness, emergency relief, recovery, rehabilitation, reconstruction, prevention and/or relief; all under a risk management focus.

The central team responsible for the elaboration of this document included Ángeles Arenas, Regional Advisor of the Bureau for Crisis Prevention and Relief (BCPR) of the United Nations Development Program (UNDP); Sandra Zúñiga Briceño, Coordinator of the Regional Project "Systematization and Dissemination of Best Practices in Disaster Relief and Local Risk Management in the Andean Region", Linda Zilbert and Gustavo Wilchez-Chaux, international systematization agents in charge of elaborating this document.

At the same time we counted with the fundamental support of national systematization teams who carried out the compilation and systematization of the case studies in each country. They are: Marco Antonio Rodrí-



guez, Bolivia; Lina Beatriz Franco, Colombia; Alfredo Ponce, Ecuador; Orlando Chuquisengo, Perú; and Wilfredo Samanamú, Venezuela.

The background of the entire page is a solid orange color. Overlaid on this are several large, stylized, geometric patterns in a slightly darker shade of orange. These patterns include diagonal lines, triangles, and spiral motifs, reminiscent of traditional Andean textile designs.

The Andean Community and Risk Management

Agreement points... and disagreements

The countries in the Andean Community (CAN) have several similarities and show common characteristics regarding not only geographic proximity, but natural resources, common cultural history, and great similarities related to their long history of disasters. In most cases, their territory and society currently present high levels of risk which endanger any investment of intervention efforts carried out for the development of these countries.

Although we found many similarities in the history of disaster occurrences, not necessarily the same reality applies in regard to the state of development and comprehension, project development (analyzing how and what to do), investment and political commitment to the reduction and management of risk.



We questioned ourselves to what extent, in many cases; the "new" term is being utilized only to label the same conventional practices, focused almost exclusively in responding to an emergency situation and/or disaster, and trying only to quickly overcome the crisis without considering the conditions that led, undoubtedly, to that situation. Or, on the contrary, regional examples exist of how risk management can be used to provide solutions to the

"unsolved problems of development".

A brief comparative analysis of the situation in the Andean Community provides the following general conclusions:

All the Andean countries have approached disaster management from an institutional perspective, mainly in terms of response. The preparedness efforts are sporadic and are usually not oriented to

working in a multi-threat analysis. Even though there are incipient efforts, most government sectors have not yet incorporated risk management in their development programs and the agencies specialized in disasters have concentrated their efforts in emergency management. This means that, in practice, the governments in the region have failed to stop the risk accumulation processes and to address the risk conditions of the environment appropriately.

- **Colombia** and **Bolivia** present a series of national progress in areas such as national politics and concrete experiences of local management.
- In **Colombia**, progress started many years ago. This, added to other improvements in environmental management and its incorporation in national and regional development programs, make this country a reference in Latin-America.

The eruption of the Nevado del Ruiz volcano in 1985 and the mud flood that destroyed the city of Armero, causing the death of more than 20.000 peo-

ple, is a significant milestone for risk management in Colombia. The national government in cooperation with the UNDP, undertook the task of creating a National System for Disaster Prevention and Relief, which was established by the Law 46 in 1988, ruled by the law 919 of 1989. Since then, in a process that has had many achievements and setbacks, the System has been consolidated and transformed, with a tendency to decentralize risk management at a local and regional level. Especially, we can mention the effort made by the country in incorporating the subject in regulatory plans of soil usage.

Since its creation, and especially in the last decade, many disasters have occurred in Colombia (earthquake of Atrato Medio in 1992, earthquake of Páez in 1994, earthquake of the Coffee Axis in 1999, multiple floodings that became disasters, the latest in 2004) and at least two cases of re-settlement (San Cayetano in Cundinamarca and Herrán in the north of Santander), where the role of the different levels in

the System (national, regional and local) have been variable. In the cases of the earthquakes that occurred in Paez and the Coffee Axis, new institutions were created to manage the disasters. In the first case, the NASA KIWE Corporation was integrated into the system and in the second case, the FOREC, Fondo para la Reconstrucción y el Desarrollo Social del Eje Cafetero (Fund for the Reconstruction and Social Development of the Coffee Axis), replaced it completely.

- In **Bolivia**, in the last 10 years, significant changes have occurred in the addressing and connotation of disasters. This coincided with several milestones that were determinant for these changes: first, the earthquake in Bolivia in May 1998 that seriously affected the communities of Totorá, Aiquile and Mizque, in the so-called "cono sur cochabambino" (Southern Cone of Cochabamba); second, the effects of "El Niño" over the agricultural zone of Bolivia; and, third, the hailstorm and the consequent flooding that affected La Paz city in February 2002.

These disasters motivated the Bolivian Government, with the support of UNDP, to put their best efforts towards: 1) the execution of the project "Support to the national civil defense system in the emergency relief activities for El Niño", and 2) the creation of the National System for Disaster Reduction and Relief in Bolivia – SISRADE, leading to the Law 2140/2002.

During several years, the Ministry of Sustainable Development was in charge of risk management (actions linked to development and definition of public policies), while the Civil Defense System, a vice-ministry of the Ministry of Defense, was in charge of the operational aspects of disaster management and relief. A new law was established later: LOPE, (law that reformed the executive branch of public power), which introduced a great deal of institutional confusion, transferring to the Civil Defense attributions that formerly belonged to the Ministry of Sustainable Development, without eliminating the responsibility for the latter.

Currently, a process of institutional coordination is starting around a credit of the IADB (with the support of the GTZ), aimed at the institutional strengthening in the area of risk management. From here on, it is expected to clarify conceptually and operationally the existing confusions, which practically constitute a major vulnerability of the country and a major obstacle to achieve appropriate risk management.

Two other projects supported by UNDP allowed Bolivia to advance towards real risk management: one oriented to the creation of a Local Risk Management System in the La Paz municipality, whose executor is the local city government, and another one that pursues the same objective in the department of La Paz, whose executing organization is the Prefecture¹.

- **Venezuela** is another special case, rather intermediate, regarding the achievements and advancement in the area risk mana-

gement issues. A strong subject in Venezuela in the past years is the study of seismic dangers and threats, with the development and encouragement of several studies of seismic microzonification and structural design of seismic-resistant buildings, centered always around a group of scientific research organizations (FUNVISIS) or universities.

In the past years, parallel with the disasters that occurred in Vargas in 1999, great concern and interest in risk management issues are noted, understanding these issues in their integral dimension. Important achievements have been made, especially in scientific-academic, research circles, and also in some public sectors: Ministry of Science and Technology (MCT), Ministry of Planning and Development (MPD), Ministry of the Environment and Natural Resources (MARN), Ministry of Education, Culture and Sports (MECD), etc. The main concern shifted from earthquakes to

¹ Project BOL/03/004 executed by the prefecture of the department of La Paz, and part of this systematization.

flooding and hailstorms, however, despite these important achievements and institutional development, we cannot assure that a Risk Management culture exists in the whole Venezuelan society, in their institutions, in its policies, and in the general public.

It is recognized that the disaster in Vargas was a milestone in Venezuela and in the changes of risk management issues. That episode enabled a process of reflection about the practice, to re-think strategies and intervention forms that lead to revert the current risk conditions and can generate –though slowly- some transformations that commit all the actors. Within some ongoing initiatives, we dare to list: the Organic Law Proposal for Risk Management that is currently being revised at the National Assembly; the National Plan for Risk Prevention and Relief, the Inter-ministry Commission for Risk Management; the VENEHEMET Program, the Program for the Modernization of the National Hydro-meteorology Measuring and Forecasting System; the

future creation of the National Institute for Hydro-meteorology Forecast and Alert; the Avila Project lead by the MARN through the IGVSB, where risk zones are defined in the dejection cones of many canyons in Vargas; the project of PREVENE (financed by COSUDE) that consisted in the high technology transfer of geo-hydrodynamic phenomena issues, such as the torrential rains that occurred in Vargas.

On the other hand, new conditions were given or created for a group of projects and proposals originated from international and/or national organizations such as: the definition of a Community Base Line for the Follow-up of Social Vulnerability in Venezuela (UNDP and the United Nations System); the Proposal for the Reconstruction and Recovery of Disasters and Strengthening of Risk Management Competences in Venezuela (worked by the BCPR/UNDP), the existence of the Risk Relief Commission (COMIR) led by the Faculty of Architecture of the UCV. Also, policies linked to

planning, territorial organization, housing and construction were defined, such as: the Environmental Protection and Recovery Area (APRA), which is a Plan for Management and Regulation of Protected Areas; the Plan for Territorial Zoning of the Estate of Vargas (POTEV), the CAMEBA Project (neighborhood improvement in Caracas), etc.

- **Ecuador** and **Perú** are two countries that currently reflect the lowest advance in risk management issues. It doesn't seem that these countries have linked and committed risk management to institutional and social development actors besides their Civil Defense Institutions, which due to their nature and functions seem to be the only ones really interested in risk management; or in the case of scientific-technical institutions that through many years had a key role in the characterization and analysis of threats and/or dangers related to natural phenomena. In the last years, in both countries, change processes have been occurring related

to the conformation of sector and/or national commissions in risk management issues, and there appears to be a need for promoting changes in the respective legal and normative frameworks.

- In **Ecuador**, the Civil Defense, created in 1960, is the official organization in charge of addressing these issues. Since 1964 the National Security Law replaced the previous version and created a National System of Civil Defense. In 1973, the Civil Defense broadened its field of action to disaster prevention and relief. With this objective the National Directorate was created, an operative instance in charge of training the population and assistance when affected by an adverse event. All these facts have shaped the structure and the reach of the current Civil Defense.

In 1997, in view of the imminent arrival of El Niño, a National State of Emergency was declared, which led to the creation of the Coordinating Unit of the Emergency Plan to face El Niño (CO-

PEFEN). Currently, COPEFEN works directly with sectional organizations and other government entities that require support and financing for Risk Management, regardless of the affected sector. Its basic functions are to analyze the projects presented by the co-executors (municipalities, provincial counsels, ministries, among other public entities) in their technical, cost, and environmental aspects, approve those that meet the conditions stated in international finance agreements, transfer resources and audit the executed works.

Among other related institutions there is also the Executive Corporation for the Re-construction of El Niño Affected Zones, CORPECUADOR, an native entity that is in charge of approving a Master Plan of Works of mandatory execution, approved in September 1999 and that is currently operational. Regarding risk information, the country counts with

technical-scientific institutions such as INAMHI, INOCAR, the Geophysical Institute of the National Polytechnic School, National Geology Directorate of the Ministry for Mining and Energy, as well as other entities linked to universities that produce high scientific level information about physical and social phenomena, which can become a threat to settlements or productive sectors. However, the level of coordination between these entities and with other entities linked to development is limited. Therefore the application of the information to risk reduction plans is still weak².

In 1999, the National Office for Planning (ODEPLAN) was established, currently re-named to SENPLADES. It has the responsibility of defining the direction of public investment in the country as well as to supervise the planning for disaster risk reduction. From this institution was promoted the creation of the National

2 Mission Report. UNDP-Ecuador, Bureau for Crisis Prevention and Recovery (BCPR), Disaster reduction Unit (DRU), Office for the Coordination of Humanitarian Affairs (OCHA). April 2004.

Committee³ of sectoral groups for Risk Prevention, with the purpose of establishing the basis for a national plan for prevention and risk reduction.

Currently, there are three recent projects for the creation of a national system for risk management. The proposals coincide with the analysis of the problem and recognizing risk management as a permanent State policy that requires an articulation between different entities that need to be inter-sectoral and decentralized, but differ in the scope and the instances proposed for the articulation of the system. However, in the country there are elements that could make part of a national risk management system and there is also true motivation by the different actors to reach a consensus and step forward to establishing the system⁴.

- In **Perú**, the Civil defense is also the institution legally responsible for risk management in the country. Since the Huaraz earthquake in 1970, a Civil Defense System known at that time as SI-DECI (1972) was established. This institution was replaced in 1991 by SINADECI or National System of Civil Defense, denomination that currently holds. The SENADECI is an integral part of the National Defense System, presided directly by the President of the country. In 1987, the National Institute of Civil Defense (INDECI) was created as a public entity with native administration and budget, being the central organization, rector and conductor of the National System of Civil Defense in Perú. As part of its main responsibilities, INDECI is in charge of organizing the population, coordination, planning and control of Civil Defense activities in the country.

3 The National Committee for Risk Prevention conformed by SENPLADES, the Ministry of the Environment, the Navy Oceanographic Institute (INOCAR), the national Institute for Meteorology and Hydrology (INAMHI), the Geophysical Institute of the National Polytechnic School, The National Civil Defense Directorate, The Association of Municipalities of Ecuador (AME), the Consortium of Provincial Councils (CONCOPE), the Ministry of Foreign Affairs, COPEFEN and CORPECUADOR.

4 Idem.

Today, Perú is the scenario of multiple local and community processes, as well as national processes that explicitly or implicitly are translated as risk management.

On one hand, the INDECI created a Multi-sector Commission for Disaster Prevention and Relief in August 2002; on the other hand, the Presidency of the Ministry Council (PCM) has created a Multi-sector Commission for Risk Reduction in Development in June 2002. Their parallel existence generates a duplica-

tion of efforts and competencies, in an environment of noticeable institutional tension.

In the northern part of Perú, in the Piura Department, a working commission for risk management has been created, including local NGO's and led by the German Technical Cooperation Service (GTZ). In the southern part of the country, other risk management processes are being promoted based on the GTZ work, and also ITDG and OXFAM of America.



Case Studies

The 15 "case studies" that support the gathering and evidencing of lessons learned are proposals, initiatives and practical experiences promoted through projects sponsored by DIPECHO (one project per country) or the UNDP (one project per country), as well as experiences originated natively from the initiatives of the same communities and their organizations, or local authorities (also one per country), to which we have given the name of native experiences.



Bolivia⁵

Strengthening of institutional competence in risk management in the department of La Paz: Chima Case

-Supported by UNDP-



This Project had as a specific objective the consolidation of competences in risk management issues of the Prefecture of the Department of La Paz, Municipal Government of Tipuani. During six months (June to December 2003), this project took actions aimed at addressing the emergency situation generated by a strong landslide that affected the city of Chima. It also facilitated the institutionalization of the Emergency Operations Committee by a resolution of the Prefecture, and the generation of regulations and operational manuals. It is important to mention that the project is still functioning and that, at the moment of writing this report, shows significant progress such as, for example, incorporating risk

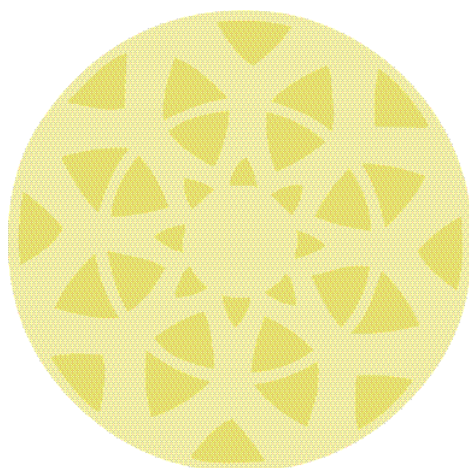
⁵ The aspects relating to the "case studies" for BOLIVIA are based on the systematization efforts carried out by MARCO ANTONIO RODRIGUEZ. The reflections and results from the Exchange Workshop (Bogotá, 15 & 16 October, 2004) with participation of specialists and people in charge of the systematization of the project were also taken into account.



Case Studies

management in development plans of various municipalities that are part of the Department of La Paz and into the commitment of authorities and other municipal actors in the subject.

Within the most significant achievements are: the creation of an entity in charge of risk management in the Prefecture of La Paz, and the municipal government of Tipuani; having facilitated the establishment of a group of alliances with different actors and links with other similar projects at different levels.



Strengthening of local competences for natural disaster prevention in northernmost of Potosi. -Supported by DIPECHO-

The area of influence of the Project includes the municipality of Caripuyo in the Alonso Ibáñez Province, and the municipalities of Arampampa and Acasio, in the General Bilbao Province. The Project implemented by Medicus Mundi (MM) - Bolivia, through a local counterpart, was executed in 13 months, starting July 1st 2002 and ended July 31st 2003.

This proposal was structured based on the "lessons learned during the first phase of the project in the municipality of Caripuyo⁶ (DIPECHO 1)". In this way, the project analyzed in this paper, developed a group of strengthening actions, mainly: training to authorities and community leaders in elaboration

6 MEDICUS MUNDI-DIPECHO: Project DIPECHO 2000-2001: "Strengthening of the local capacities for disaster prevention in the northernmost border of Potosi"

of project profiles and prevention projects that included a relief component related with the execution of demonstrative works.

The project also included some achievements in education (formal and alternative), with training aimed at local NGO technicians, municipal government, civil society, students, and population of the northern region of Potosí. Finally, one of the most important products was the elaboration of a study of cultural perception in natural risk and gender relations⁷.

SUKA KOLLUS

-NATIVE
Experience-
-Project PROSUKO-

For Bolivia, we selected as "native experience" the SUKA KOLLUS project, as we consider that it not only addresses "immediate" processes of risk management, but it re-assumes remarkably the flow of processes and strategies of territorial appropriation which started in the pre-Columbian era, when what we call "risk management" was an integral part of culture, not only in their technological and material expressions, but in their symbolic expressions that cannot be separated from the former.

⁷ Study coordinated with the Risk Management and Food Security Project in the San Pedro River (PGRSAP) of the German Technical Cooperation, GTZ.



This native experience is framed in the PROSUKO Program (SUKA KOLLUS Program) that is being developed in the highlands of Bolivia since 1992, and is supported financially by the Swiss Development Cooperation (COSUDE). The Program, as such, has as an objective to recuperate, research and disseminate sustainable agriculture practices from the time of the Tiwanacu empire, a period before the Incas. In ancient times, the SUKA KOLLUS

(earth rows) worked when flooding occurred because these channels or rows allowed the water to flow without affecting the cultivations, which diminished the risk in flooding periods.

Through what are called in the Project as "yapuchiris engineers", a community knowledge management process takes place on how to use a modern technique or technology, without affecting the tradi-

tional knowledge conservation. They work identifying bio-indicators, from experiences of the elders (low nest, dry year, looking at the flowers, cloud structure) and systematizing them. The community pays them a salary at the end of the harvest, while they develop a farmer-to-farmer training system.

This way, the Project is not limited to the technical aspects of this form of cultivation in ridged fields and channels, but it tries to recover values and social practices that formed part of the context in which the SUKA KOLLUS were developed, that in its essence, to be a collective activity: the cultural tradition of intense community work.

The SUKA KOLLUS are born in a social organization based on solidarity and reciprocity, not only among human beings, but between them and the Earth; they constitute therefore expressions of

a culture of coexistence with nature, according to which, as in other context affirmed by Democritus "wealth is not having much, but needing little"

The high profitability of this cultural practice has provided the communities participating in the project of an endogenous tool to face the market challenges; to reduce their vulnerability toward the globalization threats, strengthening at the same time their identity and their feeling of belonging to the territory.

Due to its characteristics of recovery, cultural and traditional revalorization, the PROSUKO Program which was started from an initiative promoted and financed by international cooperation, we have considered SUKA KOLLUS as a valid native experience of the Bolivian society and, therefore, representative of the Andean Community as well.



Colombia⁸

Disaster prevention and relief component of the strategy of alliances for territorial programs for peace and development

-Supported by UNDP-



This Project is born under the cooperation framework of BCPR/UNDP, which intends to ensure that all the development actions promoted by UNDP in cooperation with the Colombian Government and other national, regional and local counterparts, contribute to diminish risks associated with the armed conflict in the country, reducing its impact and enabling the recovery of the affected areas and societies. One of the lines of action is the area of Risk Management and Natural Disasters, considering that the relationships between the risk accumulation processes in a disaster and the armed conflict are complex, and a process (of the armed conflict) may aggra-

8 The aspects referring to the "case studies" from COLOMBIA are based upon the systematization efforts carried out by LINA BEATRIZ FRANCO. The reflections and results from the Exchange Workshop (Bogotá, 15 & 16 October, 2004) with participation of specialists and people in charge of the systematization of the project were also taken into account.



Case Studies

vate or transform the conditions of the other (risk conditions), because both take place in the same territory.

This initiative has the objective of consolidating, maintaining and strengthening the organizational structure of the National System for Disaster Prevention and Relief (SNPAD) at a territorial level in the armed conflict zone; allowing the municipalities to respond effectively in case of disasters, the reduction of risks and disaster prevention through the formulation of Local Emergency and Contingency Plans (PLEC's) and the formulation of a medium and long-term initiative that satisfies the immediate needs and which establishes a link with the Municipal Development Plan.

The Project started a few months ago, with a preliminary stage (Preliminary Assistance) of 8 months

starting October 1st, 2003, followed by a two year period of the project's duration.

This Project seeks to consolidate a process that started in the country years ago, simply because in a society deeply affected by an armed conflict, it is inevitable that society develops strategies that allow them to build –or at least try to build– "normality" in the middle of a war.

In this Project, two processes that the UNDP has been supporting in Colombia for many decades coincide: the institutional and community strengthening for risk management (that include, among other achievements, the creation of the National System for Disaster Attention and Relief) and the search of coexistence and governance in different scenarios of the conflict affecting the country.

Strengthening of the local competences in prevention and reduction of natural disasters in six municipalities of the Quindío department

-Supported by DIPECHO-

On January 25th, 1999, at 13:19 local time, the coffee-producing region of Colombia was severely shaken by an earthquake, with a magnitude above 6 grades in the modified Mercalli scale, which produced great destruction in the area and close to 1.200 deaths.

After this experience, the Coffee Axis has become an appropriate space for the development and implementation of intervention models for emergency and disaster relief, and became the ideal scenario for the integral application of concepts related to risk management, the process of rehabilitation and reconstruction of areas affected by the event.

Within the group of interventions and organizations that participated and formed part of the reconstruction process of the Coffee Axis, is the Comitato Internazionale per lo Sviluppo dei Popoli (CISP), an European NGO selected to execute this initiative. The execution period ran from May 2001 to March 2002.

The Project to be applied in municipalities of the department of Quindío established as objectives: a) To support and strengthen the competences of local administrations in activities of prevention, management and risk reduction; b) Strengthening of the institutional competences of the entities that are part of the Local Disaster Prevention and Attention Committees (CLOPAD) for an effective response in case of emergencies; c) Defining specific lines of action at an institutional level that allow articulating a response to an emergency, and optimize the available resources of the municipalities.

This initiative produced a series of achievements in areas of institutional strengthening, among them: training of social actors, elabora-



tion of risk proximity maps in the 6 municipalities; emergency plans and operational maps for the municipalities; incorporation of the subject in education, educational and informational material, including a radio program that is still being transmitted in the department's capital.

Guardians of the mountain side

-NATIVE

Experience-

-Municipio de Manizales-

This initiative is promoted and Developed by the Municipality of Manizales. As an immediate "trigger event" of this specific strategy, we can identify various events as well as extraordinary and catastrophic

phenomena that affected the city of Manizales in 2003. The first of them occurred between the 18th and the 19th of March. Intense raining registered during those days produced the occurrence of more than 100 landslides in the city. This precipitation, according to calculations made by the National University of Colombia Sede Manizales, has a period of return close to 150 years (it is probable to happen once during that period), in other words, an annual probability of occurrence of 0.7%. Landslides are common in this part of the country, caused by high slopes and the settlements of and increasing number of communities, that completely alter the relationship between soil, vegetation and water (rain, superficial and subterranean), and that saturate and overflow the load capa-

city in these same mountain sides.

This initiative of "institutional" character, has the objective of incorporating the communities that inhabit mountain side areas in the city of Manizales, in risk management activities promoted by the municipal administration, and, more specifically, it transforms the maintenance of the infrastructure built to stabilize the hill sides in an alternative source of income for women head of household within the same communities. This strategy is framed in long-term processes that have been formally supported during many city administrations in order to reduce the risk of land sliding in the area. This is a city that literally, grows perched on the mountain sides in conditions, which in theory, would seem impossible.



Ecuador⁹

Emergency project in favor of populations at risk due to the ash fall from El Reventador volcano -Napo and Sucumbios- provinces - Ecuador -Supported by UNDP-



After remaining for approximately 26 years without any major volcanic activity, El Reventador volcano, one of the most active volcanoes in continental Ecuador, started a new eruption cycle on Sunday, November 3rd 2002. Thus, this project was part of a global program for addressing the same issue developed in the Cayambe county, Province of Pichincha, in the counties of El Chaco and Quijos, Province of Napo, and in the county of Gonzalo Pizarro, Province of Sucumbios. It was developed in a year, financed by the UNDP and executed following a primary emergency project at the same places, with funds from the Humanitarian Aid Department of the European Com-

⁹ The aspects referring to the "case studies" from ECUADOR are based upon the systematization efforts carried out by ALFREDO PONCE. The reflections and results from the Exchange Workshop (Bogotá, 15 & 16 October, 2004) with participation of specialists and people in charge of the systematization of the project were also taken into account.



mission (ECHO). Its administration included parts of the Antisana, Cayambe Coca ecological reserves, and the biosphere reserve of Sumaco, and are part of the bio-reserve relief zone of El Cóndor¹⁰.

A small percentage of various indigenous ethnic groups and communes of local natives exist there. In these communities, internal social conflicts are notorious, as well as a strong gender inequality in the productive tasks. The responsibilities assigned to both men and women do not correspond to a proportional participation of both groups in decision taking.

The project main objectives are: 1) To improve the communities competence to overcome the ash fall, reducing the effects/impacts of the Reventador volcano eruption, 2) To improve the response capacity to face future disasters through technological alternatives; and 3) To improve the preparation and response capacity of the communities and the central emergency coordination level, reducing the effects of

possible eruptions and other natural events such as the Reventador volcano.

Among the main achievements generated by this initiative, we can highlight: the creation of "protection systems" or "cultivation coverage with "tents" or "greenhouse-type" plastics, and the creation of family, school, and community orchards; training and disaster prevention on agricultural and veterinarian issues; building of communal and school warehouses for poultry and "cuy" (guinea pig) breeding; rehabilitation of horse stables; rehabilitation and improvement of health centers, educational centers, fresh water systems; didactic material production for training; updating of contingency plans, etc.

Also, the work team of the project enabled the coordination with local actors and national and international organizations that worked in the project's area of influence, achieving the most efficient application of actions and resources in this zone.

¹⁰ This area is of strategic importance as it is crossed by the Trans-Ecuadorian oil pipeline which carries oil from the Amazon region to the coastal city of Esmeraldas in the north of the country. The Heavy Crude Pipeline also crosses through the area, as well as the main project: "Papallacta" which provides water to the Metropolitan District of Quito.

Strengthening of local and Civil Defense competencies in disaster preparedness

-Supported by
DIPECHO-

The area of application for this project, financed by ECHO/DIPECHO, is a group of counties and/or municipalities in the Provinces of Napo and Orellana. The project was executed by ALISEI, an Italian NGO, created in 1998 from the unification of two existing associations: NUOVA FRONTIERA and CIDIS, between March and December, 2000.

The objective of the project was to organize, improve and strengthen the local Civil Defense institutions in the Provinces of Napo and Orellana, providing better information to the public in order to reduce natural and man-provoked risks, through: staff and health units organization; training of local leaders and health personnel of the Civil Defense and Emergencies, in order to provide support and orientation to

the public in case of disasters; implement campaigns aimed at population of both provinces to increase the dissemination of knowledge about risk and prevention.

Among the achievements of this intervention we can highlight: 60 short training courses (for health-sector personnel, authorities, Civil Defense volunteers, school teachers, rescue brigades and communities); rehabilitation of a health center building, two hospitals, temporary shelters, and province, county, and parish Civil Defense offices; provide equipment for the Civil Defense offices and rescue teams; delivery of medical kits; elaboration of risk maps, equipment and material to generate a database of risks and disasters, etc; preparation and measurement of educational spots and radio messages, some of which were translated to the Kichwa language. The results of the study and the maps are dramatic, and demonstrate that, in the near future, depending on the "will" and behavior of the Coca River, there is a probability of the river to cross and divide the existing city.



**Re-vegetation Project
of the Esmeraldas
city slopes**
-NATIVE
Experience-

This initiative for restoration of natural ground coverage or re-vegetation of slopes in Esmeraldas, comes as a response to the landslides and flooding caused by El Niño in 1998 that caused the des-

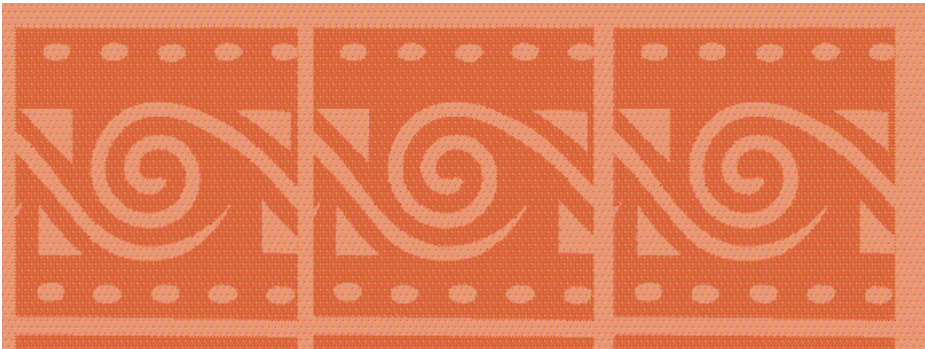
truction of housing and streets, and risked the oil industry, water supply, and communication infrastructure in the Province. It was executed through an agreement between Petroecuador, the Municipality of Esmeraldas and Fundación Natura. The importance of this experience, that we consider NATIVE, is that it emerged as a Municipal initiative, in consortium or association with an NGO and an oil company, and, where great citizen

participation was achieved, recovering ancient community work such as the "mingas". It also motivated the involvement of other local and national actors.

In the re-vegetation project participants included neighborhood and high school student organizations, trained in the settlement and care for tree nurseries, seeding and maintenance of plants. With neighborhood members of these slopes, 40 "mingas" were established for plant cultivation. With the collaboration of the Esmeraldas Marina, the sowing of 130.000 "vetiver" plants in the so-called "Terrazas de Balao" was achieved. There is a group of youth interested in continuing their training and working for their community.

A bio-engineering technique was used, through the cultivation of "vetiver", a plant of Hindu-origin, which has the capacity of forming natural barriers. With them, land sliding and erosion control was achieved, and, at the same time, a recovery of green spaces for the city, that help to improve the quality of air, highly contaminated by the crude-oil refinery.

The main purpose of this initiative that started in October 2002, and with a pilot duration estimated for one year (October 2003), was to reduce the risk affecting the population, as well as the basic infrastructure of the city, especially the water supply tanks, oil industry infrastructure, rain-water collectors, and high tension cables. For the



strategy they used technical and communicational tools such as the sowing of fruit, ornamental, and forest trees in level curves; social-organizational strengthening through the participative formulation of Neighborhood Emergency and Development Plans, formation of neighborhood emergency committees to face and prevent natural disasters; training in community communication techniques for youth, women, teachers and community leaders; communication workshops; production of educational material; and the publicity of the

projects both inside the neighborhoods as well as outside for the knowledge of the public opinion.

Among the main achievements we can highlight: 1) re-vegetation of 4 micro-basins. It was the juvenile groups from the neighborhoods close to the slopes the ones that participated in the sowing and maintenance of the plants; 2) organization of the Dialogue Table with the participation of different actors of the municipality and the civil society, who agreed on community problems, among them, the forma-

tion of the Mountain Side Environmental Management Committee; 3) a training program in environmental care to prevent disasters directed at the inhabitants of the neighborhoods close to the hill sides; 4) formulation of neighborhood plans approved by authorities and by the community; 5) implementation of communication campaigns for risk prevention in mountain sides; 6) exchange visits of community leaders to the Municipality of the Metropolitan District of Quito, to learn about the actions developed to

protect neighborhoods located along the slope of the Pichincha mountain, and organizing the community for the execution of protection infrastructure.

