Measures for risk analysis

- Scientific-technical studies on danger analysis accounting for foreseeable future trends (e.g. extreme rainy and arid periods due to global climate change)[2]
- Participatory hazard mapping (*mapas de amenaza*)[1]
- Participatory investigation of local vulnerabilities to existing hazards (infrastructure, socio-economic, political-institutional and cultural factors)[1]
- Participatory analysis of individual vulnerability of households (members, condition of housing, sources of income, special needs)[1]

The above PRA instruments can be used for the participatory elements in risk analysis (see Chapter 3.1.2. above). The hazard map drawn up by the endangered population is also an important specific method.

Preventive and mitigation measures (*Prevención Y Mitigación*)[28]

- Raising awareness amongst the population at risk, decision-makers and other actors on the causes of disasters and the possibilities of disaster risk management[1]
- Further training[1]
- Setting up or strengthening local disaster risk management capabilities[1]
- Operational drainage system for rainwater[3]
- Bolstering/Improving housing, particularly to withstand earthquakes[2]
- Smaller-scale banking against flooding, when building thoroughfares, for securing slopes, etc.[2, 29]
- Controlling slash-and-burn clearance[3]
- Drawing up land use plans and incorporating disaster risk management measures in local development plans[3]

(1) Measures conducted by all projects and scheduled in new projects
(2) Measures conducted by some projects and scheduled in others
(3) Measure in planning in individual projects

[28] In Central America a distinction is frequently drawn between measures in 'Prevención' and 'Mitigación', although this distinction is not consistent. As a general trend, 'Prevención' denotes measures to prevent events occurring that can lead to natural disasters, while 'Mitigación' is understood to mean measures to help contain the damage caused by the event.

[29] See for example Villagrán de León: Aportes para la gestión de obras para la prevención de inundaciones, Guatemala 2001.

- Developing and implementing local administrative directives, e.g. land use and building instructions and prohibitions as well as for resource conservation[3]
- Reafforestation, sustainable agricultural production and other soil conservation measures[3]
- Adapting farming products and methods to hazard[3]
- Incorporating disaster risk management in school teaching and networking with other sectors (health, environment, etc.) at local level[2]
- Setting up or strengthening information and coordination mechanisms with regional and national actors in disaster risk management (e.g. municipal associations, agricultural, environmental and other ministries, research centres)[2]

Box 8: Bank reinforcement in San Sebastián Retalhuleu, Guatemala

During the heavy rains caused by Hurricane Mitch the Río Samalá in Retalhuleu widened and shifted so much that it threatened to burst a new river bed in the small town of San Sebastián in a subsequent rainy period. The loose dams built up over years kept eroding and would not be able to prevent parts of the 28,000-strong town from being destoyed by volcanic rock (*lahares*) and water masses, as happened at El Palmar in 1984. In 1999, GTZ therefore assisted the national disaster response authority CONRED in erecting low-cost but stable bank reinforcements. The plentiful rocks in the river bed were assembled into blocks with wire netting and fastened to the banks in tiers.

Preparedness measures (*Preparación*)

- Emergency plans incl. evacuation plans and forming committees for rescue operations and first aid, information service, hygiene, safety, catering, etc.
- Setting up locally controlled, participatory early warning systems
- Organizing, equipping and training brigades for forest fire fighting
- Disaster preparedness exercises
- Incorporation in national disaster preparedness plans

(1) Measures conducted by all projects and scheduled in new projects
(2) Measures conducted by some projects and scheduled in others
(3) Measure in planning in individual projects

A key experience of FEMID's in Central America is that sustained acceptance for disaster risk management in the municipalities is greatest, if measures that make themselves felt in the long term are combined with tangible short-term measures: Further training, raising awareness and local organizational development lay the foundation for most subsequent activities, but they are not enough in themselves to motivate the participants beyond the initial enthusiasm, because they do not convey a sense of practical success and long-term benefits are uncertain. This is where preparatory measures such as disaster preparedness exercises or setting up participatory early warning systems help to make the possibilities of disaster risk management plain to the population in a practical way. These preparedness measures in turn are not sufficient to effect basic and sustainable changes, such as instilling the notion of prevention or establishing comprehensive environmental protection and resource conservation. Already at the project planning stage therefore, attention must be paid to combining activities with sustainable and short-term impacts.

At the beginning, no mechanisms were available in the FEMID project areas to review the implementation and future validity of the initial plans for disaster risk management measures. An effective information management was also lacking. It became increasingly apparent, however, that a monitoring system was needed for effective work and for personal motivation. The basics for a planning, monitoring and evaluation system were therefore developed that were then introduced as far as possible in the second phase of FEMID as well as in the other projects. Core elements of the system are:

Box 9: Introductory literature on project monitoring

Bollin: Planificación, Monitoreo y Evaluación para un Sistema de Gestión Local de Riesgo, Guatemala 2001.

GTZ: Monitoring im Projekt, Eschborn 1998.

GTZ/ Gehrmann, Dorsi/ Gohl, Eberhard: Monitoreo Participativo de Impactos, Eschborn 1999.

GTZ/ Leonhard: Konfliktbezogene Wirkungsbeobachtung von Entwicklungsvorhaben, Eschborn 2001.

López: Diseño en forma participativa de Indicadores para Monitoreo y Evaluación de un Sistema de Gestión Local de Riesgo, Guatemala 2002.

Valdebenito: Elaboración de las Bases para un Sistema de Planificación y Monitoreo y Evaluación, San José Costa Rica 2000.

- Strategic and operative planning (see Chapter 3.1.2. above)
- Mechanisms and instruments for monitoring and evaluation (see Fig. 6 and annex 3)
- An effective and transparent information system (see Table 3)

Figure 6: Indicators for monitoring and evaluation of disaster risk management at municipal level – for a region threatened by forest fires for example[30]

PROYECTO FEMID
GUIA PARA EVALUACION Y MONITOREO
PROYECTOS CON AMENAZA A INCENDIOS FORESTALES

Nombre del Proyecto:	
Departamento:	
Fecha de monitoreo:	Fecha monitoreo anterior:
Responsable del Proyecto:	Responsable de la visita:

1. ACTIVIDADES DE PREVENCIÓN		
Nivel técnico:	si	no
Planes de ordenamiento territorial	☐	☐
Odenanzas municipales para construcción	☐	☐
Planes de manejo forestal	☐	☐
Usos del suelo específicos	☐	☐
Retiro entre viviendas y zona de amenaza	☐	☐
Retiro entre área de cultivo y zona amenaza	☐	☐
Zona de seguridad almacenamiento de granos	☐	☐
Localización adecuada viviendas en terreno	☐	☐
Plan de trabajo elaborado	☐	☐
Otros	☐	☐

2. ACTIVIDADES DE MITIGACION		
Control enfermedades respiratorias	si	no
Disposición de equipo médico	☐	☐
Conocimientos sobre atención enfermedades	☐	☐
Personal apto para atenciones	☐	☐
Otros	☐	☐
Disposición agua para consumo	si	no
Gestión de análisis de calidad de agua	☐	☐
Vigilancia sobre fuentes de agua	☐	☐
Aprovechamiento del agua para consumo	☐	☐
Se mantiene el caudal de fuentes de agua	☐	☐
Conducción correcta del drenaje	☐	☐
Capacitaciones recibidas	si	no
En salud preventiva	☐	☐
En uso adecuado del agua	☐	☐
En prevención de incendios	☐	☐
En atención enfermedades respiratorias	☐	☐
Otros temas	☐	☐

3. PREPARACION		
Sistemas de Alerta	si	no
Diseño e implementación Sistema Alerta	☐	☐
Capacitación a operadores	☐	☐
Actualización de conceptos	☐	☐
Participación comunidades seleccionadas	☐	☐
Atención de emergencias	si	no
Revisión rutas evacuación y rescate	☐	☐
Identificación de albergues	☐	☐
Priorización de acciones	☐	☐
Conocimientos sobre emergencias	☐	☐
Existencia equipo mínimo emergencias	☐	☐

4. GESTION PROPIA DEL GRUPO		
Permanencia y multisectorialidad	si	no
Sede para reuniones y referencia	☐	☐
Presencia multisectorial	☐	☐
Participación en acciones comunitarias	☐	☐
Desarrollo periódico de reuniones	☐	☐
Participación de personas clave en GLR	☐	☐
Disposición hacia actividades PMP	si	no
Identificación de acciones PMP	☐	☐
Revisiones mensuales de acciones PMP	☐	☐
Actualización de acciones	☐	☐
Otros	☐	☐
Gestión e incidencia	si	no
Propuestas para apoyo municipal, deptal	☐	☐
Seguimiento a ordenanzas municipales	☐	☐
Seguimiento a inversiones en territorio	☐	☐
Participan como contraloría social	☐	☐
Se obtiene apoyo de propuestas	☐	☐

5. OBSERVACIONES DEL MONITOREO

6. JUSTIFICACIONES

Firma Presidente Comité Local

Firma Responsable del monitoreo

[30] From López: Diseño en forma participativa de Indicadores para Monitoreo y Evaluación de un Sistema de Gestión Local de Riesgo, Guatemala 2002, p. 24. Cf. also the list of indicators for operational disaster risk management at municipal level in Annex 3.

The following prerequisites and framework conditions were also defined:

- Good strategic planning (objectives, results, indicators, activities and risks) as a basis, drafted with maximum possible participation and accounting for actual resources and capabilities.

- Plans of operations, specifying responsibilities, resources and data for implementing activities.

- Open and transparent discussion and decision-making on difficulties arising and approaches to solving them.

- Acknowledgement and support for the system by decision-makers: Monitoring is a managerial task, not an isolated game by an isolated group!

- Systematic documentation of information needed for monitoring.

- Keeping the project purpose in view and formulating appropriate indicators of effectiveness.

- Making sure that the indicators are operationalized, objective and verifiable at reasonable cost.

- Also reappraising the planning, monitoring and evaluation system at intervals and revising it if necessary.

Table 3: Proposal for an effective information and documentation system for community-based disaster risk management[31]

¿Quién necesita	Grupo local de Gestión de Riesgo	Municipalidad	Comisión Nacional de Emergencia u otras instituciones nacionales involucradas en la Gestión de Riesgo	Terceros (CEPREDENAC, GTZ, organizaciones internacionales, otras municipalidades, ONGs etc.)
Para qué	• Conocer grado de avance en la gestión local de riesgo en la zona (impacto)			
	• Mejorar el trabajo • Legitimación frente a organismos quienes apoyan o podrán apoyar • Mejorar coordinación entre involucrados	• Cumplimiento de los aportes de la alcaldía para reducir el riesgo en el municipio • Presentación del aumento de seguridad contra desastres para un mejor desarrollo municipal	• Apoyar esfuerzo local • Transferir experiencias exitosas a otras zonas • Integrar concepto GLR en otros sectores	• Apoyar esfuerzo local o de las instituciones nacionales en GLR • Aprender de las experiencias exitosas
Qué tipo de información y	• Evaluación de impacto • Sistematización de las experiencias exitosas			
	• Identificación y análisis de problemas internos y generales en el proceso • Documentación de actividades realizadas • Listas de participantes • Documentación del proceso	• Identificación de problemas a nivel municipal • Necesidades de apoyo de parte de la municipalidad	• Identificación de problemas a nivel nacional • Necesidades de apoyo de parte de la Institución nacional	• Presentación resumida de las experiencias
En qué forma?	• Estudios – evaluación interna o externa • Encuestas en comunidades • Informes de actividades			
	• Reuniones • Informes de reuniones de monitoreo • Listas de participantes con posibilidades de communicación	• Reuniones • Plan estratégico y eventualmente planes operativos • Informes de comunidades	• Reuniones y visitas • Plan estratégico y eventualmente planes operativos	• Presentación escrita • Visitas, entrevistas

[31] Bollin: Planificación Monitoreo y Evaluación para un Sistema de Gestión Local de Riesgo, Guatemala 2001.

This is how the foundation was laid for a monitoring system for community-based disaster risk management. Implementation so far is still proving difficult, as the participants usually lack prior experience with monitoring methods on the one hand and this process is frequently also hampered on the other by inadequate communications and hence consultation mechanisms (above all transportation and telephones).

The basics therefore need ongoing development in response to new experience and a phased model may need to be designed to gradually improve monitoring.

3.2. Local implementation challenges

Apart from the difficulties of introducing community-based disaster risk management described in the preceding chapters, the local level faces other challenges that can exert a major influence on the success of the efforts undertaken:

- Party-political or personal rivalries
- Personnel changes in the municipal authority
- Shortage of resources
- Occurrence or non-occurrence of extreme natural events
- Discrepancies in how key concepts are understood

Party-political and personal rivalries particularly between the mayor and voluntary initiatives in community-based disaster risk management in two FEMID pilot communities have severely impaired the effectiveness of work, even to the point of stoppages in election periods, and fuelled ongoing disputes around early warning systems and competencies in emergency situations. In other municipalities in contrast, representatives of different political parties make a point of cooperating or party-political affiliations play no role (see Box 10). In some municipalities where the initiative for disaster risk management came from the endangered population a conciliatory process was necessary between these activists and the municipal authority at first to dispel party-political distrust. The confidence-building measures (transparency and integration through informational visits in the municipal authority and invitation of town hall representatives to disaster risk management events) have, however, resulted in very fruitful cooperation (San Francisco Menéndez, El Salvador).

Box 10: Cooperation despite personal or party-political rivalry? – Examples

La Masica, Honduras	Zacatecoluca, El Salvador	San Sebastián, Guatemala
Since 1996, mayors from various parties have been running disaster risk management in La Masica. The work is coordinated in the town hall by internal staff in close cooperation with volunteers from the community. Disaster risk management is part of the budget. Funds from this are used to finance the maintenance of the early warning system for flooding, which involves citizens from the different localities. In the runup to the elections for mayor in 2001, the candidates of the various parties were informed about disaster risk management operations in the municipality and their support for continuation was enlisted.	With the assistance of a non-governmental organization as part of FEMID in 1999, the population threatened by flooding below Zacatecoluca installed a local early warning system, which it has since operated on its own in collaboration with various local actors (e.g. police). Repeated attempts to link up the group with the municipal authority failed due to personal rivalries which caused recurrent disputes over responsibility for and use of the radiotelephones needed for the advance warning system. A solution has not yet been found.	In San Sebastián efforts have been underway since 1997 to reduce flood risk. The initiative was taken by volunteers who did not, however, succeed in enlisting the support of the municipal authority. The reason was personal and party-political rivalries, which repeatedly thwarted disaster risk management on both sides. The election of a member of the group as mayor at the end of 1999 did nothing to change this: Old allies became new rivals. In the end, the national disaster control authority has intervened: With a new group it intends to improve flood preparedness in the endangered population.

As part of FEMID, only cautious external attempts were made to liaise in local conflicts. Better acquaintance with conflict prevention or mitigation instruments, however (e.g. problem tree, conflict mapping, conflict pillars), can in future and in similar situations help find ways and means for conflict resolution following an analysis of the causes and parties to the conflict.[32]

A major problem is the **changeover of personnel in the municipal authority**, partic□□□□□□□□ularly after local elections. The new mayor can step up and improve or hamper work. Of importance here is not only the change of mayor but also how many other officials have been replaced and how far new relations and know-how need to be built up again.

[32] Cf. GTZ/Leonhardt: Konfliktanalyse für die Projektplanung und –steuerung, Eschborn 2001.

again.

Some of the GTZ-assisted communities have already changed mayor and some have tried to inform the candidates about disaster prevention issues prior to elections and solicit support for this in the election campaign. In La Masica (Honduras, see Box 10) and Corinto (Nicaragua) in particular the new decision-makers were convinced of the value of what had been achieved and pledged to continue with the work.
work.

Most municipal authorities ha**ve very restricted technical, financial and human resources and capa**bilities to draw on. This must be taken into account to prevent communities from overstretching their resources or even refusing to cooperate. A study on landslide hazards in one project region (Tacuba, El Salvador), for example, prompted an activist mayor to withdraw, as the recommendations of the study (restrictions on settlements, safety measures) exceeded current municipal capabilities. In this kind of situation it is necessary to provide the decision-makers responsible with definite practical solutions along with the study findings and set realistic joint priorities.
ities.

It is easier to introduce disaster risk management in municipalities **with a more frequent incidence of extreme natural** events than in regions where these only occur rarely, because the frequent incidence keeps the population highly aware of the risk and facilitates an appraisal of how effective the measures carried out have been. This in turn can help raise the credibility of disaster risk management amongst the population and contribute to the necessary adjustments and improvements.
ments.

FEMID supports disaster risk management in communities with a frequent incidence of extreme natural events. To establish disaster risk management in less endangered regions also, GTZ currently applies twohes: on the one hand, structural improvements in the course of reconstruction after a disaster (in Central America, for example in parts of El Salvador after the earthquakes in 2001) and on the other, incorporating disaster risk management measures in the relevant policy area for the hazard (e.g. through projects in environmental protection and resource conservation, rural development, community development – cf. Box 7).

What people consider to be a 'natural disaster' differs greatly. Experience in FEMID has repeatedly shown that staff in national authorities or external scientific experts engaged in raising awareness and training understand risk (riesgo), emergency (emergencia) or hazard (amenaza) differently from the way the population **defines these terms**. This has hindered community acceptance of these new ideas. For better communication and fruitful

feedback it is therefore essential to know and define terms and local concepts before imparting strategies or planning activities based on them.

3.3. Outcome and impact spread of pilot measures

In cooperation with the Coordination Centre for the Reduction of Natural Disasters in Central America, CEPREDENAC, and the national disaster response authorities in pilot municipalities, the aim of FEMID was to develop local disaster risk management schemes to be subsequently overseen by national actors and transferred and adjusted to other endangered municipalities. This has only been partly successful.

3.3.1. Outcome

Via a variety of measures, a contribution has been made to reducing disaster risk in the pilot communities, by a large margin in some cases. Depending on the risk and general conditions, the emphasis was on detailed risk analysis, participatory early warning systems, emergency committees and/or infrastructure measures. A common concern in all, however, is to build up local organizational and decision-making capabilities to make disaster risk management into a permanent component of local development. In most cases the municipal authority plays a central role or supports efforts at least. Some groups operate with a large measure of autonomy (incl. their own financial resources), others are heavily dependent on assistance from national actors. How far disaster risk management takes permanent root in the assisted municipalities cannot be determined until some time after the end of the projects.

3.3.2. Spread effect

Individual municipalities (above all La Masica, Honduras) or measures (e.g. locally appropriate early warning systems) have succeeded in setting an example for the community-based disaster risk management approach in Central America and beyond. Other municipalities and projects have adopted the general strategy and (sub)measures. Concurrently, other international organizations (e.g. OAS,[33] EU/ECHO, German Agro Action and PAHO)[34] have supported disaster risk management at local level in the region and contributed to the acceptance of the approach in cooperation with Central American organizations (e.g. CEPRODE[35] in El Salvador) and institutions.[36]

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[33] Organization of American States

[34] Pan American Health Organization

[35] Centro para la Protección ante Desastres – Centre for Disaster Protection

Despite the various international, national and local efforts, the various projects in community-based disaster risk management in Central America, however, are still largely individual pilot-type projects that have not yet been transferred independently to new municipalities by national institutions.

So far, the approach has only started to be institutionalized at national level: particularly in Guatemala through the department for disaster risk management set up in 2000 in the National Disaster Reduction Committee (CONRED - see Box 11).

Box 11: Progress in institutionalizing FEMID experience through CONRED in Guatemala

- Self–reliant support for disaster risk management in the FEMID pilot municipality San Sebastián.
- Transferral of local advance warning system to other stretches of a river (Coyolate, Polochic).
- Drafting a guideline for introducing community– based disaster risk management in new regions.
- Incorporation of local forest–fire prevention measures in Petén (PRECLIF) in the national fire prevention and fighting strategy SIPECIF.

Disaster risk management is also being firmly established in community development, especially in Honduras, El Salvador and Guatemala. By furthering the incorporation of disaster risk management components in national programmes for promoting decentralization and community development, GTZ plays a central role here.[37] This way, the experience gained by FEMID can be developed further and established permanently at local level via municipal associations and institutions responsible for decentralization.

An impediment to the adoption of this approach by government institutions is certainly that the risk and the practical package of measures to reduce it can vary greatly by municipality. A successful participatory early warning system with elementary technology on a short stretch of a river cannot, for example, simply be transferred as is to a larger river catchment area situated in two or more municipalities. These kinds of differences call for versatile adjustment to the actual conditions in a new region. Participatory risk analysis and adjustment, however, call for a high personnel and time input and cannot be carried out by the institutions without external assistance for lack of personnel and financial resources.

[36] See a selection of actors and websites below; see also the project list on the CEPREDENAC website and ISDR informs – Latin America and the Caribbean, issue 3, 2001.

[37] These are the Trifinio components of the PROMUDE programme in El Salvador and DDM in Guatemala. Also disaster risk management as part of the DFM programme in Honduras. See GTZ project list in Annexe 1.

An impediment to the adoption of this approach by government institutions is certainly that the risk and the practical package of measures to reduce it can vary greatly by municipality. A successful participatory early warning system with elementary technology on a short stretch of a river cannot, for example, simply be transferred as is to a larger river catchment area situated in two or more municipalities. These kinds of differences call for versatile adjustment to the actual conditions in a new region. Participatory risk analysis and adjustment, however, call for a high personnel and time input and cannot be carried out by the institutions without external assistance for lack of personnel and financial resources.

This is where a precise risk and cost-benefit analysis could make for the necessary transparency and provide a basis for deciding on and justifying investments in disaster risk management.

The readiness of state actors to take and finance preventive measures is assumed to increase with the level of democracy of a society. The primary causes for this are:

- Greater interest in the general welfare and hence the poor and usually most vulnerable population (even if this may also just have to do with prospective voters).

- A variegated and critical flow of information due to a pluralistic media system.

- A better organized population that imposes checks and balances on decision-makers and bears responsibility[38].

Central American democracies are still weak and there are still many shortcomings, particularly in advocacy for the poor sections of the population and the attendant organizational and control capabilities.[39] Nevertheless, media and critical public opinion, particularly after the disaster caused by Hurricane Mitch in 1998 and the earthquakes in El Salvador in 2001, have made a large contribution to identifying failings, controlling the distribution of aid and informing the population about preventive/preparedness and aid mechanisms for future emergencies.

3.3.3. Role of regional and international actors

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[38] On the role of democratization and media in natural disasters, see for example Jalali: Civil Society and the State: Turkey after the Earthquake, in: disasters 26/2, 2002; DKKV/Peters/Reiff: Naturkatastrophen und die Medien, Bonn 2000.

[39] Fischer-Bollin provides a general picture of progress in democratization in Central American countries: Vom Bürgerkrieg zur Demokratie: Die schwierige Demokratisierung in Zentralamerika, in: Institut für Iberoamerika-Kunde: Zentralamerika am Beginn des neuen Jahrtausends – vermeintlicher oder realer Wandel?, Hamburg 2000. See also in the same compendium, Kurtenbach: Der Wandel der zentralamerikanischen Staaten – zwischen Partikularinteressen und Allgemeinwohlverpflichtung. Also Maihold/Córdova: Democracia y ciudadanía en Centroamérica: Perspectivas hacia el 2020, Hamburg 2000.

Disaster risk management and the role of local actors within it is currently accorded growing importance worldwide. This will improve prospects for its acceptance in Central American states. International priorities (and the related financial resources) will also continue to exert a strong influence on progress in disaster risk management in the region.

In recent years, the Central American organization CEPREDENAC mentioned in Chapter 2.3. has made a large contribution to establishing disaster risk management. As a coordinating agency between national and international actors, its content focus is geared to the interests of these partners and is currently directed towards national programmes to strengthen the respective disaster risk management systems and information mechanisms and awareness campaigns.[40] Through exchange at regional level here the individual countries can learn from the positive experience of neighbouring countries: In 2001 for example, the Salvadorean government set up the National Service for Territorial Studies for disaster risk management (SNET) modelled on the Nicaraguan Institute for Territorial Studies (INETER).

A number of projects are being conducted in Central America to strengthen local capabilities, but the coordination role of CEPREDENAC is, however, restricted. The measures are implemented by international organizations directly with non-governmental organizations or government actors. Efforts in FEMID to arrive at a conceptual coordination amongst the countries in disaster risk management at municipal level via CEPREDENAC have not been successful so far.

Nevertheless, FEMID has managed to facilitate direct exchange and a regional learning process amongst responsible national and also local participants, primarily through joint workshops on different topics in community-based disaster risk management and through mutual visits. As a consequence, community-based disaster risk management, as described above, is disseminated primarily via positive experience gained by pilot communities supported by various organizations and is gradually finding its way into the national systems.

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[40] Major international partners of CEPREDENAC include Swedish and Norwegian development cooperation (SIDA and NORAD), the Inter-American Development Bank (IDB), the European Community Humanitarian Office (EU/ECHO) as well as the United Nations organizations UNESCO and UNDP/PNUD. Cf. the information and project lists on the CEPREDENAC website www.cepredenac.org; cf. also the résumé by Durán/Gisle: Risk Reduction and Regional Integration. CEPREDENAC – an interesting story, appearing in UNDP 2002.

4. Conclusions

In Central America, community-based disaster risk management is already being carried out in different regions with national and international assistance. In the municipalities involved, the authorities, volunteers from the population and representatives of different sectors can draw on strategies, experience and mechanisms for sustainable risk reduction in the region. Some of these municipalities or individual measures set an example for other regions and thus contribute to disseminating disaster risk management in Central America. At national level as well, disaster risk management and the recognition of the role of local actors for its effective implementation has grown substantially in recent years. Nevertheless, the community-based approach needs to be more firmly established at national level to improve the sustainability and spread of the advances made. To do this the following major steps must be taken:

- Strengthening of responsible and/or suitable institutions at national level and imparting the theme to personnel and incorporating it in their working strategies and plans.

- Incorporation of the theme in the policies of relevant sectors (above all decentralization and community development as well as environmental protection and resource conservation). GTZ already supports this process by integrating the theme in various community development programmes.

- Strengthening national and regional non-governmental organizations helping to include the population or help it organize itself in cooperation with the municipal authorities and sector representatives.

GTZ has also begun to apply community-based disaster risk management in countries outside Central America (South America, Caribbean, Africa and Asia). Experience gained in Central America and northern Peru is aligned with the respective framework conditions and individual action packages are put together. To be able to develop and extend GTZ strategies, instruments and services further, this new experience should be systematized. This will contribute to disseminating the approach and reducing disaster risk in endangered countries faster and more effectively. A particular challenge here is coping with hazards due to drought and desertification, where there is still a lack of know-how in community-based disaster risk management. Close cooperation is needed here with the projects for implementing the convention on combating desertification.[41] Instruments developed for food security (e.g. early warning systems) can also be of great benefit.[42]

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[41] The convention project to combat desertification is the first coordinated project to be implemented in China.

[42] Cf. GTZ: Ernährungskrisen. Instrumente zur Vorsorge und Bewältigung, Eschborn 1998.

To flank the planning and design of new projects or project components in community-based disaster risk management, strategies and instruments need further development. This applies particularly for projects that combine disaster risk management with the requirements and capabilities of specific sectors, but also some multisectoral aspects. The following themes are accorded priority:

- Ongoing development of advisory approaches, methods and instruments for integrating disaster risk management in the sectors, community development/decentralization, environmental protection and resource conservation and rural development with greater focus on sustainable agriculture

- Analysis of other lines of approach in community-based disaster risk management as part of development cooperation. Of prime importance here is investigating the correlation between poverty reduction and disaster risk management and practical ways of incorporating the theme in education, democratization, health or energy supply, for example. In addition, investigating the interaction between political crises/conflicts and natural disaster and/or crisis prevention and disaster risk management.

- Systematic compilation of priority measures to cater for disaster risk management in future emergency relief, rehabilitation and reconstruction projects. This applies first of all for the response to natural disasters, but reconstruction after political conflicts such as civil wars also affords the opportunity to reduce disaster risk in the case of extreme natural events.

- Ongoing development of risk analysis methods accounting for participatory approaches and the capabilities of modern technology.

- Development of instruments for cost-benefit assessment as decision aids for investments in disaster risk management measures, particularly at municipal level.

- Ongoing development of the planning, monitoring and evaluation system for community-based disaster risk management.

- Devising instruments to integrate disaster risk management in all GTZ-assisted projects in endangered partner countries. A manifest priority here is conducting a risk analysis during project preparation to cater for the specific risks in planning and be able to take the necessary measures to reduce them.

In addition to these points, the findings on climate change pose a new challenge which has been hardly dealt with at all in disaster risk management strategies so far due to lack of information. The place, time and intensity of rainfall, aridity and storms are changing. Only in rare cases can this development be steered in community-based disaster risk management or by national and regional programmes through changes in local conditions (e.g afforestation). Rather, adjustments usually need to be made to fit in with global changes. For community-based disaster risk management this means that local strategies cannot rely on a single risk analysis, at least where natural climatic hazards are concerned, but must instead direct its attention and capabilities to continuous surveillance of and adjustment to changes aimed at sustainable disaster risk reduction in municipalities. Development cooperation must take up this challenge and adapt its strategies and instruments to future findings, also drawing on experience gained in connection with implementing measures under the climate protection convention.

5. Sources cited and further reading regarding community-based disaster risk management

AKA Arbeitsgruppe Partizipation: Empfehlungen der AKA zum Thema “Partizipation auf der Projektebene, o.O. 1998.

ASONOG et.al.: La comunidad y los desastres. Desarrollo de capacidades para la prevención y atención a emergencias, 4 Manuale, Santa Rosa de Copán, Honduras 2001.

Benson, Charlotte/ Twigg, John/ Myers, Mary: NGO Initiatives in Risk Reduction: An Overview, in: disasters vol. 25/3, 2001, S. 199-215.

Bollin, Christina: Planificación, Monitoreo y Evaluación para un Sistema de Gestión Local de Riesgo – Una propuesta del proyecto FEMID/GLR, Guatemala 2001.

CEPAL: El terremoto del 13 de enero de 2001 en El Salvador. Impacto socioeconómico y ambiental, México 2001.

CEPRODE/ Larios, María de Lourdes: Género y Desastres, una perspectiva en construcción, San Salvador 1999.

CTAR/ GTZ: Terremoto?... !Mi casa sí resiste!, Arequipa (Peru) 2002.

DKKV/ Peters, Hans Peter/ Reiff, Susanne: Naturkatastrophen und die Medien. Herausforderungen an die öffentliche Risiko- und Krisenkommunikation. Dokumentation des IDNDR-Expertenworkshops vom 3.-4. Dezember 1998 in Königswinter, Bonn 2000.

Durán, Luis Rolando/ Gisle, Peter: Risk Reduction and Regional Integration. CEPREDENAC – an interesting story, im Erscheinen bei UNDP 2002.

Durán Vargas, Luis Rolando: Gestión Local de Riesgo y las experiencias de alerta temprana en Centroamérica, o.O. 2002.

Eikenberg, Christian: Journalisten-Handbuch zum Katastrophenmanagement 2000, Bonn 2000.

EIRD: Repaso de las Tendencias en la Reducción de los Desastres en las Américas, San José Costa Rica 2001.

Fischer-Bollin, Peter: Vom Bürgerkrieg zur Demokratie: Die schwierige Demokratisierung in Zentralamerika, in: Institut für Iberoamerika-Kunde: Zentralamerika am Beginn des neuen Jahrtausends – vermeintlicher oder realer Wandel? Lateinamerika – Analysen – Daten – Dokumentation 44, Hamburg 2000, S. 62-69.

Forster, Reiner (ed.): ZOPP marries PRA? Participatory Learning and Action – A Challenge for our Services and Institutions. Workshop Documentation, Eschborn 1996.

Gaßner-Keita, Gunde/ Forster, Reiner: PRA-Fortbildungen und Praxiserfahrungen. Ergebnisse einer Ex-post-Untersuchung von PRA-Trainingskursen, 1996.

GTZ: Ziel Orientierte Projekt Planung – ZOPP. Eine Orientierung für die Planung bei neuen und laufenden Projekten und Programmen, Eschborn 1997.

GTZ: Ernährungskrisen. Instrumente zur Vorsorge und Bewältigung. Eine Orientierung für die Projektarbeit, Eschborn 1998.

GTZ: Monitoring im Projekt: Eine Orientierung für Vorhaben in der Technischen Zusammenarbeit, Eschborn 1998.

GTZ/ Garatwa, Wolfgang/ Bollin, Christina: Disaster Risk Management. Working Concept, Eschborn 2002.

GTZ/ Gehrmann, Dorsi/ Gohl, Eberhard: Monitoreo Participativo de Impactos, Eschborn 1999.

GTZ/ Leonhard, Manuela: Konfliktanalyse für die Projektplanung und –steuerung. Eine praktische Handreichung – Draft, Eschborn 2001.

GTZ/ Leonhard, Manuela: Konfliktbezogene Wirkungsbeobachtung von Entwicklungsvorhaben. Eine praktische Handreichung – Draft, Eschborn 2001.

GTZ/ Minke: Construction manual for earthquake-resistant houses built of earth, Eschborn 2002.

GTZ/ Osterhaus, Juliane: Gender und Projektmanagement. Ein Beitrag zum Qualitätsmanagement der GTZ, Eschborn 1999.

GTZ/ RMSH: Förderung von Beteiligung und Selbsthilfe im Ressourcenmanagement. Ein Leitfaden für Projektmitarbeiterinnen und Projektmitarbeiter, Bonn 1997.

IFRC: World Disasters Report 2001. Focus on recovery, Geneva 2001.

INETER/ BID/ CEPREDENAC: !Riesgo! Guía de Comunicación y Gestión de Riesgo para periodistas y comunicadores, Managua 2002.

IPCC: Climate Change 2001: Synthesis Report, Summary for Policymakers, IPCC Plenary XVIII Wembley 2001.

ISDR: Updated and Expanded Terminology on Disaster Reduction, Geneva 2001.

ISDR: ISDR informs – Latin America and the Caribbean, issue 3, 2001.

ISDR: Living with Risk. A Global Review of Disaster Reduction Initiatives, Geneva 2002.

Jalali, Rita: Civil Society and the State: Turkey after the Earthquake, in: disasters vol. 26/2, 2002, S. 120-139.

Kiesel, Carola: Guía para la Gestión del Riesgo en proyectos de desarrollo rural, CEPREDENAC/ RUTA, San José Costa Rica 2001.

Kurtenbach, Sabine: Der Wandel der zentralamerikanischen Staaten – zwischen Partikularinteressen und Allgemeinwohlverpflichtung, in: Institut für Iberoamerika-Kunde: Zentralamerika am Beginn des neuen Jahrtausends – vermeintlicher oder realer Wandel? Lateinamerika – Analysen – Daten – Dokumentation 44, Hamburg 2000, S. 22-35.

La Red: Guía para la Gestión local de los desastres en América Latina, o.O. 1996.

Lavell, Allan (Hg.): Viviendo en Riesgo: Comunidades vulnerables y prevención de desastres en América Latina, La Red-Flacso-Cepredenac, Bogotá 1994.

Lavell, Allan/ Cardona, Omar Dario: Considerations on the Economic, Social, Political and Institutional Context and Challenges for Integrated Risk and Disaster Management in Latin America, o.O. 2000.

Lavell, Allan: Desastres y Desarrollo: Hacia un Entendimiento de las Formas de Construcción Social de un Desastre: El Caso del Huracán Mitch en Centroamérica, in: BID/CIDHS: El Caso de Mitch en Centroamérica, o.O. 2000.

López, Osmar Velasco: Diseño en forma participativa de Indicadores para Monitoreo y Evaluación de un Sistema de Gestión Local de Riesgo. Proyectos MARLAH y PRECLIF, Guatemala 2002.

Maihold, Günther/ Córdova, Ricardo: Democracia y ciudadanía en Centroamérica: Perspectivas hacia el 2020, Hamburg 2000.

Münchner Rück: Topics 2000, München 1999.

Münchner Rück: Topics. Jahresrückblick Naturkatastrophen 2001, München 2002.

Nohlen, Dieter/ Nuscheler, Franz: Mittelamerika und Karibik, Band 3 des Handbuchs der Dritten Welt, Bonn 1995.

Rauch, Theo/ Bartels, Matthias/ Engel, Albert: Regional Rural Development. A regional response to rural poverty, Wiesbaden 2001.

Sánchez del Valle, Rosa: Gestión Local de Riesgo en América Central. Lecciones aprendidas del proyecto FEMID, Guatemala 2000.

Sánchez del Valle, Rosa: ¿Qué capacidades permitían al pueblo de La Masica gestionar los desastres con éxito?, Guatemala 2000.

Sánchez del Valle, Rosa: Lecciones aprendidas en la Gestión Local de Riesgo. Proyecto FEMID, Guatemala 2002.

Sánchez del Valle, Rosa: Sistematización y documentación de proyectos. MARLAH, PRECLIF, PREVOL, Guatemala 2002.

Sánchez del Valle, Rosa: Dimensión de Género en la Gestión Local de Riesgo. Participación de mujeres en el proyecto FEMID, Guatemala 2002.

Schaef, Thomas/ Steurer, Roland: Reduzierung von Katastrophenrisiken im Rahmen Technischer Zusammenarbeit. Katastrophenvorsorge „El Niño“ – Piura/Peru, in: DKKV: Zweites Forum Katastrophenvorsorge 24.-26. September 2001. Extreme Naturereignisse – Folgen, Vorsorge, Werkzeuge”, Bonn und Leipzig 2002, S. 112-119.

Schönhuth, Michael/ Kievelitz, Uwe: Participatory Learning Approches. Rapid Rural Appraisal, Participatora Appraisal. An introductory guide, Rossbach 1994.

Steurer, Roland/ Bollin, Christina: Mobilisierung der Zivilgesellschaft für die Katastrophenvorsorge. Gemeindeorientierte Katastrophenvorsorge in Entwicklungsländern, in: Notfallvorsorge 4/2001, S. 10-14.

Stiebens, Wolfgang/ Bollin, Christina: Primera propuesta para un concepto de trabajo sobre la Gestión Local de Riesgo en Centroamérica, Guatemala 2000.

Umaña Cerna, Carlos: Tendencias y Actores del Desarrollo Local en Centroamérica, San Salvador 2002.

UNDP: Human Development Report 2001. Making New Technologies Work for Human Development, New York/ Oxford 2001.

Valdebenito, Sergio: Elaboración de las Bases para un Sistema de Planificación y Monitoreo y Evaluación, San José Costa Rica 2000.

Villagrán de León, Juan Carlos: Experiencias y contribuciones para la preparación ante los desastres naturales en América Central. Reforzamiento de estructuras locales y sistemas de alerta temprana, Guatemala 2000.

Villagrán de León, Juan Carlos: Aportes para la gestión de obras para la prevención de inundaciones, Guatemala 2001.

Wilches-Chaux, G.: Auge, Caída y Levantada de Felipe Pinillo, Mecánico y Soldadoy o Yo Voy a Correr el Riesgo, IT Perú y La Red, Perú 1998.

WHO (Hg.): Community emergency preparedness: a manual for managers and policy-makers, Genf 1999.

6. List of abbreviations

AA	Auswärtiges Amt – German Federal Foreign Office
AKA	Arbeitskreis: Armutsbekämpfung durch Hilfe zur Selbsthilfe – Working Group on Poverty Reduction through Self-help
ASONOG	Asociación de Organismos no Gubernementales, Honduras
BID	Banco Interamericano de Desarrollo – Interamerican Development Bank
BMZ	German Federal Ministry for Economic Cooperation and Development
CARECOR	Capacitar la Red Comunitaria de América Central para la Gestión del Riesgo – Strengthening the Central American Community Network for Risk Management
CEPAL	Comisión Económica de las Naciones Unidas para América Latina y el Caribe – Economic Commission for Latin American and the Caribbean
CEPREDENAC	Centro de Coordinación para la Reducción de Desastres Naturales en América Central - Coordination Centre for the Reduction of Natural Disasters in Central America
CEPRODE	Centro de Protección para Desastres (El Salvador) – Centre for Disaster Protection
CIDHS	Centro de Investigación de los Derechos Humanos y Socorro Jurídico de Panamá - Panamanian Centre for the Investigation of Human Rights and Legal Aid
CONRED	Coordinadora Nacional para la Reducción de Desastres (Guatemala) - National Disaster Reduction Committee
CR	Costa Rica
CTAR Arequipa	Consejo Transitorio de Administración Regional Arequipa, Perú
DDM	Apoyo a la Descentralización y el Desarrollo Municipal, Guatemala
DFM	Apoyo a la Descentralización y el Fomento Municipal, Honduras
DKKV	Deutsches Komitee für Katastrophenvorsorge – German Committee for Disaster Risk Management
DRM	Disaster Risk Management
EIRD	Estratégia Internacional para la Reducción de Desastres - International Strategy for Disaster Reduction
ENACAL	Empresa Nacional de Acueductos y Alcantarillado (Nicaragua)
ES	El Salvador
EU/ECHO	European Union/ European Community Humanitarian Office
FEMID	Fortalecer Estructuras Locales para la Mitigación de Desastres
G	Guatemala
GLR	Gestión Local de Riesgo
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
H	Honduras

IDB	Inter-American Development Bank
IDNDR	International Decade for Natural Disaster Reduction
IFRC	International Federation of Red Cross and Red Crescent Societies
INETER	Instituto Nacional de Estudios Territoriales (Nicaragua) – National Institute for Territorial Studies
IPCC	Intergovernmental Panel on Climate Change
ISDR	International Strategy for Disaster Reduction
MARLAH	Manejo de Riesgo Local en Auachapán
MIRUN	Mitigación de Riesgos Urbanos en Nicaragua – Urban Risk Mitigation Project
N	Nicaragua
NORAD	Norwegian Agency for Development Cooperation
ONG	Non-governmental organization
OEA	Organization of American States
OPS	Organización Panamericana para la Salud - Pan-American Health Organization
P	Panama
PRA	Participatory Rural/Rapid Appraisal
PRECLIF	Prevención y Control Local de Incendios Forestales
PREVOL	Prevención en los volcanes de Pacaya y Fuego
PROMAMUCA	Reconstrucción orientada al desarrollo y a la reducción de la vulnerabilidad a catástrofes en el Departamento de Atlántida
PROMUDE	Asesoramiento en el Fomento Municipal la Descentralización, El Salvador
RECON	Rehabilitación de la Costa Norte, Honduras
RELSAT	Reforzar Estructuras Locales y Sistemas de Alerta Temprana
RETOS	Proyecto de reconstrucción después de los terremotos en El Salvador
RMSH	Pilot project, Resource Management via Self-help Approaches, by GTZ
SIDA	Swedish International Development Agency
SINAPROC	Sistema Nacional para la Protección Civil, Panamá
SIPECIF	Strategia Nacional para la Prevención y el Control de los Incendios Forestales (Guatemala) - National System for Prevention and Control of Wildfires
SNET	Sistema Nacional de Estudios Territoriales de El Salvador - National Service for Territorial Studies, El Salvador
SNPMAD	Sistema Nacional para la Prevención, Mitigación y Atención de Desastres (Nicaragua) - National System for Disaster Prevention, Mitigation and Response (Nicaragua)
UNDP/ PNUD	United Nations Development Programme/Programa de las Naciones Unidas para el Desarrollo

UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
ZOPP	Zielorientierte Projektplanung – Target-oriented Project Planning

Annex 1

GTZ list of disaster risk management projects in Central America

Project	Client	Project duration	Project municipalities
BOSAWAS: Resource Conservation and Rural Development (incl. disaster risk management)	BMZ	1994-2004	Wiwili, San José de Bocay, Waslala, Siuna, Bonanza y Waspán
CARECOR: Strengthening the Central American Self-help Network Red Comunitaria[43] in Disaster Risk Management	GTZ	2000-2001	Tacuba and San Francisco Menéndez (Ahuachapán, ES); San Benito, Sayaxché, San Francisco and La Libertad (Petén, G)
DFM: Decentralization and Community Development incl. Disaster Risk Management, with PROMAMUCA (see below)	BMZ	2002-2005	Departamentos Lempira und Intibuca (Honduras)
FEMID: Strengthening Local Capabilities for Disaster Risk Management www.cepredenac.org/femid/index.html	BMZ	1997-2002	San Sebastián Retalhuleu (G); Zacatecoluca (ES); La Masica (H); Corinto (N); Cartago (CR); Chepo (P)
MARLAH: Advance warning for Avalanches and Floods www.cepredenac.org/femid/index.html	AA	2001-2002	Tacuba and San Francisco Menéndez (Ahuachapán, ES)
MIRUN: Urban Disaster Risk Management in Flood-prone Districts of Managua	GTZ	1999	Managua (N)
PRECLIF: Forest Fire Prevention and Control www.cepredenac.org/femid/index.html	AA	2001-2002	San Benito, Sayaxché, San Francisco and La Libertad (Petén, G)
PREVOL: Advance Warning at Pacaya and Fuego Volcanoes	AA	2001	San Pedro Yepocapa, Alotenango and San Vicente Pacaya (G)

[43] Red Comunitaria de América Central para la Gestión del Riesgo - Central American Community Network for Risk Management, founded in 1999.

Project	Client	Project	Project municipalities
PROMAMUCA: Reconstruction for Development with Disaster Risk Management in Departamento Atlántida	BMZ	2002-2003	El Porvenir, San Francisco, La Masica, Esparta und Arizona (Atlántida, H)
RECON: Reconstruction in Departemento Atlántida	BMZ	1999-2000	Arizona, Esparta, San Francisco (H)
REHLAM: Reconstruction in La Masica after Hurricane Mitch	BMZ	1999	La Masica (H)
RELSAT: Implementation of Locally Appropriate and Participatory Advance warning Systems for Flooding in the FEMID Pilot Zones	EU/ECHO	1998-1999	See FEMID
RETOS: Reconstruction after Earthquake in El Salvador (incl. disaster risk management)	BMZ	2002-2003	Berlín and Santiago de María (Usulután); San Ramón und Sta. Cruz Analquito (Cuscatlán); San Pedro Nonualco, Santiago Nonualco, San Rafael Obrajuelo, San Juan Nonualco and Zacatecoluca (La Paz) (ES)
TRIFINIO El Salvador (planned)	BMZ	2003-2004	Citalá, La Palma and San Ignacio (Chalatenango), Metapán, San Antonio Pajonal, Santiago la Frontera, Masahuat and Santa Rosa Guachipilín (Santa Ana)

Annex 2

Other actors and information sources in community-based disaster risk management in Central America (selection)

Organization	Contact
Government institutions	
Centro de Coordinación para la Reducción de Desastres Naturales en América Central (CEPREDENAC)	www.cepredenac.org
Instituto Nicaragüense de Estudios Territoriales (INETER)	www.ineter.gob.ni
Comisión Nacional de Emergencia de Costa Rica (CNE)	www.cne.go.cr
Comisión Permanente de Contingencias Honduras (COPECO)	www.copeco.hn
Sistema Nacional de Protección Civil de Panamá (SINAPROC)	www.c-com.net.pa/~snpce
Ministerio de Relaciones Exteriores, República de El Salvador	www.rree.gob.sv
Coordinadora Nacional para la Reducción de Desastres de Guatemala (CONRED)	www.conred.org
Non-governmental organizations	
Red Comunitaria de América Central para la Reducción de Desastres	fudecit@integra.com.sv
La Red de Estudios Sociales en Prevención de Desastres en América Latina	www.desenredando.org
Centro de Protección para Desastres, El Salvador (CEPRODE)	ceprode@telesal.net
International organizations	
Centro Regional de Información sobre Desastres (CRID)	www.crid.or.cr www.crid.desastres.net
German Agro Action (Nicaragua)	aaanic@ibw.com.ni www.dwhh.de
Estratégia Internacional para la Reducción de los Desastres (EIRD)	www.eird.org www.unisdr.org
Organization of American States (OAS)	www.oas.org/nhp
Pan-American Health Organization (PAHO)	www.paho.org/desastres www.disaster.info.desastres.net/saludca/desastresCR
United Nations Development Programme (UNDP)	www.reconstruir.org.sv www.undp.org
USAID project: Central American Mitigation Initiative (CAMI)	www.usaid.gov/hum_response/ofda/00annual/mitigating.html

Annex 3

Indicators for an operational disaster risk management system at municipal level

In the course of consolidating the FEMID groups in the six pilot zones indicators were developed in August 2000 to be able to verify how far disaster risk management systems at municipal level (or in a microregion) were actually operational in each. The aim was to use the list of indicators revised with representatives of the six groups to ascertain the strengths and weaknesses of each group and take practical steps to remedy the respective problems in a consolidation phase until 2001.

'Operational' was defined as meaning that disaster risk management groups conduct sustained and efficient disaster risk management operations in their region without having to rely on international assistance.

Five elements were classified as indispensable for an operational system:

1) The existence of a stable disaster risk management group
2) The group must be well informed about the background and possibilites of disaster risk management.
3) Support for the local group from the responsible national institutions
4) Measures in risk assessment, disaster prevention and mitigation (and risk management) and disaster preparedness are conducted.
5) Raising awareness of the population at risk and their participation in activities

To be able to verify whether these requirements have been met in the individual regions, the following indicators were developed.

1) Existence of a stable disaster risk management group
   - The group meets regularly and draws up short minutes on the results of the meeting.
   - The group comprises volunteers, respected figures (líderes) and representatives of different sectors.
   - A permanent room is available to the group for meetings (assembly room with communication facilities and somewhere to store documents, etc.).
   - The group has a basic knowledge of disaster risk management and a common understanding of the need for it and what it can do.
   - At least one representative of the municipal authority with decision-making powers takes part in the group.
   - The tasks and responsibilities of the group, of subgroups and members are clearly defined.
   - There are subgroups for emergencies (rescue, logistics, etc.)

- There is agreement on how to meet possible expenditures by the group (recurrent costs and activities), possibly including financial assistance from the population.

2) The group is well informed about the background and possibilites of disaster risk management.
   - A hazard map is available, which the group members know about and have access to.
   - An emergency plan exists (incl. inventory of personnel and physical resources, emergency committees, evacuation plan, provisions for emergency shelter).
   - The group has basic documents on the strategy and measures of disaster risk management.
   - Local vulnerabilities have been ascertained and documented and areas and parts of the population at risk identified.
   - An operative proposal for necessary disaster risk management measures has been drawn up.
   - The municipal authority has taken account of this proposal in its plan of operations.

3) The local group receives support from the responsible national institutions.
   - The national institutions responsible have appointed a liaison officer or group with sufficient knowledge of disaster risk management and the necessary financial resources.
   - There is a formal agreement specifying the tasks of the liaison officer or group.

4) Measures in risk assessment, disaster prevention and mitigation (and risk management) and disaster preparedness are conducted
   - A plan of action exists jointly agreed on by the local and national persons/groups responsible for disaster risk management.
   - The implementation of the planned activities is documented.
   - Project profiles have been drawn up for longer-term disaster risk management measures based on the risk analysis and the plan of action.

5) The awareness of the population at risk is being raised and it is involved in the activities.
   - Activities to raise the awareness of the population are carried out – repeatedly and regularly as far as possible.
   - The disaster risk management group is supported by the population in analyzing risks and drafting plans of action.
   - There are clear indications of the participation of the population in disaster risk management activities (e.g. further training, disaster preparedness exercises).