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THE ROLE OF LOCAL INSTITUTIONS IN REDUCING VULNERABILITY TO RECURRENT NATURAL DISASTERS AND IN SUSTAINABLE LIVELIHOODS DEVELOPMNENT

CONSOLIDATED REPORT ON CASE STUDIES and WORKSHOP FINDINGS AND RECOMMENDATIONS

Rural Institutions and Participation Service (SDAR)

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Front Cover Picture: Haoussa Granaries, Niger (Source: INPhO Image Gallery)

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EXECUTIVE SUMMARY

Global data indicates that in the last decade natural disasters occurred more frequently than in the past and were more destructive.

While recognizing that assistance in the response phase of a natural disaster remains important and needs to be enhanced at all levels, there is an increased recognition that the ultimate aim of natural disaster management strategies should be to reduce the vulnerability of local communities (and countries) to natural hazards, through the implementation of more effective prevention and preparedness measures, and integration of risk management into long-term development planning.

FAO has clearly signaled that long-term development objectives should not and cannot be set aside during emergencies and decided to further strengthen its policy advisory and technical activities in countries that are especially prone to natural hazards with a view to ensuring that disaster risk management (DRM) is a key consideration within sustainable agriculture and rural development (SARD) policies and programmes in such countries.

Based on its longstanding working experience in institutional analysis, strengthening of institutional developments in the context of decentralization and in institutional capacity building, the Rural Institutions and Participation Service (SDAR) of the Rural Development Division of FAO (SDA) has a key contribution to make in institutional and participation aspects of DRM. Its Regular Programme activity on "The role of local level institutions in reducing vulnerability to natural disasters" was initiated in 2002 with the objective of gathering experiences and field based evidence in order to provide guidance to policy makers on how local organizations could be best empowered in DRM and to elaborate strategies for incorporating disaster prevention and response activities into long-term sustainable rural development strategies.

The first phase of the Programme Activity focused on a comparative study on the role of local institutions in reducing vulnerability to natural hazards and included: a comprehensive analysis of secondary material; nine case studies in different regions (Argentina, Burkina Faso, Honduras, Iran, Mozambique, Niger, Philippines, South Africa, Vietnam) focusing on lessons learned from concrete examples and experiences of local action before, during and after situations of natural hazards; and a workshop for an analytical comparison between the case studies (31 March-2 April 2004).

The overall outcomes of Phase 1 include: the identification of comparative strengths and weaknesses of local institutions and other key actors in DRM, good practice examples of key elements of DRM systems and case specific policy and operational recommendations.

On the basis of SDAR's experience in local rural institutions, follow-up initiatives will continue to focus on recurrent events/chronic processes gradually increasing the vulnerability of livelihoods systems. Three key strategies of the DRM and rural development integration will be taken into consideration: a) increasing local communities' resilience to cope with shocks; b) building on relief as an opportunity to initiate longer term development; and c) improving vertical and horizontal institutional linkages. The follow-up strategy includes the development of normative products and operational pilot projects; the identification of a framework for complementary action with other FAO Services and building strategic and technical partnerships with external partners including Asian Disaster Preparedness Centre (ADPC), University of Cape Town (UTC), and World Food Programme (WFP).

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1. BACKGROUND

1.1 The Challenge

Recurrent natural hazards such as drought, floods, storms (hurricanes/tropical cyclones, tornadoes, sand/dust storms), are major factors increasing the vulnerability of local communities and food insecurity of rural producers. They hamper sustainable rural development initiatives and aggravate other financial, health and environmental shocks, and can determine the emergence of complex political disasters.

Global data indicate that in the last decade natural hazards occurred more frequently than in the past and were more destructive. Weather-related hazards continue to increase, from an annual average of 200 per year between 1993-1997, to 331 per year between 1998-2002. Although compared to the 1990's, reported global deaths from natural disasters have fallen (24,500 people reported killed in 2002 against a yearly average of 62,000 in the previous decade); the number of people reported affected is increasing dramatically (608 million people affected in 2002 compared with the annual average of 200 million in the previous decade)[1].

The relationship between development and disaster risk is clearly described in the recent UNDP Report on disaster risk reduction[2]: about 75% of the world's population lives in areas affected at least once between 1980 and 2000 by earthquakes, tropical cyclones, floods or drought. While only 11% of the people exposed to natural disasters live in countries which were classified according to the UNDP human development index (HDI) as countries with a low HDI, these countries account for more than 53% of the total recorded deaths. In terms of economic impact, two thirds of the losses reported in 2002 (US$ 69 billion) affected countries with high human development indices. However, the latter is clearly a reflection of the value of infrastructure and assets at risk. Figures show that there is a clear link between development status and disaster impact; there is also evidence that disaster risk accumulates historically through inappropriate development interventions (for example, increasing risks related to urbanization, environmental degradation, and climate change). Disaster reduction policies should therefore include a two-fold aim to: "*enable societies to be resilient to natural hazards and ensuring that development efforts do not increase vulnerability to those hazards*"[3].

1.2 Global Agenda on Disaster Risk Reduction and FAO's Related Mandate

While recognizing that assistance in the response phase of a natural disaster remains important and needs to be enhanced at different levels, there is an increasingly common understanding among all stakeholders that the ultimate aim of DRM should be to reduce the vulnerability of rural and urban people and their communities (and countries) to natural hazards, through the implementation of

[1] Data from the IFRC, *World Disasters Report 2003.* Numbers do not include those killed or affected by war or conflict related famine and disease.
[2] UNDP, *Reducing Disaster Risk: A Challenge for Development*, 2003.
[3] Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), *Living with Risk: A global review of disaster reduction initiatives*, United Nations, Geneva, 2004, page 8.

more effective prevention and preparedness measures, and integration of risk management into long-term development planning.

The International Strategy for Disaster Reduction (ISDR) reflects a shift in focus from hazard protection to risk management and provides a framework for complementary action of different UN Agencies in disaster reduction. It aims at building disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development. The promotion of public commitment in DRM is one of the four main objectives of the ISDR. Furthermore the increased importance given to socio-economic vulnerability as a key risk factor underlined the need for wider participation of local communities in disaster risk reduction activities

The 1996 World Food Summit Plan (WFS) of Action stresses the need to develop efficient emergency response mechanisms and recommends to governments to involve communities, local authorities and institutions in implementing emergency operations to better identify and reach populations and areas at greatest risk (Objective 5.3). In the same spirit, the WFS Plan of Action also recommends to governments to "*strengthen linkages between relief operations and development programmes…so that they are mutually supportive and facilitate the transition from relief to development"* (Objective 5.4).

The 2002 World Summit on Sustainable Development (WSSD) Plan of Implementation has reiterated the importance of the issue and called for action at all levels for an integrated, multi-hazard, inclusive approach to address vulnerability, risk assessment and disaster management, including prevention, mitigation, preparedness, response and recovery.

FAO has a crucial role to play. The vast majority of natural disasters occur in rural areas and are threatening agricultural production and food security in particular (on both temporary and long-term scales). FAO is well positioned to ensure that national and local DRM strategies include specific considerations and agendas addressing risks in the agricultural sector in a sustainable and, to the degree possible, proactive way. FAO has clearly signaled that development objectives should not and cannot be set aside during emergencies. In its Medium Term Plan 2002-2007, FAO identified "*disaster prevention, mitigation and preparedness and post-emergency relief and rehabilitation*" as a priority area for inter-disciplinary action (PAIA). This programme is being implemented through a relief-development continuum. On the basis of the recommendations of the Programme Committee Report (Eighth Session, September 2002), FAO decided to further strengthen its technical activities and policy advisory support in countries that are especially prone to natural disasters with a view to ensuring that disaster management is a key consideration within agricultural development policies and programmes in such countries and promoting the more effective integration of post-emergency support into long-term disaster risk management (DRM) and rural development (RD) strategies. However, until to date most of FAO's efforts have concentrated on the responsive aspects of disaster management rather than on the prevention/preparedness phases.

To this end, FAO's Emergency Operations and Rehabilitation Division (TCE), together with several technical services of FAO, is promoting a more effective integration of post-emergency support with long-term disaster risk management and rural development (RD) strategies.

1.3 The Entry Point and Contribution of the Rural Development Division to DRM

The Rural Development Division (SDA) of FAO tackles the issue of disaster risk management from an institutional perspective within the context of Rural Development and Decentralization. Disaster risk management is, among other rural development activities, particularly important for lessening both sudden and chronic vulnerabilities of rural communities and households. The creation of the link between RD and DRM and the identification of the main actors/stakeholders at different levels and their roles in DRM and particularly the key role that local institutions play in implementing successful DRM strategies, describes SDA's entry point to DRM.

SDA's working approach builds on the basic assumption that the sound understanding of existing institutional capacities and possible gaps, and the comparative advantages of different actors in DRM, particularly at decentralized levels, is a key requirement for a successful shift from reactive emergency relief operations towards long-term disaster risk prevention and its integration into regular rural development planning.

SDA's experience shows that the recognition, responsibilities and resources available to local organizations are often limited, and their capacities are not developed enough to enable them to fulfill their potential roles required to make decentralized operations work. A particular challenge for governments and development agencies in the context of rural development, decentralisation and DRM is the question of how to best promote local capacities and mobilize local organizations to actively participate, according to their comparative advantages, together with higher level institutions, in the design and implementation of locally adapted disaster risk prevention and management strategies.

This interim report summarises the main issues, findings and recommendations arising from the first phase of SDA's work on DRM, including a first consolidation and comparative analysis of a literature review, case studies and the workshop discussions.

2. INTERREGIONAL, COMPARATIVE STUDY ON ''THE ROLE OF LOCAL INSTITUTIONS IN REDUCING VULNERABILITY TO NATURAL DISASTERS"

SDAR's normative activity "The role of local level institutions in reducing vulnerability to natural disasters" was launched in 2002 with the objectives to:

- → Analyse field-based evidence of the strengths (and limitations) and the comparative advantages of local institutions in disaster risk management, clarifying what tasks and requirements this implies in detail;
- → Provide guidance to policy makers on how local organizations could be best empowered as partners in DRM applying the principles of comparative advantage and subsidiarity; and
- → Elaborate strategies for linking disaster prevention and response activities into long-term sustainable rural development strategies.

Phase I of this programme activity focused on stock taking and a comparative study on the role of local institutions in reducing vulnerability to natural disasters. The main activities included:

Phase I –Activities

- → A comprehensive analysis of secondary material and a literature review on "The Role of Local Institutions and their Interaction in Disaster Risk Management".
- → Nine comparative case studies were conducted in 2003 in Argentina, Burkina Faso, Honduras, Iran, Mozambique, Niger, the Philippines, South Africa, and Vietnam, focusing on lessons learned from concrete examples of experiences of local action before, during and after situations of natural disasters (particularly in places where phenomena such as droughts, storms, and floods occur periodically).
- → A workshop for a first analysis and comparison between the case studies was held in FAO's Headquarters in Rome from 31 March – 2 April 2004 to draw general and region-specific lessons learned;
- → Field projects associated with the subject matter were also used to enrich the learning process[4].

Phase I- Expected Outcomes

- → Improved guidance and guidelines on how local organizations in different settings could be strengthened and empowered to take - as a key aspect of long-term sustainable agriculture and rural development - a more active role in the prevention, preparedness and management of recurrent natural disasters.
- → Recommendations for national and local governments and CSOs in rural areas exposed to recurrent natural disasters on improved or more specific policies that help reduce the vulnerability and negative impacts of risks and disasters for rural communities, particularly for the poor, and minimize the time period required to resume rural development activities.

2.1 Review of Secondary Data

To initiate the study, a basic review of secondary data was conducted with the aim of obtaining an overview of what has been written and shared so far with regard to the roles local institutions and organizations play in disaster risk prevention and management, how they pursue these roles, and to what degree and how they interact with higher level DRM actors and systems. A key finding of the review[5] was that in spite of the enormous amount of documentation available on DRM, and its richness, there is (a) a strong bias towards post emergency analyses, and that (b) within the more limited material available on disaster prevention and preparedness the analysis of local institutions and organizations is rather limited. Selected key lessons and good practice examples elaborated in the review have been incorporated into this report. To a large extent they are in line with and

[4] Such as TCP/MON/066 "Pastoral Risk Management Strategy, Mongolia", TCP/CPR/2902 "Strengthening Capacity of Risk Management of the Animal Husbandry Sector and promoting Sustainable Development in the Grazing Area of Qinghai Province", TCP/BGD/2904 "Support to the Strengthening of Disaster Preparedness in the Agriculture Sector, Bangladesh", and TCP/HUN/3002(A): "Support to the Development of a Strategy for Territorial Organization and Sustainable Land Management in Areas with High Natural Risk".

[5] Norman Messer, *The Role of Local Institutions in Disaster Risk Mitigation: a Literature Review*. This report is available from FAO/SDAR.

complement the case study findings. Annex 7 provides a list of relevant internet sites assessed by the literature review.

2.2 Case Studies

Building on FAO's concept of the disaster management cycle[6], the case studies focused on the role of local institutions in reducing risk and vulnerability to recurrent natural disasters in selected field sites (villages/communities) of Argentina, Burkina Faso, Iran, Honduras, Mozambique, Niger, Philippines, South Africa and Vietnam. The field studies analyzed concrete examples of experiences of local action before, during and after natural disasters. All case study research teams followed the same Terms of Reference, which defined the basic key concepts underlying the overall study, and the common processes of decentralization and social capital formation (Annex 2).

As part of their research, the case study teams were asked to assess the following set of key **working hypotheses** which were formulated on the basis of the fundamental assumption that local government offices and other local organizations/institutions are key actors in natural disaster management and rural development:

- → Local level organizations and institutions have the following advantages in disaster management vis á vis higher level institutions: (a) represent local perspectives in policy making and DRM planning fora, (b) bridge and promote two-way communication between higher and local policy levels, (c) assist and guide locally the implementation of DRM activities, (d) mobilize local participation; and finally (e) handle at the local level the full emergency cycle, better linking, in particular, emergency prevention and rehabilitation activities based on an anticipatory (as opposed to reactive) mind set.
- → Communities in the high risk and disaster prone areas which have encountered many episodes of disaster have, over time, accumulated considerable experience and knowledge of the causes and nature of the recurrent disasters in their areas.

The institutions covered in the studies include public institutions at the district, ward and village levels of governance (or *département, arrondissement and commune* levels in francophone countries and *municipios* in Latin America)*;* rural councils and development committees (in a few cases the involvement of the private sector was also taken into consideration). The studies also analyzed and took into consideration the linkages and partnerships that exist between local authorities and traditional institutions such as chieftaincies, clan heads, councils of elders, headmen, and other village assemblies.

Both quantitative and qualitative data were gathered from the selected districts and pilot sites on formal organizations and committees in existence, their resources, and the risk prevention activities they undertake. Qualitative data were also collected from the stakeholders and potential victims of disasters about their experiences with disasters, their perceptions and definitions of risk, the resources at their disposal, their social networks, and hence their social capital and capacity for disaster or risk management. Key informant interviews were held with local government officials, representatives of local councils and development committees, chiefs or their representatives; representatives of farmer groups, co-operatives, and women's groups. Particular emphasis was given to:

[6] attached as Annex 5

a) the assessment of the comparative strengths of local institutions (vis á vis higher level institutions) and the actual role they play in managing recurrent natural disasters;
b) the interaction/relation and complementarity between informal initiatives, community-based approaches to DRM and the formal government DRM systems in place, and
c) local level perspectives and perceptions about recurrent natural disasters and actual institutional preparedness and responses as felt at community level before, during and after a concrete disaster situation.

Case study authors were requested to include specific sections in their reports on: a) the context of the selected study sites including a detailed institutional assessment and the nature of the recurrent disaster phenomenon; b) the "story" of the disaster: how the pre/during and post emergency situation was handled, what happened? Who did what how and why? what went well, what went wrong?; c) lessons learned and recommendations on how local organizations could be strengthened and empowered to take - as a key aspect of long-term sustainable agriculture and rural development - a more active role in the prevention, preparedness and management of recurrent natural disasters; and d) recommendations for national and local governments and CSOs in rural areas exposed to recurrent natural disasters on improved or more specific policies that help reduce the vulnerability and negative impacts of risks and disasters for rural communities, and in particular for the poor.

The case studies vary according to the types of recurrent natural disaster situations studied, including the slow on-setting phenomenon of drought (e.g. Burkina Faso, Iran, Niger), and of rapid on-setting phenomena including floods (Mozambique) and tropical storms (Honduras, Philippines, South Africa,) and in some case the combination of several phenomena (Argentina, Vietnam). They further differ in that some of them present examples of experiences where community-based disaster risk management approaches go hand in hand or are even part of the government's DRM approaches (Philippines, Vietnam). Others describe situations in which communities were not supported and assisted in their effort to prepare themselves for and cope with disasters (Iran, Mozambique, and South Africa). All case studies will be made available on internet through SD Dimensions (FAO).

2.3 Workshop for Comparative Analysis

Case study authors and/or resource people were invited to share and discuss their key findings with FAO SDAR staff, other FAO technical units and representatives from IFAD and WFP, in a workshop that was held in FAO's Headquarters from the 31 March to 2 April 2004 (see Annex 1 for the workshop agenda and list of participants).

To facilitate the comparison between case studies, each study report was analyzed and key issues summarized in an analytical matrix. The matrix was designed in three sections:

- Section 1: describes the case study context (area and population covered, description of the hazard, land tenure and use patterns, livelihood strategies, formal DRM institutional set-up at national and local level)
- Section 2: summarizes local perspectives and perceptions related to: policies, practices and institutions (formal and informal), key actors and their respective roles, training and capacity-building activities for each phase of the FAO's Disaster Risk Management Cycle.

- Section 3: summarizes the case specific recommendations and lessons learnt as indicated by the author.

Annex 4 provides two examples of consolidated matrixes: Philippines and Mozambique

The summary matrixes were distributed to the workshop participants prior to the workshop and served as the common background and entry point for the comparative analysis between cases. During the first workshop day participants enriched in working groups the matrixes on the basis of their own experiences and compared the information in order to extract good practice examples. On the second day working groups discussed the comparative strengths/weaknesses of different kinds of local organizations and institutions and identified their key roles in DRM. The discussion led to the elaboration of additional working hypotheses and to the identification of key entry points for building communities' resilience and development opportunities starting from the emergency assistance phase. The third day of the workshop focused on the way forward and recommendations for improving institutional approaches to DRM, and possible follow-up activities for FAO/SDAR. Working groups discussed the following questions in particular:

→ What are the key mechanisms and instruments required to improve the link between DRM and rural development?
→ What kind of human capacities and skills are required at local level to strengthen DRM and its implementation?
→ What products (normative and operational) are needed to enrich existing materials/tools supporting DRM and rural development linkages?
→ What are the 10 key essentials which DRM systems should combine (in synergy with rural development?)

The participants were asked to consider specifically what is needed *on top* of standard "day to day" rural development planning in order to ensure the critical distinction between DRM and RD.

3. FINDINGS AND LESSONS LEARNT

3.1 General Lessons: Specification of Working Hypotheses

Case study findings and workshop discussions confirmed the basic assumption that locally organized preventive as well as responsive action to disasters could be very powerful to limit damage and losses, and that they are crucial to complement higher level activities in emergencies (see matrix on page 12). They also confirmed that what is lacking is a good understanding about local experiences and knowledge and concrete guidance on how to strengthen the role of local government and community-based organizations in DRM and improve their ways of communication and active interaction.

The data and workshop discussions indicate that local institutions and organizations are key actors with comparative strengths for DRM as outlined in the initial pre-study working hypotheses (page 10). LOCAL institutions derive their strengths from proximity, responsiveness to social pressures and adaptation. However, to be verifiable, these hypotheses should include the following additional considerations:

- The conventional disaster cycle used by FAO (Annex 5) has only limited value for integration between disaster risk management and longer-term development. The focus of the disaster cycle is on the management of the different phases and not on integration of risk into long-term development planning and management. Hazards and disasters are not problems that

can be solved in isolation. Hazard risk needs to be linked with natural resource management and economic and social resiliency, within a long-term perspective.

- Local institutions need the appropriate frameworks/enabling environment to function. Local actors often act without a mandate from central level. Concrete/effective action at local level requires a mandate for them from central level and a revenue system which also allows for resource mobilization at local level. The central administration/government is the key actor in policy formulation. DRM requires a combination of “top-down” and “bottom-up” approaches to reduce risk and make disaster response and rehabilitation more effective. Effective coordination systems benefit from decentralized governance, once clearly defined roles of local government are in place. Critical aspects include: (i) devolution of responsibilities; (ii) appropriate budget allocations; (iii) institutions at different levels and in different sectors that are mutually supportive (vertical and horizontal coordination); (iv) clear definition of tasks; (v) strong partnerships with civil society and the private sector; (vi) integration with sectoral development plans.
- The functioning and comparative strengths of local institutions depend upon the type and scale of natural disasters. There is a threshold beyond which local institutions are no longer able to prepare for and respond effectively to a disaster. While recurrent natural disasters are better managed at the local level, exceptional/extreme events also require support from the national/local government and international community. Furthermore, while human-induced components of disaster response imply a focus on institutional capacity-building, some elements of the natural hazard management, in particular agricultural risk adaptation practices, are better managed through conventional technical assistance/transfer of technology practices, thus stressing the important link of DRM to agricultural extension.
- Another pre-requisite for effective DRM is its integration with natural resource management and long-term rural development, particularly in the areas of land use and watershed management. Natural disasters are often a consequence of inappropriate natural resource management and there is often a clash between local DRM strategies and practices and national development policies strategies; these issues need to be addressed at central government level and require negotiation and participation at local level.
- Partnerships between local government, the private sector, non-governmental organizations and community groups are more effective and need fostering than single institutions working independently. This is particularly evident in the areas of: natural resource management, financial services and conflict management.
- Social capital is the key factor ensuring immediate responses to disasters (saving lives and moving people to safer grounds, providing emergency food and shelter) and has a very important role also in the rehabilitation phase (credit, mutual support in reconstruction work), especially when there is no formal system in place. However, spontaneous initiatives related to the prevention and preparedness for disasters and risk are rare. Mitigation measures normally require support from formal institutions. Adaptation strategies to recurrent small-scale hazards are common but extreme events are often perceived as “acts of God” and no preventive measure is taken. All case studies provided evidence that local social capital plays a key role in immediate relief operations. Where there is no official coordinating mechanism the local community carries out all rescue

and relief functions on the basis of its informal networks. Emergency relief operations can be “used” to facilitate the recognition of the role of local social capital by: a) allocating roles and responsibilities in the distribution of relief goods and provision of relief services; b) identifying policy and legislation gaps; c) providing local and national government support to develop normative frameworks which would capitalize on local informal networks.

3.2 Specific Lessons: Comparative Strengths of Key Actors in DRM

Building on the initial steps taken in the literature review, the case studies and workshop succeeded in further defining the key actors in DRM, as well as their functions and comparative strengths. Key issues are summarized in Table 1 (see next page)

Table 1. The Comparative Strengths of Local Institutions in DRM and Lessons Learned
(Trends and findings relating to the working hypotheses emerging from the case studies)

	PREVENTION	*PREPAREDNESS*	*RESPONSE & REHABILITATION*
Central and Provincial Government is a key actor in:	**Policy Development** • Setting the normative framework for: a) Integration of DRM and NRM b) Land tenure/use patterns c) Devolution of responsibilities to local level d) Participatory processes in policy development and implementation. e) Overall coordination among line ministries and levels of government f) Cross-sectoral communication and Integration. g) Establishing decision making systems for emergencies h) Monitoring i) Infrastructural development **Research** • Undertaking scientific surveys and assessments for disaster mitigation, record –disseminate information of disaster impact and losses Disseminating guidelines **Capacity Building** • Coordinating design and promoting training & capacity-building programmes for government agencies officials, local government Initiating public information campaigns • Integrating core DRM concepts in school curricula in high risk areas	**Providing/promoting basic instruments** • Providing guidelines for **Contingency Planning** and mechanisms to capture remittances/resources for relief and rehabilitation. • Setting-up national **early warning systems** and supplying appropriate information and communication technology, equipment and training • Promoting/sponsoring large scale awareness raising programmes (media. Schools, extension services). • Establishing, management and monitoring **national food stocks/reserves**.	• **Coordination of relief operations** among National and Provincial Government and with International Donors. • Providing additional resources (special transport, relief goods, and specialized staff) during extreme events. • Infrastructure **rehabilitation** **Resource Mobilization** • Releasing additional national financial resources through Relief Funds, Calamity Funds etc. • Raising additional resources with International Donors • Central Banks can open flexible credit systems in times of crisis and back stop local credit schemes. Credit Payments and taxes rescheduled (longer term and adjusted to the harvest season). **Monitoring and Evaluation** • Evaluating rehabilitation process and trends for demand responsive policy (re)formulation
Local Government (Municipality and lower) is a key actor in:	**Local coordination and Implementation** • Operationalizing integrated development programmes incorporating DRM components. • Promoting participatory planning and enabling civil society to implement programmes • Establishing Inter-municipal Agreements: early warning, watershed management, post-disaster foreign aid coordination. • Recognition and registration of land use rights. • Development/implementation of mechanisms to capture remittances for rehabilitation. • Payments for environmental services.	**Local coordination & Implementation** • Setting-up Local Coordination Bodies (Disaster Coordination Committees/Councils) including government line-function departments, civil society representation and private sector. • Training/Advising CBOs on DRM **Contingency Planning** • Developing and operationalizing	**Local coordination & Implementation** • Coordination of disaster operations activities and relief (evacuation, relief goods, health services and transport). • Local DRM mechanisms are effective for annual/routine flooding, exceptional events require national support. • Communication and coordination with national bodies • Coordination and channeling of foreign aid • Planning and Coordination of rehabilitation efforts **Monitoring and Assessments** • Submitting damage reports to higher government

	• Facilitating conflict resolution between resource users. • Infrastructure maintenance **Capacity-building and Awareness Raising** • Implement capacity building/training programmes on DRM for civil servants and local leaders • Implementing awareness raising programmes on natural hazards risks **Resource Mobilization** • Partnerships development with CS/private sector • Seeking external support when local resources are not sufficient (national government, twinning arrangements, private sector, donors) • Mechanisms for paying environmental services. **Monitoring and Assessment** • Pre-disaster vulnerability and preparedness-needs assessment (jointly with civil society)	regularly Contingency Plans **Early warning** • Collecting and evaluating information at local level, declaration of state of emergency • Assuring dissemination of alerts to people and responsible officials	levels • Monitoring of relief goods distribution (with others) • Post-disaster needs assessment (with civil society) **Fund raising and releasing of funds** • Releasing rehabilitation funds/reserves. • Raising funds with donors and advocacy with national government for rehabilitation resources.
Other locally operating organizations (NGOs, CBOs, Cooperatives Local Business …) are key actors in:	**Natural Resource Management (NRM)** • Conservation policies without local participation perceived as hostile by the Community (Vietnam). Effective when local users/private sector role is institutionalized (Fishermen and Irrigators Association in Philippines, Community-Based Watershed Management in Honduras). • Traditional pastoral organizations are normally based on the principle of collective action for collective benefit. Under the collective systems on NRM there are strong incentives for acting for the collective good. Deep understanding of drought prone ecosystems and related risk management strategies (Iran, Burkina- Faso, Niger). **Conflict Management** • Mixed conflict resolution systems (local government, traditional leadership, pastoralists /agriculturalists representatives) are functioning in Niger, and Burkina Faso. These are better set up by civil society organizations and need refinement. **Savings and Credit** • Credit schemes are more efficient when administered at community level (Burkina). However local cooperatives and associations in times of severe crisis may need back up from national banks to ensure availability of credit.	**(Local) Early Warning Systems** • The National Communication System is often paralysed during disaster**.** • Local institutions (village level) are the most effective in reaching out to community in disseminating alert. Examples of (relatively) efficient EWS capitalizing on existing CBOs (Youth and Farmer Associations +Red Cross in Vietnam, Fishermen Council, Irrigators Association and Local Radio in Philippines). • Centralized sophisticated EWS fail to reach the community (South Africa). Mixed EWS can complement the weaknesses of national and local systems: national level (weather and scientific parameters) local level (on the ground monitoring, informal local knowledge). Examples: Philippines, Honduras, Niger • In remote areas, with limited institutional presence/capacity, schools can be the entry point of early warning systems: teacher-student-family link (Mozambique).	**Relief** • All studies highlight that distribution should be co-managed with civil society with transparent assessment criteria established in partnership with local government. • Regional/National Relief Funds & Food Distribution without standard assessment procedures result in ambiguity in entitlement to emergency assistance/food aid (Social relief Funds/South Africa, Food Aid in Burkina) or simply is not commensurate to vulnerability (Vietnam). • Coordination mechanisms are effective when capitalizing on existing local organizations (Vietnam/Mass Organizations, Philippines/Users Association and Volunteer Body). • CBOs are most efficient in **rescue** but they need training. **Rehabilitation** • In most cases when phasing out of relief, socio-economic rehabilitation (asset rehabilitation, income generating activities, awareness and training) initiatives are handed over to international/national or local NGOs. **Local Level Capacity Building** • Advice and training about locally suitable livelihood adaptation options to increase future resilience

	Often cooperatives managed by government are accused of corruption and inefficiency (Iran). • Lack of access to credit is a major issue for poorest, due to collateral requirements (Philippines, Vietnam,) or lack of facilities in remote areas (general). **Local Level Capacity Building** • Support in establishing and training of local disaster management committees and on contingency planning (including technical support for early warning systems) • Training volunteers in first aid and emergency relief (In case studies often undertaken by national Red Cross) • Training of HH on disaster mitigation measures (crops and housing) • Implement awareness raising/public information campaigns (in partnership with local government) **Advocacy and bottom-up policy information** • Unions of Pastoralists Associations created in Niger in 2001 have been important local actors in: representation of pastoralists within administration; fight against food insecurity; protection of animal health and NRM and conflict management.		
Social capital, informal norms and accumulated community experience and knowledge	**Community Experience/Knowledge** <u>a) Risk Management</u> • Livelihood diversification strategies • Migration patterns including transhumance <u>b) Natural Resource Management</u> • Livestock and crop breeding • Rangeland management/rehabilitation **Infrastructure Maintenance** Volunteer community labour in infrastructure maintenance is a practice in some countries (dykes/Vietnam, protection work for micro basin/Honduras). **Informalization** Informal processes are not always effective as they embed the danger of politicization and clientelistic influences and often favors the most powerful, wealthy and influential.	**Early warning** • Early warning does often not reach remote areas. Communities use their traditional knowledge to predict the coming of hazards. They know the period of the year when floods, cyclones and drought are likely to occur. However, the uncharacteristic nature of extreme events is not predictable at community level (in general). • The only functioning, effective mechanism to inform and warn poor households living in specifically risk prone areas such as on river banks is when communities are organized to do it themselves • Pastoralists have sophisticated mechanisms to predict drought on the basis of which migratory itinerary and timing is (was) decided (Iran,	**Extreme Events Interpretation** Marginalized communities, with weak community organizations and limited access to local authorities, normally do not benefit from official relief mechanisms and rely solely on their social networks (South Africa, Burkina Faso). They will often demonstrate an inherent ownership of risk and have no expectations on support from local institutions (Argentina, Iran, and South Africa). **Immediate Relief Operations** Immediate Relief operations rely highly on social capital/informal mechanism, for life saving operations, removal to safer grounds and provision of food and shelter. **Informal/traditional leadership** Informal/traditional leadership often leads coordination of response (Vietnam, Iran). Although they have a very positive role in coordination and often compensate the lack of formal support they are rarely included in the

	Reciprocity
	• The pastoralists' strategy to manage drought and conflicts was based on reciprocity principles among pastoralists.
	  • Tacit agreements based on kinship and alliances (among pastoralists and with agriculturalists).
	  • Access to village wells was negotiated between pastoralists and sedentary population.
	• Reciprocity is decreasing significantly between farmers-herders due to tendency towards privatization of wells (Iran, Niger)
	• Risk managers in vulnerable ecosystems are often pressurized to adopt profit maximization strategies instead of "traditional" risk minimization strategies
		Burkina Faso, Niger).	formal coordination systems. Because they have sometimes been accused of nepotism and favoritism in relief goods distribution the establishment of committees with civil society representation is recommended (Mozambique)
			
			Voluntary Rescue Bodies
			Volunteer Rescue and Emergency Body can be established with local government resources (Philippines) or external support (Mozambique).
			
			Redistribute relief assistance to most vulnerable
			• Social networks provide mutual support and act as a conduit to the poor. Communities normally help their members in post-disaster recovery/asset rebuilding by:
			  • rebuilding destroyed homes
			  • re-stocking pastoralists herds
			  • donating seeds
			  • plot and harvest sharing.
			• Wage labour/migration is a resource in times of disaster. Remittances sustain hh in times of crisis.

The case studies provided a range of examples of good practices which, of course, are most meaningful if seen in the overall context of the specific cases. A reading of the case studies is therefore recommended, each of which shows some good practice examples on some aspects of DRM. All case studies, however, also showed some gaps. The case sample chosen in the Philippines, which is Dumangas Municipality, (which cannot be taken as representative for the Philippines in general) could be considered as the most comprehensive good practice sample among all 9 case studies, for an operational local DRM system which is well embedded in and supported by a national DRM system.

The comparative analysis of the case studies highlights that the following aspects are key requirements for effective local DRM systems/mechanisms:

- Enabling legal frameworks
- Social capital formation
- Integration between DRM and natural resource management
- Conflict resolution over natural resources
- Disaster preparedness and contingency planning
- Financial services factoring risks associated to natural disasters
- Early warning systems and reach out strategies
- Vertical and horizontal communication and cooperation linkages
- Coordination mechanisms at and between levels
- Community training and public awareness.

3.3.1 Good Practice Examples: Institutional Aspects of Successful DRM

The following are some good practice examples, which were identified at the workshop in relation to the above key requirements of DRM. They were considered striking, even if taken out of their individual, country specific contexts.

Enabling legal frameworks

In the **Philippines** a Presidential Decree of 1999 mandates the establishment of a Municipal and Baraguay (ward) Disaster Coordination Council. It is the basis for the Dumangas Municipality (Ilo-Ilo Province) to build its disaster risk management strategy on existing social capital. Since 1999 a series of Municipal level policies have been designed to respond to the need for more active and sustained support to the Municipal Disaster Coordinating Council. Municipal Executive and Administrative Orders have established a voluntary rescue and emergency assistance movement (DREAM) and local councils to institutionalize the role of major stakeholders in natural resource management and DRM.

Social Capital Formation

All case studies provide evidence that informal safety nets play a crucial role especially in the emergency/recovery phase. This is especially true in remote areas where official government support is very limited or non existent. Informal social networks played an important role in Buzi, **Mozambique**, during the 2000 flooding. In most cases the emergency response was initially taken by people organized along their informal social networks. Small private boats belonging to fishermen were used for evacuation of vulnerable people from flooded areas to safer places.

The town of *Volcan* in **Argentina** is subject to recurrent mud-slides and floods. Because the municipality is dramatically under-resourced, the early warning, evacuation and recovery are in the hands of the community. The population monitors the mountain and according to climate conditions can predict when it is going to become dangerous. When heavy rains come the population is alert, and a loud acoustic signal warns them once evacuation is recommended. When people hear the noise they run to higher and protected grounds, and men gather at the entrance of the valley to build barriers to prevent the mud slide moving into town. Household tools and machinery are used to remove the sediments. The community

supports those households which have suffered severe damage of their houses and helps with the re-building while remittances from migrants assist relatives in the recovery phase.

Natural Resource Management and Disaster Prevention and Mitigation

The **Honduras** case study describes two good examples of the positive impact of effective natural resource management on disaster mitigation. In the Atlantida Department, since the 1980's the inhabitants of the community of El Naranjal initiated a process of appropriation of their water source and developed a participatory strategy in the management of the micro basin. The Joint Water Administration Board (JAA) focuses on the participatory management of the micro basin and is responsible for: a) protecting the micro basin which provides water for the community; b) the water collection and distribution system; c) its administration and maintenance through voluntary work. The micro basin's financial administration is based on the establishment of a community reserve account: all the households are obligated to pay a monthly fee for the service. Members of the community believe that the impact of Hurricane Mitch was minimized due to the state of protection of the micro-basin.

In the Department of Lempira long drought periods followed by a period of damaging rains, at the end of the 1980's, had exhausted the local productive resources. In the early 1990s a rehabilitation programme supported by FAO reintroduced, and re-adapted, a local agro forestry system known as "Quesungual". The system is mainly characterized by a combination of basic grains (corn, *maicillo* and beans) sown directly on stubble, and dispersed trees. The Quesungual System is characterized by lower rates of erosion 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. Additionally, the system produces a part of the family's need for wood and therefore it reduces the pressure on the micro-basin's natural vegetation.

Conflict Resolution and DRM

Complex, multiple and often conflicting user rights arising from customary and formal law often result in conflicts among farmers and herders or among different tribal groups. Land tenure legislation and conflict management strategies are critical especially in drought prone areas.

In **Niger** traditional leaders have been designated by the formal administration to reconcile conflicts at the local level according to customary law and are paid by the administration to provide such services. If the traditional leadership fails the reconciliation powers are transferred to the local government representative. The Commisions Foncières d'Arrondissement (District Land Commission) was created within the Rural Code Orientation Law of 1993 with the mandate of preventing conflicts through recognition and registration of land rights. It is composed of representatives of major groups involved in reconciliation (Sous-Préfet, rural extensionists, traditional leader, representatives of pastoral and agriculturalists' associations, and of youth and women's groups). It has consultative and decision-making power regarding land allocation.

Disaster preparedness and contingency planning

The Philippines case study in Dumangas provided a good sample of regular, integrated disaster preparedness planning (see matrix in Annex 4). Another example derived from the literature review is **Costa Rica,** where more than 60 Local Emergency Committees exist at the local administrative level of the 'canton', composed of the delegates of various institutions, with each member being

assigned a role in case of an emergency. These bodies are represented in Regional Committees. The local committees are facilitators of community mobilisation and organisation. Their activities spectrum includes the inventory of resources available to deal with emergencies and the establishment of several brigades (rescue, first aid, food distribution, transport, etc.). These activities lead to the drafting of Local or Regional Emergency Plans, which provide the population with information on where to go in case of an evacuation alarm, who will assist and who will be supported, and which other activities are to be undertaken also. Only a few institutions are, however, represented permanently on the committees, which limit their possibilities of planning and action. Nevertheless, a significant correlation between the existence of Local Emergency Committees and contingency planning seems to exist: examples of regularly practiced contingency planning were only found in situations where Local Emergency Committees do exist.

Financial Services and Revenue Systems Factoring Risk Associated to Natural Hazards

Access to credit in the post-disaster phase was identified by all case studies as one of the most critical elements to facilitate rehabilitation and long-term risk prevention. The case studies and the literature review assessed and compared different types (government, private, informal) of Credit/Financial Services:

In the **Philippines**, local government manages a Local Calamity Fund (LCF), set aside by the local government from remittances (5%) as annual lump sum appropriations for relief, rehabilitation, reconstruction and other works and services in connection with calamities which may occur during the budget year. The municipal development fund comes from the 20 percent of the internal revenue allotment (IRA) from the national government. The IRA is appropriated to local government units proportionate with the population and land area. This development fund supports the municipality's programmes in the agriculture, health, social welfare, infrastructure, environmental management, disaster preparedness, tourism and youth sectors, including the appropriation of development funds for each of the 45 barangays. Recognizing that disaster management is a key component of development, the municipal mayor utilizes the development funds to support disaster management in the relevant sectors (e.g. rehabilitation of roads and drainage systems from the infrastructure sector appropriation, medical missions from the health sector appropriation, etc.). In line with the Local Government Code, barangays (wards) have their own calamity fund (5% of the barangay income) for disaster relief, rehabilitation and reconstruction. When available funds are not sufficient to meet their needs, external assistance from the municipal government is sought. Furthermore, the Local Economic Council (Local Business Council, representing local SMEs) provides loans and goods in times of disaster to overcome the delays of the Government Funds bureaucracy.

In **Vietnam**, levels of compensation for households affected by disasters are, in principle, set by official government guidelines. These are issued through the Ministry of Labour, War Invalids and Social Affairs (MOLISA). They establish minimum levels of compensation for a death or injury in the family, and for damages to or losses of property and crops. According to MOLISA representatives in Hanoi, each province must put aside a yearly budget to enable it to compensate households at least to these minimum levels.

The law on water resources provides that funds for prevention, response, rehabilitation and reconstruction activities for water-related emergencies (flood, drought, saltwater intrusion, hail and acid rain) would come from the State budget, the reserve State budget, local funds contributed by the population, and assistance from foreign organizations and individuals. People are asked to contribute one kilogram of paddy per labourer annually (or its cash equivalent). Amounts raised

are sent up to higher levels (percentages retained at district and provincial levels) to be used for relief, rehabilitation and reconstruction following floods and storms. The commune does not retain any percentage.

Local level funds for disaster relief and household social assistance are also raised by mass organizations such as the Women's Union, Veterans' Association and Agricultural Cooperatives through the contribution of members. These, however, may be accessed by members only.

Furthermore, a number of **lessons emerge from the literature review.** The microfinance sector is in need of disaster response and recovery policies such as a flexible credit policy for disaster recovery, while debt forgiveness should be an option of last resort. A lesson learnt concerns the setting up of new MFIs as a post-disaster response, which has largely been found ineffective. Among existing MFIs those concerned should themselves periodically test the effectiveness of their DRM strategies and need to prepare for worst case scenarios by applying a comprehensive approach to risk management, and integrating disaster risk management strategies into their operations and organisational culture. They tend to find it easier to succeed in these operations if they can avail themselves of committed and easy to deploy field staff, whilst their geographical diversification through a wide network allows them to cross-subsidise for DRM. Micro-lending programmes should not mix loans and grants - the latter should be provided by a different organisation – and the solidarity group lending methodology is not suitable for home improvement loans. For poor communities, savings and emergency funds are better than insurance (Messer 2003).

Micro-finance institutions and staff can also assume relevant additional roles during the emergency and relief phase. Pro-Mujer is a medium-sized institution in **Nicaragua** with direct international links providing financial and non-financial services such as basic health services and technical assistance in business skills to about 5,800 women. After hurricane Mitch devastated the region in October 1998, it assumed a relief agency role as, for about two weeks, the focal centres of Pro-Mujer became relief facilities. Pro-Mujer staff temporarily stopped credit and training operations, postponed disbursements to new associations, and used training centres to counsel clients and distribute food donations. Moreover, it quickly managed to deploy trainers who could teach clients and their families hygienic strategies and preventive health measures for a post-disaster situation. Pro-Mujer staff also worked directly with clients to determine their needs and reassure them that the programme would continue, and brought in a consultant to conduct workshops on emotional recovery (Pantoja in Messer 2003).

Customary cooperation mechanisms compensate the most affected households especially if no formal credit system is in place. In pastoral **North-West China**, for example, this may involve encouraging the institution of grassland user rights or short-term renting and leasing among affected and non-affected households during the risk recovery period, possibly under the coordination of traditional village leaders. During the recovery following snow disasters, there are also inter-household cooperative actions, especially within herders groups, i.e. sharing the pasture of the less affected households, providing storage fodder or hay and female yaks for reproduction to those households which were most severely damaged. During such cooperation, herder's group leaders, production team leaders and village leaders can coordinate and accelerate the process of recovery (Liu Y. et al. in Messer 2003). Similar mechanisms are in place among the Qashqai nomadic communities of Iran.

Early Warning Systems

Early warning systems have been identified in all case studies as a critical component of preparedness. However the studies highlight that the focus on institutional set-up is not sufficient; the system needs to include appropriate reach out strategies; "hybrid" systems (including traditional and modern prediction techniques) proved to be quite effective in this regard.

The **Burkina Faso** case study describes two parallel (traditional/formal) drought prediction systems in the Dantchadi Area. The *Marabout*s' astrological knowledge is used to predict yearly production and influences decisions on agricultural activities. In some areas traditional prediction knowledge of natural phenomena is shared among most adult villagers. Formally the Comité de Coordination de l'Information is in charge of early warning. It collects its information through village-based agricultural technicians who use rainfall gauges, information records and growth plots, and feed the information to upper levels.

In **Niger** the *Systeme d'alerte précoce et de gestion des catastrophes nationales (SAP/GC)* is the national body responsible for early warning and disaster management. It is a decentralized structure (has an office in every District) whose mandate is to collect information on food crisis risk, formulate and implement action. It is composed by the Vice-Préfect, the Head of Agricultural Services, traditional leaders and representatives of local associations. The assessment is undertaken by the local administration and traditional leaders, the final lists of beneficiaries are negotiated among the two. The list is endorsed at regional level and communicated to the national office. These lists are often problematic as negotiation is sometimes subject to manipulation and results in favouring certain zones rather than others perhaps more or equally in need. It is responsible for food distribution at favourable prices and management of Cereal and Forage Banks.

The Dumangas Municipality in the **Philippines** has a very efficient "three source" early warning system based on information from: a) the national forecast agency (weather parameters); b) local irrigation authorities (hydrological parameters); and c) communities (river level monitoring).

Vertical and horizontal communication and cooperation linkages

In **Vietnam** Representatives of Mass Organizations are members of the local (commune level) Committees for Flood and Storm Control (CFCS). These organizations have been established in the 1930s to link between the Communist Party, the Government and the people; are far reaching and therefore have great effect on social and community mobilization. Through the CFCS, or independently, mass organizations are actively involved in disaster preparedness, relief and rehabilitation in the following way: a) Vietnam Fatherland Front: calls for and channels emergency donations; b) Women's Union: distributes relief goods and assistance, rebuilds houses, extends credit to its members; c) Youth Union: disseminates warnings, supports in evacuation and rescue; d) Veterans' Association: assessment of damage; e) Farmer's Association: provides counseling and facilitation in preparedness and rehabilitation activities; f) Vietnam Red Cross: manages 40 disaster preparedness centres and provides training to key staff

Coordination Mechanisms

The **Philippines** and **Vietnam** case studies provide two good practice examples of formal DRM set up at national, provincial and local government level. The two systems also provide an interesting insight on strategies for social capital formation and inclusion in the local government coordination mechanisms (details in the case study matrixes in Annex 4). They are spearheading a general finding which is that

among all stakeholders in DRM, local Governments have a strong comparative advantage to lead in DRM coordination (not so strong though on relief/response).

In some cases also large and respected NGOs are well equipped to bring together different government and non government actors to deal with DRM challenges. An example is **Gujarat / India** where the post-disaster assistance of the Self Employed Women's Association (SEWA) was very well received due to several factors: first, SEWA had very good knowledge of the area and its population, as it had been working in the affected areas for over ten years. Second, it had experience in previous disasters and an extensive grass-roots network of women members throughout the most affected areas that made a rapid and effective disaster response highly feasible. Third, thanks to its solid reputation and institutional influence, SEWA rapidly managed to obtain tents, medical aid and supplies from specialised agencies. In fact, some agencies like UNICEF and WFP, and the government of the State of Gujarat, channelled relief aid through SEWA. The State Government in particular gave SEWA cash, in addition to food packets and medical aid, to be passed on to affected members. Fourth, the decentralised and well coordinated nature of its relief distribution network enabled SEWA to provide adequate and timely assistance (Messer 2003).

SEWA has also been able to tackle the challenge of interdisciplinary reactions to disaster very well. Since the earthquake-affected districts were experiencing a second consecutive drought year when the earthquake hit, the challenge for SEWA was to ensure that the rehabilitation programme had a multi-hazard perspective covering seismic and cyclone resistant measures as well as drought mitigation measures, while continuing to provide drought relief. The disaster rehabilitation programme has managed to take advantage of several opportunities to integrate drought and earthquake mitigation measures into the reconstruction and rural development process. For example, increased availability of water has been provided by adding roof rain water harvesting structures to the new housing constructed through the shelter restoration programme. Simultaneously, to provide drought relief, a fodder security programme including dry fodder and cattle feed has also been established, and a housing shelter restoration programme following a participatory, owner-driven approach, was implemented.

Community Training and Awareness Raising

The comparative analysis of the case studies highlighted that there are very few relevant good experiences in community-based training and capacity-building for DRM.

The **Mozambique** case study describes an interesting experience of a GTZ-supported project in the Buzi District after the 2000 floods. The *Gestão de Risco de Calamidades* (GRC)/GTZ Project played an important role in Búzi especially in terms of response and post-disaster assistance. After the floods the GTZ participated in school and health centre rehabilitation, and assisted the Government in developing a local disaster risk management strategy. The strategy included: a) establishing local committees for risk management in the Búzi District; b) providing local communities with basic kits for improved early warning, rescue and response; c) promotion of workshops and training on disaster prevention, preparedness and better response; d) introduction of new agricultural techniques and new crops, or the re-establishment of local crops. In each community a committee, consisting of seven volunteer members, represents the GRC. This committee also works in coordination with local traditional authorities, mobilizing people living in low-lying areas to move to safer places.

In **Honduras** the focus was on the building of local governance structures that then were able to take on emergency roles when the situation required. In this sense

several of the weaknesses identified here are beyond the specific issue of “disaster” and the construction of local democratically controlled institutions provides an institutional framework for disaster management, especially in the preventative phase and during the immediate emergency when only the local government is present to coordinate the request for external post-disaster interventions. In fact the creation of separate disaster structures in a majority of situations could be counterproductive. It needs to be part of the weave and woof of local institutionality as it has been traditionally in ecologically marginal societies.

3.3.2 Shortcomings of local institutions in DRM

The case studies have highlighted that local institutions are often not prepared to respond efficiently to emergencies. For example the 2000 floods and cyclones in Mozambique revealed that there were no clear programmes or plans for responding to the emergency – including preparedness, evacuation and response. Communities also did not anticipate an event of such magnitude, inhibiting appropriate responses, particularly to early warning. Some of the key aspects of institutional weaknesses identified for Mozambique, but applicable to most of the other case studies, are:

- lack of institutional coordination to respond situations of extreme need;
- weak mechanisms of communication between different levels of the administration;
- lack of efficient channels and mechanisms to disseminate information on natural hazard management to communities that really need that information;
- centralisation of decision-making at national level and nonflexible mechanisms for information flow from bottom-up. As a result, most of the decisions taken do not reflect the needs and expectations of the people on the ground;
- fragile and incompatible links between the different powers created in a context of new democratisation. At the local level there is no clear definition of roles between the traditional and administrative authorities; this sometimes results in conflict, which can have a negative effect on institutional coordination in disaster management;
- poor coordination with donors and incapability of challenging their conditions/impositions of how and where to provide support.

Another key aspect relates to transparency. Most of the case study authors have registered their preoccupation for the clientelistic dimensions of emergency relief distributions managed by the local authorities (formal and informal). This seems to be an area where “outsiders”’ have a comparative advantage although this needs to be complemented with local understanding of who are the most vulnerable groups and where their residence is. The recommendation arising from Niger, Burkina Faso and Iran is that vulnerability assessment and relief distribution should be co-managed between NGOs and the local community. This seems to be a specific manifestation of the broader issue of representation of marginal groups and seems to be particularly evident, for example, for pastoralist groups affected by drought.

Furthermore, while formal government institutions do not address the differential vulnerability of communities, the informal social networks act as a conduit to redistribute relief assistance to the most vulnerable during crisis periods. Since rehabilitation assistance is normally provided on the basis of absolute and not relative loss incurred by households, the poorer households incur disproportionately greater losses.

Weather-related shocks exacerbate the seasonal and income gaps which are often (where available) bridged by loans from different sources with varying interest rates. Most loans from the organized institutions like banks go to the better off and middle-income groups in rural communities. This is due to collateral requirements and poor people are forced to borrow money from relatives without interest or local money lenders with very high interest rates, especially during lean seasons. Small, locally-based micro finance institutions do not seem to be the most appropriate mechanisms for distributing credit to facilitate recovery in areas which are recurrently prone to natural disasters. Since local institutions that include very poor clients will tend to be more vulnerable to natural disasters, mostly a trade off exists between reaching poor (and disaster vulnerable) groups and financial sustainability.

Systematic disaster preparedness planning mechanisms to establish and regularly up-date contingency plans are rather the exception than common practice. Awareness-raising, practical training and guidelines are needed for local governments and communities, in particular, to create an environment in which disaster planning becomes a regular practice.

The most striking gap exists between DRM and rural development planning. The Philippines case study was the only one of the nine where DRM activities were clearly incorporated and in line with rural development planning.

3.4 Framework Conditions to Better Link DRM Systems with Rural Development

Integration between DRM systems and rural development policies can be tackled at different levels. General governance, poverty reductions and sustainable use of natural resources issues are the pre-conditions for effective DRM. However several framework conditions need to be in place or improved to further mitigate disaster impacts and build communities' resilience against shocks. They include:

a) Policy Design:

- → Inclusion of disaster prevention and mitigation components (and of vulnerability/risk analysis elements) in rural development plans and other sectoral plans ("retrofitting" of rural sector development projects with DRM components);
- → Integrated land use and watershed management strategies. Promotion of co-operative planning among countries/municipalities in regional watershed management (example of Mozambique 2000 floods) and cross boundary risk management;
- → National policy mandating for disaster risk reduction at local level and development of local DRM plans;
- → Revenue system allowing for resource allocation to local Relief-Calamity Funds; budget allocations for prevention and mitigation; resource mobilization strategies (including twinning programmes between municipalities in the South and North bringing together resources and experiences); DRM strategies for micro-finance/credit institutions (rescheduling of compulsory savings and delays in repayments, emergency loans etc.);
- → Development of post-disaster financial measures that can facilitate recovery (tax alleviation, credit payments reschedules etc.);
- → Preparedness and response coordination systems included in local institutions;

→ Link at the local/national level the representatives and interest groups of development with those of disaster management and establish alliances between different actors;
→ Incentives identified for different actors to get involved in what would be defined as "good practice". Disincentives designed for unsustainable practices.

b) Governance and Coordination:

→ Central Government must acknowledge the role of local actors and provide an enabling normative framework;
→ Establish cross-sectoral (horizontal) disaster coordination committees at local level (not necessarily new structures) and eventually add new specialized functions/services to existing structures;
→ Design and operationalize emergency coordination mechanisms: contingency plans and evacuation plans, with clear definition of authority roles and responsibilities. These are normally more effective when designed at provincial level and below; when this is not the case the level of detail is not sufficient for translating recommendations into action;
→ Effective vertical (higher level organizations support lower level) decision making mechanisms for times of emergency;
→ Build the local capacity for immediate response (normally during the first four days all relief operations rely on the local community);
→ Recognize and enhance local knowledge, specifically on: risk identification and monitoring, risk mitigation strategies, early warning, conflict resolution;
→ Recognize and enhance the social safety nets, especially in the relief and rehabilitation phase. A key related governance issue which requires analysis is how to combine modern democratic institutions with traditional knowledge and livelihood and communication strategies and how to adapt traditional organizations to modern requirements (experiences reported in the Niger case study).

c) Adjust (Rethink) Emergency Relief:

→ (Where possible) promote more consistency with long-term rural development objectives (rural development policies in disaster-prone areas to include sections on recommendations for emergency food aid distribution);
→ Improve current Monitoring and Evaluation practices on relief operations (including impact on rural development);
→ Identify relief interventions that support/sustain local livelihoods;
→ Build an exit strategy, based on local sustainability, for all external relief interventions;
→ Use emergency relief operations to generate momentum and the opportunity to rethink and foster long-term rural development.

d**) Monitoring:**

→ Identify and monitor risk on a regular basis;
→ Develop local risk indicators adapted to climate related changes;
→ Undertake local vulnerability and needs assessments before and after hazards occur (including differentiated, but standardized vulnerability criteria) and mapping, and hazard risk diagnosis;
→ Evaluate the consequences of development choices on disaster impact;

→ Monitor and evaluate the impact of relief distributions;
→ Measure the impact of a disaster in terms of loss of livelihoods and not loss of lives.

j) Key Services:

→ Improve the local asset base: sustainable NRM strategies, appropriate technology development, stock reserves for emergencies, access to capital and markets, livelihood diversification, insurance mechanisms, improving existing buildings to increase their resilience against damage;
→ Early Warning Systems including clear information dissemination practices and out-reach mechanisms to populations in remote areas. Mixed-formal and informal information systems and local radios proved to be the most efficient. Integrate scientific understanding of natural hazards with local knowledge and traditional beliefs;
→ Improve understanding of how people interpret and respond to warnings.

k) Capacity-building and Public Awareness:

→ All case studies show evidence of a lack of relevant capacity-building, public awareness and training activities on DRM at local level. Capacity-building efforts should target both government and civil society representatives and be site-specific. Examples of activities at different stages to increase local DRM capacity are listed in Annex 6. Information on disaster risk protection options should be provided to citizens in easily understood, ideally local language and through means appropriate to the local context.

l) Targeting Vulnerable Groups - An Example: Issues Specific to Pastoralism and Drought

Drought relief operations have consistently demonstrated the need for accountable community-based structures to oversee the implementation of emergency interventions, which also ensure that interventions are culturally acceptable. Such structures, which usually take on the form of committees, need to be legitimate. As emergency operations need to be swift and tend to involve at least some free distribution of assets of one kind or another, they are also more prone to corruption and bribes. Community-based structures thus need to include a rigorous selection of credible and trusted local individuals, who should be chosen by community members themselves. Issues specific to pastoralism are:

→ Pastoralists Groups are often marginalized, their livelihood system not supported by government, and sometimes they are even openly discriminated against. Traditional tribal structures are often in conflict with modern (elected or appointed) local government. Hybrid organizations (combining traditional and modern representation principles and representatives of informal leadership and formal government) have the potential to overcome these conflicts. Policy reform is needed to recognize local institutions, including tribal institutions;
→ Conflict resolution is a key aspect of NRM/DRM in many pastoralist communities; clear land tenure, use and allocation rights are necessary;
→ Because of the political marginalization of pastoralists, technical capacity-building needs to be linked with empowerment (for example

Farmer Field School Approaches and Experience could be modified and applied to the nomadic context);

- → Local Veterinary Services are good entry points for programs involving pastoralists;
- → Combined, institutionalized destocking and restocking mechanisms have high potential to counteract drought impacts, if applied at the on-set of drought;
- → Early warning systems often do not reach pastoralists. Mixed information systems should be developed including traditional knowledge on drought prediction and coping strategies.

4 THE WAY AHEAD

4.1 Considerations and Entry Points for Follow-up

Mainstreaming disaster risk reduction with development policy is a key challenge, which requires development and strengthening of institutional and organizational frameworks at all levels of government.

The comparative study shows that disaster management and response coordination benefit from centralized command during extreme events but most of the DRM related functions require appropriate decentralization of functions, devolution of authority and community participation to complement the centralized system. This is particularly true for regions exposed to recurrent /chronic events progressively increasing local communities' vulnerability. Local level community response is the most important factor enabling people to reduce and cope with risks especially in the most remote areas/marginalized groups. However, informal networks can be eroded in the long-term from exposure to stress and resources for mitigation measures are often lacking.

Therefore, on the basis of its experience with local rural institutions, SDAR's follow-up initiatives should continue to focus on:

- → Recurrent events and chronic processes gradually reducing the resilience and increasing the vulnerability of livelihood systems; (the impact of exceptional natural events normally go beyond local coping capacities and require emergency operations which usually go beyond local coping capacities)
- → Vulnerability and coping capacities not on the hazard
  (Looking at the equation "Risk = Hazard x Vulnerability/ Coping capacities" the "coping capacities" is the dimension in which local institutions are crucial)

Three key aspects of the DRM and rural development integration will be taken into consideration:

- → <u>Relief as an opportunity to initiate longer-term development</u>
  Experience and the literature provide evidence that disaster management systems that focus on response and relief are inadequate and that, while response systems must be improved, greater focus on prevention and mitigation is essential. However, building a culture of prevention is not easy and resources for prevention and mitigation are often lacking. This reflects the difficulty in demonstrating cost-effectiveness involved in saving lives and public property from natural disasters before they occur. In this regard severe natural disasters can become opportunities for development since

they catalyze the resources and momentum necessary to introduce policy reform. For example, in post-disaster situations governments are often forced to institutionalize their disaster management strategy. Most of the initiatives (both at policy and operational level) described by the case studies and literature review have been developed as a follow-up to a severe disaster (for example: in Honduras, India/Orissa, Mozambique and the Philippines). Furthermore, disasters offer development practitioners and governments opportunities to do things in a different way than before. They can easily introduce improved technologies and construction practices.

The emergency relief phase could become a strategic entry point to initiate development processes and build local communities resilience to shocks. Key questions to be answered are: how should local actors and institutions be involved in the emergency relief phase? What are the implications of inclusive targeting and what procedures should be followed? How can development opportunities be built during emergencies? How can short-term resilience building support long-term development? How can relief support be diversified to meet local needs, to recapitalize assets and support local institutions?

→ Increasing local communities' resilience to cope with shocks

Livelihood adaptation and diversification are a key component of disaster reduction strategies. One of the key variables associated with natural disaster risk is that of rural livelihoods. Vulnerable groups normally live in areas highly affected by natural hazards and have normally developed complex coping strategies which traditionally included (among others) shifting cultivation, crop diversification and transhumance. However, a rapid change of the vulnerability context often does not allow for traditional coping mechanisms to take place and results in an overall loss in the adaptive capacity of the community. Key forces in this regard are climate change, urbanization, changing markets and environmental degradation. Typically traditional coping strategies are being integrated/substituted by migration and remittances. High exposure to risk is often an unintended outcome of spontaneous household relocation and formal resettlement programmes promoted by government, in which newcomers lack the necessary agro ecological and farming systems' knowledge to devise risk coping strategies. The investigation of rural livelihood strategies through the sustainable livelihoods lens can provide an important means of learning more about how to strengthen household resilience to cope with shocks.

Another key aspect is the identification of risk scenarios. The literature review has identified the six steps proposed by the Asian Disaster Reduction Center, (ADRC) under the title "Total Disaster Risk Management Approach" as an example how to integrate and plan DRM activities.

→ Improving vertical and horizontal institutional linkages

Strengthening of institutional and organizational frameworks based on integration of sectoral planning, effective mechanisms of devolution of responsibilities, partnership with among local actors and community action.

The Total Disaster Risk Management Approach

The Total Disaster Risk Management Approach (TDRM), comprises six systematic steps for problem definition, analysis, decision-making, implementation and monitoring and review (Guzman 2002):

- First, establish the disaster risk context. This step establishes the strategic, organisational and risk management context.
- Second, identify the disaster risks. This step identifies what, why, and how hazards, certain events or occurrences could lead into disasters.
- Third, analyse the disaster risks. This step determines the existing controls and analyses disaster risks in terms of likelihood and consequences in the context of those controls. The analysis should consider how likely is an event to happen, and what are the potential consequences and their magnitude.
- Fourth, assess and prioritize the disaster risks. This step compares estimated levels of risk against the pre-established criteria and ranks disaster risks to identify disaster management priorities (acceptable risk vs. risk to be counteracted).
- Fifth, tackle the disaster risks. This step involves identifying a range of options for tackling the priority risks, such as options for prevention, preparedness, response, and recovery, agreeing on intervention options, planning and implementing intervention strategies.
- Lastly, monitor and review. This is important since few risks remain static and the disaster risk system and plan must remain relevant.

(Guzman 2002 in Messer 2003)

4.2 Follow-up Activities

Case-specific lessons learnt and policy recommendations are included in the case studies and are available under the FAO web-site www.fao.org. Additional analysis and consultations are, however, needed to translate the lessons and outcomes of Phase I into normative tools and operational programmes.

The follow-up strategy will focus on aspects of DRM relevant for the agriculture sector according to FAO's mandate and includes the development of possibly three interrelated pillars of action:

a) Normative products

→ *Risk preparedness and Vulnerability Assessment/Monitoring Guidelines* (building on already existing experiences of participatory pre- and post-disaster risk assessment; focusing however on resilience, rural institutional capacities and rural institutional learning process, including a checklist for the assessment of DRM capacity);

→ *Code of Conduct* focusing on the impact of post emergency assistance on rural institutions and long-term rural development objectives and on transparency mechanisms for the distribution of relief goods/aid (including: role of informal social networks and leadership in relief aid distribution, exit strategy guidelines for external actors and handover procedures to local institutions, role of micro-finance and other credit institutions, identification

of relief interventions that support/sustain local livelihoods and assets, mechanisms that allow for local purchase)[7];

→ *Recommendations and lessons learnt* on participatory policy frameworks, DRM specific functions for extension services and "retrofitting" of rural sector development projects with DRM components (contingency planning, early warning, post-disaster credit facilities, de- and restocking mechanisms);

→ *Strategy for the development of tools appropriate for complex emergencies,* Including the identification of which of the recommendations and lessons learnt on recurrent natural hazards are applicable for complex emergencies and identification of gaps.

b) Operational Pilot Projects

→ Pilot projects in selected **Emergency Hotspot Countries** focusing on selected livelihood systems and the strengthening of institutional and technical capacities for risk prevention and emergency preparedness, and the integration of these DRM activities into regular local/district development planning

→ Selected hot spot areas which are in the situation of receiving relief operations could be the starting point to initiate medium to longer-term **pilot projects** to link relief,-rehabilitation and development activities. Their emphasis could be on technical advice, initially complementing relief operations, but going beyond the timeframe of emergency operations. They would pool FAO strengths on a comparative advantage basis with those of other partners and local actors. FAO could contribute on different technical aspects including/combining – in response to situation specific contexts, existing capacities and needs - selected sub-components such as (among other possible components):

- *Livelihoods and vulnerability assessment studies*
- *Risk perception and resilience studies*
- *Institutional strengthening and partnership building for DRM, including improved extension service provision,;*
- *DRM systems development/adaptation and their integration into regular local/district development planning*
- *Awareness raising for, improving access to and local adaptation of early warning systems*
- *Contingency planning for DRM,*
- *Technical capacity building of DRM stakeholders*
- *Livelihood adaptation: Elaborating and testing options for livelihood adaptation and/or diversification: Targeting selected vulnerable groups with support tailored to their livelihood systems*[8]).

Participatory approaches to complement and match existing structures and capacities with innovative ideas and to promote local risk preparedness and adaptation strategies and capacities to cope with recurrent crises would be jointly developed and tested during

[7] The literature review provided some examples of similar initiatives: the Orissa Relief Code developed after the 1971 cyclone and the recent initiative undertaken by the IFRC entitled "Code of Conduct for the International Red Cross and Red Crescent Movement and NGO's in Disaster-prone Areas".

[8] Such as for pastoralists in drought-prone areas: concrete interrelated risk mitigation strategies might include: improved grazing management, forage banks, credit facilities, (micro-) insurance, institutionalizing de- and restocking facilities for herders, early warning, livelihood diversification, conflict resolution taking into consideration both traditional and modern knowledge and strategies, empowering institutions/organization which integrate traditional and modern knowledge and power structures.

implementation in selected pilot countries through a coached action learning approach.

→ The pilot projects would serve as an operational platform for the development and testing of the normative tools, while the recommendations arising from the normative work would be fed back into the projects and used as on-going monitoring tools.

c) Partnerships Development

→ On the basis of SDAR areas of competency, identification of a framework for complementary action with other FAO Services to deliver joint and complementary responses to requests of support on disaster risk prevention and mitigation.

→ Build strategic and technical partnerships with external partner agencies for each of the above components (WFP, UNDP, IFRC, ADPC IDRM …)

→ Facilitate linkages between the academic world and grass roots organizations doing the work on the ground.

A more detailed concept note on follow-up activities will be drafted and distributed to major potential partners and donors.

5. References quoted[9]

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UNDP (2004), *Reducing Disaster Risk: A Challenge for Development,* New York.

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[9] For a detailed reference list see Messer 2003.

6. ANNEXES

Annex 1: Workshop Agenda and List of Participants

AGENDA- DAY 1		LOCATION
Morning		
9:00- 10:00	Registration of participants, issuance of building passes	
10:00- 10:05	Welcome Remarks by the Director of the Rural Development Division, Mr Cox	Gabon Room- A Ground Floor
10:05- 10:20	Introduction of participants	
10:20- 11:00	Presentation of underlying key concepts, working hypothesis and definitions	
11:00- 11:10	Presentation of agenda and workshop procedures	
11:10- 11:20	Composition of working groups	
11:20-12:30	Working Group Session 1: Local Institutions in DRM/ Consolidation of Data *Group 1:* Storms and Floods/ case studies from Argentina, the Philippines, Vietnam, India *Group 2:* Storms and Floods/ case studies from Honduras, Mozambique, South Africa *Group 3:* Droughts/ case studies Burkina Faso, Iran, Niger	Group1: Gabon- A Ground Floor Group 2: B 503 Group 3: B 540
12:30- 14.00	LUNCH	
Afternoon		
13:30- 15:30	Working Group Session 1 (Group 1) continued	
14:00 - 15:30	Working Group Session 1 (Group 2 and 3) continued	
15:30- 16:00	COFFEE BREAK	
16:00- 17:00	Plenary Session 1: Gallery Walk and short presentation of each working group on major issues discussed and findings	Gabon Room A Ground floor
Evening		
19:30	Dinner	
AGENDA - DAY 2		
Morning		
9:00- 9:05	Review of Day 1	Canada Room A356
9:05- 9:10	Introduction to Agenda of Day 2	
9:10- 9:30	Video Demonstration of DRM in Mozambique	
9:30- 10:30	Working Group Session 2: Comparative advantages and weaknesses of key actors in DRM resulting from case study and other experiences and verification of the working hypotheses	Group 1: Gabon Room A Ground Floor Group 2: B 503 Group 3: Canada Room A 356
10:30- 11:00	COFFEE BREAK	
11:00- 12:40	Working Group Session 2 continued	same rooms as above
12:40-13:40	LUNCH	
Afternoon		
13:40- 15:30	Plenary Session 2: Common trends and differences of comparative advantages and weaknesses local institutions in DRM	Canada Room A 356
15:30- 16:00	COFFEE BREAK	
16:00- 17:00	Open Space on proposed topics during the plenary	Canada Room A 356 and Atrium

17:00- 17:30	Reporting back to note takers in Canada room	
Evening		
19:30	Self-organised dinner	

AGENDA- DAY 3		LOCATION
Morning		
9:00- 9:05	Review of DAY 2	Canada Room A 356
9:05- 9:10	Introduction to Agenda of Day 3	
9:10- 11:00	Working Group Session 3: Lessons Learned and Recommendations Group work on 1) Recommendations for policy and implementation to better address local governance in DRM, and DRM and Rural Development integration; 2) Capacity-building strategies to strengthen DRM and its implementation 3) Product/Material development (normative and operational) to support DRM and DRM–RD linkages 4) 10 key "essentials" which DRM systems must combine to function in synergy throughout the disaster cycle 5) possibly another topic of interest identified during workshop	Canada room A 356 B 503 B 540 C 603
11:00- 11:20	COFFEE BREAK	
11:20- 13:00	Plenary Session 3: Presentation of the working groups Brainstorming on the "Way Forward"	Canada Room A356
13:00	CLOSING	

List of Workshop Participants

Name	Title Organisation	Country
External Resource Persons		
Mr Mohamadou Abdoulaye	LASDEL	Niger
Ms Lolita Bildan	Asian Disaster Preparedness Centre (ADPC)	Mozambique
Ms Helen MacGregor	Disaster Risk Research Coordinator, Disaster Mitigation for Sustainable Livelihoods Programme University of Cape Town (UTC)	South Africa
Mr Norman Messer	West and Central Africa Unit, IFAD	Rome-Italy
Ms Maryam Rahmanian	CENESTA	Iran
Mr Elías Suazo	National Project Director for the Trust Fund on the Consolidation of the Municipality Chain in Local Development	Honduras
Mr Subbiah	Asian Disaster Preparedness Centre (ADPC)	Thailand
Mr Matsimbe	German Technical Cooperation (GTZ)	Mozambique
Ms Jacqueline Flentge	World Food Programme (WFP)	Rome-Italy
FAO Resource Persons		
Ms Cristina Amaral	Emergency Operations and Rehabilitation Division (TCE), FAO	Rome-Italy
Mr Stephan Baas	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Ms Federica Battista	Rural Institutions and Participation Service, Consultant	Rome-Italy
Mr Emmanuel Chengu	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Ms Maja Clausen	Agricultural Management, Marketing and Finance Service (AGSF), FAO	
Mr Ian Cherrett	Rural Institutions and Participation Service (SDAR), FAO Regional Office	Santiago de Chile
Mr Richard China	Emergency Operations and Rehabilitation Division (TCE), FAO	Rome-Italy
Ms Eve Crowley	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Mr Maximiliano Cox	Director of Rural Development Division (SDA), FAO	
Ms Jennie Dey-De Pryck	Service Chief, Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Ms Stephan Dohrn	Livelihood Support Programme (LSP), FAO	Rome-Italy
Mr Olivier Dubois	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Mr Marco Knowles	Food Security and Agricultural Projects Analysis Service (ESAF), FAO	Rome-Italy
Ms Ana Guerrero	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Mr Günther Hemrich	Food Security and Agricultural Projects Analysis, (ESAF) FAO	Rome-Italy
Mr Tómas Lindemann	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Mr Paul Mathieu	Land Tenure Service (SDAA), FAO	Rome-Italy
Mr Fabrizio Pittaluga	Office of Director, Fisheries Department (FIPD), FAO	Rome, Italy
Ms Pamela Pozarny	Rural Institutions and Participation Service (SDAR), FAO Regional Office	Accra
Mr Fritz Rembold	Rural Institutions and Participation Service (SDAR), FAO Regional Office	Budapest
Ms Francesca Romano	Forestry Policy and Institutions Service (FONP), FAO	Rome-Italy
Ms Laura Sciannamonaco	Emergency Operations and Rehabilitation Division (TCE), FAO	Rome Italy
Ms Paola Termine	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy
Ms Julia Wolf	Rural Institutions and Participation Service (SDAR), FAO	Rome-Italy

Annex 2: Key Concepts and Definitions

The Disaster Management Cycle and its key phases were used as a starting point in the analysis of the nine case studies. However participants shared analytical and operational concerns on the implications of its use, especially in terms of integration of DRM cycle into long-term rural development (details in the following sections).

The International Strategy for Disaster Reduction (ISDR) definitions have been used for key disaster related terms[10].

Hazard: A potentially damaging physical event, phenomenon or human activity, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Vulnerability: The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

Risk: The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally risk is expressed by the notation Risk = Hazards x Vulnerability. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability.

Resilience: The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Disaster: A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Disaster Risk Management: The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards.

The FAO/Rural Institutions and Participation Service's working definitions of social capital and of processes linked to decentralization informed the institutional focus of the study and workshop debate.

[10] Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), *Living with Risk: A global review of disaster reduction initiatives*, United Nations, Geneva, 2004.

Social Capital

Social capital can be defined as the set of norms, social relations, and organisations that enable people in a society to coordinate action to achieve their objectives. The concept of social capital has been the subject of theoretical discussion for a long time. Recent research focuses on three aspects:

- the *grass-root (communitarian) perspective*, which emphasises the internal relationships between members of communities and common interest groups and encourages voluntarism,
- the *network perspective*, which emphasises the association of different communities, groups, and other forms of organisations (trade unions, professional organisations, information spreading enterprises, NGOs, political parties), and
- the *institutional perspective*, which emphasises the relationships between private organisations and their networks (the civil society) on the one hand, and the state on the other (role of the rule of law, of governance, of the rights of citizens, participation, transparency and accountability of the public sector, coordination of private and public sector initiatives).

Increasingly decentralisation policies are being considered as instruments for promoting more social capital formation in a society. Proponents of decentralisation and devolution have argued that the empowerment of local authorities and strengthening of capacities of local institutions through building of horizontal relations of partnerships and alliances between local government authorities and civil society organisations have constituted a viable strategy for the creation of social capital at the community level.

The process of decentralisation

In order to gain a clearer understanding of the link between decentralisation as a process of social capital formation and the participatory design of disaster preparedness strategies it is essential first to discuss and define the basic concepts of decentralisation.
Four broadly contrasting concepts of decentralisation, are defined below, namely: '**deconcentration'**, and '**delegation'** of powers and responsibilities from central government to sub-national units, and semi-autonomous or parastatal organisations; and, '**devolution'**, and '**partnership'** involving transfer of functions from central government to autonomous local government authorities, and civil society and non-governmental institutions.

'Deconcentration' involves the geographical redistribution or dispersal of central government administrative responsibilities, without providing many opportunities for local authorities "to exercise substantial local discretion in decision-making". There are three levels of deconcentration. The first level involves mere 'shifting of workload' from central government ministries in the capital to those ministries' field staff located in provincial or regional and district offices. Field staff in this case merely implements central government directives and have no initiating or decision-making powers. The second level of deconcentration is through 'field administration' which, in addition to shifting workloads, allows a limited transfer of some decision- making with respect to the day-to-day implementation of central government directives in order to adjust those directives to local conditions. The third level of deconcentration is through 'local administration'. In this case, all sub-national levels of government (provincial and district) are agents of the central government's executive branch. Thus, the sub-national or local units of government are headed by appointees of central government directly responsible to a central government agency such as the ministry of local government or of internal affairs.

This ‘local administration’ type of deconcentration can itself be divided into two further categories, that is ‘integrated local administration’ and ‘unintegrated local administration’.

“**Delegation**” to semi-autonomous or parastatal organisations involves delegation of planning and management functions in respect of specific tasks or projects to organisations which, although funded by central government, do not come under its operational control. Such parastatal bodies are semi-independent and are frequently located outside the normal structures of government. They are free to set up their own salary structures, which are often higher than those of the civil service in order to attract professional and technical personnel. Where international aid agencies have sponsored well-defined large-scale projects, they have sometimes insisted on the creation of such parastatal or public corporation bodies in order to by-pass government bureaucratic procedures and to avoid the spread into other sectors of funds earmarked for specific projects.

“Devolution”, which is often regarded as the purest form of decentralisation, is based on the creation of independent levels or units of local government which have a ‘co-ordinate systems’ relationship with each other and are free of extensive hierarchical control. The five fundamental characteristics of devolution identified by Cheema and Rondinelli are:

1. The “units of local government are autonomous, independent, and are clearly perceived as separate levels of government over which central authorities exercise little or no direct control”.
2. The “local governments have clear and legally recognised geographical boundaries within which they exercise authority and perform public functions”.
3. The “local governments have corporate status and the power to secure resources to perform their functions”.
4. “Local governments are developed as institutions in the sense that they are perceived by local citizens as organisations providing services that satisfy their needs and as governmental units over which they have some influence”.
5. Finally, “they involve arrangements in which there are reciprocal, mutually beneficial, and coordinated relationships between central and local governments; that is, the local government has the ability to interact reciprocally with other units in the system of government of which it is a part”.

Devolution is therefore a more advanced form of decentralisation. It involves the transfer of responsibilities, authority, assets, and financial resources to lower levels of government, such as provincial or district councils. Local governments to which authority and resources are devolved acquire the power and autonomy with respect to setting their own rules, goals and objectives, and implementing their own policies and strategies, and to allocating resources to different activities, within the domain assigned to them. In addition, they often are given authority to raise financial resources, through taxes, and in some cases, borrow on the capital markets.

‘**Partnership**’, the fourth conceptualisation of decentralisation involves, as implied by the terminology, the transfer from government of some or all planning and management powers with respect to public functions to civil society organisations that include voluntary and private non-governmental organisations. The devolution of planning, implementation, and resource management responsibilities to civil society organisations is the most effective means of facilitating people’s empowerment and participation.

Annex 3: Summary Matrix of selected "Good practices examples" (by Actor and emergency phase)

Phase	Pre-emergency phase			Emergency phase	Post-emergency phase	
Actors	Prevention	Mitigation	Preparedness	Response	Recovery	Development
CBOs	Hazard risk diagnosis	Maintain public infrastructure	Construct infra-structure to protect property	Tap customary solidarity networks	Community mobilisation for joint action	Provide moral support and advice
"Local-level" NGOs	Provide skills training to local CBOs	Household vulnerability assessments	Carry out awareness raising campaigns	Deploy trainers on hygiene & health	Psychological counselling & support	Define local priorities to reduce vulnerability
MFIs	Hazard risk diagnosis	Promote mitigation practices	Spread risk across portfolio	Client damage assessments	Loan rescheduling and other special activities	Integrate DR M in development activity
Local emergency committees	Hazard risk diagnosis	Household vulnerability assessments	Prepare evacuation plans	Set up search & rescue committees	Set up food aid committees	Advise how to reduce local vulnerability
Locally respected persons	Awareness raising campaigns	Solicit external technical assistance on DRM	Carry out awareness raising campaigns	Act as advisory focal points	Promote improved technologies	Fight "fatalistic" attitudes
Local government	Draft a local disaster prevention plan	Watershed/ river basin planning	Prepare evacuation and contingency plans	Provide shelter to displaced households	Set up rehabilitation projects for public goods	Rec. info on households settled in high risk areas
"Meso-level" NGOs	Provide skills training to local NGOs	Watershed/ river basin planning	Skills training to local NGOs	Mediate between national and local level	Set up rehab. projects for private goods	Promote local institutional development
Provincial government	Set local administration rules, e.g. prohibit sand extraction, tree cutting, etc.	Promote multi-sectoral, integrated approaches in DRM	Provide agro-ecological and GIS data for national disaster relief plan	Coordinate nat. & international government & civil society actors	Implement Food For Work or other rehabilitation programmes	Protect roads against land-slides, reinforce slopes, improve gullies...
National government	Invest in early-warning systems and infrastructure Prepare and legal and institutional framework for DRM	Pass construction code & safety regulations	Prepare national disaster relief plan	Declare a disaster (& state of emergency)	Set up emergency & recovery fund	Prepare Codes of Conduct in relief & development.
International "community"	Raise aware-ness on sustainable NRM	Ensure quality in donor funded infrastructure projects	Stop treating DRM as an exceptional activity	Mobilise financial aid as grants & long-term loans	Fund FFW a.o. rehabilitation programmes	Mainstream DRM activities in development planning

(From Messer 2003)

Annex 4: Case Study Matrix Samples: Philippines and Mozambique

THE ROLE OF LOCAL INSTITUTIONS IN REDUCING VULNERABILITY TO RECURRENT NATURAL DISASTERS AND IN SUSTAINABLE LIVELIHOODS DEVELOPMENT IN HIGH RISK AREAS
CASE STUDY SUMMARY MATRIX

SECTION I: CONTEXT DESCRIPTION

Country: Philippines

Province: *ILO-ILO Province /Panay Island*

Municipality: Dumangas
3 baragays selected for the case study
Balud (lowland: typhoon damage every 2 years) , Maquina (elevated area exposed to floods: typhoon damage every 3-5 years), Barasan (elevated relatively safe area : slight typhoon damage every 15-20 years)

Population of area covered by case study:

Land Area covered by case study: Profile of selected sites (1998)

	Balud	Maquina	Barasan	Municipality
Land Area (hectares)	78	171	266	12,716
Population (2000)	474	819	963	56,291
No. of households	94	163	204	11,262
Farm area (hectares)	48	130	261	7,001
No. of farmers	14	77	200	3,606
Fish farm area (hectares)	-	-	29	4,536

Natural Phenomena: tropical cyclones (from November to January) and drought.
Climate: dry from November to April, wet rest of the year**. Annual Rainfall:** 1,939mm.
Hazard Profile: Severe flooding occurs yearly with damage to infrastructure, agriculture and farming (average number of farmers affected per event is 1500). Flooding occurs from the bursting of the Jalaur River banks. Households along rivers are at high risk, vulnerable households are forced to live there (Table 10 pg 14). Financial losses may range from 75-100% of the capital invested on farming on fishing activities.
Recent Disaster covered by Case Study: Several Typhoons between 1990 and 2003 (detail on 2000 and 2003 Typhoons)

Land tenure, land use patterns and livelihood strategies

Economy predominantly based on agriculture and aquaculture. 55% of land in municipality utilized for farming and 35% for fish farms. Rice is the major crop, brackish waters used for milkfish culture. Two crop seasons. Average rice production per hectare: 4 tons (irrigated areas); 2.5 tons (rain fed areas). Other crops include: Banana, watermelon, sugarcane, coconut. Small livestock: hogs, poultry, goats.

Most farmers do not own farming land, in 2 of the selected sites 50% of agricultural land owned by one person. The landowner provides inputs, and farmers get 10% of the produce. The produce farmers get during the harvest is kept for food. If the harvest is good, they get to sell some rice. At slack times of the farming cycle some work in sugarcane field some in construction jobs. Income is integrated with aquaculture and small livestock production.

The river basin is the major source of irrigation. Municipal industry is small scale (salt and grass roof making).

The livelihood pattern of most of the rural households is fragile; the periodic weather related shocks keep the livelihood systems from crisis to recovery on a continuous basis. Population growth rate (1995): 44%. Average size of family (1995):5.

Main local actors in DRM ; *NON GOVERNMENT ORGANIZATIONS*

Dumangas Fisheries and Aquatic Resources Management Council (FARMC)
The FARMC, was organized in July 2002 through Administrative Order No. 196, series 2000; **Tasks of FARMC:** act as consultative body of the municipal government on fisheries-related issues and concerns, facilitate the *Bantay Dagat* (coastal resources watch) Programme in barangays, and monitor the fisheries operations in the municipality related to the environment, zoning ordinance and other local laws; play a key role in disaster management, before, during and after a disaster:

Pre-disaster : Conducts coastal/river cleanup; Early warning transmission: Informs fishpond operators and fishermen of an impending disaster and advises fishpond operators to stop operations and fishermen to safely stow fishing gear and strengthen their residential and fishing structures.
Disaster response Assists in the evacuation of flood victims from river banks and coastal areas using their *bancas* (small fishing boats)
Assists in rescue operations at barangay level in coordination with/ support to DREAM
Helps the barangay council in relief assistance distribution
Post-disaster : Provides assistance (manpower, provision of food for labourers) to affected fishermen on the rehabilitation of their fishing gears
Shares food and medicine to worst affected fishermen and their families
Requests for assistance (provision of fishing gear to worst affected fishermen) from the Bureau of Fisheries and Aquatic Resources

Tamboilan-Paloc Bigque-Bolilao Irrigators Association (TAPABIA)

TAPABIA, was organized in 1991, in coordination with the National Irrigation Administration to address disputes among farmers on water distribution issues. As agreed with NIA, TAPABIA undertakes Regular clearing of irrigation facilities (lateral canals), with funding support from NIA; Collection of Irrigators' Service Fee (ISF) among NIA concessionaires; and arbitration among its members. Its key role in disaster management include:

Pre-disaster : Dykes are reinforced and made higher to withstand higher flood levels.
Upon receipt of flood warning, TAPABIA opens the irrigation drop to drain water.
Disseminates flood warning to constituents to enable them to prepare for the flood (TAPABIA has made sure that rice/palay storehouses are elevated.) Each barangay under TAPABIA is divided into five Total Service Areas (TSA). Each TSA has a chairman who is responsible for disseminating warning in his area.
All members are advised to seal all field openings to prevent water logging in the rice paddies.
Farmers move their hand tractors to higher ground
Assists in evacuation
Response: Helps monitor the flooding situation
Post-disaster Cleaning and clearing of debris in the paddies and irrigation canals
Assists members in need of assistance (e.g. reconstruction of damaged dwellings)
Reports crop damage to the Philippine Crop Insurance Corporation for assessment and possible extension of assistance
Reports crop damage to the Municipal Agriculturist for certification of crop damage to enable them to defer payment to NIA
Lobbies for the extension of possible local government assistance to affected farmers

Dumangas Chapter of the National Association of radio communicators

The Kabalikat Civicom Association Incorporated, 215 Chapter, Dumangas was established in January 2000 as a local chapter of the nation-wide Kabalikat Civicom Association of radio communicators. The 215 Chapter serves as a support group of the Intercontinental Broadcasting Corporation DYBQ – Radio Budyong Iloilo (an Iloilo City –based AM radio station). It is an accredited NGO in the municipality and a member of the municipality's special bodies such as the Municipal Peace and Order Council and the Municipal Disaster Coordinating Council (MDCC). Its regular activities include the conduct of nightly net calls or programme assistance to the municipal government in information dissemination of important programmes, projects and activities; monitoring of and assistance to travelers within its area of operations, etc.; assistance to the municipal government in the implementation of projects in its capacity as a member of local special bodies; and other duties such as tree planting, and coastal and river clean-up. Its key role in disaster management include:

Pre-disaster Participation in coastal/ river clean-up
Hazard monitoring and reporting to the Municipal Mayor for corresponding course of action. The group is divided into sub-groups, which are assigned areas of responsibility for monitoring.
Early warning of impending hazard through the municipal/ barangay officials
Information dissemination on warnings, reports, updates, advisories through DYBQ AM radio
Preparation of floats for use during evacuation
Response Assistance to the DREAM, MDCC in rescue operations by volunteering as drivers, guiding evacuees during evacuation procedure, etc.
Situation monitoring and informing appropriate agencies concerned
Volunteering vehicles for transportation of relief goods, medicine, clean water, etc.

	Assistance in relief distribution
Post-disaster	Assistance to the municipal government in consolidating damage report
	Assistance in medical missions in the transport of medicines
	Donation of food items and used clothing to disaster victims.

Dumangas Rescue and Emergency Assistance Movement (DREAM)

In response to the need for a more active and sustained support to the MDCC in the areas of emergency preparedness and response, vulnerability reduction and disaster risk control, the municipal government established the Dumangas Rescue and Emergency Assistance Movement (DREAM) in July 1999. Receives Beias member of the Local Special Bodies, financial support for its operation by the Municipality of Dumangas; Its functions include:

- Quick response in times of disaster
- Monitoring and reporting of the disaster situation and recommending appropriate measures to the MDCC
- Participation in programmes, projects and activities of the municipal government

Registered as a NGO, the DREAM currently has 36 volunteer members (4 are women) trained in search and rescue, which includes six barangay tanods from the flood-prone barangays. Their expertise in search and rescue, and services/ assistance rendered in hazard monitoring, information dissemination, relief operation, medical missions and damage assessment have been put to test in flooding incidents associated with typhoons since 2000. In non-disaster times, DREAM is involved in activities aimed at reducing risks for floods, such as river and coastal clean-up, and reforestation.

Civic and Religious Organizations

The municipal government also entered into agreements with some civic and religious organizations to assist, in the spirit of volunteerism, in relief and rescue during emergencies, as well as to participate in the formulation of the Municipal Disaster Preparedness Plan. The Catholic Church also shares its financial resources to the BDCC through its parish pastoral council to augment resources for relief operations

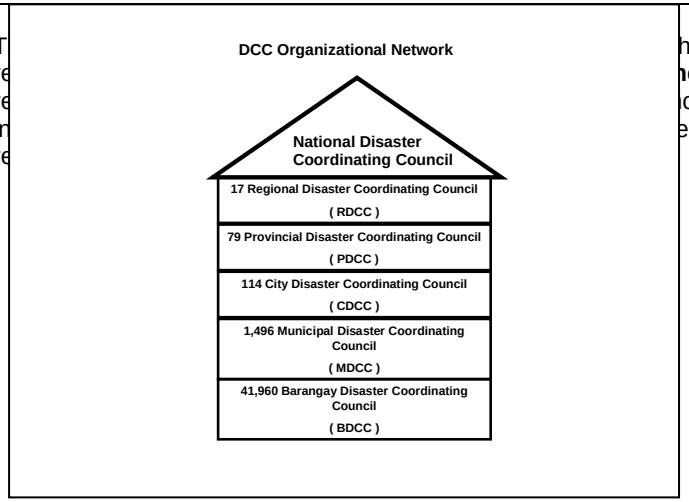
The Municipal Economic Council (a private sector business consortium)

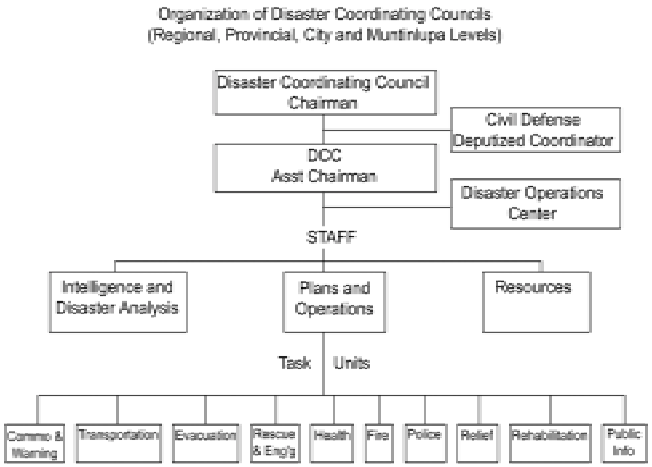
The Municipal Economic Council was created by the Municipal Executive Order No. 31, series 2000. It is chaired by the municipal mayor and co-chaired by representatives of business proprietors engaged in rice retailing, groceries, pharmacies, dry goods (clothing, utensils, etc.), fuel stations and construction supplies. All accredited business proprietors in the Dumangas Public Market are members of the council. The council advocates related programs, projects and activities to foster municipal economic growth and development, as well as recommends to the Municipal Mayor and the Sangguniang Bayan policies that would enhance the operations of the business sector as well as benefit its clientele. Its key role in times of disaster is to provide on loan basis goods and items required for disaster response.
Being a member of the Local Special Bodies, financial support for its operation is provided by the Municipality of Dumangas.

Formal DRM set up

The NDCC is the highest policy making, coordinating & supervising body at the national level for disaster management. It performs the function of advising the President on the status of the national disaster preparedness programme, disaster operations and rehabilitation. The NDCC is chaired by the Secretary of National Defence and has for its members almost all the cabinet members and the Secretary-General of the Philippines National Red Cross. The Office of Civil Defence (OCD) provides the operations centre and secretariat functions as well executive-director functions through its Administrator. The NDCC has taken on an All-Hazards Approach in Disaster Risk Management which features the following strategies and approaches:

1. Mitigation: insurance coverage of public and private properties; safety regulations, land use, zoning, etc; building and fire codes; legislation and local ordinances on safety of communities; dams, levees, flood control and other structural measures
2. Preparedness: contingency plans, fire and earthquake plans, etc; public information, rapid dissemination of information through an emergency broadcast system, population awareness, etc; orientation of local officials, deputized coordinators, auxiliaries, volunteers, drills & rehearsals and other education and training activities; available response units, capabilities, equipment, manpower, location, contact nos. & persons, and other resources
3. Response: Alerts – receipt and rapid dissemination of warnings to threatened communities/populations; immediate Notification of response units, Golden Hour principle – the time within which lives could be saved and injuries minimized; Consequence Management
4. Rehabilitation: emergency funding from the Local and National Calamity Funds and other sources; loans and grants extended by NGOs and international NGOs; assistance extended by NGOs, international NGOs, foreign governments, etc.
5.





Municipal Disaster Coordinating Council (MDCC)

The establishment of the Municipal Disaster Coordinating Council is mandated by Presidential Decree (Local Government Code) of 1999. The Dumangas MDCC was re-organized in 16 October 2001 through Municipal Executive Order No. 16, series 2001. It is composed by the Municipal Mayor as Chairman, the Station Commander of the Philippine National Police as Vice-Chairman and Action Officer, with representatives from the private sector, municipal officials tasked with specific emergency functions, and National officials assigned in the municipality as members.

The MDCC has the following functions and responsibilities:

1. Coordinates disaster operations activities; 2. Implements within the municipality the guidelines set by the MDCC 3. Advises the barangay Disaster Coordinating Councils regarding disaster management, and 4. Submits reports and recommends for allocation of needed resources

The Disaster Operations Center is the facility where field activities are monitored and controlled. It is made up of the:

1. Intelligence and Disaster Analysis Unit – which evaluates information and advises member agencies of the MDCC of an impending disaster, makes recommendations on how to prevent disaster and/or suggest precautionary measures to minimize the impacts of disasters, submits recommendations for allocation of needed resources, and makes appropriate recommendations to relevant authorities regarding possible declaration of a state of calamity in affected areas.
2. Plans and Operations Unit – which recommends courses of action to be taken based on the recommendations of the Intelligence and Disaster Analysis Unit, determines the type of service units to be utilized in the disaster area, recommends implementation of existing plans, maintains and/or supervises progress of operations, determines the necessity of utilizing additional service units, and prepares appropriate reports upon termination of operations.
3. Resources Management Unit – which identifies and secures possible sources of funds for disaster victims, and gathers the necessary statistics on resources such as food, clothing, construction materials, medical supplies, transportation and other relief and rehabilitation items.

Task units formulate their own action/operations plan, which are consolidated to form the overall Municipal Disaster Preparedness Plan. Task units were streamlined from ten to five as follows:

1. Health Service Committee – chaired by the Municipal Health Office, with private clinics as members
2. Security and Fire Committee – chaired by the Philippine National Police, with the Fire Service Unit and barangay Tanods as members
3. Communication, Warning and Public Information Committee – chaired by the Office of the Mayor, with the Liga ng mga barangay President and all Punong barangays as members
4. Transportation, Rescue and Evacuation Committee – chaired by the Municipal Engineers Office, with the Department of Education, Culture and Sports (DECS), Philippine National Police, Department of Public Works and Highways (DPWH), the Sangguniang Bayan and the Sangguniang Kabataan as members
5. Relief and Rehabilitation Committee – chaired by the Municipal Social Welfare and Development Office (MSWDO), with the Municipal Planning and Development Office, Municipal Engineers Office, Municipal Agriculture Office, Municipal Transportation Office, and representatives from the NGO and the bus transportation sectors as members

In addition to these task units, NGO and disaster welfare desks were set up to coordinate NGO assistance and to provide information on disaster victims, respectively.

CHART OF A TYPICAL BARANGAY
DISASTER COORDINATING COUNCIL

Barangay Disaster Coordinating Council (BDCC)
As the MDCC established by the Local Government Code in 1999. Implements tasks at community level: preparedness and evacuation alerts, preliminary needs assessments, implementing evacuation plans, rescue, delivery of relief goods.

The Civil Defense Organization has 16 Civil Defense Regional Centers (field offices) nationwide for its regional-level operations and has designated Civil Defense Coordinators (Action Officers) at the provincial and municipal/city levels.

Resources for national and local comprehensive emergency management come from either emergency funding from the Local (LCF) and National Calamity Funds (NCF) or/and other sources, loans and grants (loans and grants extended by local and international NGOs) and/or assistance extended by NGOs, international NGOs, foreign governments, etc. Policies in the Use of the NCF:

1. The NCF can be used only for the following purposes:
    a. Aid, relief, rehabilitation and reconstruction and other works or services in connection with calamities which may occur during the budget year or previous years' past two plans
    b. Pre-disaster activities such as training, and
    c. Capital expenditures such as purchase of equipment for pre-disaster operations and rehabilitation
2. NCF shall be used in the following order of priority:
    a. Priority I – For urgent and emergency relief operations and emergency repair and rehabilitation of vital public infrastructures and lifelines damaged by calamities occurring within the budget year e.g. hospitals, schools, major roads and bridges and farm-to-market roads
    b. Priority II – For repair, rehabilitation and reconstruction of other damaged public infrastructures, which are not emergency in nature but are necessary for disaster mitigation
    c. Priority III – For pre-disaster activities outside the regular budgets of line agencies and proposed capital expenditures for pre-disaster operation
3. NCF cannot be used for the following:
    a. Repair/rehabilitation of government buildings damaged by fire e.g. hospitals, school buildings, city hall and public markets
    b. Relief and rehabilitation requirements for specific calamities with specific appropriations under special laws, except when the appropriations have been fully expended or utilized

SECTION II: Policies, processes, structures and DRM related actions undertaken at local level (Situation described as it was during/after the disaster event analysed).

DRM Cycle Phase	A Policy and Regulatory Framework (formal) And/or Customary Practices (informal)	B Key Players/organizations (who?) Key roles (what') Methods, Tools, Techniques (how?)	C Capacity-Building elements, Training (and Other Issues)
PREVENTION			
1. Social capital formation	**A1** - In response to the need for a more active and sustained support to the MDCC in the areas of emergency preparedness and response, vulnerability reduction and disaster risk control, the municipal government established the Dumangas Rescue and Emergency Assistance Movement (DREAM) in July 1999 (financial support provided by the municipality). - Agreements with local civic and religious organizations for voluntary assistance in relief and rescue operations. - The Municipal Economic Council was created by the Municipal Executive Order in 2000 to foster municipal economic growth and development. - All members of community involved in line functions of the BDCC - Administrative Order No. 196, series 2000; to institutionalize the role of fishermen and other resource users in the planning and formulation of policies and programs for the management, conservation, protection and sustainable development of fisheries and aquatic resources. - Municipal Economic Council was created by the Municipal Executive Order No. 31, series 2000 (see under B6)	**B1** Consultative body of municipal government on fisheries-related issues (FARMC), Irrigators Association (TAPABIA) and local radio communicators NGO allocated tasks in DRP/M within the Municipal Disaster Preparedness Plan. Personal alliance systems (i.e. groupings composed of kin – real and ritual, grantors and recipients of favours, friends and partners in commercial exchanges; examples: - concept of *utang na loob* (debt of goodwill - *Suki* (market exchange) relationships - *Bayanihan,* spirit of volunteerism in the community; people put together their strengths or resources to help out a person or family in need, including needs in crises/disaster times. The entire disaster management system is built on local resources with trust and motivation of participating communities with a strong level of social capital. The establishment of specialized task forces to carry out warning, communication, transport, rescue, evacuation, supply, relief, medical, fire damage assistance, security and over all damage control at the barangays level revealed that almost each household participated in at least one of the specialized functions and thus the system could involve the entire community	**C1** - Recognizing weakness in preparedness activities local governments initiates partnerships with civil society and private sector organizations. - Training for volunteers and BDCC in rescue and search**.**
2. NRM and DRM Integration	**A2** Institutionalization of fishermen and irrigators association role in NRM and DRM: a) FARMC organized in July 2002 through Administrative Order in 2000 to institutionalize the role of fishermen and other resource users in the planning and formulation of policies and programs for the management, conservation, protection and sustainable development of fisheries and aquatic resources and disaster management. b) TAPABIA organized in 1991 to address disputes among	**B2** **FARMC** Coastal/river clean-up **TAPABIA** Dykes reinforcement and clearing of paddy fields and irrigation canals; Other devolved responsibilities with indirect implications for disaster prevention and mitigation include agricultural extension and on-site research and community-based forestry projects (of areas not	**C2**

	farmers.	exceeding 50 km2). LGUs are also responsible for enforcing environmental protection laws and for preparing extensive land-use plans	
3. Safety nets (informal)	**A3** Informal traditional relationships between customers and suppliers (*suki*) and tenants-landlords may result in support, and protection. *Bayanihan* is the spirit of volunteerism in the community, where people put together their strengths or resources to help out a person or a family in need, whether in times of harvest in the fields, or when a house damaged by typhoon needs to be repaired, or in times of crisis. It strengthens cooperation and solidarity.	**B3**	**C3**
4. Financial Services and Insurance systems (formal)	**A4** Local Government Code requires establishment of local calamity funds through local revenues. A Memorandum Circular issued by the Department of Interior and Local Government (DILG) and the Department of Budget and management (DBM) on 20 March 2003, however, provides for the use of the LCF for preparedness activities for human-induced threats, including terrorism.	**B4** **Local Calamity Fund** The LCF comes from the five percent (5%) of the estimated revenue that is set aside by the local government as annual lump sum appropriations for relief, rehabilitation, reconstruction and other works and services in connection with calamities which may occur during the budget year. If unused during the budget year, this fund could only be used for disaster preparedness activities, and is added to the municipality's general fund for the subsequent year. A Memorandum Circular had been issued by the DILG and DBM in March 2003 clarifying that the LCF can be used for preparedness activities natural and human-induced threats, including terrorism (pending in PHI congress). Barangays have their own calamity fund (5% of the barangay income) for disaster relief, rehabilitation and reconstruction. **Municipal Development Fund:** The municipal development fund comes from the 20 percent of the internal revenue allotment from the National government. The IRA is appropriated to local government units proportionate with the population and land area. This development fund supports the municipality's programs in the agriculture, health, social welfare, infrastructure, environmental management, disaster preparedness, and tourism and youth sectors. Recognizing that disaster management is a key component of development, the municipal mayor utilizes the development funds to support disaster management in the relevant sectors (e.g. rehabilitation of roads and drainage	**C4** Training for barangay tanods by integrating disaster management in the police training to counter terrorism. .

		systems from the infrastructure sector appropriation, medical missions from the health sector appropriation, etc.). (See Table 12, page 25). In the aftermath of disasters poor households chose not to borrow to meet their basic needs. Even if credit facilities are available, the poor households could not avail it due to lack of collateral arrangements. These factors contribute delay in recovery of affected vulnerable households. The subsequent disasters compel them to borrow from informal credit markets with high interest rate of 20 to 30 % per month. Other sources of funds include special budgetary allocations from the National Government, donations from businesses and the private sector, and assistance from other government and non-government agencies. **Municipal Economic Council:** As agreed with members of the Economic Council, the municipality acquires goods and materials for disaster relief and rehabilitation on loan. Payment is made upon the release of the local calamity fund.	
5. Awareness raising	**A5** Awareness in the two flood-prone barangays (Balud and Maquina) is high. Community members monitor river conditions although such is the task of the BDCC. Most would initiate preparatory actions based on the river conditions observed, even when an official warning has not been issued.	**B5** the municipal government has planned to set up a community radio station that would broadcast time-relevant and accurate information and advisories during emergencies, as well as informative/educational programs for public education and awareness raising	**C5** Baraguay meetings to empower people through enhanced understanding of their responsibilities and rights during emergencies**.**

6. Coordination mechanism (rehabilitation and prevention matters) **Including…**	**A6** Presidential Decree 1566 "Strengthening the Philippine Disaster Control and Capability & Establishing the National Program on Community Disaster Preparedness", issued on 11 June 1978 is the country's basic law on disaster management. It lays down the policy, institutional and operational framework for the disaster risk management system in the country. Its update now called "Philippine Disaster Management Act of 2003" includes the points: - Responsibility for leadership rests on the Provincial Governor, City/Municipal Mayors, and Barangay Chairmen, each according to his area responsibility - Self-reliance shall be developed by promoting and encouraging the spirit of self-help and mutual assistance among the local officials and their constituencies. - Each political and administrative subdivision of the country shall utilize all available resources in the area before asking for assistance from neighbouring entities or higher authority. - The primary responsibility rests on the government agencies in the affected areas in coordination with the people themselves. - It is the responsibility of all government departments, bureaus, agencies and instrumentalities to have documented plans of their emergency functions and activities. - The national government exists to support the local governments. In times of emergencies and according to their level of assignment, all national government offices in the field shall support the operations of the local government. A Presidential Decree of 1999 mandates for the establishment of a Municipal and Barangay Disaster Coordination Council. Municipal Economic Council was created by the Municipal Executive Order No. 31, series 2000. I	**C6** Municipal Economic Council chaired by the **municipal** major, advocates related programs, projects and activities to foster municipal economic growth and development, as well as recommends to the Municipal Mayor and the Sangguniang Bayan policies that would enhance the operations of the business sector as well as benefit its clientele. Its key role in times of disaster is to provide on loan, goods and items required for disaster response Coordination tool see Municipal Disaster Preparedness Plan below	**D6** MDCC, BDCC, and volunteers received training in search and rescue (1998) and disaster management (2000)
PREPAREDNESS			
7. Contingency planning	**A7**National Calamities and Preparedness Plan approved in 1983 was revised and issued in August 1988 together with the Implementing Rules and Regulations to P.D. 1566. An updated Calamities and Preparedness Plan is in process for approval of the National Disaster Coordinating Council	**B7** Municipal Disaster Preparedness Plan is a consolidation of operational plans of the various task units of the Municipal Disaster Coordinating Council. It details activities to be undertaken, including funding requirements and sources, prior to, during and after an emergency. Total system approach, from preparedness, prevention and mitigation to emergency relief, rehabilitation, recovery and development.	**C7**

		Its objectives are to: • Reduce the undesirable impacts of disasters in the municipality • Effectively prevent or mitigate the occurrence of natural and man-made hazards • Implement disaster management, not as a periodic reaction to individual circumstances, but as a comprehensive and continuous activity It details the functions and responsibilities of the MDCC, and the strategies for and extent of intervention	
8. Early Warning and Communication	**A8** Establishment of a three source based early warning and communication system The early warning system is based on information from National forecast agency (PAGASA), on weather parameters, local irrigation authorities on hydrological parameters and communities on actual river level positions based on their experience. These three sourced information flow provides site specific disaster warning. Efforts underway to establish a community based flood forecasting and warning system**.** A regular consultative meeting, facilitated by the municipal mayor, brings together representatives of farmers' groups, FARMC, the municipal agriculture office, municipal irrigation office, and, when necessary, the provincial agriculture office and the regional irrigation office, to discuss needs for information and technical assistance among other issues. Early warning is communicated through a specialized NGO on communications to various users (TAPABIA,)	**B8** MDCC/Intelligence and Disaster Analysis Unit: Evaluates information (from national forecast agency) and makes recommendations on disaster prevention and precautionary measures, eventually declaration of state of calamity. Submits recommendations for allocation of resources. Municipal Mayor issues official early warning. FARMC: Advisory services for fisherman on disasters TAPABIA, Local Radio and BDCC: Disseminate flood warnings (if possible via radio) In Barangay Balud Hazard monitoring is done by everyone in the community. Water level at the Jalaur River is monitored using marked tree trunks at the riverbank as flood markers. Upstream river conditions are reported by other barangays by radio. Community members also observe cloud conditions upstream of the river. (*based on 2000 and 2003 events)*	**C8** Need and benefits for accurate information and early warning recognized and progressively incorporated into Disaster Preparedness Plan. National Forecast did not provide enough detail; Local Agro-meteorological station installed.
9.Inftrastructural Safety Arrangements (boats, housing, refugee camps)	**A9** National and sectoral agencies are responsible for maintenance and upkeep of physical infrastructure but do not undertake immediate repair and restoration due to procedural and resource constraints. Local institutions could be entrusted with restoration of this infrastructure with participation of communities. Our discussions with affected household revealed that they were willing to contribute labour and local materials and the local government could provide some resources and supervision and the National Government could have financial and technical resources.	**C9** Fishermen boats used for rescue operations - Dike and diversion canals constructions - Most farmers have huts in higher areas where they can move to when residential area is flooded. - Rafts made of bamboo and banana trunks built during evacuation. - In barangay Balud, about 20% of dwellings are with a second floor. Huts in farms of higher elevation are also built to provide refuge in times of flood. Sheds for chicken and ducks are likewise raised. - Municipality acquires goods and materials for disaster relief and rehabilitation on loan. This includes rice, canned food, medicine, clothing, cooking utensils, fuel and construction supplies. Payment is made upon the release of the local calamity fund.	**D9**

10. VulnerabilitAssessments (pre-disaster)	A10	**B10**	**C10**
RESPONSE and REHABILITATION			
11. Response/Relief operations and coordination	**A11** A Presidential Decree of 1999 mandates for the establishment of a Municipal and Barangay Disaster Coordination Council. To re-orient the approach to disaster management in a systems mode the MDCC was re-organized in October 2001. Key agencies with resources and functions relevant to the MDCC functions were involved to lead the different MDCC units (e.g. PNP for Assistant Chairman, the Disaster Operations Center and the Intelligence and Disaster Analysis unit, Sangguniang Bayan for resources unit as their resolution is needed for mobilization of the local calamity fund, DECS for evacuation since school buildings are used as evacuation centers, etc.). The number of task units was reduced from ten to five, merging units whose functions are inherent in the lead agencies (e.g. relief and rehabilitation for MSWDO) and to make coordination more effective (e.g. transportation, rescue and evacuation).	B11 BDCC (with DREAM Support) - Preparatory actions (household items and animals transferred to higher grounds) and eventually evacuation following Mayors early warning communication. Prepares evacuation center and supports transfers to it. - Damage and needs assessment - Delivery of primary goods to community MDCC - On the basis of the preliminary needs assessment, declaration of state of calamity (necessary to mobilize calamity funds). Distributes primary goods to BDCCs. - Eventually requests support from national bodies (Civil Defense, National Food Authority etc). - On the basis of damage report requests for assistance from various offices (infrastructure, health etc) Municipal Economic Council Provides for goods until LDC is mobilized (*response mechanism based on 2000 + 2003 event)*	**C11** MDCC reorganized in 2001 with inclusion of key local agencies with resources and functions relevant to MDCC **.**
12. Damage and Needs Assessment (post disaster)	**A12**	**C12** **BDCC :** Preliminary needs assessment **MDCC/ Intelligence and Disaster Analysis Unit (with support of local radio)** Consolidated damage report and allocation of resources **TAPABIA:** Reports crop damage to Philippine Crop Insurance Corporation and Municipal Agriculturalist & lobbies for government assistance to affected farmers	**D12**
13. Transition relief/response to rehabilitation/prevention.	**A13**Provinces, municipalities, cities and barangays are allowed to levy certain taxes, fees and other charges for their own use, including business and real property taxes. Such taxes should be equitable and based as far as possible on ability to pay. LGUs can also grant tax exemptions, relief and incentive privileges as they deem fit. In addition, both LGUs, acting on the recommendation of the local disaster coordinating council (DCC), and the President have the power to reduce or cancel property taxes following a general crop failure or natural disaster	**C13** **Municipal Agriculture Office:** Distributes seeds to affected farmers **MDCC/ Resource Management Unit** Identifies possible sources of funds for disaster victims and gathers necessary statistics on damage and needs.	**D13**

SECTION III: GAPS and LESSONS LEARNED

Key Lessons Learnt	- **Evolution of Institutional Response**: After independence (1950) and up to **mid-60s**, the communities recall that they faced severe hardships due to typhoons, flooding and other weather risks. They organized Disaster Brigades to save lives during floods. Later in mid-**70s and 80s**, the Disaster Brigades were transformed into Mountain Tigers. The Mountain Tigers received professional training in search and rescue operations through a provincial level NGO. While this development could instill confidence and minimize the loss of lives, due to inadequate early warning and communication systems, disaster-related losses continue to seriously impair the livelihood systems in terms of loss of houses, household assets, and livestock and crop losses (47). - **Decentralization**: People could vividly call discernable improvements in the 90s after establishment of local governments with decentralized powers through local code of **1991**. The organizational arrangements at the municipal and barangay levels were systematically reorganized by learning lessons by periodic natural hazard events. Every natural hazard event triggered institutional changes for managing subsequent disasters better. Prior to November **1998**, the institutional arrangements were weak to monitor hazard and the emergency situation. The local government relied on PAGASA weather updates and typhoon advisories broadcasted from commercial radio stations, police reports on any flood-related incident, and motorists' information on impassable roads (47**). Today: man-made disasters (rice and agric policies, corruption;** continuous expansion of private property into what should have been common or municipal property**) are seen as more threatening by villagers than natural disaster risks;** - The adoption of local government code 1991 empowered the local institutions to take advantage of greater decision making powers at the local levels and provide opportunities to identify and apply localized solutions to problems posed by natural disasters. The local governments being closer to the communities were able to tailor national norms and plans to match the needs of the communities. The disaster management experiences of Dumangas municipality and its local support organizations like communication, NGO, search and rescue NGOs, the Economic Council, the private sector consortium and the BDCs of affected barangays could manage the 2000 typhoon-related floods and 2001 flooding without outside interventions to carry out the following : Search and rescue; Survey, assessment and reporting ;First aid; Mobile medical assistance; Evacuation; Emergency welfare (e.g. mass feeding programmes); Emergency shelter (e.g. erection of tents, emergency building repairs); Emergency logistics Staffing of emergency operations centers (EOCs), including mobile ones; Information management - The role of local Government in ensuring on-site disaster management capability freed national and sectoral agencies from undertaking these essential response functions. The role of national agencies was restricted to coordination and information-sharing activities - Since the Philippines contains considerable economic, social and physical diversity, some types of services can be better provided by local authorities, which can adjust them to local needs and preferences, than by the National government - **Training and Partnerships**. In **1998** a response system was organized. Arrangements were made with various agencies and training provided (system following 1999 is the one described in the case study) The improvements resulted in reduced lead-time of more than 48 hours of impending events and enhanced the community and household level preparedness to withstand the impact of natural hazards. The establishment of specialized task forces linked to municipal level local government and NGO and private sector systems with well orchestrated coordination arrangements resulted in efficient delivery of disaster management services. For example, the relief assistance reached the communities at the evacuation centres within 3 to 6 hours. The households were able to preserve not only the lives of their members but also their livestock assets and ensure safety and security of household assets. The interview with the community members revealed that preserving livestock assets could greatly help earlier recovery when compared to previous hazards (48). - **Learning and restructuring**. The municipal officials mentioned that expenditure on relief has come down significantly on a household basis in recent years. To re-orient the approach to disaster management in a systems mode the MDCC was re-organized in October **2001**. Key agencies with resources and functions relevant to the MDCC functions lead the different MDCC units .The number of task units was reduced from ten to five, merging units whose functions are inherent in the lead agencies and to make coordination more effective (48). Many respondents said that now they feel less threatened although they know that their lives and physical properties may be endangered. Their confidence comes from the knowledge that they will somehow recover from a natural disaster. The forecasts respondents get from the radio, television and the municipal government have also made them more confident that, in the wake of a natural hazard, they will have ample time to secure their animals, families, homes, movable properties, if not their crops.

	(15). - The three source based **early warning and communication system** combining data from the National forecast agency, local irrigation authorities, and community observation of river level was capable of alerting communities with 24 to 48 hours lead-time (57). - The evolution of institutional management systems in Dumangas illustrates that it could draw from the experiences of Disaster Brigades and Mountain Tigers to establish DREAM volunteers. The DREAM volunteers received specialized training search and rescue from 505th Search and Rescue Group of the 502nd Search and Rescue Squadron of the Philippine Air Force. As these community members are available within the community, their services are available continuously without any additional costs to the local government and are hence sustainable
Key Gaps And Recommendations	- **Household vulnerability**: Relief Assistance is distributed equally among all the households. While formal political institutions do not address differential vulnerability of communities, the informal social networks act as a conduit to redistribute relief assistance to the most vulnerable households. While community help could partially address most vulnerable households during crisis periods, it seldom addresses their recovery needs. Relief assistance for rehabilitation of agriculture is given in the form of seeds to the affected farmers who own the land. As most of the farmers are tenants, they do not have access to this kind of relief assistance which would enable them to recover fast from disaster impacts. The rehabilitation assistance is calculated and provided with reference to absolute and not relative loss due to disasters. The poor households incur disproportionately greater losses when compared to the total value of losses suffered by wealthier households. Hence, there is a need to develop a mechanism to provide rehabilitation assistance considering the capacity to recover rather than total loss incurred by households. The local institutions (in particular social networks) could articulate this requirement of the poor and vulnerable (51). The local institutions could also act as intermediary institutions between banks and the vulnerable households to evolve a credit delivery mechanism to suit the livelihood needs of vulnerable households. - **Delays in external (provincial and national assistance):** The swift reconstruction of basic infrastructures such as bridges, roads, irrigation systems, schools, health clinic etc. following disasters have immediate social benefits. The reconstruction of these infrastructure facilities are not under the control of local institutions but sectoral institutions of the national government agencies. Immediate undertaking of reconstruction activities would provide immediate employment to the population as well as reestablish much needed communication facilities to speed up recovery process (50). - **National Resource allocation:** National government funding mechanism does not include preparedness and mitigation measures. Allocation of resources to local government does not include criteria to benefit disaster prone areas (details pg 54)**.** Resource constraints proved to be a major barrier for local government to integrate disaster prevention to development planning (54). National policy requires that calamity funds may only be used for relief and rehabilitation. A request has been made to the Department of the Interior to allow for savings to be allocated for preparedness. The LCF is now used also for preparedness. - **Emergency/Development Integration:** Climate risk is to be treated as a continuous threat and a holistic approach is to be developed to treat disaster management as a continuum from preparedness to emergency response to recovery, reconstruction, mitigation and prevention. The **local governments have already developed an integrated disaster management** and development plan covering all cases of disasters. The National policies are yet to recognize and factoring this approach of integrity disaster management into development planning. The initiatives taken by the local governments could motivate the national policy makers to evolve and implement a holistic disaster management policy (61). - **Financial services**: The seasonal gaps and income are often bridged by loans of varying interest rates from different sources. Most loans, from the organized institutions like banks go to the better off and middle-income groups in rural communities. This is due to collateral requirements and poor people are forced to borrow money, from relatives without interest or local money lenders with very high interest rates, especially during lean seasons. They may use this money mostly for unanticipated expenditures like medicines for sick family members. While everyday risk is a constant threat to livelihoods, the periodic weather-related shocks keep the livelihood systems from crisis to recovery on a continuous basis (19 and 60). - Flood event in May 2003 showed that the system is not able to anticipate extreme events.

Other Aspects	- Municipal Disaster Coordinating Council recognized as the best in 2003 and received Presidential Award**.** - Droughts are considered far worse than flooding and typhoons in terms of loss of crops *The local institutions could mediate with national agencies to bring in locally relevant scientific advancements for effective disaster management: for example, climate forecast/ early warning system*

THE ROLE OF LOCAL INSTITUTIONS IN REDUCING VULNERABILITY TO RECURRENT NATURAL DISASTERS AND IN SUSTAINABLE LIVELIHOODS DEVELOPMENT IN HIGH RISK AREAS
CASE STUDY SUMMARY MATRIX

SECTION I: CONTEXT DESCRIPTION

Country: Mozambique **Province:** Sofala, Búzi District **Municipality:** a) Munamicua *Provoacao(*study site) /Bandua *Regulado* (Local administration), lowland b) Boca *Provoacao (*study site)/ Estaquinha *Regulado* (Local administration), high grounds.	**Population covered by case study:** **Munamicua:** 3,634 inhabitants, 753 hh (1998 data) **Boca:** 13,922, 287hh (1999 data) **Land Area covered by case study:** 7000 square kilometers

Natural Phenomena Cyclones and tropical storms resulting in heavy rains and floods
Hazard Profile: 5.2 million people affected (30% of population of Mozambique), 30.000 sqkm inundated with infrastructure destruction, national economic losses estimated of USD 6000million. The small scale farming sector was the most affected. 139,000 hectares of planted crops was estimated to have been destroyed, 70-80%of livestock affected, 20.000 hectares of irrigation schemes destroyed. No data available on damage at district level. Riverine communities have been the most affected with both housing and crops lost. Increased health risk and waterborne disease (cholera and malaria).
Recent Disaster covered by Case Study:
1999/2000 floods (worst flooding ever recorded in southern and central Mozambique)
From December 1999 to March 2000, Mozambique recorded the highest rainfall rates since 1951. They were associated with twelve meteorological systems, and triggered massive flooding in the southern and central regions of the country, with disastrous consequences, including human, physical and economic losses and affecting over 1 million people. The heavy rains in other southern African countries such as Botswana, Zimbabwe, South Africa and Swaziland, caused in part by the cyclones Connie and Eline, were precursors to the flooding in Mozambique. Neighbouring countries were forced to open their dams, resulting in excessive volumes of water entering the Mozambique catchments areas. The Búzi catchment in central Mozambique was one of those affected by waters released from the Chicamba Dam, causing rising levels in the Búzi River, with consequent flooding.

Land tenure, use patterns and livelihood strategies
Land tenure: Common property tenure regime with powers for allocation being vested in traditional authorities. **Livelihood strategies**: Búzi is a very poor district whose main means of livelihood is agriculture and livestock. The most important crops are maize, sorghum, rice, beans, sweet potatoes, groundnuts and vegetables. Livestock is the second main source of livelihood. Goats, chickens and ducks are the most common livestock produced in both areas. Livestock is partly used for consumption but mostly it is sold. Money from these transactions is used to access health assistance, to buy food in time of hunger and to pay children's school fees

Main actors in DRM at community level

INGC (National institute for Disaster Management)

Permanent state institution acting as a coordinating body under the Ministry of Foreign Affairs and Cooperation recently being restructured under the 2001 Law of Disaster Management (see next section).
During the 2000 floods the INGC and the CVM were responsible for coordination and distribution of emergency assistance nationwide. However, in Sofala province, due to problems related to high corruption and lack of effective coordination the INGC failed to reach its beneficiaries. Due to the same reasons some donor organisations ignored the legitimacy and the role of the INGC, deciding to distribute emergency assistance directly to the affected people. In the visited areas the INGC is almost an unknown institution and when asked about the role played by any government institution most of our interviewers responded 'none'. It is not completely true that the INGC was not there, but compared with the actions and impact of the presence of NGOs it was not visible. Since 2000 the tasks of the INGC go beyond the institutional capacity. Various NGOs have

been working collaboratively or assisting the INGC to develop activities targeting the improvement of professional and administrative and technical skills.

CVM (Cruz Vermelha de Moçambique) – the Mozambican Red Cross

A district commission of the Mozambican Red Cross is situated at the Búzi district administrative headquarters, with small branches ("nuclei") in most localities around the district. The Búzi district commission reports to the provincial commission and these reports in turn to the national headquarters. The Red Cross is developing projects in Búzi in areas such as early warning, health, water treatment and sanitation.
Through the use local volunteers, the Red Cross works in coordination with the local administration and health authorities to combat water-borne diseases such as malaria and cholera. The Red Cross convenes meetings with the local communities to discuss matters such as natural hazards and mechanisms of prevention of water-borne disease, and assists in mobilising communities to abandon high-risk zones.

GRC – *Gestão de Risco de Calamidades* (Disaster Risk Management), a GTZ Project attached to GTZ-Proder

The GTZ played an important role in Búzi during the 2000 floods, especially in terms of response and post-disaster assistance. After the floods, through its Proder project (Rural Development Project in Sofala), the GTZ participated in school and health centre rehabilitation, and assisted the government in implementing local disaster risk management. The GTZ was the first organisation to implement a disaster management strategy based at community level, by establishing local committees for risk management in Búzi. Other important activities of the GTZ include:

- Providing local communities with basic kits for improved early warning, rescue and response;
- Promotion of workshops and training for local activists for disaster prevention, preparedness and better response;
- Introduction of new agricultural techniques and new crops, or the re-establishment of local crops, to reduce people's vulnerability to natural hazards.

The GRC has since expanded to include all localities of the district. In each **community a nucleon or committee**, consisting of seven volunteer members, represents the GRC. This committee works in coordination with local traditional authorities, mobilising people living in low-lying areas to move to safer places. Among other activities the GRC:

- promotes seminars with local authorities on risk management;
- monitors radio weather forecasts and gives this information to the local authorities who activate mechanisms to inform the community. GRC members themselves also disseminate early warnings to local communities;
- searches for the safest places for habitation;
- mobilises the owners of boats to participate in evacuation processes;
- evacuates the most vulnerable people to safe areas;
- mobilises people to abandon flood-prone regions in favour of higher-lying areas.

The Catholic Church and the CCM

These organisations use the Christian message to promote solidarity and a spirit of brotherhood for mutual assistance in cases of emergency. The Catholic Church commissions within the church have developed a range of different assistance procedures. The Charity Commission is the most important of these, and is responsible for collecting goods for distribution to affected people. The church also works as an important instrument for disaster early warning, and for encouraging people to adopt preventive measures. The local Catholic school in Estaquinha also works as an important institution for disaster management. When teachers receive an early warning via radio from the weather services, they transmit it to their students, who inform their parents back home. In Estaquinha, teachers also participate in the meeting held monthly at the administrative headquarters, where they discuss how to solve or minimise the problems of natural hazards.

ESMABAMA

ESMABAMA is a project created in 1995 by the Catholic Church to deal with post-conflict situations, but from 2000 it turned its focus to emergency food relief, and the distribution of seed and agricultural tools to flood victims along the Búzi River. This organisation has been working collaboratively with other organisations locally such as GTZ and the traditional authorities. During the fieldwork, ESMABAMA was focused on labor-for-food strategies to assist the local villagers against the drought that was affecting the study site. Other main activities of this organisation include:

- Training local communities in the care of livestock and the production of drought-resistant crops. Students also have a role in transmitting this knowledge to their parents and relatives back home and around the community.
- Promoting labor-for-food, in conjunction with the WFP: using work in road clearing and repair as a way to help people affected by drought.

Formal DRM set up

After the 2000 floods the Mozambican Government developed a new strategy for managing disaster events and for better coordination of operations with other organizations in 2001 a new law was ratified (Law of Disaster Management), the following describes the *new* set-up.

a) National Level

National Board for the Coordination of Disaster management (CCGC)

Operates at the national, provincial and district level, headed by the Prime Minister and integrates inputs from NGO's and UN organizations.

Main role is to ensure coordination.

Technical Council for Disaster Management (CTGC)

Technical multi-sectoral organ, representing all ministries reporting to national government. UN and NGOs are on board. It is divided into seven working groups: (i) coordination, early warning, (ii) awareness raising, (iii) rescue and evacuation, (iv) logistic, (v) shelter, water and sanitation, and (vi) food security and agriculture. Each working group is responsible for designing operational plans, simplified instruction and procedures.

National Institute for Disaster Management (INGC).
National level body with branches in the ten provinces and some in some districts. Responsible for the development of contingency planning at national and provincial level. The Contingency Plan is the document containing strategic guidelines fro disaster prevention and mitigation.

b) Provincial Level

Provincial Disaster Management Committee

All national bodies have representation at the provincial level within the Provincial Disaster Management Committee. The provincial committee meets immediately before the rainy season and soon after the threat is over without being able to implement sound prevention programmes. Preventive measures are still limited, serious financial shortages, DRM is still perceived as a secondary priority. UN Agency and NGOs presence is limited at the provincial level.

c) District level
In Búzi local administration has created a district emergency committee, composed by local representatives of all the ministries. The role of the committee is: coordination and evacuation, supervision of affected area during the emergency and post disaster assessments and evaluations.
d) UN
DRM is one of the focuses of the UNDAF in Mozambique. The UN has supported the government in development of a disaster management policy, establish a disaster management information system, implement the disaster management plan.

SECTION II: Policies, processes, structures and DRM related actions undertaken at local level (Situation described as it was during/after the disaster event analyzed).

DRM/P Cycle phase	A Policy and Regulatory Framework (formal) And/or Customary Practices (informal)	B Key Players/Organizations (Who?) Key Roles (What?) Methods, Tools, Techniques (How?)	D Local Learning and Capacity-building Elements And Other Issues
	PREVENTION		
1. Social capital formation	**A1** Traditional leadership and informal social networks compensated the lack of formal support in the first stages of the 2000 emergency. Although there are positive aspects as regards the role of the traditional authorities, they have been accused of nepotism when food assistance arrives. Local communities perceive increased frequency and intensity of disastrous events as a result of local spirits, ancestors, and/or gods will (see box 3 page 33) A conflict exists between administrative and traditional authorities (*régulos)* regarding the division of power. At local level there is no clear definition of hierarchy between these authorities; they use the same state symbols and report to the same level of administration – the chief of the administration post.	**B1** Informal social networks played an important role in 2000 in Búzi. In most cases the emergency response was initially taken by people organising their own informal social networks (neighbourhood, friendship, kinship, church, etc.). Small private boats belonging to the fishermen along the river were used for evacuation of vulnerable people (elders, women and children), from the flooded areas to safer places, where they later received assistance.	**D1** At the Estaquinha administrative post, traditional authorities are now invited to attend monthly meetings where they are encouraged to report to the head of administration on problems and progress in their area of jurisdiction. The problem they report most frequently is hunger.
2. NRM and DRN Integration	**A2** Laws on Land, Environment, Forestry, Fishery and Water ratified between 1990 and 1999 but not linked to DRM.	**B2**	**D2**

3. Safety nets (informal)	**A3** Village communities have strong networks to reduce the impact of extreme weather events as well as for subsequent recovery.	**B3** To minimise the problem of lack of seeds after floods, people activate social networks based on kinship, friendship or neighbourhood ties – exchanging vegetable or cereal seed free of charge, or with merely symbolic payment. People with no seed at all acquire it by working for those who do have seed, and also give part of their harvest to these donors. The same applies to mutual food assistance in field cultivation, or "*kulimila*" and "*likuku*".	**C3** **GTZ** After 2000, introduction of new agricultural techniques and new crops, or re-establishment of local crops, to reduce people's vulnerability to natural hazards.
4. Financial Services and Insurance systems (formal)	**A4** Mozambique's government sought assistance from the international community and received about USD 162 millions (GOM, 2000).	**B4**	**C4**
5. Awareness raising	**A5**	**B5**	**D5** **CVM:** After 2000, the Red Cross convenes meetings with the local communities to discuss matters such as natural hazards and mechanisms of prevention of water-borne disease, and assists in mobilising communities to abandon high-risk zones.

6. Coordination mechanism (rehabilitation and prevention matters)	**A6**	**B6** No mechanism in place previous/during 2000 floods, new strategy since 2002 (see Section I). .	**D6** By 2001 the Law of Disaster Management was finally approved. This law aimed at establishing strategies, plans, legal norms and operational programmes for disaster prevention, aid and rehabilitation. It was also intended to reduce communities' vulnerability through a continuous, integrated, multidisciplinary and multi-sectoral process, based on an adequate information and communication system (Bill of the Law of Disaster Management, 2001). After 2000 **GTZ** initiated a disaster management strategy based at community level, by establishing local committees (GRC) for risk management in Búzi (details in section 1) activities include promotion of workshops and training for local activists for disaster prevention, preparedness and better response and seminars with local authorities on risk management.
PREPAREDNESS			

7. Early Warning & Communication	**A7**	**B7** During 2000 floods the Búzi administrative authorities were warned about 48 hour before by the upper stream authorities. The Búzi authorities alerted the communities surrounding their headquarters, but owing to weakness in institutional coordination and communication the early warning did not reach the remote areas in time…however even the alerted communities did not take the warning seriously; the villagers were aware of their vulnerability to floods but nobody imagined the scale of those particular events. **Community based early-warning systems:** communities use their traditional knowledge to predict hazards, they know the period of the year when floods, cyclones and droughts occur and which places are most at risk. They could predict natural hazards by interpretating natural signs such as the movement of birds, the appearance of insects or the position of the new moon. However, the uncharacteristic nature of the 2000 event marked a change in the perception of natural hazards by Búzi communities. It also marked changes in terms of community organisation and mechanisms for local institutional coordination.	**D7** Since 2000 community-based early warning systems have become more sophisticated. GTZ and CVM have provided technical support, equipment and training. System of coloured flags established as a warning mechanism. The Catholic Church works as an important instrument for disaster early warning, and for encouraging people to adopt preventive measures. The local Catholic school in Estaquinha is an important institution for disaster management. When teachers receive an early warning via radio from the weather services, they transmit it to their students, who inform their parents back home.
8. Contingency planning	**A8**	**B8** No mechanism in place previous/during 2000 floods, new strategy since 2002 (see Section I).	**C8** Within the 2001 Law the **INGC** is responsible for the development of a contingency plan at national and provincial level. It was argued that given the Mozambican reality, characterized by poor mechanisms of communication and dissemination of information, the provincial level seems to be too high to design effective contingency plans because there is no means for collecting accurate and up to date data that reflects the situation on the ground. Experience showed that even the district authorities in Búzi were not aware of the content of the provincial plan, making it difficult to work collaboratively with the provincial authorities.

9. Infrastructural Safety Arrangements (boats, housing, refugee camps)	**A9**	**B9**	**C9** **After 2000 floods** GTZ **has been mobilizing people to :** • Use stronger building materials (e.g. steel wire instead of ropes extracted from trees); • Build houses in higher-lying areas or to build houses with upper floors • Plant bamboos around their houses to protect them from winds; • Build small huts to protect livestock; • Avoid using canoes to cross the river by small boats and avoid walking under big trees.
10. Vulnerability assessments (pre disaster)	**A10** There was no pre disaster vulnerability assessment due to absence of appropriate institutional mechanisms for the coordination of planning and response to disasters	**B10**	**C10**
RESPONSE AND REHABILITATION			

11. Response/Relief operations and coordination	**A11** The limited capacity of the national government in terms of resources (human, material and financial) to respond to the emergency was clear from the outset. The lack of coordination between national and international agencies, and of governmental organizations and NGOs, constituted a major limitation in addressing the needs of the rural population. This problem was especially bad at provincial level in Sofala. Some organizations and donors decided to distribute relief independently, in some cases without knowledge and respect of local norms which led to more problems than solutions. The government collaborated with UN agencies (**UNDP, FAO, WHO, UNESCO, UNICEF, WFP, UNFPA, UNEP/HABITAT**), as well as with major NGOs and the private sector. The UN Office for the Coordination of Humanitarian Affairs (OCHA) developed a UN Disaster Assessment and Co-ordination team to assist the INGC and the UN Disaster Management Team. In facilitating the INGC's disaster response, the UNDAC team helped in the establishment and functioning of Coordination Centres in all the regions affected by the flooding.	**B11** At the beginning of the 2000 floods no formal rescue was provided because of unavailability of resources. By the time the means of rescue were provided by official authorities or external agencies households had already evacuated themselves to safer locations. The local radios suggested safe places for people to evacuate to. **Formal evacuation** started late, it was undertaken by the Mozambican Army, South African Air Force, Beira MIL, AIRSERVE and a number of countries sent rescue helicopters. **Informal social networks** played an important role, emergency response was initially taken by people organizing their own informal social networks, small private boats belonging to fishermen were used for evacuation. With limited resources to respond to the disaster the Mozambique government sought assistance from the **international community** and received about USD 162 millions (GOM, 2000). Assistance made it possible for people to buy essential goods, and funded services for the emergency operations being undertaken by state institutions, NGOs, UN agencies and religious organisations. The involvement of several organisations in the reception and distribution of aid made the operation more flexible and efficient. It was also possible to rescue 53,000 people, to provide emergency assistance to about 676,700 people in the established accommodation centres, and to start the process of population resettlement. Assistance was distributed using criteria based on the declaration of items lost. The Mozambican government established a national emergency coordination mechanism chaired by the INGC. Flood committees were established at provincial and district levels. The **INGC** roles were: - to assess the needs of affected people; - to coordinate the distribution of food and clothing by the organisations that had responded to the government appeals; - to provide temporary accommodation in accommodation centres, and - to provide medical assistance to the victims, especially in accommodation centres. The main assistance provided by the UN to the affected people consisted of rescue, clothing, temporary shelter (tents), high-energy food, medical assistance, sanitation, water and vaccination against the water-borne diseases. Table1/page 29 shows the roles played by some of the UN agencies.	**C11**

12. Damage and Needs Assessment (post disaster)	**A12** The Mozambican Government assessed the dramatic consequences of this disaster over three dimensions: *Human dimension*: a total of 5.2 million people were affected (30% of the Mozambican population): 699 people died, 491,000 were displaced and 95 disappeared. *Physical dimension*: roads, railways and other infrastructures were destroyed; an area of 30,000 square kilometres was inundated from the Umbelúzi, Incomáti, Limpopo and Save River basins in southern Mozambique to the Búzi River basin in the central region of the country; *Economic losses* were estimated to have totaled USD 600 million, with a reduction in the country's economic growth from 10 per cent to 3.8 per cent (GOM, 2000).	**B12** NGOS and religious organizations evaluated the needs of the affected people. Hazard victims were viewed as homogeneous in terms of their vulnerability. The assistance was provided after a rapid needs assessment conducted by the donors or administrative authorities. In other areas local traditional authorities were involved in listing affected households. The listing process sometimes was falsified because traditional leaders registered more than the actual number of households, in order to get more assistance. According to some interviewers, the numbers of affected people were inflated for this reason, even by the national government and some NGOs	**D12**
13. Transition relief/response to rehabilitation/prevention.	**A13** Emergency response and relief was largely designed to be a temporary solution to the crisis, and this actually impeded the sustainable recovery of at-risk communities.	**B13** Reconstruction programmes for aiding affected households after the flood were implemented by a number of internal agencies and non-governmental and church organisations, but considering the level of destruction suffered, they were far too small to address the needs of the population. The government was mainly occupied with the reconstruction of public infrastructure such as hospitals and health centres, schools, roads and small bridges, but the level of these services is still far from adequate. **CVN (Mozambican Red Cross)** Works in coordination with the local administration and health authorities to combat water-borne diseases such as malaria and cholera. **GTZ** Participated in school and health centre rehabilitation, and assisted the government in implementing local disaster risk management. **NGOs** and donor organisations that provided relief assistance left after six months before the requirements of affected families were met.	**C13** **ESMABAMA** From 2000 it turned its focus to emergency food relief, and the distribution of seed and agricultural tools to flood victims along the Búzi River. Focus is on: training local communities in the care of livestock and the production of drought-resistant crops and promoting Food for Work, in conjunction with the WFP.

SECTION III: GAPS and LESSONS LEARNED

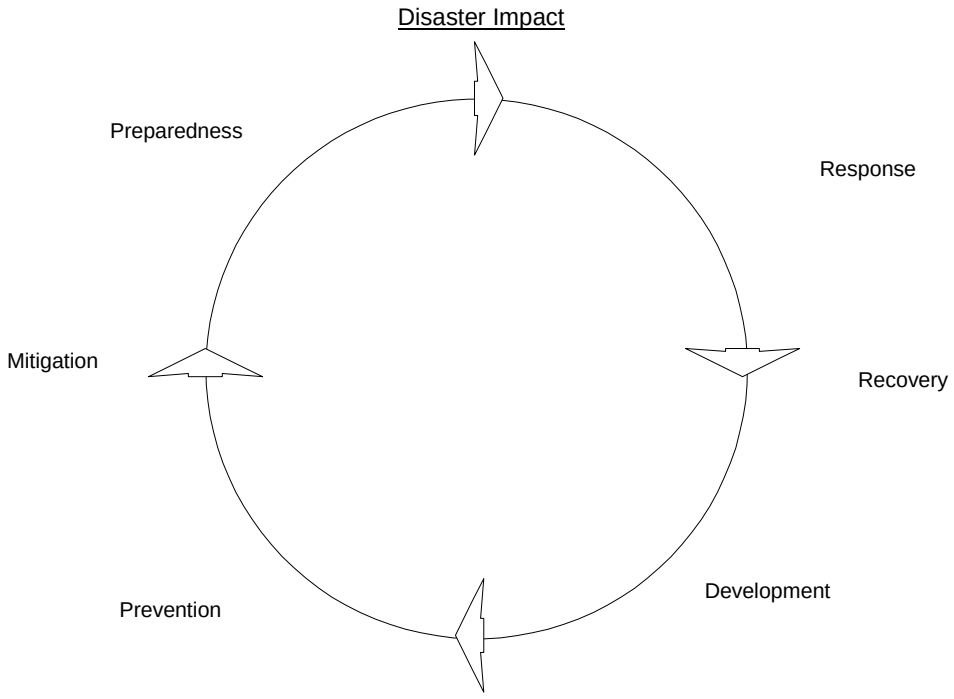
Key Lessons Learnt	• The 2000 floods and cyclones exposed the Mozambican government's **institutional weaknesses** and limited capacity to respond efficiently to emergencies. At the onset of the event there were no clear programmes or plans for responding to the emergency – including preparedness, evacuation and response. Existing plans did not consider an event of such magnitude nor the type of impacts that resulted. Communities also did not anticipate an event of such magnitude, inhibiting appropriate responses, particularly to early warning. • The 2000 event did however represent an **opportunity for the government to understand its institutional vulnerability** expressed in: - lack of institutional coordination to respond situations of extreme need; - weak mechanisms of communication between different levels of the administration; - lack of efficient channels and mechanisms to disseminate information on natural hazard management to communities that really need that information; - centralisation of decision-making at national level and non-flexible mechanisms for information flow from bottom-up. As result, most of the decisions taken do not reflect the needs and expectations of the people on the ground; - fragile and incompatible links between the different powers created in a context of new democratisation. At the local level there is no clear definition of roles between the traditional and administrative authorities; this sometimes results in conflict, which can have a negative effect on institutional coordination in disaster management. • In some cases the government finds itself incapable of challenging **donors' imposition** of conditions for the application of the funds provided. Donors in many cases decide what to give or to build, in which community or area, when and how, without coordinating with government authorities or even the local authorities of the beneficiary communities. As a result, in some cases their initiatives or projects fail to reach their goal. In terms of disaster prevention and mitigation, the Mozambique government recognised that strategies and programmes for addressing these issues are still far from reaching the necessary efficiency, and policies and programmes for addressing extreme poverty are still inadequate. The extent of the impact was due not only to the intensity and magnitude of the event, but also to the high levels of vulnerability within rural communities, compounded by **HIV/Aids and chronic food insecurity**. Factors influencing **early warning:** The case of Búzi provides a key lesson on how to design effective early-warning mechanisms within communities vulnerable to weather events. A better understanding of how people interpret and respond to warnings is needed. In this case it can be noted that people are less likely to respond to a warning if the previous warning did not result in a serious disaster or if they have never experienced an event of considerable magnitude and intensity. In Búzi people did not take the warning seriously because the previous two warnings had resulted in floods of low intensity without any large impact on people's livelihoods. They assumed that this case would be the same.
Key Gaps and Recommendations (details on page 45 to 52)	**a*) Early warning and emergency planning*** - Development of local management plans involving the local authorities and the most influential people within the community. - Promotion of the local community radio station in Búzi to disseminate early warnings and Distribution of solar or wind-up radios, as the villagers often cannot afford to purchase batteries. - Active involvement of GRC members to complement the information broadcast by the local radio to local communities, especially in remote locations along the Búzi catchment. - Working with communities to inform them of the recurrence of extreme weather events, - Promotion of national and provincial teams for monitoring, recording and evaluating indicators of the natural hazards and subsequent dissemination of information to potentially affected communities. - Facilitation of environmental education programmes with the local community to increase their knowledge of natural hazards. - Design of evacuation plans with at-risk communities, - Integration of the scientific understanding of natural hazards with local 'conventional wisdom' or traditional beliefs. ***b) Evacuation, search and rescue*** - Ongoing training programmes for the youth resident in each vulnerable zone should be developed, providing them with the knowledge needed to conduct first aid in an emergency situation

	c) *Assessing the impact and distributing relief* - Need for standardised assessment procedure. - Conduct pre-assessment and monitoring of food relief distribution by the local authorities to avoid community conflicts - Supporting local support networks. - Encourage partnerships between the Mozambican government and external agencies for better coordination in case of an emergency situation. - Design of emergency food aid interventions to support mitigation activities as well as simply providing immediate relief, 4.3.1.4 Recovery and rehabilitation ***d) Recovery and rehabilitation*** - Establishment of long-term rehabilitation processes involving all community members. - Design of planning and recovery programmes that take into consideration local cognitive factors that will influence their effectiveness**.** ***e) Reducing the vulnerability of at-risk communities/ Strengthening and diversifying community livelihoods*** - The livelihoods of more than 80% of the Mozambican population are based on agriculture. This sector is frequently seriously affected by natural hazards, especially droughts, cyclones and floods, which destroy the means of livelihood of local communities and impact severely on their food security. The situation is exacerbated by the limited capacity of local communities to diversify their livelihoods using the available natural resources. In order to strengthen and diversify community means of livelihood, the following are recommended. - Focus on extensive and diverse sustainable utilisation of the natural resource base (agriculture, livestock, wildlife, fishery and forest resources) - Focus on female-headed households whose livelihoods are agriculturally dependent. - Encourage local seed exchanges between farmers from different communities - Promoting local agrarian extension officers to help local communities improve agricultural production. - Encouragement of NGOs in implementing small projects for livestock production as a second means of livelihood. **f*) Strengthening the coordination role of local institutions in reducing the vulnerability of at-risk communities*** - Increased coordination between government institutions at national, provincial, district and local levels should be strengthened. - Permanent operation of disaster committees at each level of government. - Strengthen coordination between Mozambique and other southern African countries. - Expansion of the database identifying all institutions and organisations working on disaster management at the local level. - Establishment of communication mechanisms and information exchange among local institutions to ensure greater coordination. - Strengthening of initiatives such as the GRC, by the CVM and GTZ. - Strengthen disaster committees to support communities in managing their own risk. - Strengthening the organisational capacity of local organisations. - The government should take advantage of collaboration with NGOs and other agencies that already understand the importance of local organisation. ***g) Integrating disaster management in sectoral policies*** - Increased sectoral engagement between government departments on disaster risk management. - Integration of disaster risk reduction principles into government programmes. ***h) Promoting multidisciplinary research into vulnerability reduction*** - Adoption of a multi-disciplinary approach to assess at-risk communities. - Encouragement of government and local institutions to develop an interdisciplinary “vulnerability index’. - Local authorities should work on a long-term basis to persuade local communities that extreme events like the 2000 can occur again.

	GAPS - While the **Bill of the Law of Disaster Management**, 2001 recognises the role of local governance in reducing the vulnerability of communities at risk, its focus is still predominately on the protection of state resources and national strategies are still based on strengthening the state's capacity to respond to disasters, with a limited focus on increasing the community's capacity to prepare for and respond to disasters or to reduce risk conditions. The challenge for local government is therefore to strengthen local communities' capacity to cope, whilst linking them to external support at both local and national levels. - **Traditional authorities** played an important role during the 2000 event, but they were sometimes limited by not knowing precisely what was going to happen. In some cases it was reported that they appeared primarily interested in securing their own household assets as opposed to assisting the community. - No standardised assessment as a result of uncoordinated **assessment** procedure, relief was distributed haphazardly, and not all affected communities were assisted. - During the relief distribution, several constraints emerged in the field. There was a severe **scarcity of fiscal resources** on account of the **lack of institutional capacity** to act quickly to solve emerging problems. Second was the problem of inefficient flow of information about what was happening at different administrative levels. - Although **contingency plans** are important tools for disasters management, the nature of the contingency plans has been criticised because they had been prepared based on generalized information from national or provincial levels, which did not reflect the reality at the local level. It was argued that given the Mozambican reality, which is characterized by poor mechanisms for communication and dissemination of information, the provincial level would seem inadequate to design effective contingency plans because there is no means for collecting accurate and up-to-date data that reflects the situation on the ground. Experience showed that district authorities in Búzi were not aware of the content of the provincial plan, making it difficult to work collaboratively with the provincial authorities.
Other Technical Aspects	The protracted civil war resulted in a severe disruption of social networks. With the uncontrolled dispersion of communities, families were split up, and could no longer draw on mutual support, an important base for rural livelihoods. Mechanisms such as local norms and values, traditional rules, taboos and ceremonies that had influenced the sustainable use of natural resources and environmental protection were all abandoned, and traditional authorities that had been responsible for the dissemination of values and knowledge, especially to the younger generation, collapsed and lost their legitimacy. Indigenous knowledge of farming techniques, livestock production, and disaster prevention and preparedness were lost completely. This placed communities at greater risk to natural hazards.

Annex 5: FAO's Disaster Management Cycle

The Disaster Management Cycle is illustrated in the below diagram. It consists of a number of phases, each requiring a different range of response activities. The different phases, however, are often grouped together under three main categories: the pre-emergency phase, the emergency phase and the post-emergency phase. In the course of this paper, the activities of UN entities in the disaster management cycle will be examined under these three broad categories.



A. PRE-EMERGENCY PHASE

The emphasis in the pre-emergency phase is on reducing the vulnerability of communities to suffer from the impact of natural phenomena. Measures to achieve this objective include risk-mapping, application of building codes, land zoning as well as structural measures such as the construction of dams against flooding. They are grouped under the heading risk reduction, comprising prevention, mitigation and preparedness.

i. Prevention

Includes all measures aimed at avoiding that natural phenomena turn into disasters for settlements, economies and the infrastructures of communities.

ii. Mitigation

Involves measures taken to limit the adverse impact of natural hazards and related environmental and technological disasters. Examples of mitigation are the retrofitting of buildings or the installation of flood-control dams, and specific legislation.

iii. Preparedness

Involves measures taken to ensure effective response to the impact of disasters. Preparedness measures include, for example, evacuation plans, early warning

systems, pre-stocking of relief items – all being part of a national disaster relief plan.

B. EMERGENCY PHASE

In the emergency phase of a natural disaster, response mechanisms are automated. This phase is normally short-lived and may be over within days or weeks.

i. Response

Involves measures taken immediately prior to and following the disaster impact. Response measures are directed towards saving life and protecting property. They deal with the immediate disruption caused by the disaster. They include search and rescue, and the provision of emergency food, shelter, medical assistance. The effectiveness of responding to disasters largely depends on the level of preparedness.

C. POST-EMERGENCY PHASE

The transition from relief to rehabilitation is rarely clear-cut. On the one hand, the foundations of recovery and reconstruction are usually laid in the immediate aftermath of a major disaster, while emergency response activities are still ongoing. On the other hand, there is often, in the aftermath of a natural disaster, a phase when basic needs must still be met as the long-term benefits of rehabilitation and reconstruction projects have not yet been fully realised. As a result, the phasing-out of relief assistance must be managed carefully.

i. Recovery

Is the process by which communities are assisted in returning to their proper level of functioning. The recovery process can be very protracted, in some cases up to a decade or more. Typical activities undertaken under this phase include: restoration of essential services and installations, and long-term measures of reconstruction, including the replacement of buildings and infrastructure that have been destroyed by the disaster.

ii. Development

Its inclusion in the disaster cycle is intended to ensure that following the natural disaster, countries factor hazard and vulnerability considerations into their development policies and plans, in the interest of national progress.

The rationale behind the use of the expression ‘disaster management cycle’ is that disaster and its management is a continuum of inter-linked activities. Yet, the expression is slightly deceiving in that it suggests that the periodic occurrence of natural disasters is something inevitable, always requiring the same response. On the contrary, if effective prevention and preparedness measures are implemented, natural disasters may be avoided by limiting the adverse impact of inevitable natural phenomena.

To illustrate progress in reducing a country’s vulnerability to the impact of natural phenomena through the implementation of risk-reduction measures, the series of events applying to disaster management should be represented as a spiral. In a spiral, disaster-related activities are linked as a continuum, but not in a cyclical manner. At the beginning of the spiral, the country’s vulnerability to natural disasters is high since inadequate focus is placed on risk-reduction and more efforts are correspondingly required during the emergency phase of a disaster. An upward movement along the spiral indicates that prevention and preparedness measures are gradually put into place, thereby reducing the country’s vulnerability to natural disasters and the need for emergency assistance in the event of a disaster.

Annex 6: Examples to increase Local DRM capacity

Examples of steps to be taken in Local Risk Management

- Organise a local management group
- Investigate and define types of risk in the local context
- Assess threats and vulnerabilities, including social ones
- Record information on families settled in risky areas, number of persons, status of housing, assets, special abilities and necessities, etc.
- Define local priorities to reduce vulnerabilities, with the participation of all sectors, including those that are not considered to be directly affected

MITIGA-TION

Examples of steps to be taken in Local Risk Prevention

- Carry out reforestation projects
- Clarify land tenure regimes
- Improve housing
- Undertake work to protect roads against landslides and reinforce slopes, improve gullies, etc.
- Pass local administrative rules, e.g. prohibiting sand extraction, tree cutting, the exploitation of community resources, construction codes

PREVENTION

Examples of steps to be taken in Local Risk Preparedness (examples of activites implemented in 5 Central American countries in the context of a project aiming at increasing local capacity in DRM)

- Draft emergency plans including for evacuation and on the constitution of rescue committees, information services, hygiene, security, nutrition, etc.
- Draft specific intervention plans for individual threats and risks (volcanic activity alert plan, urban plans, etc.)
- Set up, manage and maintain local early-warning mechanisms
- Carry out emergency situation trials during simulations
- Insert local disaster prevention plans into national-level plans

Source: adapted from Sánchez del Valle 2000

PREPA-REDNESS

Examples of steps to be taken in Local Risk Mitigation (examples of activities implemented in 5 Central American countries in the context of a project aiming at increasing local capacity in DRM)

- Raise awareness among the population, groups and organisations, on hazard risk and PMP
- Develop sensibilisation, "conscientisation" and capacity-buildingactivities on PMP
- Stimulate involving of people at risk
- Integrate the concepts of PMP in school curricula, at different levels, and relate them to other sectors such as health, environment, etc.
- Set up a drainage system for rain water
- Improve housing
- Monitor runoff on arable land
- Pass local administrative rules, e.g. prohibiting sand extraction, tree cutting, the exploitation of community resources, construction codes
- Assume local responsibilities in risk management

Annex 7: WebSites

Asian Disaster Preparedness Centre

http://www.adpc.ait.ac.th

Asian Disaster Reduction Centre

http://www.adrc.or.jp

Caribean Disaster Mitigation Project

http://www.oas.org/EN/CDMP

CEPREDENAC (Centro de Coordinación para la Prevención de los Desastres Naturales en América Central)

http://www.cepredenac.org

Centro Régional de Información sobre Desastres (América Latina y el Caribe)

http://www.disaster.info.desastres.net/crid

Directory of Disaster Reduction Institutions

http://www.unige.ch/idndr

Disaster Information Network

http://www.disaster.net

Disaster Preparedness ECHO (DIPECHO)

http://www.disaster.info.desastres.net/dipecho

Disaster Relief – Worldwide Disaster Aid and Information via the Internet

http://www.disasterrelief.org

Earthquake Research Institute

http://www.eri.u-tokyo.ac.jp

European Union Humanitarian Office

http://www.europa.eu.int/comm/echo

FAO Global Information and Early Warning System (GIEWS)

http://www.fao.org/giews/default.html

FAO Geoweb

http://geoweb.fao.org

FAO Food Insecurity and Vulnerability Information Mapping System (FIVIMS)

http://www.fao.org/fivims/default.html

US Federal Emergency Management Agency (FEMA)

http://www.fema.gov

Fortalecer Estructuras Locales para la Mitigación de Desastres (FEMID)

http://www.cepredenac.org/10_femid/10_index.html

HazardNet

http://hoshi.cic.sfu.ca/hazard/index.html

HazNet

http://www.haznet.org

Humanitarian Policy Group /ODI

www.odihpn.org

International Committee of Red Cross and Red Crescent Societies

http://www.ifrc.org

International Institute for Disaster Risk Management

http://www.idrmhome.org

International Strategy for Disaster Reduction

http://www.unisdr.org

La Red de Estudios Sociales en Prevención de Desastres en América Latina

http://www.osso.univalle.edu.co/tmp/lared/lared/html

La Red de Estudios Sociales en Prevención de Desastres en América Latina - Publications :

http://www.desenredando.org

Office for the Coordination of Humanitarian Affairs

http://www.reliefweb.int/

Promujer

http://www.promujer.org

ProVention Consortium

http://www.proventionconsortium.org

SEWA

http://www.sewa.org

UNDP Disaster Management

http://www.undp.org/erd/disaster.html

UNDP Disaster Management Programme

http://www.undp.org/erd/dmp.html

UNESCO Unit for Natural Disaster Reduction

http://www.unesco.org/environment

World Bank Disaster Management Facility

http://www.worldbank.org/dmf

World Food Programme

http://www.wfp.org

World Health Organization Division of Emergency and Humanitarian Action

http://www.who.int/eha

World Meteorological Organization

http://www.wmo.ch