



Food and Agriculture Organization of the United Nations (FAO)

**The role of Local Institutions in the Management of Risk and
Prevention/Mitigation of Natural Disasters**

Case study: Honduras

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A. INTRODUCTION

1. REVIEW OF TERMS OF REFERENCE

1.1 Background

Periodical natural disasters such as drought, floods, storms (tropical hurricanes/cyclones, tornadoes, sand/dust storms), fires, plagues, crop and cattle diseases, are important factors which contribute to the increase in vulnerability of local communities and to the reduction in the levels of food security of local producers. Frequently, they limit the reach, and they can even paralyze the initiatives and processes for sustainable development, pushing their victims below the poverty line. Based on a recent internal evaluation, FAO has decided to strengthen its activities in countries which are particularly exposed to natural disasters, with the goal of guaranteeing that the management of natural disasters will become a key consideration in the frame of agricultural development activities in such countries. A key objective is to improve the integration of post-emergency assistance in the frame of long-term strategies in the area of management of risk and disaster, and rural development.

The product of the proposed agreement will contribute to an inter-regional comparative initiative while complimented by FAO's Rural Institutions and Participation Division. The main objective of the inter-regional study is to evaluate "The role and potential of local institutions in the reduction of vulnerability to natural disasters and in the development of sustainable livelihoods in high-risk areas". In this frame of work, FAO has supported the study case in Honduras in order to evaluate and answer, within the frame of a specific context, the following questions:

- Can local governments and/or other local organizations and institutions, play the role of main actors in the management of natural disasters and rural development processes?
- Do local organizations and institutions have comparative advantages in the management of disasters, in relation to institutions of a higher level? Do they have advantages based on the following criteria?
 - a) Do they have the capacity to integrate local perspectives into policies and processes of rural planning, and can they represent them?
 - b) Do they form a communication bridge between levels of formulation of local policy and of higher level, and can they promote reciprocal communication processes between these levels?
 - c) Can they support and give orientation to the implementation of rural development activities at the local level?
 - d) Can they stimulate local participation?
 - e) At the local level, can they manage the complete cycle of the emergency, particularly guaranteeing a better link between the prevention of disasters and the rehabilitation activities based on pro-active actions rather than re-active ones?

- Could it be that the communities located in high-risk areas and areas prone to disasters, and which have lived through many disasters, possess or have accumulated experience and knowledge on the causes and origins of the periodical disasters which affect them? If so, how do they use and take advantage of this experience and knowledge?

1.2 Description of the Activities/Services

The following activities will be taking place in order to prepare the products described in point 2.2.

The study case will analyze and compare the disaster management strategies and the reach of local actions, in different environment contexts, as well as the levels of prevention and response organized at the local level before, during and after the disasters in the selected communities in Honduras.

The field work will focus on selected communities/villages which were affected by Hurricane Mitch, in order to evaluate, analyze and compare their strategies for mitigating the risk of disasters and their answers to disasters, as well as the support provided by external sources and their relation and link to local governments and possibly other higher level institutions. The case studies will establish a descriptive table about the local perspectives and perceptions. They will emphasize on the comparative advantages of local institutions (as opposed to higher level institutions) and on the real role they take on in the management of periodical disasters, in order to define the role they could play in the future. The studies will also evaluate the requirements of local organizations for playing their roles and/or amplifying their mandates. The starting point of these studies will be an evaluation of the present frame of conditions within the selected communities and of the functioning, limitations, incentives and capacities within existing institutions.

With the objective of extracting lessons based on the comparison of different types of communities, the analysis will take place in communities which belong to four different groups. All the communities analyzed share the following characteristics:

- local population between 500 and 800 inhabitants
- fragile mountainous soils on strong or moderate slopes

Group (i): consists of communities which, in years previous to Mitch, had already consolidated their institutional capacities at the sub-municipal, municipal and superior-to-municipal levels. In this specific case, we suggest analyzing the communities affected by the implementation of the program of the Lempira Sur Project.

Group (ii): consists of communities which, in the years before hurricane Mitch, had NOT taken up processes to consolidate their institutional capacities.

Group (iii): consists of communities administrated by a near-by municipality.

Group (iv): consists of communities where the municipality is represented by the Board. In such case, we suggest analyzing the case of the basin of the Cangrejal river.

Quantitative as well as qualitative information regarding the types of existing committees, their resources and the risk prevention activities they conduct, will be collected in the selected sites. Qualitative information will be put together with the actors and the potential disaster victims regarding: their experience in the disasters, their perceptions and definition of risk, the resources available, the social networks, that is about their social capital and their capacity to manage disasters and risk. Additionally, complimentary information will be gathered through group meetings with local organizations representing small producers, workers, rural women associations, water boards, etc. Other sources of information will be interviews with key actors at the government level as well as the governed. Such interviews can take place in the field with representatives of local councils, development committees and other local leaders, as well as with government representatives at the departmental level and possibly at the central level also. A particular effort will be made to interview women in all government levels. Random interviews will also be made to men and women from the community, who don't have a specific position in the councils or committees. Among other tools, for the community meetings and meetings with local organizations, the Participatory Rural Diagnostic technique is recommended, for identifying and scheduling key events.

A list of themes and key questions to be verified was elaborated for their investigation. This list should be adjusted and modified according to specific regional contexts in accordance with the investigators.

Additional information should be obtained through the participation in council meetings, the detailed analysis of the minutes of such meetings, from the financial reports (budget, income and expenditure), from the project documents and other registries of transactions with the central government, civil society organizations and non-governmental organizations.

Based on the reviews of the information before mentioned and on a detailed analysis of the actors, the organization hired should identify participatory methodologies, concrete activities and possible institutional innovations which have strengthened or could strengthen in the future the local capacities in the management of disasters and the long-term sustainable development in high risk areas.

The synthesis of the field work and the additional analysis of secondary sources will lead to the definition of specific guidelines in the different local contexts, as well as consolidated policy recommendations for:

- (i) How to strengthen the role of community organizations and municipal authorities in the management of disasters, including the consolidation of capacities necessary for such role;

(ii) How to promote horizontal interactions between local governments and community organizations in order to stimulate an active collaboration for designing and implementing strategies of prevention of disaster adapted to the local needs;

(iii) How to promote vertical interactions between the different actors involved in disaster management, taking into consideration the criteria of subsidies and comparative advantage;

(iv) How to improve the disaster management strategies and link them to long term sustainable development programs in order to better contribute to the reduction of vulnerability of rural communities and homes.

1.3 Definition of Expected Results

As result of this project, a concise report is expected, with sections which highlight:

- The frame of conditions of the selected site, including a detailed institutional evaluation and the nature of the natural phenomenon (questions in table 1 offer the respective criteria).
- The “history” of the disaster (or histories in case there is a collective memory about periodical disaster situations), highlighting the way in which the situation was handled before, during and after the occurrence of the disaster: What happened? Who did what, how and why? What worked and what didn't?
- The lessons learned and recommendations on how local organizations can be strengthened and empowered in order to take on a more active role in the prevention of, the preparation for, and the management of periodical natural disasters - as a key aspect of rural development and of sustainable agriculture in a long term perspective.
- Recommendations for local and national governments and civil society organizations in rural areas exposed to periodical natural disasters, with regards to more adequate or more specific policies which can help in reducing the vulnerability and the negative impact of the risks and disasters to rural communities, particularly of the poorer ones.
- Practical proposals adapted to the local reality, of “action models” which specify concrete steps and the necessary activities in order to strengthen the mechanisms and measures in the decentralized risk prevention, disaster mitigation and rehabilitation processes; ideally, such proposals should be set within existing development strategies in the medium term in the areas subject to this investigation.

2. MITCH AS STARTING POINT OF THE CASE STUDY

The passing of Hurricane Mitch through Honduras territory at the end of October 1998, has been one of the natural events of greater magnitude to affect the Central American region in the last decades and its consequences (material and human disasters) have been the subject of “advertising” throughout the world.

Mitch, a hurricane which reached category 5 and remained static for several days in front of the Honduran coast before crossing the national territory, is part of the “exceptional” phenomena, for the amount of precipitation it dropped on certain parts of the country (more than 1000mm in the north coast), as well as for its frequency: even if there are no statistics or historical registries, it is estimated that this type of phenomenon has a frequency of occurrence of more than 100 years.

A phenomenon like Mitch constitutes a mandatory starting point for a study case on the subject of natural disasters in Honduras. However, it is only a starting point, since a series of other natural phenomena affects the national territory; such is the case of drought or the occurrence of floods in smaller dimensions but recurrent, which also have a strong impact on the local economies and represent an almost permanent risk.

Mitch’s most visible - and most advertised - impact has been the high number of victims in certain specific areas, and the destruction of communications infrastructure, especially bridges, due to the floods it caused. The landslides in marginal urban areas and the floods in marginal areas (risk areas) form the essential part of the “collective memory” associated with the event. However, there is another side to Mitch: the story of those rural communities - affected in different degrees for the variable severity of the event - which lived through the event and reacted to it according to their organizational capacity, to their degree of preparation, to the state of their productive systems and to their natural resources.

3. FOCUS OF THIS PAPER

This paper focuses more on the communities’ reactions - and the role of external institutions - in the face of specific phenomena (Mitch, recurring floods, drought episodes) than on “the disaster” itself. It is about identifying the elements which allow the affected rural communities to better resist the natural phenomena and duly prevent them from systematically turning into disasters.

“The strongest impact is present in those groups of populations with the most fragile social conditions: rural economies, indigenous groups of the Caribbean coast and, in general, the most marginal and excluded populations. This leads us inevitably to reflect on the fact that the conditions which, in the end, determine the impact of a natural phenomenon, are not its absolute characteristics (wind speed or rain intensity), but the social, economic, environmental, institutional and other characteristics which, in the end, determine the vulnerability. The Mitch disaster is a clear example of this statement.”

CEPREDENAC

4. SELECTION CRITERIA OF THE CASES

The present study case takes place in two communities located in two very different areas of the country: the country’s north coast and the occidental coast. In either one

has there been a “disaster”, as there has been in certain areas; instead, these two communities have experienced the passing through of the event. What we looked for in both was their degree of preparation to an event of this nature and the way in which they reacted to it and other natural phenomena they may have experienced.

The community of Agua Caliente in the Department of Lempira is an example of communities in which a long support process to local development from the State and International Cooperation has led to consolidated organizational structures and productive systems.

The community of El Naranjal in the Department of Atlántida is an example of those communities in which an effort has been made to develop preparation systems such as the Early Warning Systems (SAT in Spanish).

Starting from two different realities, the study case will compare the two experiences and extract lessons as to different strategies for facing the challenges in the local management of disasters, local development and consolidation of government capacities and local administration.

B. CASE OF EL NARANJAL, DEPARTMENT OF ATLÁNTIDA

1. LOCAL AND AMPLIFIED CONTEXT

1.1 Frame of the site's conditions



The MAMUCA region is a geographic space which has a territorial extension of 2002.44 Km² and it is located at the center of the Department of Atlántida. To the north it borders with the Caribbean Sea, to the south with the Nombre de Dios mountain range, to the east with the La Ceiba municipality and to the west with the Tela municipality and the Department of Yoro. The region has a population of 82,948 inhabitants; distributed in five Municipalities of which

16,323 is urban population (19.60%) and 66,625 are rural population (89.40%).

The region is lined by four protected areas: Pico Bonito National Park located to the southeast, Cuero y Salado Wildlife Refuge to the northeast, Texiguat National Park to the southwest and Punta Izopo Biological Reserve to the northwest. In the region there are 79 micro basins and the broad-leaved forest of the Nombre de Dios mountain range imposes itself in front of the valley lands and the coasts bathed by the Caribbean Sea, which offer a panorama of amazing scenic beauty.

The Masica Municipality is geographically located at the center of the Department of Atlántida and at the center of the municipalities which make up the MAMUCA; to the north, it borders with the Caribbean Sea, to the south with the Department of Yoro, to the east with the San Francisco Municipality and to the west with the Esparta Municipality. It has an agricultural-lumber productive vocation and a 99% *mestizo* (racially mixed) and *ladina* (Spanish-speaking indigenous) population and the remaining 1% is of *Garifuna* ethnic group.

The Municipality is made up of a total of 48 communities and has a population of 23,124 inhabitants. Its greatest population is concentrated in 6 communities, which are: La Masica, San Juan Pueblo, San Juan Benque, El Naranjal, San Antonio and San Marcos.

At the Municipality level, the following risk factors are present:

- During the rainy season, the fast-flowing rivers produce floods which cause serious health, economic and social problems for the inhabitants, since every time this happens, its borders are dragged by the river currents.
- Flooding zones which remain isolated during the rainy season
- Productive areas in vulnerable hillsides which are washed away during the rainy season, eroding the riverbeds and producing landslides.
- Little knowledge of adequate usage practices and taking advantage of natural resources, in mountainous areas as well as in valleys and mangroves.
- Lack of training/formation of productive human resources, which leads to the bad use and deterioration of the natural resources, especially hillsides and micro basins.
- The Community of El Naranjal is part of the Masica Municipality. To the north, it borders with the Nombre de Dios mountain range; to the south, with Mr. Bonano's land and CAICESA's African palm plantation; to the east, with the Santiago river, and to the west with the Juan Ramírez creek. It has an extension of 4 Km². This community was founded in 1911 and owes its name to the main crop it produced (oranges). It has a population of approximately 2000 inhabitants according to the last census which took place in the year 2000. Its population grows corn, beans, cassava, citric fruit and African palm and, to a smaller scale, also raises cattle. The micro basin which provides the community with water is duly protected and legally declared.

1.2 The Community's Institutional Evaluation

There are 13 local organizations in the community: the Board, the Housewives' Club, the Water Management Board (JAA), the Environment Committee, the Parents' Society, a Catholic church and 6 Protestant churches, the Human Rights Committee, Sports Club, Citric Producers' Association, the Professionals' Association, Rural Banking Agency, the Local Emergency Committee (CODEL) and the Community Development Committee (CODECO); the latter is still under implementation/consolidation period.

In this community, the Board and the Water Management Board are the two organizations which have the most belligerency and social drive. The Board is made up of 6 persons: President, Vice-president, Secretary, Treasurer, Prosecutor and two Chairpersons; each one has specific obligations and responsibilities which they don't always manage to comply with. The President and the Treasurer are more careful with their responsibilities. Periodically, the Board organizes participatory and community activities with the purpose of raising funds and motivating community life. Among the activities organized by the Board there are: barbecues, weekly raffles, sports championships, dance parties; art, music and singing contests, etc. With the funds raised, the Board realizes local works like street and ditch repair, attention of emergency illnesses for the community's poorest people. These funds can also be used in emergency cases like natural phenomena.

The other community organizations usually have more specific duties and programs related to community compromises.

2. HISTORY OF THE “DISASTER” OR OF THE EVENTS

2.1 Community Memory on Periodical Disaster Situations

People's memory, with respect to natural disasters which have taken place, are closely linked to the character and form of local development, which obey a political-institutional system which starts from the top down, passing through all territorial levels and is seen in the communities by political impositions which can only be fought thanks to the entrepreneurial spirit of a society which does not have time to reflect on what is happening, because of their daily fight to survive, but which adequately responds to the occurrence of natural phenomena, to help minimize the disasters.

It's easy to confirm the memories of the passing of Hurricane Mitch and, even though caught in the middle of conditions of the economic, social, environmental and cultural context at the rural level, the need for preparing for any future emergency situation should remain constant. It seems as though the memories of natural disasters and phenomena of this kind are easily erased by the basic needs faced by local inhabitants. However, the preoccupation of the people of these communities is evident and, in the face of this situation, the communities themselves have found support in the Municipalities; an example of this took place in the Municipality of La Masica where, after the passing through of Hurricane Mitch, the community of El Naranjal joined the Municipality's Early Warning System, as a response station controlled from the headquarters located at the Municipal Main Office.

In fact, there were no disaster situations in the community as there were in other communities of greater proportion and with a more urban character; however, there was an experience of local collaboration in which different actors of community sectors participated, giving support to those who experienced damages.

Before this event, the community only remembers Hurricane Fifi, which took place in 1974, but the memory is vague and the situation of poverty and the constant fight to survive, only makes this a distant memory.

It seems as there are no icons in the community's collective memory that promote the local knowledge about risk management, but deep down, the lack of training in this subject is palpable. In fact, we cannot ignore the local experiences lived in floods, droughts, tropical storms and hurricanes, especially that of Hurricane Mitch, which had the greatest impact in recent years. But it is necessary to strengthen the community people's capacities so they may be able to appropriately face the risks to which they are exposed every year.

In these rural communities as well as in countryside life in general, daily life is filled with voids and lack of satisfaction; it seems as though the mission since birth is that of surviving and, in that circle of poverty, there are many families who lose the memory of natural disasters, because such memory is busy with information regarding needs and

misery. The apparent indifference to risks from the people who live in the countryside is easily conceivable, but behind that attitude there hide unsatisfied desires and aspirations, frustrated hopes for a future which is filled with uncertainty and, as Don Vindel says "All we can do is dream that we are awake and that when we wake up, our lives will be nothing but dreams."

There is goodwill in the community memory and there exists an accumulated experience of successes and events which have been characterized by uniting the community in an only axis of goodwill, searching for joint solutions to community problems, and it is this memory that pushes the hope for unity which, although it is not lived to its fullest, is a factor to be looked for in the community's daily actions. No community longs for the occurrence of natural events which produce disasters, but the pleasant remembrance that in those times one can count on external help remains in the memory, especially the help in the form of food which, although it is not abundant or desired, it is enough for the three meals.

Not everything is erased from people's memory. For some, those were hard times during Hurricane Mitch, but others long for those days to come back because, in any case, "the life we lead - they say - is full of risks because when we wake up, we don't even know what we will eat; God is the only one who watches over us".

2.2 How the situation was handled before Mitch

Since the 80's and, to be more precise, in 1986, the inhabitants of the community of El Naranjal initiated a process of appropriation of their water source until they became the owners of it, in order to develop, later on, a participatory strategy in the management of the micro basin, starting by defining its boundaries, measuring it, drawing, declaring and fencing it. In this community, the Water Management Board not only takes care of billing for the distribution service as is the common case in the neighboring communities; here the JAA also takes care of protecting the micro basin which provides the valuable liquid and makes sure that the protection work is an activity which involves all the actors and local sectors.

After Hurricane Fifi in 1974, there were other events caused by natural phenomena, such as floods, droughts, landslides and tropical storms. During these times, the community was able to prove that the safest place in the area was the Catholic Church, so, whenever there was the threat of a natural phenomenon, the church bells would ring incessantly to alert the community.

At the community level, the families which lived in vulnerable terrain had already been identified; this made it easy to alert them so they could take the necessary precautions. Additionally, there was support from the Board and the Catholic Church in helping these families, which had always had scarce economic resources.

In general terms, it can be said that, before Hurricane Mitch, the community was already aware of which were the safest places for seeking refuge in case of a strong flood which

would, in any case, represent a local disaster. Also, the families who lived in high-risk areas had been identified and, most importantly, was the fact that the only place where the flood could start was at the river bank; so, all these elements taken into consideration, it can be said that there was a certain degree of local preparation.

It must be underlined that, even though there have only been talks about the subject of an evacuation in case of emergency, and there hasn't necessarily been any form of community training on the subject of preparation in the management of disasters in the face of natural phenomena, there exists a valuable local knowledge for facing these emergency situations.

2.3 How the situation was handled during Mitch

Since Mitch remained static for several hours on the sea in Honduras' Caribbean coast, it gave chance for some precautions to be taken; in this manner, in the community of El Naranjal some actions had been made when it was just raining and the wind had not started blowing. In any case, the Catholic Church had been destined to serve as refuge for all those families for which it was known, ahead of time, that they would suffer the damages.

In the face of this situation, the different actors and local sectors participated and were involved at the call from the Board, preparing for action in case of need to rescue some neighbor or someone who could be in a situation of danger.

The community expected that something of great impact could happen to the population, but thanks to God - they say today - nothing to be sorry about ever took place. In any case, the members of JAA and of the Board believe the impact was minimized due to the state of protection of the micro basin which provides water to the community.

It must be pointed out that the help given to the affected people during the emergency was practically provided by the community itself and was not only a matter of donating food, but also of cooperating in the cooking of the food and giving the proper care to the sick. The collaboration from the Board, the churches and the teachers was fundamental. It must also be mentioned that the cattle-ranchers' heavy equipment was always at the community's disposal for use in case a rescue was necessary.

While the natural phenomenon was taking place, no elaborated plan was available; the community knew what they had to do only because of the instructions given by the Board, the churches and the teachers.

2.4 What happened after Mitch

At the regional level, the municipalities of Arizona, Esparta, La Masica, San Francisco and El Porvenir, having suffered the consequences of Hurricane Mitch, initiated a process of formation of the Group of Municipalities of the Center of Atlántida "MAMUCA",

in order to face the multiple common problems in a joint manner, especially in a Post-Emergency phase, which required much local participation, political will, organization, and implicated the different actors and sectors.

Since the Municipalities of La Masica and Arizona already counted with an Early Warning System, at the MAMUCA level, the implementation of a program which integrated the five Municipalities was requested to the GTZ, and that is how the Early Warning Integrated Program was born, covering the communities included within MAMUCA. In this joint frame of actions among the municipalities, the Early Warning System was installed in the community of El Naranjal, which has its operations' headquarters in La Masica, head of La Masica Municipality.

In that same Post-Emergency phase, the Local Emergency Councils "CODELES" are formed, which obeyed a top-down structure, starting from the top with the Institution created by the Government, the Permanent Contingency Commission "COPECO", the Regional Emergency Committee "CODER", the Municipal Emergency Committee "CODEM", arriving at the base in the communities with the Local Emergency Committee "CODEL". At the local level, these committees had to be integrated with the participation of all the members representative of local organizations; however, this was not done this way, so until now, these organizations are only valid in time of emergencies, making their importance invisible to national, regional, municipal and community life throughout most of the year.

In that same frame of joint work which was motivated by the creation of the MAMUCA, Community Development Councils "CODECOS" were also organized at the community level. These organizations respond to municipality initiatives but, however important they may have been in coordinating community organizations under an umbrella, these Councils have yet to be implemented or consolidated within the communities.

It must be said that, after the passing through of Hurricane Mitch, there were many actions from internal and external cooperators but as days, months and years go by, the feeling of unity and cooperation which was generated from this event, has lost its fervor. There is the impression that there will not be another hurricane of that magnitude in another 20 to 25 years; therefore, daily life has so many other requirements in order to satisfy daily needs which demand time and effort, so emergencies are only taken care of during the winter periods.

Even if the community leaders recognize the importance of the Community Development Councils "CODECOS", these organizations have not been developed as a real local instance which motivates development actions in a coordinated and sustainable manner. It seems that, since it is an initiative that comes from the top, it has not been induced in an appropriate manner and, because of that, there has been no appropriation.

Some of the important factors present after the occurrence of Hurricane Mitch were: the will to cooperate at the internal and external levels of the community, the movements around the creation of new community organizations induced from the municipality, the

birth of new community leaders, the design of community action plans - which were never put into action - and the multiple visits from NGO's which went to the communities to collect data regarding the damages and not to support the re-establishment of such damages.

Due to the recognition that the community of El Naranjal has given to the fact that having a protected micro basin was a major factor in reducing the impact of Hurricane Mitch, the community continues to give priority to its protection.

3. INTERPRETATION OF THE POLL RESULTS AND LESSONS LEARNED FROM THE CASE

3.1 Pre-Emergency Phase

3.1.1 Prevention

Natural Resource Management:

Water is the natural resource of greatest interest and community demand.

The Water Administration Board (JAA) involves all actors and local sectors in its (re)organizational processes. It focuses on a participatory management of the micro basin with collective responsibility, necessary for guaranteeing a sustainable water provision.

JAA is responsible for:

- protecting the micro basin which provides water for the community;
- the water collection and distribution system;
- its administration and maintenance: every person over the age of 18, man or woman, is obligated to give one day of work per month for taking on management and protection work of the micro basin, or the maintenance of the collection and storage (tanks) and water distribution system.

The micro basin's financial administration is based on the establishment of a common economic basis (community reserve account): all the homes in possession of a water key, are obligated to pay a monthly fee for the service. This system of officially-approved fee between actors and sectors allows the board to finance the protection of the micro basin (repairs and/or reconstruction of infrastructure), amplify the water collection and distribution system, or finance emergencies which may threaten the community's population.

CODEL (Local Emergency Committee) tries to promote the integration between local organizations in order to expand its relations. It integrates the disaster management component within a common operational agenda and in the frame of a community context that links the positions and interests of local society under a sustainable natural resource approach.

CODEL, active only during times of emergency, has a "Community Emergency Plan". Such plan is a group of formats which was handed over by the Municipal Emergency Committee (CODEM) for its completion during community assemblies. However, and due to multiple reasons, among them and most importantly the difficulty of calling all the actors and sectors and because of the neighbors' indifference in participating in

community meetings, it ends up being written by its president in collaboration with other Committee members and it is never socialized by the community.

CODECO, on the other hand, tries to:

- give privilege to the cooperation received at community level from the municipality and other institutions and organizations which support local development;
- strengthen community management in order to face common problems, as well as horizontal ways of interaction between community organizations and municipal governments, and the vertical interaction links between these two and the different institutional and organizational levels which support local development (municipal chain).

A particular effort is made to strengthen the knowledge and the local experiences with regards to the management of natural resources, taking advantage of the rescue and capitalization of the community memory, with those actors capable of strengthening the natural resource protection approach. Such approach is considered a key element in the prevention of risks and is reflected in the local population's daily activities.

Early warning:

The frequent floods caused by the Cuero river in the community of La Masica, have motivated the implementation of an Early Warning System (SAT).

The Securing Local Structures and Early Warning Systems (RELSAT) project took place in November and December 1998, with the purpose of implementing early warning systems in rural areas prone to flooding, in each of the Central American countries. Municipal dependencies called Municipal Early Warning Programs (PROMSAT) were created, offering monitoring from SAT's municipal administration.

The basic advantage of having a SAT is that it offers a fast and efficient means of communication with the local population. This system allows the exchange of information within the community, and a permanent link with municipal, regional and national authorities in case of imminent risk.

This tool facilitates the interaction between the actors:

- coordinated identification of the periods and cycles of higher risk in the community;
- planning of risk prevention at local and regional level;
- access to information which can be included in the work agendas, which promotes the participation and implication of the different actors and community sectors in the management of risks, and invigorates the commitment from the community's organizations, specifically in regards to local risk management.
- it induces a state of permanent vigilance and therefore allows to better control the most vulnerable areas in the community.

Currently, an Intermunicipal Prevention Network is being implemented. Based on La Masica's SAT, the group of municipalities is incorporating all the municipalities in an Intermunicipal Early Warning System Program (PRIMSAT). This program will try to create an early warning system network in the MAMUCA's five municipalities. For this, the systems of La Masica, Arizona and San Francisco are being strengthened and systems are being created in Esparta and El Porvenir. This intermunicipal coordination project will try to reduce the risk area to a minimum.

Risk/disaster perceptions:

Geography determines the types of risks which dominate the area, produced by the sudden changes in climate. The state of risk and vulnerability is almost permanent, leading to a state of disaster whenever it presents itself with greater violence. The presence of an important change in level between high and low areas produces devastating effects when the rain starts, increased by the short distance that separates the mountain from the coast (between 2 and 20 Km.). The most vulnerable groups are those who live on the river banks and, whenever the river courses reach saturation, the populations from the lower areas suffer floods which can last several days. The destruction and the carrying of mud and organic material can produce permanent changes in scenery in the most affected areas, which at the same time move the risk frontiers. The most exposed families are usually warned and an evacuation plan toward safer areas (churches) is initiated.

Access to land plays an important role in this situation. Even though it would be better to relocate these persons to a safer place, the high price of this procedure has not made this possible; instead, preparation and training measures for the population exposed to these risks, have been adopted. The community is fully aware of this situation; it is yet to be determined if an economic solution could be taken on to diminish vulnerability. By the way, this line produces differences of perception and reactions that reflect the need for taking on a more profound work in the subject of an integrated vision of development adapted to the community's reality. The interest for leadership and power, political or sectorial interests go beyond the risk frontiers and into the political-administrative frontiers at the municipal, regional and national level.

Local coordination activities for the prevention of risk/disaster:

There is a true effort for integrating the measures which strengthen projects, programs and guidelines focused towards the prevention of risks. The nature of the group of factors which condition the risk in the area, compared to the level of organization and coordination reached by the community and its representatives for controlling the situation, allows us to think that the community has acquired a basic level of capacity which allows it to respond to the type of event which dominates the area. An ascending dynamic in the spiral of disaster has been initiated. Still pending is CODEL's institutional strengthening.

During an alert situation, the local emergency council, which has defined integration functions, incorporates all the local organizations, which provides representation within them.

In this sense, it is necessary to broaden CODEL's preventive functions, responsibilities and duties in each community, through measures such as:

- support, through municipal ordinances, the local organizations' decisions for reducing vulnerability;

- train the actors of all and each one of the local sectors, in the administration of risks and management of disasters;
- motivate outstanding community actors with prizes (certificates, trophies, cash, municipal tax exemptions) as an incentive for promoting local cooperation;
- strengthen vertical interactions from the local, municipal and regional level to the national level (Local Emergencies Council - Municipal Emergencies Council - National Emergencies Council) in order to guarantee an adequate coordination and cooperation in preventive and community preparation activities and the management of disasters.

3.1.2 Mitigation Strategies

The notion of risk mitigation is not perceived as such by the community. The actions integrated in a process of development can often correspond to a risk mitigation action without being assimilated as such. Of course, the benefits will be perceived in terms of better well-being or social capitalization, allowing the population to avoid suffering from a flood or by losing the crop or infrastructure. It is still necessary to inform, motivate and educate. There are isolated actions by the local authorities, usually with good visibility, but there is no long-term strategy which allows the acquisition and assimilation of information and techniques and the transfer to the base. However, at a level of organization, the risk administration methodology begins gaining importance thanks to the external help. Currently, the approach is based on giving privilege to the management of natural resources and, more specifically, to the management of micro basins and the use of adequate techniques for agricultural production and forest use.

Consequently, the methodology establishes, implements and strengthens the cooperation relations and interactions, with a broader vision towards the promoters and community actors, between the organizations and municipal, regional, national and international institutions which already handle these subjects.

Support can be provided as specifications for participatory and shared roles, responsibilities and commitments from community organizations integrated into councils for local development, in order to facilitate the promotion and coordination between actors and community sectors in the execution of strategies for risk mitigation, including community services such as solidarity, voluntary work and security.

The local mechanisms for financial security which promote the creation of consolidated groups/associations at the level of the different actors and between the different community sectors play an important role in guaranteeing the proper functioning of these initiatives.

Likewise and as a first step, the community management of participatory capacity mechanisms which integrate the equality approach represent a decisive factor in order to strengthen local knowledge with regards to risk administration and disaster management which include mitigation strategies, therefore coming closer to a dynamic integration of the community's security.

3.1.3 Degree of Preparation

Risk prevention systems like SAT, for example, or the pre-emergency management system, have been implemented in the area until the event took place in 1998. The community was informed through traditional communication methods. SAT was a measure which was taken later.

Currently, preventive measures have been implemented, but these have yet to be integrated to an overall plan which could lead to a real preparation of the population for facing a disaster.

With the early warning system which operates in the municipalities of the group of communities, different zones, which function in synergy, have been defined in order to follow up and intervene in case of an emergency.

- Monitored zones: made up by the radio stations located in the higher parts of the rivers.
- Control zones: located in the municipalities.
- Response Zones: radio stations located in the communities of the lower parts.

This system, however, seems to be isolated and, even though it reaches its goal, it hides a lack of preparation in regards with the different actions that should take place in order to be truly ready for an event. Essentially, in the community's integration in the planning and training in risk management: For example, coordination with CODEL does not go further than the vision for capacity in operational functioning for which it was designed.

3.2 Emergency Phase

3.2.1 Immediate response

In times of imminent threat, the Permanent Contingency Commission (COPECO) establishes communication. There is an exchange of information and orders to the Regional Emergency Commission (CODER), which at the same time communicates, informs and instructs the Municipal Emergency Committees (CODEM), which have the direct responsibility of communicating, informing and instructing the Local Emergency Committees (CODEL) in all the communities within their respective jurisdictions.

With the municipal communication, information and instructions, CODEL forms several commissions which have the participation of the actors of all the different local sectors.

At the national scale, COPECO is the one in charge of warning the population in order to inform them of a situation of risk, and it uses the standardized measures using a color code which reflects the importance and urgency of the situation.

For indication actions of:

- emergency committee meeting for verifying the plan (green)
- evaluating risk groups and divulging information (yellow)
- immediate evacuation to a refuge or established and safe place (red)

All these warnings and instructions are adapted to the early warning systems in each community, in such a way that they respond to the present situation.

The general population and the local organizations which integrate CODEL respond immediately before the arrival of external help.

CODEL creates an Emergency Operations Center (COE) which is usually set up in churches or local schools (depending on local security) and, from that location, they receive and process information for decision making and coordinating actions for facing the emergency.

In the case of Hurricane Mitch, the community of El Naranjal responded to the community, giving information and instructions on the radio and preparing the local Catholic Church as a refuge and operations center.

3.2.2 Evacuation and refuges

The experiences lived during Mitch have stigmatized the minds, and if collective solidarity has worked during the critical phase, it is necessary to capitalize this experience within a process of elaboration of logistics measures which will promote calm within the community. The risk lies within the reasoning that, if there were no more damages or victims, what has worked in the past will work again in the future.

CODEL has the responsibility of keeping its prerogatives during the calm phase and of calling the community in order to prepare evacuation plans and quickly set up the victims' reception centers.

For now, those measures do not go beyond being ideas, and are not established as true practical measures.

3.2.3 Budget forecast

Many organizations at the local level have enough funds, but these usually belong to the members who make them up; it is different in the case of the water boards, because the funds are for the community and, whenever the payment for water services is adequately and punctually done, the money received is important.

After Mitch, rural collection posts at community level are being motivated, with which it is expected to make up a sufficient local financial reserve.

3.2.4 Food and seed reserve

In the majority of communities in the northern zone of Honduras, food production is quite high; there is a problem after the crop, when the markets are saturated with the products. Producing families which do not know how to stock their exceeding, end up selling them cheaply or losing them.

After Mitch, the municipalities of the MAMUCA have a storage room for the dry or canned foods, but these rooms are only full when the World Food Program (WFP) gives support during times of a food emergency.

Many families in the northern coast and especially in the MAMUCA have learned to store grains, but they have either come from the west of the country with this knowledge, or they have acquired it from a particular local project, or they have received training from the National Institute of Professional Education (INFOP), which also provides this kind of service. A process of capitalization and transfer has not been realized as of yet.

The different origins of the community and the individual memory of the experiences of its members are elements which can be capitalized in order to fill the gap of a young community memory.

3.3 Post-Emergency Phase

3.3.1 Local initiatives for a response organization

The level of implication of the different actors and community sectors, determines the degree of local knowledge and awareness in the occurrence of disasters. It is important to mention the initiatives between neighbors, as is the case of the temporary hospital, food delivery and common use of the kitchens, fresh milk donation for the children and other local actions which are true initiatives for an immediate response from the community against emergencies.

Emergency help is usually coordinated by CODEM, which delegates its distribution to CODEL.

There are also many Non Governmental Organizations and churches which get emergency help and channel it directly to the communities who need it.

Much of the help dispersed and not channeled by CODEL produces dependency and a *social-parasite* effect but they are accepted, even if they do not respond to the victims' needs and problems.

It is recommended that all community help be channeled through a single organization, like CODEL, which integrates, in a time of disaster, the local organizations and facilitates the coordination of local help.

It is important to be prepared at the community level, for any kind of answer, since local initiatives in the face of floods are very different to those in time of drought; this means having specific capacities and differentiated plans.

3.3.2 Rehabilitation

Locally, the organizations which integrate CODEL, the churches and the teachers, play an important role in the psychological rehabilitation of the community, as a first step in mobilizing local initiatives for the rehabilitation after a disaster.

The rehabilitation in the agricultural areas in the lower parts was very slow because, after the floods, the areas were covered with mud and debris; however, the intermediate and higher areas which did not suffer these damages, were shared by their owners for crop plantation and the grazing of livestock. Solidarity is another important element during these phases, and it can constitute an anchorage point for rehabilitation actions focused towards unity and alliance planning within the community; with the purpose of blocking them from reappearing, and individual interest divergence, which stops the ulterior efforts for rehabilitation and the collective dynamics towards community planning of greater reach.

The water dams or water gathering dams located in the micro basin which provides water for the community (community of El Naranjo), suffered small damages which were healed by the community under the coordination of the water board. For several days they participated in group rehabilitation work where women and young people from the community were involved.

It must be said that rehabilitation processes originated from initiatives outside the community, come across an accentuated local indifference and people do not participate or get involved. It is necessary that such processes promote a community feeling of self need, so that the actors, as well as the local sectors, can take power of and own them. Through this observation, the need for motivating a participatory dynamic at the level of the conceptualization of the projects is highlighted, rather than starting when they are already being realized.

3.3.3 Development

Participatory community planning

In the case of the region of the Group of Municipalities of the Center of Atlántida (MAMUCA), after Hurricane Mitch and during the recovery and rehabilitation process, German cooperation through GTZ, began a process of community planning, in which the community leaders identified local problems and defined their possible solutions. After which, the solutions were prioritized and ways, places and execution times were determined between the project, the community and the MAMUCA.

The PRO-MAMUCA project, financed and executed by the GTZ, created the community development plan in a workshop that took place at the municipality's main office, where leaders of the different community sectors participated.

Even though there is a plan for the community's development, it is not known; it has not been socialized and it was also made outside the community, even if it had the participation of local leaders. The actors' participation since the creation of the project, has not been an indispensable condition (within a participatory community planning methodology), even though its representatives have been involved. This can produce a lack of interest when the community faces problems or a lack of comprehension of the logistics of execution. People can feel manipulated or confused and the solidarity feeling loses content. We can say that "innovative or modernizing" methods cannot be applied without first facilitating a change in mentality or taking up attitudes which demonstrate the will of the actors to provoke reactions.

[Links and/or alliances with the collaborators](#)

After the passing through of the phenomenon, the regional strategy of the poorest municipalities of Atlántida was the creation and integration of the Group of Municipalities of the Center of Atlántida (MAMUCA). This has allowed the reaching of agreements and all sorts of alliances and links with national and international collaborators. These projects include: rehabilitation, repair and reconstruction of bridges, streets and roads, as well as housing projects, and construction and reconstruction of schools, community and health centers.

However, the lack of experience from the community in managing these mechanisms has produced a local centralization effect of the decisions for presenting counterparts to these proposals. The community seems not to know why the cooperation is present, when the projects realized are not of great visibility, which tends to create distances.

The strengthening of the community management mechanisms goes through a greater linkage toward national and international cooperation, with the purpose of developing dynamics in the municipal chain and not fall back on client-oriented aspects, as it usually happens.

It is important to mention that, when the different actors and local sectors are not involved, the projects are not considered part of their own work, but the government's public works and, therefore, belong to all and to nobody.

[4. ANALYTICAL SYNTHESIS OF THE CASE OF EL NARANJAL/ATLÁNTIDA](#)

This chapter presents more profound interpretations from the investigative group, about the case of El Naranjal and Honduras' Central Northern Coast, parting from the knowledge and experiences it has about the subject of Local Risk Management in the area.

Particularly, the risk equation (Risk = Vulnerability X Probability of the Event) is used for analyzing the nature and frequency of the phenomena to which the area is exposed, and of the different components of vulnerability in the face of these phenomena, in order to characterize the risks to which rural communities like El Naranjal are subject.

The characteristics of the natural phenomena which hit Honduras' northern coast are closely linked to the area's biogeographic context. Such area has a history of floods related to the conjunction between a sedimentary coastal plain and a mountain chain located very close to the sea, which is over 2400 meters high. If the phenomena such as hurricanes have a frequency of 20 to 25 years (and much higher in the case of exceptional events like Mitch), the strong winter rains associated to cold fronts originated in North America, take place several times a year and usually cause a strong impact. The risk of strong floods must be considered as a recurring risk in the area.

Many communities which have settled in the coastal plain are located in flooding zones, which constitutes a basic element of vulnerability.

However, there are other factors which contribute to increase the level of vulnerability of such communities.

The risk equation in the northern area:

Such equation is analyzed in the following contexts:

Biogeographic context;
socioeconomic context;
organizational and institutional context.

Biogeographic context:

It is usually said that vulnerability's biogeographic spectra are constant. However, there also exist biogeographic factors which strengthen (or worsen) an area's intrinsic vulnerability:

- One of the key factors of the current vulnerability is the event itself: the landslides produced by the strong rains have caused erosion of the riverbed, which are completely saturated with thick sediments. For such reason, these rivers overflow, nowadays, due to rains which would not have caused an impact before the passing through of Mitch, and the area has become more vulnerable to floods, increasing the frequency of such.
- Another factor is the evolution of the vegetation cover: the quick degradation of the high river basins due to the progress of the agricultural frontier in the north coast, involves a decrease in the capacity to retain water and an increase in the frequency of sudden river floods. Additionally, landslides took place in areas which did not count with a bush or tree cover.

The combination of these two factors produces a growing vulnerability in the biogeographic context in the area.

Finally, it must be said that the presence of a primary forest cover on strong mountain sides is, in itself, a factor of vulnerability to events of extreme magnitude such as Mitch. It is generally considered that a forest cover contributes to mitigate the impact of strong rains. In the case of Hurricane Mitch, with precipitation of more than 1000mm, many landslides of several hectares were produced in areas of primary forest with slopes superior to 100%. Field observations lead us to the conclusion that, in conditions of extreme sloping, young forests and agroforest formations of anthropic origin resisted better than primary formations.

Socioeconomic context:

Certain socioeconomic characteristics of the area, contribute to increase the vulnerability to climatic events:

Many of the rural communities in the area, those located in the plains as well as those in intermediate or high basins, are young communities (El Naranjal is 12 years old) where a collective memory of previous disasters was non existent. Additionally, it can be said that the social cohesion in several of these heterogeneous communities is low, due to the lack of shared living experience and of development vision.

The greater part of the population is originally from other areas of the country (West, South) and does not share the "productive culture of the humid tropics". This is particularly evident at the level of the area's productive systems (livestock and basic grains on a cut-and-burn cycle), which lead to a general decrease of the vegetative cover and exacerbate the impact of strong precipitation, even when they are common to the area.

The natural resource management efforts in the area on the part of the communities - or of some communities - are usually limited to the use and protection of the micro basin which provides water to the community. The subject of potable water is often the cause of a strong social mobilization, as in the case of El Naranjal. However, it is not the subject of risk management and of the protection of more ample portions of the territory for benefiting sectors outside the community.

Organizational and institutional (governability) context:

In the context of governability, a series of factors which contribute to increase the levels of vulnerability to strong precipitation can be identified:

- *The lack of effective governability over the territory and its natural resources*

The degree of control over the degradation processes of the natural resources on the part of the State institutions in the area has always been minimal and is still very little;

this contributes to the creation of growing vulnerability conditions. Also, clear territorial organization policies within a vision of long term development do not exist.

On the other hand, the municipalities have not yet consolidated sufficient capacities, human or financial, in order to substitute the State in that field.

As has already been mentioned, the majority of the communities restrict their actions in this subject to several areas of special interest of their territory: potable water source, productive forest plots.

- The lack of insertion of the “disaster management” mechanisms in more inclusive local institutional frames.

It is obvious in this area that the institutional mechanisms for disaster management motivated by COPECO are not part of more inclusive institutional frames. Even when COPECO efficiently transmits early warning messages, the municipal and community mechanisms promoted by the institution, like the Municipal Emergency Committees or the Local Emergency Committees, lack insertion in the “local institutional reality”. They continue to be “sui generi” mechanisms which are only mobilized when there is an imminent threat, and do not motivate a more proactive attitude towards risk management outside the periods of emergency. The early warning systems which function in several communities and municipalities (Atlántida, Colón) are part of this tendency.

- The presence of a traditional model of community organization: the Board

In the subject of community organization, the lack of a link between organizations focused towards the preparation for and the management of disasters or emergencies on one side, and the traditional form of community organization in the area, i.e. the Board, is palpable. Many of the organizational efforts motivated from government spheres and/or from the international cooperation in the post-Mitch period, have been focused towards the creation of ad-hoc structures (CODELs, SAT) relatively untied to the boards, instead of concentrating on the deficiencies of local organizational structures in order to face the challenges of local development, of the management of the natural resource base and, therefore, of the local management of risks.

The structure of the board, a traditional mechanism for institutionalizing the favoritism which leads the political life, is still present in the majority of communities; and the new mechanisms for disaster management have had little influence on such traditional mechanism. At the community level, the ownership of the subject of risk management has been scarce.

- The lack of consolidation of the “municipal chain” based on a community ownership of the processes of local development

In the same manner, at the municipal level there exist several CODEMs (Emergency variant) with similar characteristics to the CODELs, but there is a general lack of

institutionality of the CODEMs (Development variant) and an absence of institutionalized mechanisms of representation of the communities in the instance of municipal planning.

In the area there has not been a consolidation of “functional municipal chains” to link: Family Unit x Community x Municipality x Group of Communities, and which allows the growth of an effective and democratic governability. In the absence of this functional chain, there is no ownership or institutionalization of the mechanisms of preparation/management of disasters or emergencies.

Emphasis on the consequences of the problem and the lack of an integrated vision of risk management:

The early warning systems, initiated in La Masica and generalized throughout several communities and municipalities of the Northern Zone, are, without doubt, local mechanisms for the prevention of disasters in the face of a natural phenomenon, particularly for the prevention of the loss of human lives.

In the same manner, the construction of contention walls (or dikes) along several rivers which are prone to overflow, has constituted a response (generally with government or external funding) to the river floods and a measure of mitigation and prevention.

However, it must be said that both types of measures - which have the characteristic of being highly visible for the national or international institutions which support them - focus on the mitigation of the effects, but not on the treatment of the causes-roots of the vulnerability.

The causes-roots of a structural and non-structural nature of the vulnerability - previously analyzed in this sub-chapter - have generally not been the subject of much attention.

In the area there still exists an approach towards the “management of emergencies and disasters”, without there having been integrated a broader concept of the management of risks in the frame of a policy of local or regional development.

Considerations about a cycle or spiral of disasters:

Regarding the cycle of disasters proposed in the Terms of Reference, it can be said based on the area’s experience, that the recurring character of the floods (and their increasing frequency) implies that there is an overlapping between the different phases of the cycle of disaster: it has yet to recover from Mitch (10-1998), and there is now work to handle the response to Michelle tropical storm (10-2001) or work on the last cold front. The floods have gone from being periodical phenomena, to being chronic events and “the responses to emergencies or disasters” are part of the day to day, without there being any work done on the causes of the problems.

Regarding the spiral of disaster, it is important to notice that the possible movement of the spiral can not only go up, but it can also down, until the causes-roots of the problems

are identified and analyzed, and the capacities of local institutions and mechanisms of local governability can be consolidated in order to be able to treat them.

Beyond the floods: other emerging “natural risks”:

Even if floods are still the main factor of risk which affects the north coast of Honduras, it must be said that drought and other changes observed in the precipitation regimes, are becoming a preoccupation for the local populations. In the rural area, atypical climatic events are more frequent (longer summer, late torrential rain), for which the traditional productive systems are not ready. A growing variability of the precipitation regimes is producing important losses in agricultural crops. The vulnerability of the traditional systems, which are of poor technology, to such variations, seems to be very high and this subject should be incorporated within a more integral vision or concept of the local management of risks.

Conclusions about the domination of the risk equation (in the face of floods) in the area:

The risk equation in the area is constantly changing and is neither managed nor controlled. Some processes which contribute to the minimization of the vulnerability to floods through a greater preparation of the population have been identified (SATs, for example), while other factors contribute, on the contrary, to increase the probability of floods due to high precipitation, as well as the population’s vulnerability to these floods. New risk factors are emerging, due to the growing variability of the precipitation regime.

The domination of the risk equation and its ownership on the part of the communities, municipalities - groups of municipalities and institutions of a higher level, is an indispensable condition for being able to formulate and implement a strategy of local risk management.

C. CASE OF AGUA CALIENTE, DEPARTMENT OF LEMPIRA SUR

1. THE LOCAL CONTEXT AND AMPLIFIED CONTEXT

1.1 Frame of the site’s conditions

“Honduras’ Occidental region, where the Department of Lempira is located, is one of the country’s most isolated areas. With an eminently rural population, with production systems of low profitability and an accelerated degradation of its natural resources” (Panlagua, pg. 1, 1997)

The south part of the Department of Lempira constitutes a corridor in Honduras’ south-west area, which borders with the Republic of El Salvador. It covers an area of 2177.9 Km², which represents 50.8% of the total area of the Department of Lempira. A population of 110,000 inhabitants is located here, distributed into 20 municipalities.

The area is located at the center of the Central American Northern Triangle (Honduras, El Salvador and Guatemala) and at the high and middle basin of the Lempa River. This basin is shared with Honduras and El Salvador, being El Salvador’s most important basin as it provides 50% of its drinking water and generates half of the country’s electric energy.

The area’s topography is broken, having 95% infertile hillside soils where there is an evident tiredness and deterioration due to the intense use by a migratory agriculture and extensive livestock raising, at the cost of the natural resources. This has caused the area to have, in average, 56% of its population living in extreme poverty, according to the Honduran Social Investment Fund’s (FHIS) poverty indicators, because they lack the basic services and it is not possible to satisfy them in the short or middle term.



1.2 The Community’s Institutional Evaluation

At the community level there used to be the board (later reorganized as CODECO). The boards suffer from serious weaknesses. They function as an instance of civil representation at the level of the villages present in Honduras’ territory under the municipalities. In this

sense, it is a sub-municipal instance, having, as such, recognition in the Law of Municipalities. All the villages have boards in other regions.

The Board’s organizational structure:

The board is presided by a president who is elected by popular vote for a one-year renewable term.

Thus, there exists the possibility of frequent change of the authorities, which has serious implications for the consolidation of the capacities of the boards: in view of the possibility of yearly change, a first look would indicate that it is not enough to train the boards’ presidents, but it is necessary to train the organizational structures which function under the Board, especially a) the sectorial commissions for civil representation (for education,

for health, etc.) and b) the producers' organizations which can be integrated (cooperatives or second level organizations).

The Board's president has the support of a traditional administrative board.

The Board's functions:

Traditionally, the board in Honduras is integrated for political reasons and specific objectives. It generally lacks an integral vision of development, and it does not have integration with other structures such as labor commissions, which support its development.

Its functions appear to be confusing, since it isn't always clear whether they constitute civil representation instances or producers' organizations.

Concentration of power and elitism:

The power for the decision making falls on the board's president, who is not obligated to check its decisions with any other local instance.

There is a strong risk that the board will be controlled by the community's most powerful inhabitants since: the board's president does not receive compensation or a salary for its management. The presidents can obtain subtle but considerable benefits from their posts, for example in terms of training and access to other government, international organizations or NGO's programs.

Partisanship:

Even when the board is a representation of the community, its president usually has political affiliation with one of the two major political parties, giving the board a clearly biased direction since, according to the law, only those belonging to the major political parties are allowed to participate in the elections.

This political bias can have some of the following consequences:

a) it can be excluding, in the sense that it will not incorporate in the decision making all those inhabitants who are not part of the same party;

b) the board's president could have a political affiliation different to that of the mayor, who, for this reason, could exclude him/her from the benefits of the mayor's office.

Scale:

The scale at which the boards operate is extremely reduced in terms of economic and political power, for which they are rarely in a position to take actions on their own, in order to benefit their communities.

The boards' strengthening strategy:

Consisted basically of the following steps:

- Decentralization of the board's president's power through the establishment of commissions. These commissions have mandate over the different spectra in which the community is involved, for example, there are commissions for agriculture, health, parents, etc. In this way, even if they all have to report to the president, each community is relatively autonomous through the process of participatory planning, in such a way that the president's power is mediated by the different commissions; they unite the local leaders and the representatives of local entities in order to handle and analyze the community's or village's problems and needs and make proposals and decisions in order to respond to the local situation. The proposals and decisions must be taken into consideration by the municipal authorities and institutions.
- Participatory planning exercises were developed within each board; this produced as a result, a strong involvement from the communities in designing their own future.
- In order to make viable and official this democratic participation and decentralization initiative, the board's name was changed to Community Development Council (CODECO).
- The board's commissions participate in the Municipal Development Council (CODEM).
- The amplified figure of the CODEM was created which, aside from the usual governors, it also includes representatives from CODECO's commissions, ensuring in this way an ample and representative participation of the base in the municipality's decision making.
- At the municipal level, CODEM, which reunites the local representatives, plays an important role in ensuring that its proposals are taken into consideration.
- The installation of the CODECO's and CODEM's has been the result of the activities of various actors in the area, emphasizing, among others, on the Lempira Sur Project.
- However, forming CODECO's is a complicated process which has not been successful in all the communities. It seems that the most successful CODECO's are located in those communities where a change in the productive system and the management of natural resources has taken place. It is in these communities that the capacity for local development is being created and the institutionalization of these changes seems to be a fundamental element in the organizational process.

1.3 The nature of the natural disaster

Long drought periods (1987-1989) have exhausted the productive resources necessary for subsistence, producing an accelerated degradation process of the natural resources.

The violence of the strong rains that follow the periods of drought produce erosion and destruction of the little infrastructure built to contain water for irrigation.

The vicinity of the volcanoes in the area that borders El Salvador and the tremors and earthquakes which take place in the country, affect these communities even in a minimal way.

We can associate this group of natural phenomena to a situation of disaster whose consequences lead to a progressive depopulation of the region and its socio-economic death.

2. HISTORY OF THE “DISASTER” OR OF THE EVENTS

We must take into consideration the evolution of the general conditions of the rural population and of the environmental situation, starting from the mid-80:

◇ Initial period

The problem of poverty and deprivation of the area is related to the inadequate use and management of the natural resources, whose socio-economic impact can be summarized as follows:

- Degradation of the natural resources
- Reduction of production and productivity
- Low level of social and human development indexes
- Low level of organization and participation of the community
- Institutional deprivation of the area

The population, the State institutions and the private organizations had their hands tied in facing the existing situation; the conditions of deprivation and extreme poverty were predominant in the context of the region and of the population. The lack of infrastructure had been translated into a geographical and political isolation from the rest of Honduras, which generated more integration and exchange with El Salvador through the marketing of products such as grains, coffee, milk products and especially, livestock (pigs and cattle).

The environmental pressure on one hand and the pressure on the land on the other hand, did not allow the forecasting of radical changes in the development and sustainability. Also, obsolete farming practices such as burning of the land, has increased the environmental degradation and impoverished the soil.

The situation prior to the exterior intervention of the PLS, of isolation and of dispersed community organization, has created character and in some way maintained the rural population in a state of permanent alert to the climate and environmental happenings. The lack of richness of the NR forces an empirical administration which must yield to any unbalance. We are in the presence of a population which faces a perennial adversity and who is therefore motivated to find solutions which can give them a better quality of life. Before we can speak of development, we can say that this community was living in a state of precarious unbalance, which lead to not being able to close their

circles of life, without being able to overcome them with their own resources (remittance).

However, we can say that the minds have always been alert and that the knowledge of disaster and the consequences it implies has favored the creation of a collective consciousness which has found an echo to their immediate worries.

This period can be summarized as follows:

State of the Natural Resources and Productive Systems:

- return of the drought and flooding process, with severe damage to production and to the population
- overuse of basic subsistence resources
- accelerated degradation process of the natural resources
- highly vulnerable area environmentally and ecologically

Population situation:

- food insecurity threatening the survival of the population
- irrational use of natural resources as a strategy for immediate survival
- social conformity, produced by an abandonment from the government authorities
- predominance of large families (eight or more members). Also, high death indexes
- fear of organization due to the impact from the war in the Republic of El Salvador
- strong migratory tendency, towards the north of Honduras and the United States of America

Socio-political Situation:

- extreme institutional abandonment (minimal institutional and operational presence from the Government of Honduras)
- passiveness and deprivation from the Municipal Corporations; predominance of leadership from a *cacique*
- lack of access to the area due to a lack of infrastructure
- socio-political impact of the war in the Republic of El Salvador: Guerrilla impact zone and establishment of refugee camps
- real power concentrated amongst the militaries with manifestation of abuse and corruption
- National Security Policy in violation of human rights
- Institutional Assistance Strategy based on traditional assistance: donations and unconditional credits
- integration of producers into groups: BANADESA's and PRODERCO's agricultural committees
- execution of FAO's Emergency Project: "Rehabilitation of Agricultural Production" TCP/HON/285 (E)
- during the year 1990, a mission of recognition from FAO and the Dutch Embassy takes place and project TCP/HON/7851 is identified. First intervention from the Secretariat of Natural Resources and FAO to try to find an answer to the drought which took place during 1987-1988 "Rehabilitation of Agricultural Activities"

This period can be linked to an **Emergency** situation.

◇ **Second period**

Starting from 1991 and thanks to the communities' rescue activities, we begin a second phase which allows for a reorientation of the situation in a 4-year period.

State of the Natural Resources and Productive Systems:

- identification of the agro-ecological potential of the area
- verification of a seasonal rain regimen, sufficient for annual crops and perennial trees
- identification of agro-ecological areas, with different altitude levels, with potential for diversification
- identification of the potential hydraulic capital, for the area of El Celaque and the Republic of El Salvador
- low technological level of production systems; felling, burning and polluting practices leading to low performance
- high mortality rates in the higher and lower livestock systems
- ecological unbalances prevent sufficient food production

Population situation:

- receptivity and disposition of the population for acquiring knowledge and information about the use and management of natural resources
- community leaders join training on sustainable hillside agricultural technology and on organizational management
- organized women begin activities for improving the diet through family orchards
- support of group savings through non-refundable Social Funds and capitalization for groups
- there are no significant changes in the socio-cultural and family profiles, in relation to the previous period

Socio-political Situation:

- reactivation of the Institutions of the Government of Honduras and presence of some NGO's such as:
 - Christian Development Commission (CCD) and Mennonite Social Action Commission (CASM), located in San Juan Guanta-Napulaca and La Virtud, respectively.
 - the Government emits a new "Municipality Law" with the purpose of promoting local and municipal development
 - end of the Civil War in the Republic of El Salvador, with the signing of the Peace Agreements in the UN on January 1st, 1992
 - ruling of The Hague's International Court on September 11, 1992 about the Border Delimitation between Honduras and El Salvador, which allows for the recovery of Bolsón de Sazalapa into the Municipality of La Virtud and the opening to a potential commerce between the two countries
 - there are no substantial changes in the socio-political situation of the area
- On September 26, 1991 the Agreement between FAO, the Government of Honduras and the Government of the Netherlands was signed for executing the Project of "Preparatory Assistance for the Rural Development of Lempira" GCP/HON/016/NET, which ended on September 1993 and was prolonged until October 1994

This period is associated to a **Recovery Stage**, whose purpose was to orient and mobilize the population towards the management and conservation of their natural resources.

◇ **Third period**

The efforts started and the goals obtained in the previous stages have allowed the establishment of the bases for an orientation towards the implementation of technical mechanisms and methodologies which comply with the requirements for sustainable development. Even though there is still much to be done, the institutional networks and the target population have knitted a model which is now in function and which has received numerous testimonies of its efficiency.

Having been concluded the Preparatory Phase and according to its results, the first proposal for "Rural Development of the South of Lempira" was designed for the area, with which emerges the GCP/HON/018/NET Project which will go on for 4 years, from 1994 to 1998.

This phase can be summarized as follows:

State of the Natural Resources and Productive Systems:

- planned intervention of the producers (men and women) begins, in their farms and homes, with support from the PROLESUR, with regards to the use, management and protection of the soil, forest and water
- transfer and adoption of a technological package, with low external supplies, oriented towards improving production and productivity on hillsides and conservation of natural resources:
- no burning; cover soil with stubble for increasing the sponge effect; allow the re-growth of trees to cover up to 30% of the land (agroforestry); better separation of the crops; level curves; rational use of fertilizers and organic matter; Integrated Plague Management; live barriers; *silvopastoral* systems (grass - trees); micro-basin management; free-pollinating varieties of corn and beans and artisan seeds; use of water for human consumption, micro-irrigation and energy.
- fulfillment of a Strategic Work Plan with productive leaders, in order to guarantee the diffusion of a validated technological package in the communities
- period of return from the drought and flooding process (Hurricane Mitch), with little damage to the production, as a result of the adoption of the technological package, which minimizes the agro-ecological risk in the area
- availability of basic grains and vegetables produced in family gardens; resurgence of an ample stratus of producers with exceeding for the market

Population situation:

- participation of the population (91 communities and 18 municipalities) in the execution of Plans of Action, in order to put the development proposals into action in the farms, homes and micro-basin.

- creation of Integration Organizations and of Second Degree, of producers, artisans and communities
- development of an Independent System for Savings and Rural Credit: Community banks, Rotary Community-Cooperative Funds
- integration of mechanisms of community participation such as Community Development Councils (CODECO)
- emergence of a generation of leaders (men and women), administrating economic, political, productive and social processes

Socio-political situation:

- encouragement of a dynamic for inter-institutional coordination, for the integration of support networks in the area through the management of complimentary projects
- human resources in the area trained in the execution of actions related to the use, management and conservation of natural resources
- true presence of the Central Government in the area, having an impact on the improvement of basic infrastructure: roads, electric energy, telephones, education, among the most important ones
- strengthening of the management profile of the municipalities, developing the Municipal and Community Planning approach, as components of Local Development
- identification of the potential of local and regional markets and of exchange with the Republic of El Salvador
- PROLESUR at the national level as Alternative Model for Rural Development in the Hillsides of Honduras, as strategy for diminishing the country's environmental vulnerability, stopping migration and preventing natural disasters

This stage resembles a **Development** Phase and it allows for the support and integration of a program oriented towards risk management as a component within the mosaic of actions already established.

As a test to this complex construction work, in 1998 takes place one of the most internationally publicized events in the history of Honduras, with the passing through of Hurricane Mitch which leaves behind loss and incalculable scars to human lives, infrastructure and productive capacity. In Lempira, this event is no more than a warning sign, without any other consequences. But the trauma produced goes beyond what is visible and the psychological strike that is produced within the population. It can be considered the starting point of reflection which questions the reasons for a phenomenon of such magnitude and its consequences. Hurricanes are common from the Caribbean to the north of the USA. However, the world is becoming conscious of the greenhouse effect which is produced by exploitation and indiscriminate use of the planet's resources, and nobody knows yet which symptoms are produced by which consequence, but that global warming is reserving unknown surprises for us. And Mitch, without being able to be proven, could be a sign of nature's reaction in trying to reach some balance or the consequence of a slow process which starts to heavily affect the natural balance and, therefore, the possibilities of survival of the most fragile living beings. We do not intend to go into detail but to show the relation of this event within a context of the occurrence of natural phenomena whose effects lead to situations which

expose more and more the most vulnerable poor populations to critical situations which may become irreversible if adequate measures are not taken.

3. INTERPRETATION OF THE POLL RESULTS AND LESSONS LEARNED FROM THE CASE

Conceptual frame

The notion of risks focused towards the occurrence of a disaster finds its way into the Honduran context due to the tracks left behind by Hurricane Mitch. The unpredictability of such a phenomenon searches for marks in the cycle of a periodicity which is relatively random. However, year after year other natural phenomena of less intensity (drought, floods, involuntary fires, climatic changes, etc.) have left behind experiences and major damage without there having been taken any special measures for it.

Precisely, the area of Lempira Sur, studied from an approach of risk management and prevention/mitigation of disasters is a case of recurring risk and accentuation of vulnerability due to: long periods of drought, followed by strong rains which produce floods and: occurrence of frequent tremors due to the proximity to the volcanic mountain chain that crosses Central America. The reference to Hurricane Mitch has proven to be secondary within the poll for not having hit the area directly, but it has served as point of reference to reveal the true nature of the risks faced by the communities, and to evaluate the measures of global management taken.

It must also be pointed out that in the majority of cases, phenomena such as hurricanes of such magnitude do not leave any other possibilities for effective response in the places where it has expressed all its force, than to evacuate or leave it to luck during the passing through, and trying to rebuild rather than rehabilitate later. Less affected areas do not suffer more than the usual (from torrential rains to minor damages, strengthening the possibilities for floods) and, therefore, the study allows us to come close to the concept of latent and/or recurring risks which can generate disasters in the short or long term, whatever its nature may be, and to the measures and strategies designed or to be designed in order not to annihilate the efforts taken on the way to a sustainable development.

Frame of Reference

The subject cannot be discussed without referring to the impact caused by the Lempira Sur Project.

The teachings, lessons learned, experiences and consequences of this fifteen-year operation oriented towards a sustainable approach, have left behind deep changes in all the aspects of rural life in the area.

At the human level: Improvement of the home strategies of family units for getting involved in productive, reproductive, commercial and capitalization systems, new or updated. Integration of women in formation, reflection and decision; facilitation of

mechanisms, strategies and work methodologies which allow for an equal participation of the sexes in all development actions. Evaluation of youth potential and its involvement in educational processes oriented towards the future of the region.

At the community level: implementation of community experiences for the recovery of natural resources. Experiences from auto-administrated organizations with strengthened business capacities. Facilitated access of the target population to institutions and human development projects.

At the municipal and community level: Organizational and capacity building processes for self-management proposals.

There are no programs or specific strategies for the management of disasters; however, we can establish direct links between the guidelines corresponding to the organizational architecture of such program or strategy and the great lines of work promoted by the PLS.

- Management of Natural Resources;
- Organization and creation of base organizations, governance systems;
- participatory planning and methodological approaches system guiding the actions of the different components which act as transversal axes, in the frame of the Project's relations: target population, PLS, private and State institutions and organizations.

Mitch, in this case, is no more than the starting point of this research. The area under study has not been directly exposed to its effects, nor has it suffered any relevant consequences. Seen from the actions illustrated in the graph of the proposed cycle of Management of Disasters, we move on towards the situation of the area which places it as an area victim of the consequences of a long lasting process of maturity. Therefore we compare this configuration to a situation of disaster and the answers provided to a process of risk management.

Following we will approach the different response phases provided according to the angle of the lessons learned in the three major categories defined, such as:

3.1 Pre-Emergency Phase

3.1.1 Prevention

Management of the Natural Resources

The initiatives for development adopted from the second half of the 1980's in the area of Lempira Sur, have permitted the intervention of this resource in order to limit the effects of recurring droughts that hit the region. These measures act in synergy at the Prevention level as well as at the level of Mitigation: abandonment of obsolete low-production farming techniques (cut and burn, migratory agriculture for the production of basic grains and extensive cattle-raising).

As a response to these systems' low production, the use of agrochemicals was introduced some 20 years ago, in a process known as the green revolution.

However, the use of agrochemicals has not only favored the inequity between the rich and the poor populations, but it has also accelerated the degradation of the natural resources in places where the agrochemicals have been applied without considering their impact on the environment. Especially in fragile areas such as hillsides, the use of agrochemicals has had a negative impact, since their lengthy use without combining them with conservation practices, exhausts the land in an accelerated way with such effects as erosion and pollution.

Therefore, the use of agrochemicals may have intensified the crisis, due to the deterioration of the natural resources and to the further indebtedness of the poor population because the production of basic grains went down and was unable to cover the costs of the supplies.

As a result, the south of Lempira has been one of the most affected areas in this crisis, producing, as a result, a situation of emergency by the end of the 1980's. Soils were deficient, crops scarce, erosion and drought were frequent due to the cut and burn system which forced the peasants to find and clear new plots of land regularly (FAO, 2000).

During the last decade, many peasant organizations and institutions have searched for alternative production methods which would be more adequate for the local socioeconomic and biophysical characteristics. This way, a great amount of knowledge has been generated by producers and institutions, which has allowed the development of agro-ecological practices which offer profitable and sustainable alternatives to the poor rural families. Nowadays, the population has been able to overcome the situation of emergency. They are producing a surplus of corn and the natural resources are in a recovery process.

Early Warning

The interviewed community and the area in general lack an Early Warning System as a general communications system, and they are aware of the need to have radio equipment because of the geographical isolation which they have been through, becoming isolated from Honduras whenever the road is ruined. During such times, the only possibility for communication is with El Salvador, which does not leave much room for immediate intervention, if necessary in case of disaster, on the part of the local or national government authorities.

There does not seem to exist, however, a collective memory regarding priority or interrelated areas (particularly vulnerable) in the case of a major event.

Perception of Risk/Disaster

The consciousness of vulnerability is focused mainly towards phenomena other than hurricanes. In the community of Agua Caliente there is no memory of severe damage having been caused by this type of event. However, earthquakes and drought are part of the local learning culture about given responses (El Salvador earthquake in November 2001, 1987-1999 drought). The earthquake strikes have taught how to improve structures and infrastructure (homes, retention works, roads) but are still the object of worries.

The areas of Health and Education, for their lack of attention or development, are also considered risk factors at the level of consolidation of the current development program.

3.1.2 Mitigation Strategies

Families which adopted the Quesungual System say that an important advantage of this system is the stability of production: there is harvest during dry years as well as during rainy years. Families feel they have been able to improve their quality of life during the last years, not only because their incomes have increased and the family diet and food security has improved, but also because the changes in production and the management of natural resources has lead them through an organizational process which has allowed them to increase their self-esteem and their managerial capacities.

However, the system tends to be adopted in areas with a relatively high population density because those who have changed their production system have done so because “there was no more new land to burn”, which means that population density has been a key factor in promoting the development of this system. We would still have to look into promoting such system in areas of lower human pressure which could create resistance, emphasizing on the comparative advantages of this system compared to the traditional use of the sources of income, and training those populations so they can sign up for the spiral of activities linked to disasters, therefore reducing vulnerability; otherwise, an acceleration of this parameter could be produced (see risk evacuation).

Several projects and NGO's in the area have emphasized on organizational community development, a process which has been focused towards several subjects such as the exchange of results of farm validations, the creation of community banks and the development of entrepreneurial activities. During the course of time, second degree organizations were created, where producers of a certain type or cooperatives were organized at the municipal level, for example a cooperative which functions as second-degree bank for community banks.

“Once the local organizations had been consolidated, a process of decentralization was begun through the creation of the so-called Community Development Committees (CODECO) and the Municipal Development Committees (CODEM). CODECO's bring together local leaders and representatives of local entities for dealing with and analyzing the problems and needs of the community or village, and for making proposals and requests in order to respond to the situation of the local demand. The proposals and

requests must be taken into consideration by the municipal authorities and institutions” (Kortekaas, 2000).

At the municipal level, CODEM, bringing together the local representatives, plays an important role in making sure that their proposals are taken into account. Through the creation of these figures, the **social capital**¹ in the area has been strengthened, which has without doubt, played an important role in the process of development of the south of Lempira.

“The main advantages of the development of social capital, identified in the literature, are risk management, social welfare, reduced cost of transactions, the possibility to negotiate better prices for rural products, better capacity for innovation through the exchange of knowledge and more influence on policy and legislature” (DFID, 2000; Durston, 2000; World Bank, 2001).

These advantages have also been identified and mentioned by the members of the local organizations in Lempira.

Most of the variables which have a relation with the organization are the same variables that are related to the Quesungual System.

In synthesis, organized families live in the most populated areas, make greater use of the Quesungual System, have more dynamic production systems and make more frequent use of credit. They also have more livestock, which could be the result of the savings made through the changes in production.

Another positive factor in the triangular relation between sustainable practices, local organization and the strength of community banks is **social cohesion** in the heart of the communities. Nowadays burning is perceived as a harmful and forbidden practice and, in the majority of community banks, the producers who burn do not have access to credit, a rule that is applied as a sanction to these producers.

In this way, through the simultaneous development of alternatives for production, local organization and the creation of community banks, all of these with a participatory approach, a synergy has been created between the actions, where the development of an element strengthens the other and vice versa.

These lessons are key at different levels of the implementation of the disaster management strategy, and they can find pertinent relations in the definitions and applications of their set up.

3.1.3 Degree of Preparation

¹Social capital refers to the relation of trust and reciprocity between family, friends, groups or networks and norms, common rules and sanctions. It manifests itself in associations such as religious groups, producer associations, groups of use of resources, financial service groups, political parties, among others (DFID, 2000).

Even though the community had not been specifically prepared for an event such as Mitch, we must take into consideration the fact that it had acquired a capacity for response thanks to its involvement in a process which promoted emergency plans at a regional level up to its participation.

Capitalization of this experience is now a lesson learned, and today it is part of the community's argumentation in regards to the evaluation of its degree of preparation.

It is important to be aware of this in order to conceptualize these initiatives and attitudes so they can benefit the community itself in case of unexpected events. It could be a starting point between "we remember Mitch, we learned from the drought and scourges which hit us and that way we expand our knowledge in order to prevent and face any other adversity."

3.2 Emergency Phase

3.2.1 Immediate response

Immediate response contemplates a surprise event more than a long-lasting one. In the case of Mitch, the community waited until they realized they had not been the victim of a disaster. It reacted in the most civilized and humanitarian way. However, it has not created specific mechanisms for forecasting and preparing for such events, which could produce disadvantageous situations and constitute its "Achilles' tendon". CODECO and the churches have been in charge of coordinating actions and they have acquired an experience which must at least be considered under a contingency plan.

3.2.2 Evacuation, refugee camps and logistics

The possibility of evacuating is out of the question in the community of Agua Caliente, and we have not gone deeper into this subject in this paper.

However, being part of the selection of possible responses, it must be discussed when the methodology and logistics guides which refer to emergency situations and actions to be taken are created.

We can trust that the community will find the human resources and technical means necessary for putting this possibility to action if it is needed.

Collective, cultural or social infrastructure complies with the minimum requirements for housing refugee populations during a short period of time. There is no specific infrastructure for longer terms and it does not seem necessary. However, as in the previous case, we can count on the community's organizational resources for facing the problem and solving it.

The possibility of earthquakes in this area and of strong floods in the region's western area are risk factors which increase vulnerability.

Organizations specializing in interventions which surpass the community's capacity for reaction are references for studying responses and managing certain aspects of these traumatic situations (heaping, hygiene, epidemic, field hospital, supply centers, dining rooms, distribution areas, resting areas, attention areas, communication centers, census offices, morgues, etc.)

3.2.3 Budget prevention

The experience acquired in fund administration and management, savings banks, loans, etc. favor the possibility of receiving special funds through the management of an emergency commission.

Local Self-administrated Financial System (SIFAL)

- A training and awareness process of the organizations has been developed for the creation of a savings culture.
- An alternative rural credit system is in operation in the communities. It gives support for the agricultural processes of small and medium producers, functioning as community banks and cooperatives.
- Local and regional cooperatives offer cash and credit management services, administrating trust funds destined for development.
- As well as the Rio Grande Ltd. Cooperative, other cooperatives have begun operations in the area, such as La Cooperativa de Ahorro y Crédito Bienestar de Lempira (COACREBIL) in Candelaria and the Cooperativa Mixta del Sur de Lempira (COMLESUL) which opened their service window in the Municipality of Mapulaca.
- In 67 of the 89 communities served there is a community bank which offers savings and credit services, which, in average, have increased their capital by more than 100%.
- An easy to adopt methodology has been validated for the constitution and operation of Community Banks.
- The experience of the Community Banks has proven to be an opportunity for the women to satisfy their practical needs and communities perceive them as businesspersons, which places them in a strategic position.

3.2.4 Food and seed reserve

The community's production dynamic is focused towards a strategy of a reserve of basic grains. It has already worked, exceeding and abusing that for which it had been foreseen.

The existence of canning factories in the area can improve food security in case of a long term event.

The surplus obtained from an integrated process for improvement of life conditions could also serve as a starting point for promoting the modernization of the transformation of the sources of food (drying and salting of meat, fermentation, distillation and conservation of fruit, production of long-life milk products, cooked or matured) which could improve the population's diet culture and diminish malnutrition in

a global approach to health and well-being. It also represents innovative elements for marketing.

3.3 Post-Emergency Phase

3.3.1 Local initiatives for the organization of responses

The level of consciousness and involvement of the community in its organization and capacity for material and financial response coming out of the hurricane of 1998 or at the hardest part of the effects from repeated drought, create knowledge that can produce a “reflexology” from the families, in adopting the best measures in an approved and organized manner.

The tactical links surface naturally from knowledge and the relationship with the other, also from the established trust. The Mitch experience reveals such capacity for initiative from the donors (producers) to the delivery of the donations (humanitarian corridors organized by CODECO, the church, local cooperation and government organizations).

The attribution of specific duties to trained personnel responsible for promoting contingency plans within an organization such as a committee or coordinator, helped to increase capacities and, therefore, local initiatives for the organization and the control of the most appropriate and feasible responses. COPECO’s strategic role in this initiative must also be pointed out.

3.3.2 Rehabilitation

This community has experienced a long term process of rehabilitation which has already been extensively stated. The occurrence of Mitch did not have any other repercussions on the need to begin such actions at a structural level.

The recovery of trust, self-esteem and the capacity to take charge of their own destiny has been a key factor for a real rehabilitation of the surroundings and the population.

Democratization and decentralization of power without a doubt are part of a long rehabilitation process which we have yet to know if it has been concluded. We must trust the nations’ policies and the policies of the creditors so this process can take place in a long-lasting manner.

3.3.3 Development

A system known as “Quesungual” was diffused throughout the area. It is an agroforestry system which has been developed based on local knowledge and is currently being improved with the integration and exchange from the technological offer of the institutions present in the area.

The system is mainly characterized by a combination of basic grains (corn, *maicillo* and beans) sown directly on stubble, and dispersed trees lopped at the beginning of the harvest. This system has evolved from the burning system.

Table 1. Characteristics by Production System

Production System	Cut and burn	Cut and burn combined with agrochemicals	When they stopped burning	Quesungual
Predominant how many years ago:	15-30	10-15	5-10	0-5
Burning	yes	yes	no	no
Vegetation coverage	little	little	more	much
Fertilizers	no	many	many	fewer
Herbicides	no	yes	yes	fewer
Trees	few	fewer	recovery	more
Erosion	much	much	less	little
Production	very little	little	more	more
Labor requirements	much	less	like cut and burn with chemicals	less
Plot of land's life span (in years)	1-2	2-3	4-6	10>

Source: Deugd (2000) database, burn with chemicals

Aside from the economic advantages, the system also has important environmental advantages.

The shade of the trees and the placing of dead leaves on the ground reduce evaporation during the critical periods, which is particularly important in the hottest area located beneath 500 m.a.s.l.; this has influenced the rapid diffusion of the system in this area. In these areas there are trees and shrubs which produce shade and wood.

The system's trees, in the coolest and cloudiest areas, are spread apart, are less dense and, therefore, the producers choose trees which produce less shade and a better quality of wood.

The objective of each family is to find the right mix of trees and to try to deal with the biological complexity in order to obtain the most benefits from constant experimentation.

When comparing the nutrients, it is evident that the Quesungual System is characterized by lower rates of erosion, volatility and *lixiviación*, due to the improvement of the vegetation cover, the lack of farming, the increase in biomass from the roots, the variation in the soil's porosity and the absence of burning. The vegetation cover on the hillside is an essential element in the management of resources at the level of the micro-basin and the control of the hydraulic cycles.

Producers identify the retention of humidity in the soil and the shade as the system's most important advantages because this improves the system's stability: during dry periods water is stored and during periods of excess rain the water is better infiltrated, and this way the vulnerability to natural disasters is reduced. Additionally, the system produces some part of the family's need for wood and, in this way, it reduces the pressure on the micro-basin's natural vegetation.

To summarize, the transition towards this agroforestry system is related to the rational use of scarce resources: **land** (less is needed because production can take place in the same plot of land), **labor and capital** (less is needed) and **water** which is better preserved.

Conclusion

The presence of a project such as that of Lempira Sur favors the "rescue" of a vulnerable region in danger.

The poll brings to light its crucial importance.

The appearance of a development program in the area has brought out and strengthened human capacities in order to face the prevailing situation. From the beginning, with the appearance of base organizations in charge of unifying and diffusing criteria and providing answers in the short or long term.

From the beginning there has been an attempt to involve the community in solving their problems in a participatory way. The coming together of two paradigms of very different contents, one for the need to survive, the other for the will to preserve and develop, has permitted a dynamic of improvement which allows the growth of concepts which previously were considered to be improbable: gathering and organization of the population, collective reflection and decision making, representation and transparency of the policies followed, etc. (democratization and decentralization).

However, there does not exist a model for this subject, therefore we can consider these answers as new ones and that the capacities of integrating local perspectives in policies and the process of rural planning must be an object of great attention by their promoters. There is fragility.

Example: Mitch's impact has allowed this community, which has not suffered all that much, to donate and deliver food to other victim communities thanks to the PLS's coordination and logistics. This experience is highly indicative of the degree of consciousness and the level of organization which the community has been able to achieve - external requests in very little time. It has allowed the community to respond, within a situation of risk, to even greater foreign needs. Even though it can take on a symbolic aspect (see the quantities delivered in comparison to the needs and the help organizations), it reflects a capacity for response which crystallizes the organizational

efforts and the capacity to intervene during an event that is unforeseen at the time of its occurrence, but “foreseen” in regards to the measures taken with respect to other phenomena (drought).

We can say that the experience acquired and the knowledge of the causes of these critical situations has remained as faculties to be applied in their best way at the passing through of Mitch.

This cannot hide the fragility of a process which begins with the appearance of community structures which slowly take the place of the traditional ways of communication and decision of the old oligarchies, or shake the bases of supportive and partisan policies.

It is necessary to continue to promote this culture, to cleanse it and capitalize it in order to plant a consciousness of self-management on firm bases, such as land tenure, fair pay for its product and reaching external markets, a modernization and adequacy of schools, a dynamic of training and formation for the producers and their families, etc. The PLS has raised this problem, the current FAO-Governance project is responsible for solving it.

On the other part, the society's democratization forces central governments to take into consideration those communities which have been left behind.

This consciousness must be deeply analyzed in practice. From inside, the proposed society project must be analyzed. In practice, it must be analyzed for a transfer of knowledge, technology, etc.

The area of Nocalempa of Lempira is going through a transition period, whose incidence has been induced by the work done by external development projects. As to the particular aspect of disaster management, we could think that the passing through of the hurricane in 1998 has been able to raise more initiatives and is proof that planned response mechanisms can be implemented.

The community under study, because of its sensibility to natural events, still integrates disaster management as a “marginal” component of their immediate worries, even though it is immersed in a recovery situation (once again there intervenes the need for defining the notion of disaster: frequency, intensity, length, nature and origin), and tends to go to support organizations for adopting specific strategies. Helping other communities in need during Mitch was more an interim solution than a planned one. Food reserves correspond to the need to put up with a dry season and to marketing difficulties due to their isolation.

However, we can say that the improvements in cultural practices provided by the PLS have permitted a decrease in the region's vulnerability. “It is estimated that Hurricane Mitch's impact in the region was not strong thanks to the crop systems and the achieved growth of vegetation. In addition, it was the only area which had a food surplus, which

allowed the support of other communities in disgrace”. (Instituto Nacional de Ecología, Mexico).

Even though it does not have clearly defined strategies, the community integrates risk as a component of their condition of existence in the field and it values it in their search for improving the MRN thanks to the support from the PLS. The objective of such project is that:

“At its conclusion, the community of the south of Lempira will be in a true process to improve the sustainability of the technological innovations introduced in their production systems which is allowing them to improve production, transformation and marketing of the food, revert the process of destruction of their natural resources, guaranteeing their management and rational use in a long-lasting manner, and improving their quality of life, in accordance to the government’s objectives of food security, and based on the consolidation of their base organizations and second-level organizations which are giving life to a process of municipalization of the access to basic services.” (Lempira Sur Project Progress Report GCP/HON/021/NETFAO)

The main lessons learned in regards to the management and administration of risks, can be divided in three groups.

1. The changes experienced by the scenery and the adaptation and provisions they imply.
2. The probability of immediate long-term benefits and the perspectives and advantages that are offered by the community’s self-managed organization.
3. The faculty of being able to improve the population’s life situation thanks to training and to external support such as PLS.

However, it must be pointed out that there is an absence of a specific strategy in regards to the integrated management of the risks that could be produced by a sudden event. The community confers this responsibility to COPECO and trusts CODECO’s good administration. It is still necessary to build the instruments which will guarantee their abilities in this subject.

4. ANALYTICAL SYNTHESIS OF THE CASE OF AGUA CALIENTE/LEMPIRA SUR

This chapter presents a summary of the case of Agua Caliente in the southern part of the Department of Lempira, incorporating additional elements based on the region’s broader experience and knowledge on the subject of Local Risk Management.

Just as in the case of El Naranjal on the country’s north coast, we start from the risk equation (Risk = Vulnerability X Probability of the event) in order to analyze the nature and frequency of the phenomena to which the area is exposed, and the different components of vulnerability in facing these phenomena in order to categorize the risks to which rural communities such as Agua Caliente are exposed.

The characteristics of the different natural phenomena that impact this area are summarized as follows:

- The area has a history of recurring droughts which strongly hit the region's economy until a period of recovery was started with support from the Lempira Sur project.
- The droughts related to the passing through of hurricanes such as Mitch or others of less magnitude have a very low frequency and can be categorized as exceptional.
- The area is subject to occasional earthquakes but this subject has not been included in this analysis.

The dominant element in the area's risk equation is related to drought and, in a more marginal way, to floods and other natural phenomena.

However, the analysis about what took place after hurricane Mitch allows us to evaluate how the local development process initiated due to the drought of 15 years before, has left behind conditions which influence the area's risk equation and prepare it for facing exceptional events such as Mitch.

The risk equation in the area of Lempira Sur:

Such equation is analyzed for the following aspects:

- biogeographical aspect
- socio-economical aspect
- organizational and institutional aspect

Biogeographical aspect:

There have been changes in the biogeographical conditions of the area which affect the risk equation, and which are shortly analyzed ahead:

- The main factor of change is the evolution of the vegetation cover: due to the widespread use of the Quesungual System (traditional agroforestry system which incorporates trees into the production cycle), we can observe a true change in scenery in many parts of the South of Lempira. In addition, the number of water-producing micro-basins under community management has increased. There is a new composition of the vegetation cover which allows for greater control of erosion and sedimentation and, more specifically, increases the soil's water reserve, limiting vulnerability to episodes of drought.

- However, there has been another phenomenon of overflowing of the waterways in many coastal communities of the western region - though in smaller scale in the northern part of the country - due to the erosion of higher basins, partially attributed to Mitch, and which also increases the probability that the rivers will go out of their course.

- It can be concluded that, on the one hand, vulnerability to drought has decreased, but that a factor of increased vulnerability to floods is appearing.

Socioeconomic aspect:

In the socio-economic aspect, there were changes in the area which contribute to reduce the vulnerability in the face of climate events:

- Most of the rural communities in the area are ancient communities where there is a collective memory of previous disasters, mainly drought. Most of the population comes from the area and social cohesion is high due to the life experience of the members of the communities and to the existence of a shared vision of development (participatory organizational and planning processes promoted by PLS).
- The evolution of the systems of production, the diversification and creation of added value and the process of capitalization at the level of the family units, the spreading out of local financial systems means there is a greater food and cash supply at the time of an emergency, of whatever nature it may be.
- The efforts of management of the natural resources in the area on the part of the communities are not restricted to the use and protection of the micro-basin which provides water for the community. The efforts for natural resource management went beyond the micro-basins, based on the family unit and a transformation of the production systems, and lead to the new composition of whole plots of scenery and an increase in the permanent vegetation cover.

Organizational and institutional aspect (governability):

It is, without a doubt, in the aspect of governability, that a series of factors can be identified, which contributed to reduce the levels of vulnerability in the face of adverse natural events and to substantially modify the risk equation:

- The appearance of an effective governability on the territory and its natural resources

The degree of control of State institutions on the processes that degrade the natural resources is still very low, as it is in the rest of the national territory.

However, the municipalities have consolidated capacities, human as well as financial, so that the State may be substituted in this field and they have developed administrative capacities along the municipal chain of governability.

- The transformation of the traditional model of community organization: transition from the Board to CODECO

Though there are no local mechanisms and institutions specifically in charge of the management of risks - or they have not been diffused in an obvious way - at the community level there have been a series of deep changes in organizational structures.

The structure of the Board, traditional mechanism for institutionalizing the relations of favoritism that lead the political life, has evolved or it has been complemented by the creation of Community Development Committees (COPECO's) which constitute true

mechanisms for guaranteeing a participatory local governability and ensure a greater control of the local base of natural resources and local development processes. However, it must be underlined again that the issue of risk management has not been incorporated in a systematic or formal way into the new local structures.

- Gradual consolidation of the “municipal chain” based on a community ownership of local development processes

CODEM's (Municipal Development Committees) function in several municipalities; they make up a mechanism for the representation of the communities in municipal planning and administration issues.

“Functional municipal chains” have been consolidated in the area for linking: Family Unit x Community x Municipality x Associations and they allow the creation of an effective and democratic governability.

Even though the issue of risk management has not been formally integrated to the municipal chain, its existence and functional character opens up the doors for integration in an organic and sustainable way (and not based on ad-hoc mechanisms).

Emphasis on the root of the problem, but...the lack of specific local policies in risk management

In the case of Lempira Sur, it is obvious that the emphasis of the transformation process is on the causes-root, of a structural and non-structural nature, of the vulnerability to drought.

However, there are no specific approaches for the “management of emergencies or disasters”, and neither has there been an integration of a broader concept of risk management on the frame of local or regional development policy implemented more than 10 years ago.

Beyond drought: other new and old “natural risks”

The incidence of drought is still the main factor of risk affecting the area, though nowadays there is greater control of this risk. However, there are other risks related, for example, to floods, landslides or earthquakes, and these should be incorporated within a more integral vision or concept of the local risk management.

Aspects regarding the cycle or spiral of disaster

Regarding the cycle of disasters proposed in the terms of reference, it can be said from the Lempira Sur experience that the process of local development started in response to the drought of more than 10 years ago has included almost all of the phases or stages of the cycle related to the problem of the drought. Having completed this cycle (or a greater part of it), the communities are nowadays better prepared to handle unforeseen events such as Mitch. At the same time, incorporating potential associated risks to

floods and earthquakes should allow these communities to start a new cycle of preparation and prevention which includes measures not yet contemplated in the frame of the drought mitigation (SAT, refuges, evacuation plans, etc.) as well as the development of specific institutional mechanisms for risk management.

Regarding the spiral of disasters, the Lempira Sur experience due to the drought, leads us to formulate two questions which could contribute in generating a debate which we find very interesting:

- a) Could it be that it is necessary to go down the spiral first in order to start reverting the movement?
- b) Is it possible that a critical point must be reached before the conditions necessary for change are created?

Aspects regarding the control over the risk equation in the area (in the face of drought)

The risk equation in the area, though centered on drought, is changeable and could be subject to a more integral analysis on the part of the local actors and accompanying institutions.

The control over the risk equation related to the problem of drought in the area, appears to be real and its ownership on the part of the communities, municipalities, associations and institutions of a higher level, has created the conditions for formulating and implementing broader strategies for the local management of risks.

D. COMPARATIVE ANALYSIS, CONCLUSIONS AND GENERAL RECOMMENDATIONS

1. COMPARATIVE ANALYSIS BETWEEN THE TWO COMMUNITIES AND CONTEXTS

Polling instruments have been applied in the two selected communities. It is clear that the dimension of the questionnaire and the answers received reflect a reality whose universe expands beyond the limits of the investigated communities, that is to the territorial unit where they are located and where they act (biogeographical, cultural, socioeconomic and institutional frames; the extension of the problem under study).

It is suggested that the only way to face risk management strategies is that it be linked to an integrated development dynamic which begins with the possibility of improving traditional life conditions, continues with a change of mentality and ends with a project for sustainable development for all the area considered as human unit.

We can then establish elements for comparison and extract relevant characteristics which will allow us to come close to a better understanding of how the occurrence of phenomena that can lead to a disaster is perceived, what tactics or strategies have been

implemented and how these can be integrated and strengthened within the global development management plan by the community itself, by the base organizations which represent it and by the higher level institutions which support its initiatives.

The following table shows comparative elements of these two universes; previous or consequent to the passing of Mitch for the first one, consequent to the disaggregation of the environmental and social network for the second one:

Components	Phase within the disaster management cycle	MAMUCA	MOCALEMPA	Notes
Nature and incidence of natural phenomena	Impact of the disaster	Hurricane, floods producing devastation of low lands. Short, recurring processes with agricultural recovery depending on risk reduction strategy.	Drought, floods, forest fires, earthquakes, producing erosion, loss of vegetation and rural exodus. Long-lasting processes which induce deep agro-ecological changes.	
Instrumentation	Disaster management	CODEM > CODEL: Organization for handling disasters specifically during time of emergency.	CODECO: Organization for community management not focusing specifically on this subject.	
Local reorganization	Emergency Answer and Recovery Phase	Formulation of municipal and community emergency plans and disaster management phase.	Reorganization of the structures and strategies for the different communities (amplified CODEM), electrification, road maintenance, telephones.	In MAMUCA: limited to emergency phase
Rural development	Recovery and Prevention, Mitigation	Micro-basin management and protection and forest management plans	New soil management technologies, hillside agriculture, irrigation, ...	
Local governments	Recovery, development	Creation of CODECO's. Incorporation of community organizations for the creation of CODECO's	Promotion of the population's active and organized participation in strengthening all forms of Local Government, with full awareness of its	CODECO's were not implemented in MAMUCA:

			potential and responsibilities in a frame of participation and democracy, in order to guide their own development.	
Sustainable development	Development	Municipal integration into the community's strategic plan (MAMUCA). Creation of municipal and local organizations to answer to emergency situations.	Society in the South of Lempira undergoes Process of improvement of life conditions and natural resources in a sustainable way.	
Methodological approaches	Development	<ul style="list-style-type: none"> - Participatory governability in the frame of decentralization - Social and economic development to reduce poverty - Environment and participatory and sustainable management of natural resources - Infrastructure and road and railway management 	<ul style="list-style-type: none"> - Technological transfer - Sustainable development - Gender - Participation, management and consensus - Human resource formation: target population, PLS technician, NGO technician, area technician - Administrative policy 	
Family units	Development, Risk reduction	Women integration in diversification and productive modernization work	Process of improvement of home strategy and their production systems, reproduction, marketing and capitalization	
Organizational methodology	Recovery, rehabilitation	Community Planning Process (promoted by GTZ) with community leaders	Investment on long-term cultural change of the target population. Base Participatory Planning Process. (Adoption by technical personnel of the PLS, by the organized population, as well	Descending verticalization in the 1st case. Ascending in the 2nd.

			as by NGO's and municipalities)	
Base organizations	Development, Preparation level	Boards, Water Board, Parents' Association, producers' group, churches, teachers and others	Multisectorial stratification	
Natural resource management	Prevention, Mitigation	Micro-basin's healing process with ample community participation	Community experiences for recovery of NR. Water balance improvement, changes in traditional harvest management (metallic silo), family gardens, business planning of the farms	Water as main worry: control and management
Institutional culture	Recovery, Development	Inadequate identification of the demand, lack of organization of the supply which becomes an assisting help	Acquisition of organizational capacities after the first two stages of the PLS.	
Inter-institutional coordination with Central Government's support organizations (private and international)	Emergency phase, Level of Preparation Development	COPECO - CODER - CODEM - CODEL	Gives way to gathering of resources and breaking-up with the political and institutional isolation	MAMUCA: receives help from GTZ
Cooperation and Project agreement	Recovery	GTZ: PROMAMUCA Project due to Mitch	PLS/Government/Dutch Cooperation: as a response to the rural disaggregation produced by the drought. CCD, CASM, HERMANDAD, COCPRADIL, CARE, COHASA	Little community socialization in the 1st case. Community ownership in the 2nd.
Technological networks	Prevention and preparation level	SAT: Information transfer and communication network: - Supervision area - Control area - Response area	Strengthening, within the population, of the capacity for generating mechanisms and strategies which allow the setting	There is no specific alert mechanism in Lempira Sur.

			up of information and exchange networks (to access markets and the State, i.e.)	
Self-management financial aspect	Disaster management	Community fund: Water Board, Board, Rural Savings	Community Banks, Cooperativa de Ahorro y Crédito Bienestar de Lempira (COACREBIL), Cooperativa Mixta del Sur de Lempira (COMLESUL)	
New markets	Development, Some Prevention and Preparation components	Ecotourism, milk products, forest products (no timber)	Microbusiness for the transformation of sugar cane and milk products, for the commercialization of canned vegetables, dining rooms, agricultural and livestock surplus for their commercialization	Possibility of reducing the pressure on NR with the surplus. Reduction of vulnerability.
Challenges and Guidelines for the strengthening of the developed actions	Development strategies in the frame of the Disaster Management Cycle	Institutional strengthening Diversified projects Micro-basin management: Use, Management and Conservation of Natural Resources. Leader formation Inter-institutional Coordination Community Health Plans Biological corridor (PIVOTEX) Ecotourism Planning	Methodological approaches: Institutional Sustainability, Technology transfer and diffusion Food Security Use, management and conservation of natural resources Management, organization and leaders Business production and marketing Inter-institutional coordination Administrative aspects	

The perception of risk is very different in the two regions, and their adaptation responses have taken different paths. Additionally, the characteristics of their life conditions and their projections for the future are not seen in the same way.

- In the first case (case 1 = MAMUCA), the communities do not have a history which has formed a local social culture. The presence of banana companies near the coast has produced, for a while now, more activity in this area (Esparta), strengthened by the existence of a railway which links the North Zone to Puerto Cortés. With its disappearance, the social structure of this area has been abandoned (labor has turned into small farmers who do not own more than their house and a lot).

The center of activity moved a few kilometers towards the road inland at the foot of the mountain chain (North Zone's only way of communication), and the railway was abandoned (nowadays it looks like ruins).

With the arrival of new "Columbuses" attracted by the plains' agricultural potential, there is a mix of heterogeneous cultural communities: farmers from the area, new producers, laborers, traders.

As a result, the social organization shows certain characteristics of an urbanization process. Interests are different and of a "union" kind. However, interdependency is strong and, on this basis, links can be developed which could make suggestions to open the way for sustainable development projects.

The Water Board is an example which illustrates the collective need for taking care of the micro-basin. SAT is another example which brings together collective interests at the union level: farmers and cattle-raisers (administrators) are the ones who take care of the environment; the whole population benefits from it. In a certain way, this explains the greater visibility and unanimity towards these initiatives, as opposed to other suggestions of the agro-ecological kind which do not get much attention, availability and implication from the rest of the community.

All of the components of risk management (MRC, economic and commercial cultural development, institutional strengthening) must interact in synergy in order to implicate all the social spheres present. The potential for Ecotourism in the area could bring together community support for this subject, represented by group commissions.

- In the second case (case 2 = MOCALEMPA), due to the isolation, socioeconomic profile and the area's unattractive profile, we come across more tradition. However, poverty has not permitted the need for a strong culture.

The community's organization traits are the inheritance of a system which has been unable to follow the path of history, and reflect inter-individual survival capacities, even if they are artificially supported by external contributions (remittances).

Two decades ago, the area was drowning, split by the pressure on the environment, which causes internal divisions (who has been able to "prosper" with a few cattle heads and who has not), and the pressure from the environment itself, which tends to motivate exodus. PLS, seen as "the hand of God", then finds a crack adequate enough to straighten the situation.

To summarize, we can establish elements for comparison which cover territorial and biogeographical, socio-cultural and institutional aspects.

In case 1, the agricultural potential is good but subject to archetypes which do not correspond with reality (such reality has not been analyzed enough: anthropological and sociological aspects); the democratization process is not built with and from the base but is stuck at the leadership level. Institutions either apply methods or confront and/or adapt to situations for which they do not have the capacity to respond. The greatest effort to be made lies towards institutional organization, at community level as well as at the level of governability and external help.

In case 2, the agricultural potential is not favorable, but interventions are focused with more precision and facilities (more homogenous) towards the reality (pressure tongs). They come across a universe where people have nothing else to lose. However, it must be pointed out that the actions taken do not always manage to be developed with the expected magnitude, because they produce tail effects with their own presence or methodology, producing differences in participation (if anyone cannot play the role of productive leader, they risk getting left behind: problems with land access, local organization, population density and financial resources).

2. GENERAL CONCLUSIONS ABOUT THE CASE STUDY

The general conclusions of this case study go back to the three main questions presented in the Terms of Reference of this Document. These questions are answered in a concise way, based on the summary of the lessons learned by each community and their contexts, as well as on the comparative analysis of the two.

Before moving on to answer these questions, it must be said that some of these questions were slightly modified in order to more systematically distinguish: a) the problems of risk management, b) the problems of local risk management and c) the problems of local sustainable development. In addition, another question was added with regards to the role of international cooperation in the process, a fundamental aspect in the case of Honduras.

Finally, this chapter of conclusions begins with a question regarding the approach to be used: should we talk about disaster management or risk management? Isn't local risk management a key element of any process of local sustainable development?

2.1 The recommended approach

Disaster management or local risk management as part of a local sustainable development process?

One of the conclusions of this investigation is that the approach should change from a “disaster management” to a “local risk management” (GLR) and the following methodological observations are suggested:

- a) It is necessary to make a difference between “phenomenon” or “event” and “disaster”, since the occurrence of a phenomenon does not necessarily imply that a disaster will take place. Local risk management tries to prevent systematic disasters from happening whenever a phenomenon takes place and to strengthen the capacities of local governments and institutions in handling these risks.
- b) The introduction of the “risk equation” allows us to clarify and make a relation between the concepts of “risk”, “vulnerability” and “event” and helps to analyze the role of local institutions in the different variables of the risk equation.
- c) The analysis of vulnerability must consider multiple criteria (biogeographical, socio-cultural and institutional) and incorporate the temporary variable: a phenomenon which produces a disaster of large magnitude can contribute to raise the existing level of vulnerability: erosion of the river courses which makes them prone to overflowing due to moderate rains; disorganization of the local social or organizational network; focus of government efforts (central and local levels) on rehabilitation work therefore reducing institutional capacity for approaching the causes-roots of the risk equation.
- d) It is also believed that FAO’s “disaster spiral” should be compared to the risk equation: an ascending motion in the “local disaster spiral” corresponds to an increase of local control over the risk equation and a decrease in vulnerability.
- e) Finally, it is recommended that the Local Risk Management be an integrated part of a process of local sustainable development.

2.2 Capacities and potentialities of the local governments and institutions

Can local governments and/or other local organizations and institutions function as the main actors in the management of natural disasters, GLR and processes of local development?

Management of natural disasters:

It is precisely in the management of natural disasters, i.e. when the event has become a disaster, that the role of local governments and institutions as main actors is not so evident.

We have noticed that, as long as they are not “strongly hit”, rural communities like the ones under study have important capacities for response and are even capable of helping neighboring communities. However, experiences of other communities greatly affected by Mitch, have demonstrated that the capacity for response is limited in the face of a cataclysm. The same can be said for the municipal link, especially at the level of municipalities which make smaller contributions.

It is evident that the help of local governments, specialized institutions and international cooperation is fundamental during the emergency phase and later during the rehabilitation phase. The magnitude of the efforts that must be made usually surpasses the capacities of local response. It must be pointed out that this fact takes place in developing countries as well as in “developed” ones.

Local risk management:

However, in the processes of local risk management, local governments and institutions can have a main actor role, especially with regards to non-structured prevention and mitigation measures destined to lower the local levels of vulnerability.

As we have seen previously, it is basic that the efforts and mechanisms for local risk management throughout the chain of municipal governability, are included in the local organizational network and not simply in juxtaposition to existing local institutions.

Local development processes:

The achievements of the Lempira Sur project on the subject of local development illustrate the main role that can and should be played by the family units, community institutions and local governments. Some of the limitations observed in the country's northern zone illustrate, at the same time, that local development processes cannot succeed if they are not based on a strengthening and/or remodeling of traditional local institutionality.

It must be underlined that the fact of admitting that local institutions can and must play a role of main actor in several stages or key aspects related to the management of disasters, local risk management and local development, does not imply that they can or should do without the adequate collaboration from external institutions.

2.3 Comparative advantages of the governments and local institutions

Do local organizations and institutions have comparative advantages in the management of disasters, GLR and local development processes in relation to institutions of a higher level?

Local governments, organizations and institutions have obvious comparative advantages in the **management of natural disasters**, basically related to their capacity for immediate response, their proximity to the area of disaster and their knowledge of the local reality. But these comparative advantages diminish as the magnitude of the disaster increases.

In the subject of **local risk management**, the comparative advantages of local governments or institutions could be restricted by limitations of jurisdiction. There is little an isolated community or municipality can do to revert the process of degradation of the river basins in other municipalities or departments, even if they are directly affected

by them. The scheme of Groups of municipalities or Basin Management Commissions is an institutional mechanism that is relevant for increasing the reach of the jurisdiction of local governments or institutions. The same is true for **processes of local development**.

Do they have advantages based on the following criteria?:

a) Are they capable of integrating local perspectives in the policies and processes for rural planning and can they represent them?

The capacity for integrating perspectives requires first a capacity for collecting such perspectives and for formulating them and making them known so that they can be transmitted. In this sense, the capacities necessary must be divided into several categories:

Political capacity:

The local government's and institutions' political capacities are key in creating space for consultation, dialogue and civil participation which lead to the collection and formulation of the perspectives of the different sectors and actors of the local society. The experience gathered during Lempira Sur and the recent experience in MAMUCA, show that, through the work of systematic collaboration, these capacities can be substantially increased and the required civil participation mechanisms can be created.

Management capacity:

The management capacity of local governments in Honduras' rural areas is, generally, very limited and completely dependent on the Mayor's personal traits. The Groups of Municipalities scheme helps to increase the human capital available: the mayor who "does better" can represent the Group in key issues and a group of 6 mayors always has a better chance of being received by public dignitaries.

Technical-operational capacity:

The technical-operational capacity is also a limiting factor (writing of reports or proposals, transportation, etc.) for changing local perspectives into planning exercises of a higher level. Once again, the groups of communities which have a well-organized Intermunicipal Technical Unit have a better capacity for negotiating with the "higher spheres". Such units, when they have qualified professionals, can strengthen the local government's technical negotiation in addition to their capacity for political negotiation.

b) Are they a bridge of communication between the local and superior levels of policy formulation and can they promote reciprocal communication processes between these levels?

Traditionally the role of communication bridge between local and national in this country has been played by the representatives. Without going into a detailed analysis of the

political issues, it must only be said that within the traditional scheme, the representatives of the two leading political parties get “projects” from the central government’s line agencies for the mayors on their block.

Nowadays, organizations such as the Groups of Municipalities - frequently with the support of international cooperation agencies or organizations - tend to cut down the traditional channels of incidence and try to influence the central government directly. The MAMUCA and Lempira cases are typical of this new tendency.

c) Can they give support to and guide the implementation of activities for rural development at the local level?

In terms of support, the answer is obviously positive. Local governments and institutions have always played the role of “counterpart” to rural development projects, even if it was only for reasons of convenience or political correctness.

However, the local government’s and the local institutions’ capacity for guiding the implementation of rural development activities does not only depend on their intrinsic capacities which we have already discussed. In a large part it depends also on the external institutions’ intervention approach and on the donors’ disposition to integrate local recommendations. In the case of MAMUCA, the creation of a strategic development plan which has been presented before the central government and international cooperation has been instrumental in reinforcing this capacity of orientation and in achieving a growing participation in the orientation of external projects.

d) Can they motivate local participation?

Motivating local participation and being capable of transmitting local collaboration to higher levels requires the consolidation of a true “municipal chain of governability” from the family unit, passing by the community and reaching the municipal and intermunicipal levels. The goals achieved in Lempira several years ago, and the process begun in MAMUCA two years ago define clear guidelines for strengthening processes of democratic governability based on local models.

e) Can they handle, at the local level, the complete emergency cycle, particularly ensuring a better link between disaster prevention and rehabilitation activities based on proactive actions rather than re-active ones?

The Lempira Sur experience clearly demonstrates that several communities and local governments in the area have handled - with support from the FAO Lempira Sur project - a complete post-disaster rehabilitation process (drought) over a period of 10 to 15 years in the biogeographical, socioeconomic and institutional aspects, and that this same process has permitted the modification of the risk equation to progressively decrease vulnerability in the area to exceptional events such as Mitch (and also to the condition of drought that still persists).

Additionally, the more recent MAMUCA experience demonstrates that governments and local organizations can reach, in a relatively short amount of time (3 to 5 years), significant achievements in the subject of preparation (SAT, Emergency Committees), but that there is still a long way to go to cover the whole of the cycle, dominate the risk equation and make the necessary transformations along the municipal chain of governability in order to support a local sustainable development process which fully integrates the issue of local risk management.

However, there is an inherent risk to reproduction in the local environment of the traditional client-oriented schemes and to the focusing of the management issue on the municipal political cycle in the short term (4 years).

2.4 Local experiences and knowledge

Is it possible that communities located in high risk areas and areas subject to disasters and which have lived through many episodes of disaster, possess or have accumulated more experience and knowledge about the causes and origins of the periodical disasters which affect them?

This question is directly related to the discussion about “the control over the risk equation” which was mentioned previously. The following additions to this subject can be made:

- a) the experience and knowledge gathered in Lempira Sur with regards to the drought can be considered “community capital”, while the experience and knowledge gathered in younger communities of the northern coast with regards to floods is much more incipient.
- b) In Lempira Sur, it can be said that there is now a local knowledge about the biogeographical causes of the drought, but we cannot infer about the floods. In the northern area, there is still need for a deeper ownership of the connection between the floods and the environmental degradation.
- c) We cannot come to a positive conclusion with regards to the degree of local knowledge about the “socio-economical” and “institutional” causes of the disasters without the risk of going into unfounded speculations.

2.5 The role of international cooperation

Can international cooperation play a role in strengthening the capacities of local institutions for responding to emergencies, managing disasters and natural risks and promoting processes of local sustainable development? Under which approaches?

The transition from a “culture of emergencies-contingencies” to a “culture of prevention and development”, from a culture of political patronage to a culture of participatory and inclusive governability, is a process which requires time and, therefore, requires a

sustained agreement on the part of the cooperation organizations and the donor community.

There is a palpable difference in the situations of the communities and local governments of Lempira, who has been able to count on support sustained throughout time, and the situation in the northern zone, who counts on timely, short-term support even though they have a long-term strategic plan.

It is hard to give support to long-term processes of change and to promote deep changes of attitude based on a short-term planning, and it is almost impossible to promote the adoption of a long-term strategic vision in the local aspect based on tactical financial decisions.

The international cooperation can play a key part in the issue which interests us in this report, as long as it adopts a long-term approach for promoting changes and does not “let go of the handles after the first bump”.

3. RECOMMENDATIONS

3.1 Recommendations for consolidated policies

Parting from the analytical synthesis made from field work, from secondary sources of information and from the experience of the consulting team, and based on the report's general conclusions, following is a list of suggestions for a consolidated policy on the key aspects or challenges defined by FAO in the terms of reference.

How to continue strengthening the role of community organizations and municipal authorities on the subject of disaster management, including the consolidation of the capacities needed for achieving such goal:

- Focus cooperation and technical assistance on the facilitation, collaboration and strengthening of local sustainable development processes and not on physical objectives;
- Give privilege to long-term, long-reach actions, as well as the work on non-structural factors of the risk equation;
- Incorporate the risk equation in the analysis of local problems
- Adopt integrated approaches of risk management and not approaches centered on the “latest disaster”;
- Accept that a descent on the disaster spiral is “part of the process and not a stumble” and incorporate it to the design of support interventions;
- Promote and motivate deep changes in the mechanisms of local governability in order to render them more inclusive and participatory;
- Adopt the approach of giving out subsidies as corner stone of the decentralization approach, but introduce analyses of the jurisdiction and effective management

capacities of the governments and local institutions in order to solve specific problems.

How to promote horizontal interactions between local governments and community organizations in order to stimulate an active collaboration in the design and implementation of disaster prevention strategies which have been adapted to the local needs:

- Promote systematic processes for the consolidation of horizontal social capital
 - groups of communities
 - Water Board Associations
 - River Basin Councils
 - etc.
- Hold on to the existing institutionalities and do not create “ad hoc” mechanisms which are not related to it
- Identify conflicts of interest at the community level (including land tenure) which could render key measures invalid and give support in their resolution
- Promote mechanisms and local spaces for the resolution of such conflicts

How to promote vertical interactions between the different actors involved in the management of disasters, taking into account the criteria of giving out subsidies and the comparative advantage:

- Adopt systematic and explicit approaches for the consolidation of vertical social capital;
- Reinforce the municipal governability chain in all its links;
- Start from the production unit and do not stop at the community link;
- Strengthen the key capacities for local governability:
 - (i) Political Capacities
 - (ii) Management Capacities
 - (iii) Technical-operational capacities
- Strengthen the local governments’ capacity for technical negotiation, through the creation of Intermunicipal Technical Units;
- Dissociate municipal elections from presidential and legislative elections, to counteract the weight of the traditional relations of political patronage.

How to improve disaster management strategies and link them to long-term sustainable development projects in order to best contribute to the reduction of vulnerability of rural homes and communities:

- Adapt the concept of local risk management and stop concentrating on the disasters;
- Take the local risk management component into consideration as a part of the processes of local sustainable development and incorporate it into the design of intervention programs.
- Improve municipal finances through a more efficient and transparent tax collection;
- Transfer from the central government to the local governments, not just new functions and responsibilities, but also the corresponding budget entries;

- Promote capitalization processes parallel to the level of family units and community institutions.

3.2 Specific guidelines for the local context

Finally, following are some specific guidelines applicable in the two local contexts subject to this study; they can be applied by the corresponding governments or local organizations as well as by collaborating institutions.

MAMUCA case for the Northern zone:

It is imperative that community spaces be created/generated for dialogue, reflection, analysis, harmonizing and agreement in regards to the problems, needs, demands and local aspirations, in order to promote joint thinking and develop the social intelligence which can lead the community to the ownership and empowerment of the participatory administration of the vulnerability, of the risks and of the management of the cycle of disasters.

Within this frame, the organizations could consolidate their knowledge about the real situation of their community and strengthen their capacities through the horizontal exchange of lived experiences and non-formal training, oriented towards the desired solutions and based on practical elements, of easy assimilation and daily use.

The issue of disasters does not make part of the community's development agenda; however, it is a subject that comes up during periods of threat or of occurrence of natural phenomena and not necessarily by local initiative, but by induction by the Permanent Commission for Contingency "COPECO", which has promoted, at the national, level the creation of Regional Emergency Commissions "CODER" and Municipal Emergency Commissions "CODEM", and the latter has, at the same time, promoted the Local Emergency Commissions "CODEL". This is why these municipal organizations only tend to emergencies related to threats and the occurrence of hurricanes and floods, and not to drought or disasters related to over-exploitation and the bad use of natural resources.

In fact, in La MASICA, municipality to which the community of EL NARANJAL is part of, an early warning system has been developed which has been an example for neighboring municipalities. The communities, through the group of La MAMUCA, have adopted this system and strengthened it with the capacities of members of the community who are in charge of handling intermunicipal and intercommunity radio communication.

In this sense, the process which is basically oriented towards preventing disasters produced by floods, does not involve the actors, community sectors or municipal authorities in a continuance of linked activities. On the contrary, the activities between communities and between these and the municipality, are limited to periodical events characterized by the threat of the occurrence of specific natural phenomena such as hurricanes and tropical storms which produce floods.

Diverse mechanisms for the community administration and management of disasters must be created and implemented, and these should involve local sectors and actors and promote the decentralization and independence of the activities oriented towards this goal. This does not mean that support from municipal, regional, national or international collaborators is not necessary, but that through them, the capacities of community organizations in the handling of disasters should be developed and strengthened.

The local knowledge and experiences should contribute in the construction of concepts about the management of disasters, risk management and upon this base, community collaboration and participation must be formed, taking into consideration the local need for appropriate practices/techniques in the management of resources which contribute to reduce the vulnerability to the occurrence of natural phenomena and its consequences.

The cycle of agricultural production depends on the rain regime, which is affected by the phenomenon of El Nino and/or La Nina.

It can be said that the excess of rain on one hand, and the inclement drought on the other, force small producers who depend on their harvest, to frequently live in situations of disaster, without any kind of help from local governments or community organizations. The issue of the cycle of management of disaster must be taken into consideration within the frame of reality under which these communities are living.

This implies that municipal and/or community actions and/or activities in the management of disasters should not be limited to making decisions to protect the people against floods. They should be extended to a frame of actions designed towards atypical situations which, due to their characteristics, interact and influence heavily in the vulnerability, increasing every time the risk of disaster in rural areas. We are referring to lumber exploitation, to the use of cut and burn, to the clearing up of forests and micro-basins in order to create more pasture lands and to other irrational use and exploitation of the natural resources.

If we part from the local needs, it means that the community's problems, demands and aspirations are taken into consideration. This by itself does not guarantee the success of the processes but it is a factor which makes possible and strengthens the opportunities for participation, collaboration and involvement of the various actors and community sectors. This is why the issue of the design and implementation of strategies for the prevention of disasters, when promoted parting from the local needs, could ensure the empowerment of the actions and/or activities directed towards achieving this goal. At the same time, it could generate horizontal interactions and exchanges between local governments and community organizations.

At the level of the community of El Naranjal, there is no development plan; this applies to all the communities within the municipality of La MASICA. This implies that the municipality does not have one either.

Faced with this situation, municipal actions/activities are directed towards relieving needs or partly solving problems in the communities and not towards responding to the demands identified, agreed upon and felt by the population. It is the typical process where the authorities are the ones who know what the people need. For this reason, the municipal government should promote a participatory planning process which involves all the communities under its jurisdiction and, therefore, based on the demands identified, manage the solutions, delegating responsibility and assigning roles to the different actors and key sectors.

Under this process, the local risk management should be considered from a general perspective, so that its ubiquity can be focused into a process of participatory community and municipal planning. In this way, it could be the catalyst of vertical interactions between La MAMUCA, the local governments and community organizations, and it would also allow the adaptation of the design and implementation of disaster prevention strategies to the demands expressed and the aspirations of the population, in a search for solutions to the problems experienced locally.

[The case of Agua Caliente for Lempira Sur](#)

The lessons learned are focused specifically towards the new adaptation of the conditions found previous to the PLS to real approaches and an invigoration of changes in the political, social, cultural, technological, economic and environmental aspects.

The local risk management is subject to these changes without there being an orientation toward its treatment. It is necessary to produce a decision making in this aspect and extract the necessary elements for its visibility, in order to tackle this issue in a specific way.

The sustainable development dynamic taken on by the community covers or includes specific elements for ensuring an adequate Prevention, Mitigation and Preparation in the face of a local disaster, at the level of use and conservation of the natural resources as well as at the level of community organization and mechanisms of coordination with government organizations or organizations from other regions.

The main community organization for this subject is the CODECO, whose final objective is to arrange the organizational experiences of base organizations for local management, trying to generate a practical guide for participation oriented towards the community's development. With that purpose, a proposal was presented for the regulations of the CODECO's (see Annex 3).

- In Chapter II: The organization's purpose and principles
 - Article 5: The Community Development Council is based on the principles of...
 - clause e: community solidarity in the case of emergencies due to natural disaster or any other social calamity suffered by neighboring communities.

However, we recommend the creation of a specific Risk Management Commission, which can complement and coordinate with existing commissions.

These commissions are defined as:

- in Chapter V: Of Work Commissions, their Definition and Functions

- Article 18: ...as support organizations for the Board of Directors with defined objectives.

- clauses a.b.c.d.e.: essential characteristics

- and Article 19: Support commissions of permanent or temporary character may be created within the Community Development Council according to the needs of the community. The most important strategic commissions for the community are considered to be the following: Civil security, health, education, infrastructure, production, water and environment, others. Whenever they consider convenient, the assembly or the members of these commissions or organizations can have their own work code.

Based on Articles 20 to 27 which define the attributes and functions of the commissions, we make the following suggestions:

The Risk Management Commission is defined as the organization in charge of coordinating with other existing commissions (such as the Water and Environment Commission Art. 21, clause b, or the Infrastructure Commission Art. 25, clause c and d) the different prevention, mitigation and preparation actions for future events or possible phenomena or disasters; it must ensure the good management and compliance with the selected strategies; it must promote actions for the formation and information, of awareness of the community's risks and vulnerability and implement warning drills (especially in centers of human gatherings).

Its functions are:

- a) Write and update the diagnosis of the community's risk situations (mapping), in coordination with technicians and institutional professionals.
- b) Elaborate and execute the Strategic Plan for Risk Management and annual operational plans in coordination with COPECO.
- c) Coordinate activities with other CODECO commissions, with CODEM and related organizations and institutions in order to adapt, adjust and make operative the contingency plans formulated under clause b.
- d) Spread around practices for the prevention, mitigation and preparation for risks at the individual and family levels, at the level of basins and micro-basins, of base organizations and of local governments.
- e) Create a SAT information antenna for communication with the most isolated and vulnerable communities.
- f) Follow up on the execution of the strategic plan and POA and coordinate with other groups (COPECO).
- g) Evaluate the management plan for the actions developed.
- h) Give periodical updates of its activities to CODECO, the Community Assembly and CODEM.

To be valid this recommendation would conform with:

- Article 31: The regulations must be revised annually in order to adjust them to the management and organization needs of the assembly, CODECO and its commission.

It would support and reinforce CODEM in its PROPOSAL FOR INTERNAL REGULATIONS:

- Chapter IV: Organizational Structure

- Clause 3: CODECO representatives can take on initiatives to call a general assembly of the CODEM in case of natural disaster, epidemic or calamity.

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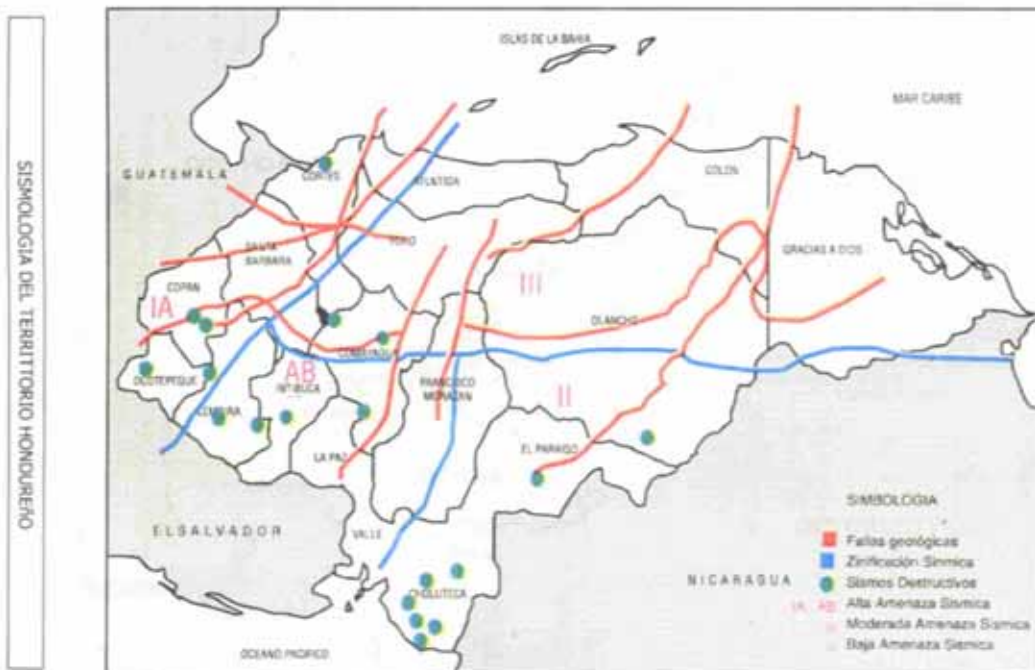
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F. ANNEXES

Annex 1: Areas subject to cyclic floods and droughts; seismological areas in Honduras



Annex 2: Results from the application of the information-gathering instrument in two selected communities

TABLE 1. Condition of the Community of El Naranjal, Municipality of La Masica, group of municipalities of the center of Atlántida “MAMUCA”, before, during and after the occurrence of Hurricane Mitch

Stage on the Cycle of Disaster Management	Before Mitch	During Mitch	After Mitch
<p>1. PREVENTION 1.1 Management of the Natural Resources</p>	<p>Since the 80's, the community began a process of cleaning up of its micro-basin, which represents the base of their natural resources; since then, the basin was delimited, demarcated and declared as source of water.</p> <p>The approach undertaken has been the participation of all the actors and local sectors, with minimum intervention from the Municipality in this sense.</p> <p>The legal frame was the basis for obtaining the declaration as source of water and, in that sense, AFECOHDEFOR was in charge.</p>	<p>The damage caused to the micro-basin and to the water distribution system was minimal and nothing more than floods were caused in the community's lower parts.</p> <p>It was the involvement and participation of all the local actors in rescue actions of those families and due to the floods, they were under risk.</p>	<p>The micro-basin is still administrated by the community through their Water Board, but they receive support from all the local organizations: the Board, the parents' association, producer groups, churches, teachers and others; together they make up the Local Development Council "CODECO".</p> <p>The community has taken on the role of micro-basin administrator.</p> <p>This declaration constitutes the legal support for the conservation and protection of the micro-basin.</p>
<p>1.2 Early Warning</p>	<p>There was a system of ringing of the church bells for alerting of the danger of a flood.</p> <p>There has been much getting-together between homes/families, therefore the neighbours warned each other; they communicated the risks and dangers.</p>	<p>There was no need for the ringing of the bells since those who felt threatened went directly to the Catholic Church, which is a high place safe from floods.</p> <p>There was support among the neighbours, even for the moving of utensils and electrical household appliances to safer places and houses.</p>	<p>An Early Warning System "SAT" has been installed, with a center for operations in the Municipality's main office in La Masica.</p> <p>There is warning of the dangers in the higher part of the mountain, so that the necessary precautions and/or mechanisms can be taken in the lower part.</p>
<p>1.3 Perceptions of Risk and Disaster</p>	<p>The group of vulnerable families is made up by those living in the lower parts and on the river margins</p>	<p>They moved into the Catholic Church in order to be safe against floods.</p>	<p>There has been training of the community with workshops at the level of churches, Boards, Water Boards, Youth Groups, teachers and to all the members of CODECO and the inhabitants of the most vulnerable areas.</p> <p>They have received training in evacuating in case of an emergency; everybody knows the evacuation routes.</p> <p>The ideal thing to do in order to reduce vulnerability</p>

			would be to relocate, but since this is too costly, it has been opted for the training of the community and its organizations.
1.4 Mitigation (risk) Strategies / Long-term Safety Networks	There is no other strategy than the ringing of the church bells for alerting the community.	They just had to hope that the impact would be minimal. Community groups offered their services in the rescue and first aid of those in danger.	They only have the training they received and the SAT. At the local level, the only measures taken have been the management and protection of the micro-basin. The Central Government should, through COPECO, improve local knowledge regarding risk mitigation. CODECO is willing to serve as coordinator of local strategies for risk mitigation.
1.5 Local Coordination Activities for the Prevention of Risks/Disasters	The community, the local leaders and their organizations took on the responsibility and prevention duties.	The identification of a safe place (the Catholic church) was done by the local leaders; they are in charge of promoting and communicating this information at the local level.	The training process at the local level tries to spread awareness within the community, in order to involve it in local activities for the prevention of risk/disasters. Trained teachers transfer their knowledge to their students, as a way of disseminating and promoting local cooperation in the prevention of risks/disasters.
1.6 Lessons Learned	We think the Municipality and/or the Central Government should be in charge of everything in the community.	Local cooperation, support among the neighbours and involvement of all the local actors; farmers helped with their tractors in the rescue work, moving whole families to safe places. Community leaders and representatives of local organizations were always in charge of all the activities.	The Management of the micro-basin has been a unifying factor for all the actors and community sectors and it has also guaranteed the community's security in the face of the occurrence of natural phenomena. The leadership undertaken during Mitch allowed local leaders to gain the community's trust; they now recognize this leadership and collaborate with all the local activities.
2. DEGREE OF PREPARATION	Warning was given of the occurrence of Mitch about	The community was expecting something	According to the experiences of the elderly of the

2.1 Degree of Preparation	<p>one week before it took place.</p> <p>The only knowledge there was of hurricanes was because of Fifi in 1974.</p> <p>At the production level, there was no preparation at the local level.</p>	<p>stronger but, Thanks to God, there were only floods (rising of the water levels) which did not cause major disasters.</p>	<p>community, it is known that phenomena such as Mitch take place every 20-25 years; but now that there is so much damage to nature, its occurrence is indispensable.</p> <p>In order to set up a system of early warning, each member of each neighbourhood should be integrated, so they can be the direct speakers of what takes place in regards to the occurrence of natural phenomena.</p>
2.2 Immediate Response	<p>Before Mitch, the community was warned, especially those who live in the lower parts and the river banks; this was the work of community leaders, the churches and the teachers.</p>	<p>Local leaders got together in the school and the church and from there, rescue teams went out to help and relocate the people who were threatened by the floods.</p>	<p>Local organizations and, especially, the Board (organization with the most local leadership before CODECO was formed), started searching for local and external cooperation, in order to provide food for the affected population.</p>
2.3 Evaluation	<p>There were no pre-defined evacuation plans; the church had been identified as a safe refuge.</p>	<p>The people responsible for evacuating the families in case of risk of flood due to Mitch, were the local leaders, community organization representatives, who complied with their duties.</p>	<p>The evacuation of families at risk was successful, thanks to the tractors loaned by the farmers for relocating the people from their houses to the Catholic church.</p>
2.4 Relocation	<p>Lands for resettling hadn't and haven't been identified.</p>	<p>The Catholic Church constituted the temporary refuge for the victims.</p>	<p>People returned to their homes in the lower lands and river banks.</p>
2.5 Budget forecast	<p>Nobody made any budget forecasts.</p>	<p>The local cooperation took care of the maintenance of the victims.</p>	<p>The PMA brought food and, at the local level, the "food for work" program was started, supervised by the Board and the local emergency committee, which was integrated after Mitch. Currently, preparation at the local level is undertaken by CODECO, and it is unknown whether there are any funds available for this purpose.</p>
2.6 Food, gasoline, fodder, and supply reserves	<p>There were no strategic reserves at the community level, other than food, kerosene gas, propane gas and some supplies and seeds at the personal level</p>	<p>There were no reserves; the neighbours collaborated with their own provisions.</p>	<p>There are no reserves; there really have not been taken measures regarding this aspect. It is assumed that there is no real danger of another hurricane for the next 20 years.</p>
2.7 Refuges and cooking	<p>There are no refuges; the</p>	<p>The affected families were</p>	<p>There are no refuges other</p>

facilities	church was identified as a temporary refuge for victims.	transferred to the Catholic church and there were no cooking facilities (it was improvised)	than the Catholic church and the schools and neither one has cooking facilities.
2.8 Lessons learned	Fifi's marks and experiences had been erased	There was cooperation and full availability for cooperation from the community	There must be an organization for the local coordination, who can bring together all the groups, actors and community sectors
3. RESPONSE 3.1 Local initiatives for the organization of a response	The Board, the churches and the teachers have always undertaken local initiatives to respond immediately to risks	Local organizations collaborated, especially the Board, the churches, the teachers, the parents' association, the farmers and the youth	The aid received was distributed by the teachers in the schools, in the churches and by the Board through the "work for food" program. The beneficiaries were the victims.
3.2. Lessons learned	The work coordinated by the churches, the schools and the Board promotes the work and participation from the community	There must not be any interference from personal, political, religious or any other form of interest in this community work.	Incorporate the actions from the community's base organizations in order to maximize resources and minimize efforts. Link local organizations to other organizations at the municipal, regional, national and/or international level. There must be a participatory community plenary in order to provide answers to the risks and/or local disasters.
4. REHABILITATION 4.1 Local initiatives to begin rehabilitation	There were no experiences, only the cleaning up process of the micro-basin, for its management and protection	Use of tractors loaned by the farmers for the rehabilitation of streets and access roads	The Local Development Council (CODECO) was organized. A Plan of Community Action was elaborated. The Municipal Development Council was made up.
4.2 Links to higher support levels for the rehabilitation	After Fifi and before Mitch, there were no links or support during disasters	There were links with the municipality through politics because the vice-mayor was a member of the community, but help was small, almost everything came from community level	Basic support came from inside the community; this can improve through training, participation and involving the community in order to create awareness
4.3 Lessons learned	There should have been more integration, involvement at the level of local organizations	Assistance for the victims must be planned so that all the sectors and actors participate through service and not only through giving support	The organizations and their functions must be improved; every member must be aware of their roles so they can comply with them. There must be a functional CODECO, evaluated periodically for complying with its responsibilities.

			International, local and external links and alliances must be strengthened.
5. DEVELOPMENT 5.1 Participatory community planning	There was no plan for community action	There was no action plan for following up on the activities	With the creation of CODECO, an action plan was designed; it must be strengthened at the level of a true community participation, so it can reflect the local needs and serve as an instrument for managing the community's demands. Training has been received only at the level of community leaders. Training has been provided by EHC, FUPNAPIB, Government, La MAMUCA and CURLA
5.2 Links and/or alliances with the collaborators	Before Mitch there were no alliances or links with any collaborators	They counted only with local and municipal collaboration	We lack links and alliances. The little help we have received in the form of food has not motivated local dependency
5.3 Lessons learned	After Fifi in 1974, there was an improvement of the roads, drinking water services, electrical lighting and telephone systems	When Mitch took place, the community already had all the basic services	Community organization has been the main base for having reached the level of basic services determined by IDH.

TABLE 2. Condition of the Community of Agua Caliente, located between the municipalities of Mapulaca and Candelaria, Department of Lempira, Region of the group of municipalities south-east of Lempira, before, during and after the occurrence of Hurricane Mitch

Stage on the Cycle of Disaster Management	Before Mitch	During Mitch	After Mitch
<p>1. PREVENTION 1.1 Management of the Natural Resources</p>	<p>There was no natural resource management. The Lempira Sur project was promoting a process for the management of natural resources</p>	<p>The Municipality, with support from the Lempira Sur Project, Acción Menonita and CARE, were paying attention to what was going on in the community, which was nothing more than a lot of water</p>	<p>All the harvest was affected by the great amount of rain. The grain reserves at the family level served as support to other parts of the country which suffered losses. CODECO will coordinate local actions and has municipal representation. The community's mechanism for the mapping of natural resources is the "no burn", which is practiced by the whole community and the municipality. The Municipality sets a 2000.00 Lps. fine to people who burn. The municipal ordinance for "no burn" is obeyed by the communities.</p>
<p>1.2 Early Warning</p>	<p>This system was non existent before Mitch</p>	<p>Since its impact was the amount of rain and this community is located high in the mountain, there were no flooding problems</p>	<p>We do not have any systems but we would like to have radios and/or some other type of communication because we are isolated and, whenever the road is ruined, we lose communications with Honduras, we can only go to El Salvador</p>
<p>1.3 Perceptions of Risk and Disaster</p>	<p>In this community we are all vulnerable to the earthquakes produced by El Salvador's volcanoes</p>	<p>In general, we were not affected by the rain caused by Mitch; instead, we were affected by El Salvador's earthquake of November 2001 and we are affected by 7 months of drought every year</p>	<p>We need to improve our land homes. Establish irrigation systems so we can plant during the summer</p>
<p>1.4 Mitigation (risk) Strategies / Long-term Safety Networks</p>	<p>At the home level, we learned how to store basic grains</p>	<p>We kept our basic grains in home silos where we stored the year's harvest and we do not sell it until we are sure</p>	<p>The "no burn" strategy helps us to preserve our natural resources, land, fauna, forest and water; and, at the same time, it grows and grows and ensures our harvest, and this way we ensure our food. CODECO has allowed us to interact at the community level and participate at the municipal</p>

			level as part of the Municipal Development Council CODECO, and that way we find out what is happening at the municipality
1.5 Local Coordination Activities for the Prevention of Risks/Disasters	The duties and responsibilities have fallen upon CODECO at the local level and upon Codem at the municipal level	During Mitch, the earthquake and the summer drought, CODECO assumes the role and duty of mobilizing people	CODECO, with the strong help of the Catholic church, promotes local planning and the Community Action Plan, which is carried out with the participation from all the actors and local sectors
1.6 Lessons Learned	“No burn” has been the strategy used since before Mitch	We had grasslands in recovery and we think this favours the non occurrence of landslides like there were in other areas	No burning of our work areas and work over organic material produced by leaves and trimmed branches Get organized through CODECO Store basic grains in home/family silos
2. DEGREE OF PREPARATION			
2.1 Degree of Preparation	The community became aware of Mitch through the radio	We knew that here the hurricanes did not cause floods, only wind and rain	Here we have never been affected by hurricanes, only by earthquakes and drought Only CODECO is organized for facing any emergency
2.2 Immediate Response	We got together in the community beforehand and decided to be on alert for the call from the church	Nothing extraordinary happened	The church and CODECO collected food and clothes to send to other parts of the country
2.3 Evacuation	We do not have evacuation plans	We never thought about evacuating	We have never considered the evacuation issue, we will begin to take it into consideration for the future We never thought about this until now that you come here with this report
2.4 Relocation	We have not thought about this	We have never relocated anybody because it has not been necessary	We have not needed it
2.5 Budget forecast	There have never been any funds for risks and/or disasters	The community collaborated but for other areas in need	Only our own silos of basic grains guarantee our nutrition
2.6 Food, gasoline, fodder, and supply reserves	We learned to store our basic grains and seed for harvesting; sometimes the farmers stored corn leaves and sorghum for fodder	We ate from the reserve we kept in our silos and it was enough to even donate to other areas	Use of 2, 3 or more home silos to store basic grains and seed CODECO collected the basic grains that we donated to other affected areas
2.7 Refuges and cooking facilities	We had no refuges other than the schools and churches	There was no need for using refuges	Schools and churches do not have cooking facilities
2.8 Lessons learned	We have not experienced	Mitch did not cause much	We should not burn in

	any major disasters other than the 8 months of drought in 1991 ²	damage; the earthquake in El Salvador only caused damage to our homes and when the summer comes we already have stored grain	order to plant We have to be organized Storing basic grains and seed guarantees our food and our crop
3. RESPONSE 3.1 Local initiatives for the organization of a response	The Lempira Sur Project promoted our community organization, such as CODECO	CODECO has been on the look out for our local problems	The Catholic church promotes, trains and mobilizes the majority of the population in the community, especially the women
3.2. Lessons learned	CODECO and the Catholic church informed the whole community about Mitch	The community awaited the call of the Catholic church and CODECO	The power that the Catholic church has to call a meeting CODECO's community leadership
4. REHABILITATION 4.1 Local initiatives to begin rehabilitation	Community organisation through CODECO	There was no disaster	Local cooperation in helping other areas of the country which were affected by Mitch The seed reserves in home silos constituted a key factor in local cooperation to other areas of the country
4.2 Links to higher support levels for the rehabilitation	Links with CODEM and the Lempira Sur Project	Support was provided by the community people	The CODECO channel for sending local help to CODEM
4.3 Lessons learned	Food reserves	Food security	Local cooperation in helping other areas of the country To have forests under recovery To be organized at the local level
5. DEVELOPMENT 5.1 Participatory community planning	There already is a Community Action Plan	CODECO follows up on the plan	CODECO complied with its responsibilities and coordinated the collection of food and clothes with the Catholic church There is a Community Action Plan which involves all the actors and local sectors There is a 10-year vision at the community level Training has been provided by the Lempira Sur Project, the Menonite Action Project, CARE and Natural Resources
5.2 Links and/or alliances with the collaborators	There are links with CODEM only	There are alliances at the internal level between community organizations	CODECO is the product of the alliances

²Note from the translator: It is not clear from the original document whether the drought took place in 1999 or in 1991.

		which handle local emergencies	
5.3 Lessons learned	Local development is minimal	We received some help from sons of this community who live in the USA	We have electricity and drinking water

Annex 3: CODECO's internal regulations (Lempira Sur)

Presentation of proposed regulations for CODECOS

The commission in charge of writing the proposal for CODECOS' regulations presents to the CODECO and extended CODEM of the municipality of Tómalá, the first draft based on the organizational experience of the base institutions for local management.

The reference documents for its creation have been:

- CODECO's function regulations, elaborated by community leaders in the town of Tambla in 1998 (source of information Lempira Sur Project)
- CODECO's function regulations, elaborated by CASM (in communities where it interferes with local development support actions). (Source of information Comisión de Acción Social Menonita)
- The functions of CODECOS' executive posts and commissions built during workshops for organizational strengthening, by leaders of communities in the southeast of Lempira, in the municipalities of Coló laca, San Juan Guarita and Valladolid. (Source Governability Project GCPIHOM10261NET)

The objective of this proposal is to arrange the organizational experience of the base institutions, looking to create a practical guide for participation oriented towards the community's sustainable development.

Considering this, the document must be seen with a critical eye by the organization and the community assembly in order to come up with a set of regulations that adjusts to its need of strengthening the organization for the development of local management.

In order to make the document's analysis, improvement and approval operational, socialization will take place on the following levels:

- Analysis and adjustment of the proposal with technical field teams from PROLESUR, CASM, ASONOG and Governability.
- Analysis and adjustment of the proposal with administrators from CODECO, support commissions and CODEM.
- Analysis, adjustment and approval of the regulations by community assemblies, taking into account their specific local needs.

D. Villatoro / Governability Project GCP/HON/026/NET

CHAPTER I

The definition of the Community Development Council and its Main Objective

Art. 1. Under the social name of Community Development Council (CODECO) of the community of _____ this organization is hereby constituted for an indefinite period of time. During session No. ____ of the Municipal Corporation of Tómalá Lempira corresponding to the year ____ it was sworn and registered in the municipal book of minutes Volume No. ____ Page ____ year ____ having been extended the certificate of municipal recognition as an organization representative of the community of _____ at the ____ of the year ____

Art. 2. The Community Development Council (CODECO) is defined as an organization which forms part of the different community organizations; it is the manager of the community's Development process identifying, prioritizing, planning and executing actions and Projects for the improvement of the life conditions of the community, through Development Plans.

Art. 3. CODECO's main objective is:

- To improve the well-being of the inhabitants of the community through the promotion of an integral development

CHAPTER II

The purpose and principles of the organization

Art. 4. The organization's main purpose is that of being the means to achieving an improvement in the quality of life of the citizens of the community and, therefore, of the municipality, the region and the country.

Art. 5. The Community Development Council is based on the principles of

- a) Conscious and voluntary civil participation in the development of activities and projects for the community's benefit
- b) Democracy in its decision-making process
- c) Equality and tolerance among genders, race, religions, and political affiliation
- d) Sustainability in the management of natural resources, productive, economic and social sustainability in order to guarantee local independence in achieving the community's well-being
- e) Community solidarity in cases of emergency due to natural disasters or any other social calamity which may be suffered by the community's neighbours
- f) Respect of the laws which permit the local, municipal and national governability.

CHAPTER III

The Executive and Administrative Bodies of the Community Development Council

Art. 6. The executive and administrative bodies of the Community Development Council are:

- a) The General Assembly
- b) The Board of Directors
- c) Support commissions

Art. 7. The Community Development Council's Assembly

It is the community gathered together to conduct a session and make decisions on the local development. It is made up by all the Men and Women who live in the community and the representatives of their organized institutions.

It has the following functions:

- a) To elect the Board of Directors of the Community Development Council.
- b) To participate in the community's socio-economic and environmental diagnosis.
- c) To approve, execute and evaluate the Strategic Community Development Plan and the POAS presented by CODECO's board of directors and their support commissions.
- d) To replace CODECO's executive members who do not comply with their functions.
- e) To approve or disapprove the reports of CODECO's local management and of its support commissions.

Art. 8. The Community Assembly can meet ordinarily every____, extraordinarily whenever they deem convenient.

In order to organize ordinary sessions, a calendar must be created which establishes the dates for the neighbour assemblies.

Art. 9. The Board of Directors is the body who directs and executes the General Assembly's decisions and is made up by a:

- a. President, b. Vice-president, c. Secretary, d. Treasurer, e. Attorney, f. Chairperson # 1, g. Chairperson # 2

The sum of all the members of the Board of Directors must be an odd number, and they will have two-year terms, their election will be alternated. Executives a.c.e.and g. will rotate on the job in even number years and b, d and f in odd number years.

Art. 10. The functions of the Board of Directors are:

- a) Elaborate the local socioeconomic and environmental diagnosis and keep it up to date.
- b) Elaborate and follow up on the execution of the Strategic Plan and the Annual Operative Plan through support commissions.
- c) Feed the municipality's information system periodically with yearly up-to-date data about the community's integral situation.
- d) Manage resources for the execution of the Projects and Activities included in the Annual Operative Plan
- e) Replace the members of support commissions who do not comply with their functions.
- f) Promote civil participation in community assemblies, extended CODEMs, public town councils, plebiscites and other community activities for local development.
- g) Establish collaboration with institutions and the municipality for attracting complimentary resources for the development of community projects and activities.
- h) Write CODECO's plan for economic sustainability.
- i) Write or present a proposal for adjusting CODECO's regulations.
- j) Write periodical reports of their actions to the community assembly.
- k) Participate in the writing, promotion and application of legal judicial instruments (Decision Plan).

CHAPTER IV

The functions of CODECO's Executive Positions

Art. 11. The President's functions are:

- a) Announce and conduct the meetings of the Board of Directors and the community assembly
- b) Represent CODECO before the Municipal Development Council (CODEM) or other municipal, regional, national private or State institutions.
- c) Sign acts, agreements and any other document of administrative or legal character, together with the treasurer.
- d) Direct the writing and updating of the community's diagnosis as a basis for identifying projects.
- e) Coordinate the creation and execution of the Strategic Plan and the Annual Operative Plan.
- f) Promote the organization of and civil participation in Assemblies, public town councils, projects and activities of community interest.
- g) Join one of CODEM's support commissions.
- h) Present periodical reports of his/her activities to the Board of Directors and the community assembly.