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Linking Poverty Reduction and Disaster Risk Management



Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH

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Foreword

People in poor countries are at a high risk of falling victim to natural disasters. Owing to their geographical location and higher vulnerability, many developing countries suffer more severely from the effects of natural disasters than industrialised countries. Twenty-four of the forty-nine least developed countries (LDCs) are under extreme threat. The World Bank estimates that 97 percent of all human deaths due to natural disasters occur in developing countries.

A society's self-help capabilities are a decisive factor in preventing extreme natural occurrences from turning into a human disaster. Poverty, rapid population growth, the resultant settlement of endangered areas and the overexploitation of natural resources exacerbate the risk. Lack of knowledge and a frequently fatalistic attitude to natural phenomena prevent people from taking sufficient precautions for their safety.

Natural disasters also worsen poverty. A destructive event results in malnutrition, homelessness and epidemics. Hardship and desperation in the aftermath of disasters can also foment armed conflicts. This sets off a fatal downward spiral because insufficient economic and social resources make a country even more vulnerable to the next disaster. In many cases, a natural disaster thwarts any social and economic development for a long time.

This baseline study looks at the connection between poverty reduction and disaster risk management and it sees their interlinkage as essential for sustainable development. It proceeds from a complex notion of poverty that is not confined to the economic component, but also encompasses participation, education and health. The study seeks to show how disaster risk management

and poverty reduction can be made to complement each other, and suggests ways of linking the two themes (risk analysis, livelihoods approach).

These planning instruments can only take full effect, if the political will is there at international and national level to ensure that they are implemented. At the Second World Conference for Disaster Reduction (WCDR II) in Kobe, Japan in January 2005, the scientists, practitioners and politicians in attendance stressed the need to mainstream disaster risk management in all areas of Development Cooperation as the only way to achieve the United Nations Millennium Development Goals. In its report, *Reducing Disaster Risk - A Challenge for Development*, UNDP also points out that one of the reasons for the rise in the number of disasters is the failure to address the vulnerability of society and the hazards faced.

This is why the final report of the Kobe conference calls for disaster risk management to be incorporated in poverty reduction policy, for example in national poverty reduction strategy papers. Development Cooperation must find suitable ways of codrafting national agreements. The final report also calls for good governance in the partner countries. A government's professed will and support are necessary conditions for efficient disaster risk management, thus providing a suitable platform for poverty reduction and making an effective contribution to achieving MDGs.

The present study pinpoints political, practical and scientific approaches for German Development Cooperation to link poverty reduction with disaster risk management. We hope you will enjoy reading our publication and look forward to receiving your feedback.



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Executive Summary

The study “Linking Poverty Reduction and Disaster Risk Management” was carried out as a reaction to the increasing numbers of disasters triggered by natural hazards in developing countries that put development at risk. The earthquake and tsunami disaster on the shores of the Indian Ocean is just the latest example. Although the study could no longer consider the tsunami disaster, the authors are certain that its findings also hold true for this case.

The study represents a joint effort of the German Committee for Disaster Reduction (DKKV), the German Technical Co-operation (GTZ) on behalf of the German Federal Ministry for Economic Co-operation and Development (BMZ), and the University of Bayreuth. It focuses on the inter-connectedness of poverty, vulnerability, and natural hazards. The intense discussions and exchanges of knowledge amongst the actors involved attest to the inherent link between these topics, thus highlighting the importance of the integration of disaster risk management and poverty reduction as an essential contribution to achieving sustainable development. In light of this, recommendations to mainstream disaster risk management throughout the whole practice of development co-operation have been formulated.

The first two chapters introduce key concepts of poverty and vulnerability and how the two interact. Disaster risk management is based on the premise that natural hazards do not necessarily lead to disasters, but may do so when they affect vulnerable populations. Vulnerability is a central issue to both disaster risk management and poverty reduction. Increased vulnerability may be an effect as well as a cause of poverty. Consequently, disaster risk management and poverty reduction strategies should go hand in hand – especially as insufficient consideration of either disaster risk management or poverty reduction may increase a society’s vulnerability to natural hazards.

In chapter three we introduce three basic concepts and instruments that are of relevance if disaster risk management is to be integrated into poverty reduction measures. The sustainable

livelihoods approach was developed in the context of poverty reduction, but explicitly addresses vulnerability, and so provides an entry point for integrating disaster risk management into poverty reduction strategies. Risk analysis is an instrument that can contribute meaningfully to the planning of projects and programmes with a poverty reduction approach. Monitoring is important for both poverty reduction measures and disaster risk management. Currently, it is being performed for each separately, despite the great potential of sharing experience. Particularly in the monitoring of poverty reduction efforts, disaster issues unfortunately play almost no role. Therefore, after presenting the different concepts of monitoring used in the two areas, we point out how and where it is possible to combine views and existing tools.

Chapter four presents the relevant actors for disaster risk management and poverty reduction at the local, national and international level. In this context the relevance of a community-based approach to disaster risk management is discussed. An extensive section focuses on the different actors and their roles in disaster risk management, stressing the need for joint efforts in order to increase efficiency. This necessitates a sound distribution of competencies and responsibilities in disaster risk management. The role for the national government is to co-ordinate the different efforts, to consider relevant issues in planning the budget, and to provide an appropriate legal framework.

A number of national and international institutions are involved in disaster risk management and development, such as the Disaster Management Facility (DMF) of the World Bank, the Bureau for Crisis Prevention and Recovery (BCPR) of UNDP (United Nations Development Program), and, notably, the International Strategy for Disaster Reduction of the United Nations (ISDR). Both the ISDR and the German Committee for Disaster Reduction (DKKV) were founded in response to the 1994 declaration of the International Decade for Natural Disaster Reduction (IDNDR). The two organisations have been emphasising the relevance of disaster risk management for developing countries and provide a good platform for estab-

lishing multi-institutional networks and bringing together scientists (e.g., the Centre for Natural Risks and Development Bonn-Bayreuth (ZENEB), Deutsches Forschungsnetzwerk Naturgefahren) and development practitioners. Beyond this, co-operation with the private sector should be established, for example with the insurance industry or with water management companies. Private investment can have a great impact on development; therefore, legal regulations must be in place that prevent investments from increasing vulnerability in the long run.

Chapter five discusses the possibilities for integrating disaster risk management into development efforts. Poverty reduction is the overarching goal of the international community within the Millennium Development Goals (MDGs), Poverty Reduction Strategy Papers (PRSPs), and the German Program of Action 2015, thus these declarations and strategy documents are seen as promising points of departure for the incorporation of disaster risk management efforts. The Program of Action 2015 is strongly committed to supporting cross-cutting disaster risk management strategies at national and international levels, and can do a great deal in promoting the treatment of disaster risk management not as an 'add-on' issue, but as a thoroughly integrated concern. Sustain-

able development in practice must consist of both disaster risk management and poverty reduction.

Local perceptions, actor-orientation, participation, and empowerment are important issues in poverty reduction approaches. When applied to disaster risk management, they help to answer a new question: What is perceived as risk? In chapter six, this issue is discussed by presenting the perspective of social science research on risks and disasters. From this perspective, risk is described as an active and calculated decision to face a hazard. The ability of societies and individuals to reduce insecurity hinges on their ability to "translate" hazards into risks. Consequently, one has to ask how local understandings of risks and indigenous strategies to cope with hazards can be better considered and supported by activities of disaster prevention. With respect to poverty reduction, sociological research does not focus primarily on aspects of deprivation, lack, and suffering, but rather on the way in which societies and institutions make sense of poverty. When poverty is understood as an institutional category, it implies a social condition that is made visible by intervention. From an academic point of view, therefore, the challenge consists in scrutinising the ways in which risk and poverty are produced by society.



Although the German Government does acknowledge the strong relationship between disaster risk management and poverty reduction, in daily political practice the topic is still limited to some isolated projects instead of being mainstreamed throughout the whole range of development co-operation measures. Therefore, in the seventh chapter, the authors advise the German Federal Ministry for Economic Co-operation and Development (BMZ) and its implementing organisations to undertake the following steps:

> **Dissemination of knowledge**

Existing knowledge on disaster risks and their relation to poverty must be dispersed throughout the official German development co-operation structure. In doing this, special attention should be paid to the regional offices and the executive personnel who work in countries at risk and/or in relevant sectors. For promoting the dialogue between different organisations and departments, the DKKV provides a valuable platform.

> **Inclusion of disaster risk management into the relevant strategies**

The concept of disaster risk management must be incorporated into the relevant planning doc-

uments (strategic sector and country papers) for those countries at risk. In addition, the topic should be covered explicitly in the progress reports of the German Program of Action 2015.

> **Disaster risk management as a central topic in disaster-prone regions**

In order to link disaster risk management with poverty reduction and sustainable development, it has to be integrated in reconstruction processes in the aftermath of disaster, and as a cross-sectoral issue in co-operation programmes in disaster prone regions. Making disaster risk management a central issue in programmes that attempt to reduce vulnerability can be a major contribution towards further improving German aid and paving the way towards the achievement of poverty reduction goals.

> **Application of existing tools**

The tools developed for disaster risk management, such as risk analysis and the sustainable livelihoods approach, should be systematically applied within poverty reduction programmes.

With regard to our partner governments and the international community, German development



co-operation should offer support and seek exchange of experience in the following fields:

> **Raising awareness and developing capacities**

In order to strengthen the abilities for proactive disaster risk management, the public awareness on this topic must be increased. The particular perceptions of risk and its underlying causes provides the basis for capacity development. Awareness-raising activities should focus on the possible origins of disasters and the relevance of disaster risk management for poverty reduction. The different actors' capacities for networking and opportunities for participation need to be expanded. This can be achieved by the development of human, organisational, and institutional capacities, and by strengthening co-operation between the state, the private sector, and civil society.

> **Integration into PRSPs**

The integration of disaster risk management into national Poverty Reduction Strategy Papers is a promising step. Here, German development co-operation should offer advice in the planning and implementing of PRSPs. The objectives should be to promote the use of risk analysis and to encourage the appropriate prioritisation of investments and budget allocations through cost-benefit analysis, as they enhance awareness of long-term effects.

> **Supporting institutional reforms**

In order to achieve an effective institutional framework for disaster risk management and poverty reduction, development co-operation should advise on the institutional set-up and promote cross-sectoral organisation and co-ordination between the concerned departments and sectors at all levels. Decentralisation processes need to be supported as does the development of strategies that delineate the competencies and responsibilities (as well as degree of influence and resources) of each actor concerned with disaster-sensitive poverty. Special attention should be paid to the support of bottom-up planning processes and the participation of grassroots organisations and non-governmental organisations (NGOs).

> **Valuing community-based approaches**

Empowering individuals and communities at the local level is of central importance. It should include the appreciation of local knowledge and traditional methods of coping with risks within project and the government, capacity building for local actors to enable them to claim their basic rights for security, and to allow realistic appraisals of resources and the range of local measures.

> **Strengthen capacities and responsibilities at all decision-making levels**

The exchange of information, knowledge and experience between the national, the regional and the local level is vital to ensuring strong commitment to the issues of disaster risk management and poverty reduction, and to the sharing of relevant responsibilities. Governments should be encouraged to serve as co-ordinating bodies.

> **Support international organisations**

International organisations such as UN and EU should be supported with the process of integrating disaster risk management into poverty reduction policies. The BMZ should improve its disaster risk management advisory capacity to enhance its impact on international organisations. For example, the BMZ could use its membership on relevant EU committees to influence the content of papers to include poverty-oriented disaster risk management.

Scientific research must do a better job of integrating disaster-related theory, the experience of development practice, and policy implementation. Crucial areas at the interface between practice and research are:

> **Conceptual clarification**

Clarification of the concepts "disaster risk management" and "poverty reduction" by taking into account different areas of intervention. Identification of further areas into which the combination of "disaster risk management" and "poverty reduction" can be extended.

> **Development of tools for the analysis of disaster risk management and poverty reduction issues**

The aim should be to assess the ability of countries to manage disaster risk and reduce poverty with special focus on the constraints and opportunities presented by the given social, political, and economic conditions; to examine how “disaster risk management” and “poverty reduction” are translated into practice; and to analyse the context within which decisions on disaster management and poverty reduction are taken.

> **Analysis of the political economy of disaster risk management and poverty reduction**

In order to understand how institutions and interventions are changed by practical work on the ground, research is needed that reflects on

the following: the necessary institutional set-up; the influence of experience on the institutions, other factors – social, economic, political and natural – of relevance to the design of institutional responses to disaster and poverty; and the role of institutional set-ups within general social trends.

The recommendations end with suggestions for some “first steps to take” and highlight the most urgent issues of raising awareness and the development of capacities for poverty-oriented disaster risk management for German development co-operation.



Introduction

“Over recent years, the international community has come to realize that relief and development are not separate topics; disaster vulnerability has everything to do with poverty and development, and vice versa.” (Wolfensohn and Cherpitel 2002, p. 1). Disasters triggered by natural events often raise poverty rates in the affected regions and destroy achieved development progress. Furthermore, poorly-planned development and inappropriate poverty reduction measures can increase vulnerability to external natural shocks. “If development efforts are not appropriate to existing environmental factors, and their impacts on the environment have not been assessed properly, they can increase vulnerability to disasters.” (Özdem 2003, p. 202). Consequently, vulnerability is strongly linked to poverty, as is disaster risk management to poverty reduction. Economic loss as a consequence of natural hazards is increasing (UNDP 2004, p. 13). In developing countries, a growing amount of funding is being devoted to post-disaster humanitarian aid, and so is no longer available for development efforts. Therefore, development and poverty reduction efforts in hazard-prone countries must consider disaster risk management approaches in order to reduce people's vulnerability and achieve sustainable results.

Poverty reduction is a central objective of German development policies, as well as of those of other national and international organisations. The German government has designated poverty reduction to be the overarching objective of its Program of Action 2015. The necessity of disaster risk management, in turn, has been increasingly recognised from the 1980s onwards. Since 1996, the German Federal Government has been fostering disaster risk management approaches in Latin America, Asia and Africa, defining it as a major trans-sectoral task in development co-operation. (BMZ 1996, p. 5).

Yet there are serious shortcomings in the integration of disaster risk management and poverty reduction. Although we have empirical evidence of a strong connection between poverty and vulnerability to disasters, and despite frequent statements in national and international development

policies about the importance of the two issues, the knowledge about their relationship is not sufficiently grounded in research and development practice.

Furthermore, co-operation to date between bodies responsible for poverty reduction strategies and those responsible for disaster risk management strategies has been limited, due mainly to three major types of constraints: Organisational limitations, varying perspectives, and the level of existing knowledge. As for organisational aspects, different governmental departments are often separately responsible for one or the other of the two issues. Also, not all NGOs concerned with poverty reduction show an interest in disaster prevention. In addition, activities related to natural hazards often have been stereotyped as being event-driven rather than process-oriented, whereas actions related to poverty reduction tend to be of the latter type. Finally, for a long time in the mainstream discussion, consideration of natural disasters has focused almost exclusively on the fields of natural sciences and emergency response activities. It is true that for years, several disaster research institutions have included social aspects in their studies – aspects which were especially highlighted at the first UN world conference on the subject in Yokohama/Japan in 1994 (see also the Yokohama Strategy at www.unisdr.org/eng/about_isdr/bd-yokohama-strat-eng.htm) – but this approach has only recently been taken up in the management of (natural) disasters.

The current debate on disaster related theory focuses on a better understanding of the complex interplay between society and nature, and rejects one-dimensional or linear cause-effect explanations. Natural hazards are not considered to be the sole cause of an ensuing disastrous situation; hazards must coincide with a vulnerable society in order to trigger a disaster. The picture becomes even more complicated if we consider that the destabilising effects of extreme natural events are increased by interdependencies with other crises such as the HIV/AIDS epidemic or economic shocks. In these cases, the poverty trap can be described as a downward spiral,

ending in a hopeless situation for the affected people (Dams 2002, p. 4). Such scenarios can best be classified as “complex emergencies”. A famine, for example, triggered by a drought, is not

only the result of reduced rainfall, but also of armed conflicts, international displacement, or poor governance.

We accept these conditions as a challenge and formulate the objectives of this study as follows:

- > *To shed light on the complex interaction between vulnerability to disasters and poverty, as well as between disaster risk management and poverty reduction strategies from different angles (section 1 and 2),*
- > *To present concepts and instruments for the combination of the two issues (section 3),*
- > *To describe best practices and to identify actors that could integrate these issues (section 4),*
- > *To draw conclusions about how to use and integrate disaster risk management measures and efforts into the different kinds and different levels of poverty fighting strategies (section 5),*
- > *To develop further research approaches (section 6),*
- > *To recommend political action that would be necessary to speed up this process (section 7).*

1. Concepts and definitions

1.1 Vulnerability and poverty – towards a clear understanding of these terms

Disaster risk management essentially aims at a reduction of vulnerability. Consequently, vulnerability is a key concept in the discussion about disaster risk management. While the general definition of vulnerability means “not being resistant”, the term is used in different ways. In the context of disaster risk management, its understanding is more specific and reflects the susceptibility of a community to the impact of natural hazards.

“Vulnerability denotes the inadequate means or ability to protect oneself against the adverse impact of external events on the one hand and on the other to recover quickly from the effects of the natural event. Vulnerability is made up of many political-institutional, economic and socio-cultural factors.” (GTZ 2002, p. 47).

Vulnerability is caused by a broad range of political, institutional, economic, environmental and socio-cultural factors such as insufficient knowledge, organisational gaps, lack of personal and financial resource, inadequate legislation, etc. Changes in these factors can increase or reduce vulnerability. Therefore, vulnerability is conceived as a condition but also as a dynamic process.

Recent debate has questioned the concept of vulnerability because “... it was suggested that to speak of people as being vulnerable was to treat them as passive victims and ignore the many capacities that make them competent to resist hazards.” (Cannon et al. 2003, p. 7). So the concepts of coping capacity and resilience were introduced, accentuating locally available strengths. ISDR (International Strategy for Disaster Reduction 2002, p. 46) defines coping capacity as “the manner in which people and organisations use existing resources to achieve various

beneficial ends during unusual, abnormal, and adverse conditions of a disaster event or process.”

Resilience refers to the ability of people to cope with and withstand new, changing or unexpected events or situations, for instance by using material, cultural, social or knowledge resources. In general, the notion of resilience focuses on the capacity of systems to absorb external events/stresses without losing their functional characteristics and thereby to maintain “... the capacity to renew and reorganise after

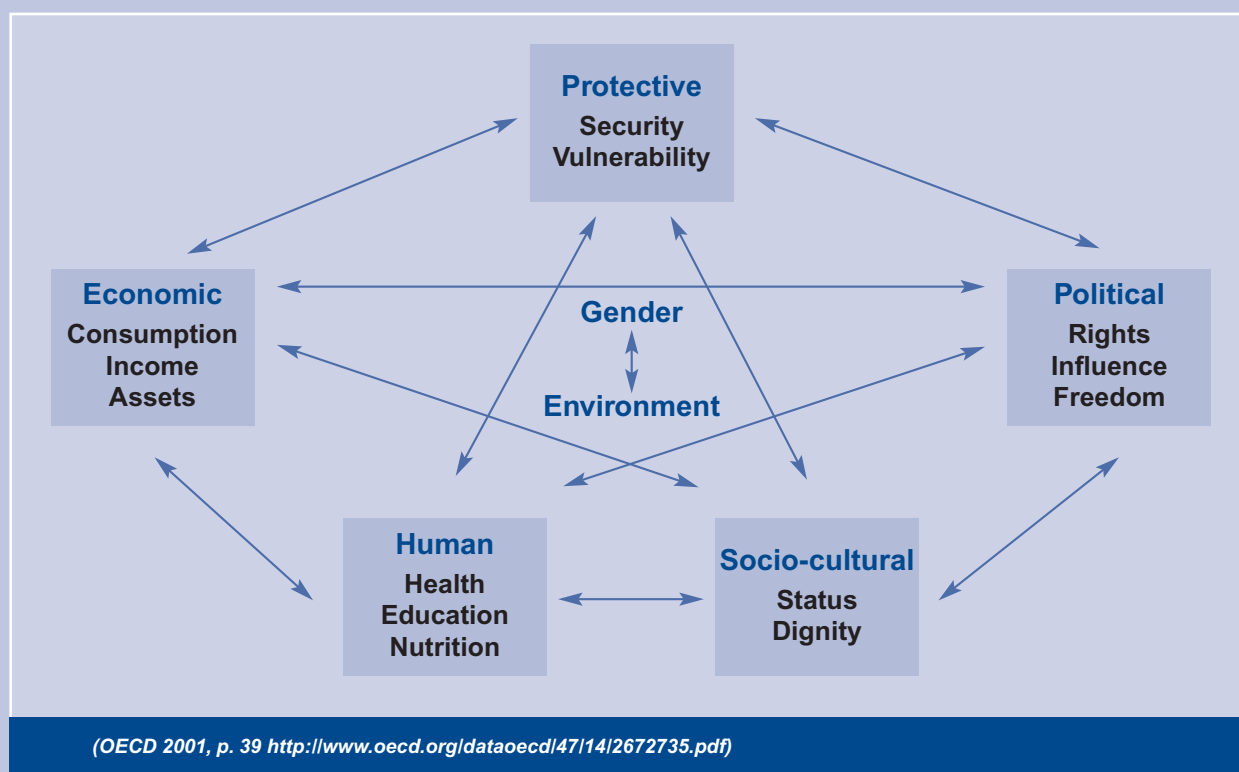
disturbances.” (Yorque et al. 2002, p. 433). It can be seen as the capability to return to a normal or even improved state/functionality after a hazard or extreme situation. “Such resilience in the face of stresses and shocks is seen as the key to livelihood adaptation and coping.” (Davies 1996 as cited in: Scoones 1998, p. 6).

The concepts of capacity and resilience have been expanded to include the notion of adaptive capacity, which looks at the ability to adapt to changing conditions in the longer run. Adaptation is understood by Pelling (2003, p. 11) as a process by which a structure evolves through interaction with its environment to deliver better performance. Adger and Brooks demonstrate in their study on Sahelian famine that adaptations in farm management and income diversification helped significantly to reduce vulnerability to drought (Adger and Brooks 2003, p. 28).

In our understanding vulnerability therefore does not only highlight the deficiencies within a society, but also points to the factors that reduce vulnerability through existing capacities or the ability to absorb or adapt to stresses without losing functional characteristics.

Vulnerability is not only a key concept in the discussion about disaster risk management, but it also is a central issue in the debate on poverty. The discussion on poverty took a new turn in the middle of the 90s, while in the 1980s poverty was mainly understood in monetary terms, the concept today has been broadened to include different dimensions of deprivation. These dimensions are shown in figure 1:

Figure 1 – Dimensions of poverty



“Each box represents an important dimension of poverty, which affects – and is affected by – all the others. Household members may consume little and be vulnerable partly because they lack assets, often because of inadequate income, poor health and education, or because they lose their few productive assets as a result of shocks. Lack of human rights and political freedom indi-

cates a risk of violent conflict shocks. Vulnerability and social exclusion hamper human and political capabilities, reducing incomes and assets, and so on. The fact that different dimensions of poverty are tightly interrelated, while still distinct and imperfectly correlated, is a major reason for a multidimensional concept.” (OECD 2001, p. 39).

There is an increasing acceptance of this multi-layered approach to poverty because it captures poor people's reality better than a view of poverty expressed solely in monetary terms. However, it also has some empirical disadvantages:

- > *Measuring poverty becomes far more difficult,*
- > *The task of identifying the poor is more complex (is the wife of a sheikh in Saudi Arabia, who is not allowed to vote, poor?),*
- > *If every kind of policy or activity is given the poverty label, there will be no real shift towards more effective pro-poor policy action.*

For the purpose of our study we need to come to a clear understanding of the relationship between the concepts of vulnerability to natural hazards and poverty.

Prowse presents different ways to look at this relationship (Prowse 2003, p. 3–9): Vulnerability can be seen as a cause of poverty, as a reason why the poor remain poor, or as an effect of poverty.

Obviously, vulnerability cannot be reduced to a one-dimensional, cause-effect relationship with poverty. Vulnerability to hazards cannot be isolated from broader social and political contexts, it is - as Figure 1 and the ensuing text demonstrate - intrinsically connected to the different dimensions of poverty. But what does this mean within the specific context of our study?

“The vulnerability of a population is a determinant of a disaster, as this essentially decides whether a hazard remains a hazard, or whether through contact with a vulnerable population this hazard turns into a disaster.” (Prowse 2003, p. 4). This implies on the one hand, that the poverty situation in which a person lives shapes his/her vulnerability and the degree of impact the disaster has on him/her. On the other hand, the impact of the disaster affects people's future vulnerability and thus influences their poverty situation.

A typical example of this adverse spiral-situation is the case of poor farmers who are forced to overuse their resources, which increases their vulnerability to risks such as drought, landslides and floods. When this risk converts to a disaster, the subsistence-farmers' income base is severely

affected. As a result, the farmers become even poorer.

Another example: Local people in some areas of Colombia lack security (the protective dimension of poverty) because of armed conflicts between guerrilla forces and the military. They have to leave their homes, and many are forced to move into low-standard housing. In some areas, this could increase their vulnerability to earthquakes or land-slides. So, while poverty can be seen as the cause of vulnerability, in the Colombian example, it also can be seen from a different perspective: Poverty as the effect of vulnerability, or vulnerability as the cause of poverty: People become vulnerable to earthquakes, and because of the disaster they lose their assets, which makes them economically poor.

Both views are coherent, but they lead to potentially divergent conclusions about appropriate intervention. This is in fact a crucial point, as interventions usually aim at treating the causes and not just the symptoms of a given problem. If, for instance, vulnerability is seen as the consequence of conflict, then the ideal solution would be to promote conflict prevention. In contrast, when vulnerability to earthquakes is seen as the cause of increasing poverty, then reducing this vulnerability would be the main goal.

So the relationship between poverty and vulnerability is like an interwoven chain of action and reaction. However, poverty and vulnerability are not identical, but retain their own distinct characteristics: “... not all members of a particular vulnerable group are invariably poor.” (Lok-Dessallien 1998, p. 5 as cited in: Prowse 2003, p. 3).

1.2 Concepts of poverty reduction and disaster risk management

Poverty reduction

Reducing poverty is a main objective proclaimed by the international community. In the year 2000, 190 countries agreed on the Millennium Declaration and its practical and achievable targets, the Millennium Development Goals (MDGs), to eradicate poverty in its different dimensions. The German government developed the Program of Action 2015 as its plan of operation for the Millennium Development Declaration.

The Program of Action 2015 establishes three levels for action (BMZ 2001, p II):

- > International structures and arrangements, for example, to assess human rights or regulate international trade in a fair and just manner,
- > Structures in Germany, Europe and other industrialised countries to advocate political coherence,
- > Structures in the partner countries.

For bilateral co-operation with partner countries, the GTZ-Mainstreaming Poverty Reduction Project has defined four main fields of support for a structural poverty reduction approach. These are:

- > Offering advice on the planning, the implementation and the assessing of national strategies to reduce poverty,
- > Enhancing civil societies' participation,
- > Providing assistance to a poverty oriented monitoring and impact analysis,
- > Supporting poverty oriented sector policies.

There are several underlying principles of the international poverty reduction approach. Promotion of self-help and the idea of minimum intervention are

two of them that express how cautious any intervention should be. The focus of the intervention should also concentrate on the affected people and involve them directly. Therefore, such principles as actor-orientation, orientation towards target-groups, and participation are important to enhance peoples' ownership. A multi-level intervention must be considered to support changes at all political levels and to guarantee sustainability, another underlying principle.

The final goals are: Empowerment, which means improving poor peoples' capacity in political and social processes, security understood as the implementation of social security nets that protect poor people against shocks such as illness, economic crises and natural hazards, and opportunity for the poor people to improve their income situation (World Bank 2001, p. vi).

Having identified the principles and the goals of the international poverty reduction approach, we now take a short glance at the methodologies of poverty reduction. Unemployment is one of the major problems in developing countries and is also one of the main reasons for poverty. Only economic growth can reverse this trend of increasing unemployment and can create sustainable and productive employment. But although economic growth is essential, only certain forms of it can lead to lasting poverty reduction (Dams 2002, p. 8). What is needed is "pro-poor growth" or a "broad-based growth" that specifically improves the income situation of the poor. There are two possible roads to this type of growth. The first approach, poverty-oriented economic advancement, develops measures and strategies of employment with particular attention to disadvantaged groups. The second one, the potential-oriented economic advancement, supports productive fields that can compete internationally, and so can create employment. Which of these represents the better alternative depends on the specific country situation (incidence and depth of poverty, degree of inequality, degree of industrialisation, available resources). It also depends on the individual persuasion of the supporting institution and cannot ultimately be determined by this study (Trommershäuser and Kausch 2004, www.bmz.de).

Disaster Risk Management

Damage caused by disasters is increasing worldwide. "In 2003 alone, 600 million people were adversely affected by 700 natural occurrences. ... Approximately 75,000 people perished in those disasters – 30,000 of them were killed in seconds by the earthquakes in Algeria in May 2003 and in Bam, Iran, in December 2003." (United Nations General Assembly 2004, p. 20). Pictures of floods, droughts, tropical storms and landslides are inundating our newspapers and televisions. Poor countries in particular are set back for years in their efforts to reduce poverty as disasters become increasingly devastating.

The incremental number of climatic hazards (e.g. floods, drought and storms) and the great and increasing number of vulnerability factors, such as inadequate legislation, knowledge gaps or settlements in endangered areas, are the driving forces behind these so-called natural disasters. They demand a paradigm shift from "reaction" to "prevention" (Annan 1999, p. 11), which requires far-reaching budgetary, programmatic and political shifts. New concepts such as disaster risk management have been developed, and disaster prevention measures have increasingly been introduced into development planning (GTZ 2002, p. 20).

What is understood by disaster risk management? What are its objectives and constraints? To explain the aim of disaster risk management we take a look here at the schematic evolution of disasters (figure 2):

In this logic: "... risk is the product of the two factors, hazard and vulnerability. Therefore, it is clear that a risk exists only if there is vulnerability to the hazard posed by a natural event. For instance, a family living in a highly earthquake-resistant house would not be vulnerable to an earthquake of 6 on the Richter scale. So they would not be at risk. If the hazard approaches zero, because for example, buildings have been constructed in areas far away from continental plate subduction zones and tectonic faults, a house built with minimum precautions will be a safe place for the family, because they would only be vulnerable to very extreme events." (GTZ 2002, p. 17).

Disaster risk management provides local and national decision-makers and international co-operation with a set of actions and instruments to reduce disaster risk and to mitigate the extent of disasters. Disaster risk management can be understood as: "... a development activity, which, through sustained initiatives, minimises the likelihood of a disastrous occurrence by reducing either the intensity of external threats (hazards) or the vulnerability of those at risk." (Holloway 2003, p. 8). "Disaster risk management comprises action (programmes, projects and/or measures) and instruments whose intended impacts are expressly aimed at reducing disaster risk in endangered regions and mitigating the extent of disasters. Disaster risk management is the generic term for the operational areas risk assessment, disaster prevention and mitigation and disaster preparedness." (GTZ 2002, p. 47).

Figure 2 - Components of disaster risk



In this context it is essential to keep in mind that not all types of natural hazards can be prevented, above all earthquakes, volcanic eruptions or tsunamis. Especially in these cases, disaster risk management is focused on the reduction of vulnerability. For other kinds, such as landslides and floods, measures can be taken towards both the reduction of the hazards and of the vulnerability factors.

tion into regional and national political structures. For example, GTZ advises the planning and implementation of such instruments as risk analysis and risk mapping. It also supports the development and implementation of activities to minimise hazards and vulnerability in rural regions, and helps to integrate disaster prevention into overall local planning and land use systems. Here, one of the prerequisites for sustainable and success-

Operational areas of Disaster Risk Management:

- > *Risk assessment or risk analysis is an instrument to provide quantitative and qualitative information about the nature and extent of a risk, by analysing hazards and evaluating existing conditions of vulnerability (see also 3.2).*
- > *“Disaster prevention and mitigation denotes activities that prevent or mitigate the adverse effects of extreme natural events, above all in the medium and long term. These include on the one hand political, legal, administrative and infrastructure measures to address the hazard situation and on the other hand influencing the lifestyle and behaviour of the endangered population to reduce their disaster risk.” (GTZ 2002, p. 47-48).*
- > *Disaster preparedness comprises “activities and measures to ensure effective response in an emergency and its impacts, including timely and effective early warnings and the temporary removal of people and property from a threatening location.” (Holloway 2003, p. 7).*

In many developing countries the relevant actors at local, regional and national levels are not capable of implementing the appropriate preventive actions on their own. Budgetary funding is lacking, while governmental and local institutions are too weak to integrate disaster risk management efficiently into the different sectors. The population often does not know how to reduce their risk or how to avoid the creation of new ones. Partner countries of German development co-operation often do not have access to knowledge about the different instruments and measures of disaster risk management. International co-operation is needed to support these countries.

ful disaster risk management becomes evident: When local communities are expected to take on responsibility for disaster prevention, their perception of risk must be taken in account. In addition to assessing the potential physical harm, ISDR (2003, pp. 24, 41) also stresses the importance of considering “... the social contexts in which risks occur and that people therefore do not necessarily share the same perception of risk and their underlying causes”. As community-based approaches involve public participation, it is crucial to understand the people's perception of the relevant factors to be addressed and the specific risks to which they see themselves exposed.

Action in the scope of disaster risk management comprises improvement at all levels. German co-operation in this context mainly concentrates on the municipal level, supplemented by the integra-

2. Vulnerability and poverty – a co-dependant pair

Natural hazards disrupt poor people's livelihoods, and poor people are often more vulnerable to natural hazards. This relationship between poverty and vulnerability is examined in the following sections (2.1 – 2.4) by looking at the different dimensions of poverty.

Economic poverty can force people to settle in areas that are more prone to natural hazards such as landslides and flooding, which are more affordable than more secure locations.

Citizens also can become more vulnerable within the parameters of the protective dimension of poverty. For instance, in insecure environments, people tend to stay with their property even throughout the course of a disaster, because they fear plundering. This reduces the effectiveness of early warning and evacuation measures.

The political dimension of poverty has a significant influence on vulnerability. Without the political right or influence to demand or enforce legislation on building regulations, for example, housing is more susceptible to damage by earthquakes.

Marginalized people, particularly women, can be relatively more vulnerable as a result of their low status, which is one possible manifestation of the

socio-cultural dimension of poverty. Lower status is often a reason for being poorly-educated. Inadequate levels of education, in turn, leave people uninformed about the relationship between the use or misuse of natural resources and disaster risk.

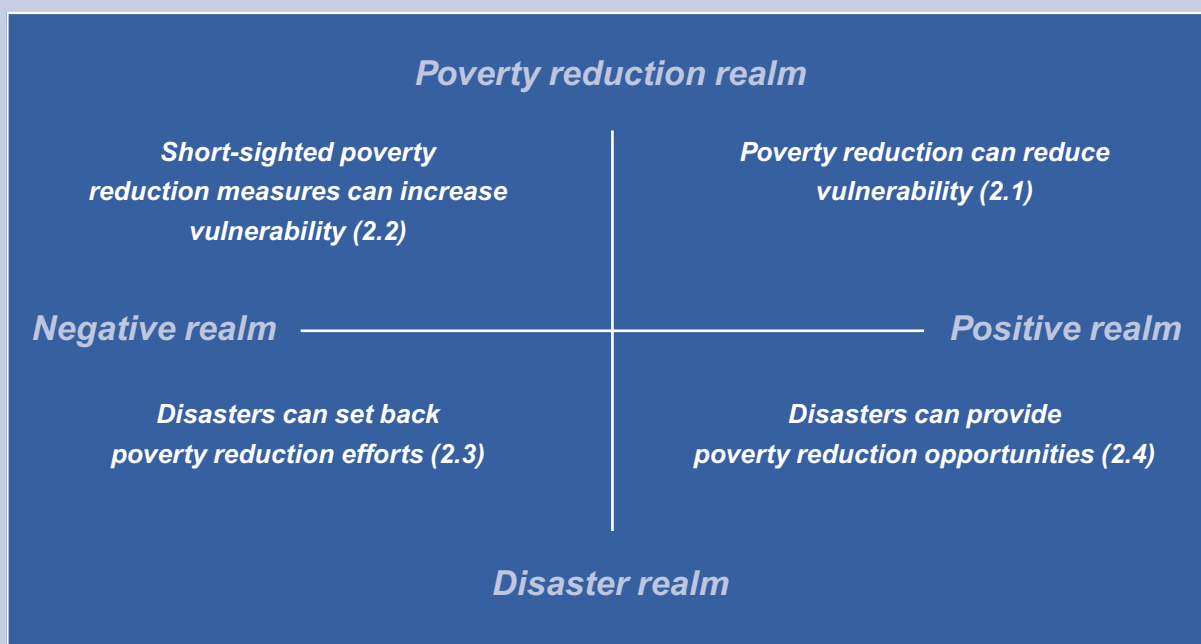
And finally, the human dimension of poverty, which in addition to education includes health and nutrition, is important for strengthening individual resistance when disaster strikes.

These different factors of poverty and vulnerability can negatively or positively reinforce each other. Improvements in one dimension might foster improvements in the others, just as setbacks in one might lead to setbacks in the other dimensions.

The relationship between poverty and vulnerability is not one of a simple chain of causes and effects. Rather, a linear understanding of the relationship must be revised, as it harbours the danger that possible side effects of any action are not properly considered, thereby unnecessarily exposing people to risk.

The negative and positive aspects of the relationship between vulnerability/disaster and poverty can be divided in four realms:

Figure 3 – The relationship between poverty and vulnerability to disasters



(Adapted from: UNDP 1994, p. 10).

2.1 Poverty reduction can reduce vulnerability

The fact that sustainable development can be achieved only through the reduction of vulnerability has been steadily acknowledged within the international donor community and UN organisations (ISDR 2003, p. 16; UNDP 1994, p. 21; World Bank (see the World Bank Workshop on „Enhancing Poverty Alleviation through Disaster Reduction in the Philippines,“ www.worldbank.org.ph)). “The uses of development programs to decrease vulnerability will increasingly be incorporated into every level of program and project preparation and review within UNDP country programming and other financial and technical assistance projects.” (UNDP 1994, p. 28).

Development processes that reduce poverty enable people to build up assets that provide security during times of emergency. They make possible the construction of technical protection or the accruing of further savings that can be drawn on during stress situations. Measures that reduce

vulnerability to droughts reduce dependence on the natural resource base. For example, industries provide sources of income other than from agriculture, although this increases dependency on markets and thus on processes outside the control of people at the local level. As another example, improved infrastructure can decrease vulnerability in a number of ways. Transportation infrastructure increases accessibility to markets and other facilities, which becomes extremely important in difficult situations.

UNDMTP (United Nations Disaster Management Training Program) provides a case study of a forestry Project in Nepal where measures to increase forest products (e.g., fuel wood, fodder, etc.) are combined with measures to reduce disaster risk. The local communities are being empowered and included in all kinds of activities from the planning to the implementation phases “... by giving rural farmers the commercial rights to forest products and providing them with information concerning forest conservation, it is hoped that they will have more of an economic



interest in protecting forest land and increasing its productivity [ownership]. Special emphasis is placed on training and extension activities for women, who perform most of the work related to forest products in Nepal. Working at the grass roots level, Nepal's community forestry program is an innovative attempt to improve the productivity of the land and reduce potential disasters by linking increased production with protection of forest resources." (UNDP 1994, p. 29).

Another development project that intends to reduce vulnerability is described in the UNDP–Reducing Disaster Risk Report (2004, p. 68). Economic development strategies oriented towards the export of cash-crops can create substantial benefit for local people. But they also are accompanied by the risk of highly fluctuating prices and insecure incomes. When low commodity prices coincide with natural hazards, rural livelihoods come under great stress. "In Nicaragua and Guatemala, the most impacted communities following a drought in 2001 were seasonal farm workers in depressed coffee-growing regions." (UNDP 2004, p. 68). A Ghanaian cocoa growers' co-operative tries to shift this risk through a fair trade agreement with some European cocoa companies. The producers receive a guaranteed price for their goods and the security of long-term trading contracts. The fair trade institution also seeks the empowerment of all partners and supports the producers in setting aside resources to enhance social development and ecological protection. "For those communities facing disaster risk, access to higher and more predictable levels of income can help build resilience." (UNDP 2004, p. 68). Poverty thus is reduced in several dimensions: The economic one through higher incomes, the political dimension through better organisational structures, and the socio-cultural aspect, because income-generating activities for women are supported by the cocoa growers' co-operative. These development efforts have a favourable influence on the cocoa growers' vulnerability to disasters. Increased savings capacity, the democratic organisational structures, and ecological protection help to reduce the growers' vulnerability while helping them to cope with natural hazards and avoid disasters.

2.2 Short-sighted poverty reduction measures can increase vulnerability

But economic development which is seen as a vehicle for poverty reduction can also increase disaster risk through many mechanisms. For example, unreasonable use of natural resources might lead to environmental degradation or pollution, which reduces the resilience of ecosystems that face natural hazards. As discussed in UNDP 2004 (p. 22), Hurricane Mitch in 1998 forced the "... recognition that pre-disaster development priorities had led to high levels of risk and human vulnerability, eventually culminating in a humanitarian disaster triggered by a tropical cyclone."

Adger and Brooks also describe the adverse impact of environmental changes and misleading development initiatives in the African Sahel on the vulnerability to famine (Adger and Brooks 2003, p. 19-42). Following consecutive dry years in the Sahel in the late 1960s, people depleted their stocks of capital, livestock and grain, which increased their vulnerability (Adger and Brooks 2003, p. 27). This vulnerability was further exacerbated through a shift from food production for a local market towards a cash-crop agriculture, which initially generated expectations of improvement in the poverty situation of poor farmers, but actually made them more dependent on external price fluctuations.

The unfortunate coincidence of environmental and socio-political factors led to a massive famine in 1972/1973. Here, socio-political factors played the main role. Sen had already come to similar conclusions in the 1980s: "[In his] seminal work in India on famine and entitlement he specifically attributed famine-related losses more to failure in entitlements than failures in rainfall or crop production patterns." (Sen as cited in: Holloway 2003, p. 3).

Even social development – despite the fact that it creates gains in health and sanitation, enhanced participation, and education – can increase disaster risk. Urbanisation is one such double-edged example for social development. On the one hand, living in cities can provide better access to social institutions and thus reduce the human

dimension of poverty; on the other hand, urbanisation can increase peoples vulnerability towards disasters. UNDP (2004, p. 22) notes that rapid urbanisation commonly leads to the formation of informal settlements and inner city slums. These settlements are often located in highly hazard-prone areas (steep slopes, flood plains, close to dangerous industrial sites, etc.); livelihoods become increasingly unstable. People are willing or forced to endure such conditions while "... seeking opportunities not only to improve their own quality of life, but also to enhance the health and educational attainment of their children ..." (UNDP 2004, p. 22). According to UNDP, urbanisation is an example "... where people are forced to expose themselves or others to risk in order to fulfil their (or others) needs or desires." (UNDP 2004, p. 22). As UNDP correctly states: "... this example needs consideration, as it is not increase in social development per se that accounts for growing risk, but the unassisted efforts of the economically marginal and politically excluded to gain access to basic human needs that has forced them to accept environmental risk." (UNDP 2004, p. 22).

As the above examples demonstrate, poorly-planned development can increase vulnerability.

Wisner presents another example for poorly planned development and he formulates drastically: "It is not part of the human condition to be buried under a landslide triggered by an earthquake. Earthquakes happen. But the disaster follows because of human action and inaction." (Wisner 2003, p. 45). And it is not exclusively the economically poor population that is affected by disasters. In San Salvador, 400 homes in the middle-class neighbourhood of Las Colinas were destroyed by a landslide created by the collapse of a slope above, on which a settlement was being built. The residents of Las Colinas and environmental groups had recognised the risk, and had tried to stop the construction through legal means, but the presiding judge had ruled against them (Wisner 2003, p. 45).

In 1999 more than 17,000 people living in a mainly urban area in north western Turkey died in the Marmara earthquake. Most of the people were

buried in houses that were built with poor and inappropriate construction materials and sub-standard workmanship (Özerdem 2003, p. 205). The houses did not meet the Turkish requirements for earthquake-resistant design, which do exist but often are not applied.

Apart from showing the close interaction between poorly-planned development and disasters, these two tragedies both point at the political dimension of poverty. Although the affected people were not necessarily economically poor before the disaster, they can be seen as poor within the political dimension of poverty (see figure 1). The fact that these groups were aware of the risk is relatively unusual, and is already a step in the right direction. But neither group was able to defend their right to safe housing through the courts. Both groups lacked political power and influence. Powerlessness aggravates other dimensions of poverty. In the cases above, the economic dimension of poverty was worsened because housing assets were destroyed.

Another type of development measures „gone wrong“ deserves mention here, because it can increase the vulnerability of the very people who are intended to benefit: Early-warning systems or the construction of dikes that are not built in a safe and secure manner or are not integrated into the necessary political information system can lull people into a sense of false security. In the worst case, people even give up their traditional early warning systems because they come to rely on the supposedly superior technical innovations. When disaster strikes, the effects can be even worse than they would have been before the “development measure” was implemented.

On the other hand early warnings that quickly reach those at risk, and that are acted effectively upon, can substantially reduce damage due to loss of life and property. Effective systems require the identification of all sources of vulnerability and risk, and the integration of early warning into public policy and community action, as well as the integration of traditional systems into modern technological capacities.

2.3 Disasters can set back poverty reduction efforts

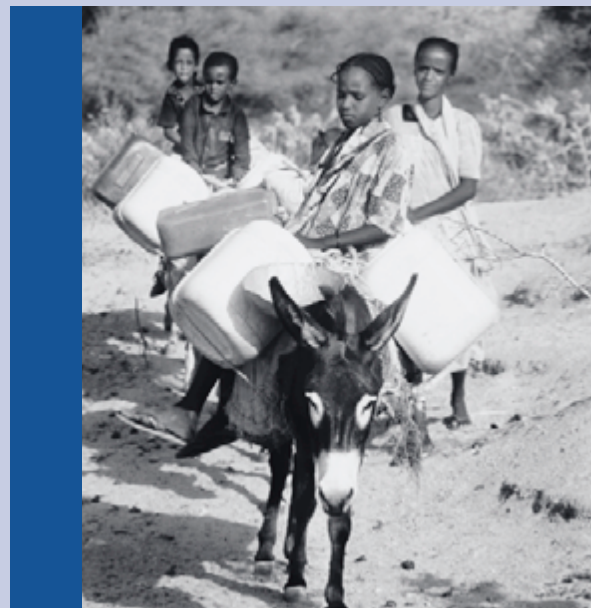
Disasters can set back poverty reduction efforts through broad direct and indirect impacts. This chapter addresses the social, economical and political implications of disasters that hinder or set back poverty reduction efforts.

Social implications of disaster

On a long-term average, 184 deaths per day are recorded world wide due to natural hazards. Most of these occur in countries that rank low on the Human Development Index (UNDP 2004, p. 10). But the number of deaths reveals only the tip of the iceberg in terms of social loss and human suffering. For every person killed, around 3,000 more are affected by the natural hazards (UNDP 2004, p. 14) and become severely impoverished through the destruction of personal assets, damage to health and education infrastructure, and loss of drinking water and sanitation. If the disaster is compounded by casualties from HIV/AIDS or armed conflict, social and economic structures can be completely destabilised. Population displacement is often a result of natural hazards and has far-reaching social consequences.

In the 1990s, the term “environmental refugee” came into use, referring to people forced to leave their homes due to natural disasters or environmental reasons. (Actually, this term is not entirely accurate, as environmental problems never appear in isolation and only their interconnection with other emergencies results in great numbers of refugees.) UNEP (United Nations Environment Program) estimates that there are 22 to 24 million environmental refugees (Biermann 2001, p. 24). Most of these migrants move between developing countries. For example, between 1968 and 1973 more than 1 million people left Burkina Faso due to an enormous drought and settled in neighbouring countries. Each year, thousands of inhabitants of Bangladesh leave their country due to heavy flooding and go to Assam/India (Biermann 2001, p. 25). Such migrants often must start a new life from scratch in surroundings that are completely unprepared to accommodate them or are inappropriate for settlement. The social and economic challenges fac-

ing the host countries in coping with these refugees are often unmanageable. Extreme poverty in all its dimensions can result from disaster-related migration, because the refugees lack every kind of social service, including health services, schools and access to safe drinking water. Traditional family structures, once an important form of support during crisis, have been destroyed. Groups of citizens that previously were not considered poor can fall into poverty due to forced migration.



Haug (2000) looks at the impact of forced migration on long-term development of pastoralists in Northern Sudan. The nomadic pastoralist group, the Hawaweer, of this region lost most of their animals during the droughts of the 1980s and were displaced. It should be stressed here that it normally is the better-off who become refugees, as they are the ones who can afford to migrate. This means that not only a differentiated view of migration needs to be taken, but also on the context in which migration takes place. “It was not a new dimension of the Hawaweer people’s livelihood to migrate for work opportunities. They had always been mobile as part of their nomadic lifestyle and livelihood diversification.

For decades, many Hawaweer people had been seasonal labourers in the Nile area [or in other areas...]. What was new due to the drought of the 1980s was that many people went not of a free choice but due to a desperate search for survival and a desperate need for feeding a hunger struck family.” (Haug 2000, p. 10). Haug describes how the Hawaweer were no longer welcome in the Nile area as the labour surplus increased and the migration became more permanent. Residents treated the Hawaweer as primitive nomadic people and humiliated them (Haug 2000, p. 11).

Beyond the immediate experience of the refugees in their new location, a long-term perspective is necessary in order to become aware of the possible outcomes of forced migration.

Economic implications of disaster

In the 1990s, annual economic loss due to disasters was estimated at US \$ 55 billion, which is equivalent to the total annual amount of international Official Development Assistance (ODA) (BMZ 2001, p. 15). “While absolute levels of economic loss are greater in developed countries due to the far higher density and cost of infrastructure and production levels, less-devel-

oped countries suffer higher levels of relative loss when seen as a proportion of Gross Domestic Product (GDP).” (UNDP 2004, p. 20). For example, the 1995 earthquake in Kobe/Japan, caused damages totalling US \$ 100 billion, or approximately 2 % of the country’s GDP. However, the damage incurred by the 2001 earthquake in El Salvador amounted to “just” US \$ 1.2 billion, but this equalled 10 % of the national GDP (GTZ 2002, p. 11). And there is another major difference: Much of the economic loss in developed countries is covered by insurance, which is not the case in the developing countries.

Economic implications of disasters are conventionally categorised as direct losses that include loss of physical assets, damage to infrastructure, and loss of inventory and agricultural produce. Included under indirect losses are those that are caused by the disruption of the flow of goods and services, such as the reduced opportunities for generating income. The final category of secondary effects includes impact on macro-economic variables such as economic growth, state budget levels, national indebtedness, and inflation. Estimating these costs is difficult due to data limitations. However, serious consideration of the sec-



ondary effects of disasters is important, because these can have significant impact on long-term human economic development.

Although in absolute terms, wealthier people's economic loss due to disaster can be greater than that of the poorer people in the affected region, the latter suffer more. Their poverty situation makes them more vulnerable to the direct economic loss and also to the indirect losses and the secondary effects. Just one of the reasons for this is that poor families typically have a higher ratio of dependents to wage earners. The loss of even one family member's job due to a disaster (indirect loss) therefore affects a disproportionate number of people as compared to the loss of a job in a wealthier family.

"This is not to say that higher-income groups are immune to disasters. Past examples of disasters do not necessarily show that higher-income groups with access to information are less vulnerable and therefore less likely to suffer. In the 1985 Mexico City earthquake, the lower middle-class was the most affected group as their high-rise housing was more vulnerable to the earthquake's ground motion than the low adobe and brick-built houses in low-income neighbourhoods." (Main and Williams 1994, p. 38 as cited in: IDB 2000, p.26-27). Middle-class families can be severely affected by disasters and run the risk of slipping into poverty.

Political implications of disaster

Disasters can evoke severe governance problems. The mechanisms and processes through which citizens articulate their interests and exercise their legal rights – an important aspect of the political dimension of poverty – can deteriorate to an even worse condition than is "typical" of developing countries. Inquiry into the economic aspect of governance reveals that financial decisions made during disaster and the reconstruction period can have major implications for poverty and quality of life. Under time and financial pressures, politicians are likely to throw overboard carefully developed budget plans and overturn long-term development programmes in order to create a bigger emergency aid budget. All too often, this

money is used for the recovery of one group at the expense of others. Economically poor groups with little access to decision-making are likely to be left out. Gender and other fundamental social issues are often disregarded. The result can be a reduction in social equality (UNDP 2004, p. 21).

Political aspects of governance can also be challenged during a disaster. Disasters give politicians the opportunity to abandon the difficult daily political decision-making, and provide them a platform for populist manoeuvring. Even democratic institutions can be undermined by disasters, because citizens often desire a strong leader, who must appear able to cope with the emergency and its aftermath.

Finally, the administrative aspect of governance is threatened. Efficient functioning of democratic organisations – due to the exceptional situation – runs the risk of breaking down. Lawlessness could result, and existing corruption problems might worsen.

2.4 Disasters can provide poverty reduction opportunities

It might seem paradoxical, but disasters can have positive effects and beneficiaries. It is important to take a look at them from the two possible and very different viewpoints. One is to ask what politicians, communities and individuals can learn from disaster that helps to reduce vulnerability and foster development. The other view could fall under the cynical title of a book on drought programmes in India: "Everybody Loves a Good Drought" (Sainath 1999). Here the question is who benefits, and how, from the distress of others.

This section sheds some light on the first aspect, and section 2.5 addresses how disasters can be misused economically or politically.

Disasters can provide development opportunities. This brings us back to the discussion on adaptation and the Turkish earthquake example where a "... new level of public awareness for the enforcement of regulations concerning construction practices to minimise risk ..." (Özerdem 2003, p. 206)

resulted in more serious governmental disaster management that reduced people's vulnerability to earthquakes. Disasters can trigger increased openness to political and social changes. Political attitudes can be altered more easily than under normal circumstances. This might have short-term adverse impacts, but it also might have impacts that provide new opportunities for sustainable development in the longer run.

Central America provides another example. The governments in this region learned a lesson from Hurricane Mitch in 1998. The disaster made manifest that environmental degradation had led to high levels of vulnerability that finally culminated in the humanitarian disaster triggered by a tropical cyclone. Under the motto "Reconstruction with Transformation," Central American governments, NGOs and donors agreed to consider pre-disaster development priorities, and agreed to include vulnerability issues in (rural) development policies. What might prove, in the end, to be just rhetoric is nevertheless a first step.

Taking this further, the Honduran government took a long look at its political style and moved towards more participation. Thus NGOs, some of which represent the poorer stratum of the citizen, were given more responsibility and were accepted as partners in reconstruction. This paved the way for more NGO participation in political decision-making. This was particularly evident in the formulation of the Poverty Reduction Strategy Paper (PRSP), where they used their considerable influence to shape the strategy more in favour of the needs of the poor.

Something similar occurred after Hurricane Mitch hit Nicaragua, where efforts to decentralise the country were reported. Responsibility is slowly but steadily being transferred to the community level, which helps to strengthen capacities there, and paves the way towards better integration of local people in decision-making.

But it is not only individuals, decision-makers, and NGOs at the local and national levels who learn from disasters. The international community, too, has learned to use reconstruction and related efforts to promote prevention and foster dis-

aster risk management capacities in order to achieve more sustainable poverty reduction.

Crisis situations also seem to provide an opportunity for ameliorating gender inequality. According to Bradshaw (2004), women's organisations in El Salvador identified several achievements regarding improved power balance after Hurricane Mitch.

These included:

- > *Public acknowledgment of the roles played by women in the emergency and reconstruction periods, resulting in a number of positive changes in the household.*
- > *Women formulating, drafting and presenting community project proposals, and then managing the projects and funds, too.*
- > *Alliances being forged amongst town halls, NGOs, communities, and organised women's groups in the communities concerning joint plans and proposals (Bradshaw 2004, p. 43).*

On the other hand, violence against women was reported to have increased in the aftermath of Hurricane Mitch. So, whether disasters really provide a development opportunity with regard to a change in roles is hard to judge, and also depends on the specific country situation.

Beyond the possible, long-lasting improvement within the political dimension of poverty, disasters also can have a short-term effect on the economic situation of poor people: For instance, food-for-work programmes might provide an "income" even to those people who, under normal circumstances, would have had no access of any kind to income.

2.5 Economic and political misuse of disasters and disaster relief

Holloway notes that some African countries: "... wait until there is irrefutable evidence of crisis, and then seek international aid, rather than building anticipatory capabilities that reduce disaster risk proactively." (Holloway 2003, p. 5). The author finds that this behaviour is rooted in international assistance patterns, which have disabled ownership of disaster risk. This certainly is true, and it is also true that some African politicians are well aware of this. Money flows into a country only when a disaster occurs that is big enough to make headlines, and therefore politicians make no effort to minimise disaster risk.

One example of negative results of humanitarian aid is the aid dependency and the receiving mentality, as evidenced in Ethiopia since the famines of 1984/85. Nowadays, many farmers there do not think it is necessary to invest further in their farming systems, instead relying on humanitarian aid in the event of hardship. According to Elliesen (2001, p. 265-267), food aid in Ethiopia led to a reduction of self-help and the unfair enrichment of powerful groups that channel the aid to their supporters as "presents for their partisans." Furthermore, food aid is seen by the US government as a good way of supporting their domestic agriculture as a form of „export promotion,“ without any concern for the fact that such food distribution often destroys the local markets. The Ethiopian government, too, has a vested interest in food aid: the government has big stakes in the transport companies that are contracted for its distribution. Efforts to improve the self-help capacities of rural people run contrary to these interests.

Disasters mobilise a huge amount of money, which creates an economic branch of its own. So naturally, as with any branch of the economy, there are a lot of conflicting interests. But a major difference here is that disaster relief funds must be spent very quickly. Control and accounting mechanisms often are thrown overboard in the face of time constraints. This means disaster aid is especially prone to corruption, both in the receiving countries and in the donor countries. But theft does not only take place at a high institution-

al level; it was plundering at the lowest social levels that the impoverished victims of the 2003 earthquake in Bam, Iran, called the "disaster after the disaster." (Kermani 2004, p. 20).

It is not only the economic sphere that becomes more susceptible to misuse in disaster, but the political one, as well. As already mentioned, politicians can benefit from catastrophes. On the one hand, they can direct incoming assistance to regions which are dominated by political supporters rather than send it to areas associated with the opposition. Holloway states that: "In some countries, government's humanitarian obligation to alleviate suffering has been misused for patronage, with an implicit expectation of reciprocity at the polls." (Holloway 2003, p. 9). On the other hand, they can use the media attention to promote a public image as rescuer of the nation, which would not have been possible without the disaster. Alberto Fujimori, Peru's autocratic president, did this during the El Niño disaster of 1998. In "The Economist" of May 1998, he was reported to be: "The true artist of the El Niño ... because since then he rushed about frenetically taking personal charge of relief efforts." (The Economist as cited in: IFRC 2002, p. 27). "Peru's civil defence, responsible for national disaster management, was shoved aside by a new group controlled by the president, and the result was organisational confusion. The main beneficiary was Fujimori himself, whose poll ratings went up from 30 per cent in mid-1997 to 45 per cent a year later." (IFRC 2002, p. 27-28).

2.6 Who is affected by disasters?

First of all, people in developing countries are, very generally speaking, more likely to be severely affected by disasters than those in developed countries. "The presence of many poor people in a given region can constitute a clear factor of vulnerability, as the poor are more vulnerable than other income groups because of the more hazardous location of their dwelling, the poor quality of their housing, their different perception of risk [lack of knowledge about risks] and difficulty to recover from disasters." (IDB 2000, p. 63). The likelihood of death in a disaster is four times higher

for these people than for those living in high-income countries (World Bank 2001, p. 171). Combining data from UNDP's Human Development Index (HDI) with data from 2500 disasters triggered by natural events between 1991 and 2000 reveals the very strong relationship between development and vulnerability to disaster. "Half of these disasters took place in countries with a medium HDI, but two-thirds of the deaths occurred in countries with a low HDI. Only 2 per cent of the deaths were recorded in the countries with a high HDI." (Wisner 2003, p. 46). These and other studies demonstrate that the Human Development Index can be a proxy indicator for vulnerability to extreme natural events. As a specific example: "Despite similar patterns of natural disasters in Peru and Japan, fatalities average 2900 a year in Peru but just 63 in Japan." (World Bank 2001, p. 171).

However, people who live in developing countries are not a homogeneous group. Rather, we must distinguish between different income situations, urban/rural settlements, race/ethnicity, class/caste, gender, age, household makeup (such as single-headed household and number of dependants), and so on, to come to specific conclusions about the effects of disaster. We know, for instance, that children, especially very young ones, who live in households with few livestock, are most severely affected by droughts. But unfortunately, little is known about the impact of disasters on the physical and psychological development of children.

More research has been carried out on the socio-cultural dimension of poverty, especially the gender aspects. However the knowledge gained about this key dimension of social difference is

only slowly being incorporated into professional practice.

It is well-known that disasters have a different impact on the poverty situation of men and women. This is because of the distinct roles of the two sexes in political, economical and social life, and also in their different reactions to disaster. Droughts, for example, often have a low impact on men's health, as men tend to leave the affected regions at an early stage of the disaster, whereas women do not have this migration option, and must endure the severe conditions, made even more difficult without men's support.

Some key poverty factors that aggravate women's vulnerability in comparison to men's vulnerability are:

- > *High illiteracy rates,*
- > *Limited ownership of assets such as land,*
- > *Few employment opportunities outside the home,*
- > *Limited mobility outside the home and locality,*
- > *Low social status,*
- > *Limited access to health services,*
- > *Socially-constructed dependency on male relatives*
(Fordham 2003, p. 65).

During the recovery and reconstruction phase, too, women are more likely to suffer long-term consequences on their well-fare than men (IDB 2000, p. 28). In the case of Hurricane Mitch, the percentage of women (especially female-headed households) still living in shelters some weeks later was significantly higher than that of men (IDB 2000, p. 28). Similarly, 32 % of Nicaraguan farming households headed by females did not

plant the following year, compared to the 23 % of male-headed farming households that completely lost their sowing capacity (Bradshaw 2004, p. 26).

Another aftermath of disaster is the disproportionate increase in women's unpaid reproductive work. For example, they have to take care of their children when schools are closed to be used as shelters for disaster victims. Although this is an obvious burden, it typically is not considered when emergency tasks are divided. Decision-making in a disaster context is considered a male task, and women often do not feel qualified to defend their interests in the governing body.

deficiencies, they make up a large proportion of the most vulnerable in disaster-affected populations. But they also have key contributions to make in survival and rehabilitation. They can play important roles in providing care, managing resources, and generating income, while applying their accumulated knowledge and experiences.

Disabled people are particularly vulnerable during and in the aftermath of disaster. They might have difficulty escaping disaster because of their disability, and the special facilities they need probably are not accessible following disaster.



On the other hand, most authors writing about gender categories warn against portraying women merely as victims, because women have great capacities to resist and overcome disaster effects. For example, women have good organizational skills and networks, and are familiar with managing under adverse circumstances.

The same is true for older people. Due to chronic health, mobility problems and possible mental

It has been well-documented that the economically poor usually are hit hardest by disasters. "Lack of financial and material resources gives poor people less flexibility in protecting their livelihoods and homes against disaster. When disaster strikes, assets bought with loans (for example, a sewing machine or a cow) can be instantly destroyed. This forces the poor back to the beginning – or worse, since they have to pay back the loan for an asset long lost." (IFRC 2002, p. 11).

Poor people might be forced to live in low-income settlements that are often more hazard-prone than middle-class residential districts. This is true for settlements in major cities (see section 2.2), but also for rural areas, where the poorer population is constrained in its settlement choice by property rights and wealthier landowners. Another problem is that they "... might willingly choose hazard-prone areas to improve their access to resources or increase their income-generating possibilities. Environmental hazard might be outweighed by the perceived benefits of residence in hazard-prone areas such as volcano slopes, plains nourished by flood alluvia or river banks." (IDB 2000, p. 64). Clearly, there is a link between poverty and vulnerability to disasters caused by environmental degradation.

2.7 Summary, lessons, and outlook

Poverty in its multiple dimensions has a strong influence on people's vulnerability to disaster, and vice versa. It is important not only to consider the economic aspect of poverty, which is perhaps the most apparent, but also the socio-political dimensions. Deprivation in the political dimension, as an example, can affect not only the economically poor – although there is no doubt that they are affected in the most adverse way – but also the middle class. People in or below this social stratum often lack the political power to enforce their right to adequate construction standards for buildings that can better withstand hazards, even when this is provided for by law. And because of the complex relationship between poverty and vulnerability, disasters typically worsen the poverty situation of these groups, as well as their vulnerability to future risk.

But disasters have different impacts on different groups within these socio-economic strata. One major example is the different realities of disaster and its aftermath experienced by men and women. The complexity of social life in the changing circumstances during and after a disaster event should be studied further in order to develop adequate disaster risk management.

A main lesson to be learned is that disaster risk management must be socially inclusive. This means issues of gender, poverty, age, class, and so on (as well as representatives of these groups) must be integrated politically and practically into programmes, projects and measures that aim at reducing disaster risk. This is not an easy task, and we are still learning how to do it. An important step would be for practitioners, academics, and politicians to reach agreement on this subject.

However, poverty reduction and development measures do not automatically achieve a reduction in vulnerability. In the worst case, such measures can even aggravate peoples' vulnerability to disaster. Therefore, these measures must be planned thoughtfully with regard to the specific disaster problematic of a country or region.

The next section addresses the political and administrative conditions needed for successful integration of disaster risk management and poverty reduction efforts. We also present different instruments of the two approaches and how they can be linked. The blending of the two approaches and their instruments is necessary because, as discussed in this section, only development that takes risks into consideration can have long-lasting results. The concept of disaster risk management reinforces the long-term perspective of poverty reduction strategies, which is vital to achieving sustainable development.

3. Basic concepts and instruments for combining poverty reduction measures and disaster risk management

This chapter presents three basic concepts and instruments that are relevant for the integration of disaster risk management into poverty reduction measures. The sustainable livelihoods approach was developed in the context of poverty reduction strategies but explicitly addresses vulnerability in a way that provides an entry point for integrating disaster risk management into strategies of poverty reduction. Risk analysis is an interesting and important contribution to the planning of projects and programmes with a poverty reduction focus. Monitoring is essential to both poverty reduction measures and disaster risk management, but currently is being carried out separately for each issue, despite the many benefits that could accrue through linkages and the sharing of experience. Unfortunately, especially in the monitoring of poverty reduction approaches, disaster issues receive almost no attention. Therefore, different approaches to monitoring in the two areas are discussed with a view towards how and where it is possible to combine existing indicators.

3.1 The sustainable livelihoods approach – a poverty reduction approach and its linkages to vulnerability and disaster

The sustainable livelihoods approach takes a holistic view of people's livelihoods situations and strategies, and of their needs and interests. It was developed to help achieve poverty reduction, and to remedy the fact that a purely economic approach is inadequate for understanding poverty from the viewpoint of those concerned. The sustainable livelihoods approach also explicitly addresses vulnerability as a main factor determining the sustainability of chosen livelihoods. This provides an entry point for integrating disaster risk management into strategies for poverty reduction. There are different approaches for the analysis of sustainable livelihoods (e.g., DFID, CARE, Oxfam – see Carney et al. 1999). The following discussion is based on the DFID sustainable livelihoods approach (see: www.livelihoods.org).

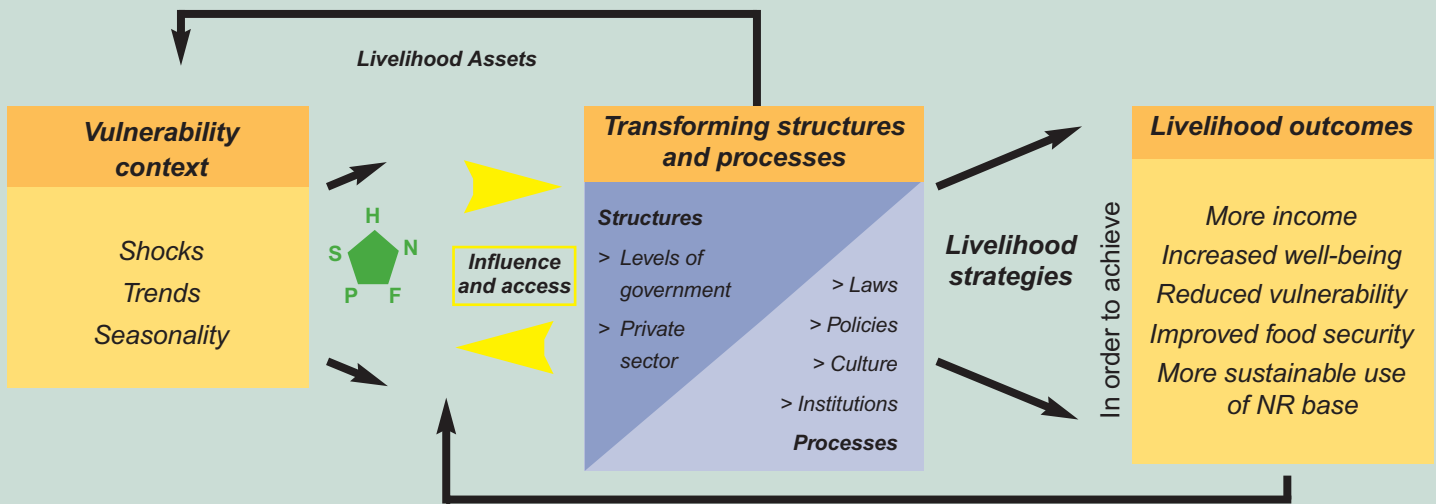
The definition by Chambers and Conway (1992, p. 7) is that “a livelihood comprises the capabilities, assets (stores, resources, claims and

access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the long and short term.” Most agencies adopt this definition with only slight variations.



The livelihoods framework provides an organising structure for analysis. The basic elements of the framework are presented in the figure next page.

Figure 4 – Sustainable Livelihoods Framework



NB: Recently, the ‘Transforming Structures and Processes’ has been changed to ‘Policies, Institutions and Processes’ (see section 4.1 of the Sustainable Livelihoods Guidance Sheets at www.livelihoods.org).

Livelihoods assets are:

- H human capital:** The skills, knowledge, ability to labour, and good health;
- P physical capital:** Basic infrastructure (e.g., transport, shelter, water supply, energy, and communications) and the production equipment and means that enable people to pursue livelihoods;
- S social capital:** The social resources (e.g., networks, membership of groups, relationships of trust, access to institutions) upon which people draw in pursuit of livelihoods;
- F financial capital:** The financial resources which are available to people (e.g., savings, credit, regular remittances, or pensions);
- N natural capital:** The natural resource stocks useful for livelihoods (e.g., land, water, wildlife, biodiversity, environmental resources).

The transforming structures and processes are the institutions, organisations, policies, and legislation that shape livelihoods. They are seen as effectively determining access to various types of capital, to livelihoods strategies, and to decision-making bodies and sources of influence; the terms of exchange between different types of capital; and returns (economic and otherwise) to any given livelihood strategy.

The vulnerability context is comprised of:

- > *trends (long-term and large-scale) such as population trends, resource trends, national / international economic trends, trends in governance, technological trends.*
- > *shocks: Health shocks, natural shocks, economic shocks, conflict, and crop/livestock health shocks. These shocks can destroy assets directly or they can force people to dispose of assets as part of coping strategies. Resilience to external shocks and stresses is an important factor in livelihood sustainability.*
- > *seasonality: Seasonal shifts of prices, production, health, employment opportunities.*

The livelihood strategies are the range and combination of people's activities and choices (including productive activities, investment strategies, reproductive choices, etc.) in attempting to achieve their livelihood outcomes: The goals pursued, the lifestyle that results from the activities.

Through livelihoods approaches "... the emphasis is placed on both increasing the means people [acquire] for achieving their livelihood outcomes, and on developing a policy environment that supports people's chosen livelihood strategies ..." stressing people's ability to define their own priorities ('empowerment') and decrease their vulnerability (Schafer 2002, p. 15).

The DFID livelihoods approach stresses the long-term aspects of any strategy and emphasises the importance of resilience and reducing

vulnerability. "Sustainability as providing long-term results is seen as being important, whereby livelihoods are seen as being sustainable when they are resilient in the face of external shocks and stresses; are not dependent upon external support (or if they are, this support itself should be economically and institutionally sustainable); maintain the long-term productivity of natural resources; and do not undermine the livelihoods of, or compromise the livelihood options open to, others." (DFID – SLGS 2000).

Recognising the importance of vulnerability is, according to Cannon, a prerequisite of achieving sustainable livelihoods. From their point of view, "... it is supposedly a way of conceptualising what may happen to an identifiable population under conditions of particular risks and hazards." (Cannon et al. 2003, p. 4). They see vulnerability as having a predictive quality, and poverty as being a measure of current status. By integrating the concept of vulnerability into the livelihoods approach, the horizon of poverty reduction is extended and can make efforts more sustainable. Through vulnerability analysis it is made clear that disaster preparedness should be a part of development.



The livelihoods approach is just a framework, and its operationalisation is a crucial step. It considers a wide range of issues, and according to Christopoulos et al. (2001), provides a valid set of methods for examining vulnerability. Applying the framework can also produce an overwhelming quantity of information, thus creating the necessity of identifying the major areas of importance (Schafer 2002, p. 18). DFID stresses that a livelihoods analysis does not have to be exhaustive in order to be effective and that "... the idea is to identify critical constraints in the livelihood system and identify leverage points for intervention that maximise impact" (Carney 1998; Goldman 2000 as cited in: Longley and Maxwell 2003, p. 3). However, Longley and Maxwell (2003, p. 24) criticise that the lack of clarity on just what a livelihood intervention is makes the prioritisation of problems difficult.

Another criticism is that the focus on the household level means that questions of causality and the broader dynamics of the situation are often not adequately addressed (cf. Ashley and Carney 1999), and the attempt to understand actions at this level, will not lead to an understanding of the larger society. For instance, society has a strong influence on how different situations are perceived and explained, and the way situations, shocks and stress are perceived also shapes the

actions taken by individuals. Longley and Maxwell (2003, p. 2) as well as Norton and Foster (2001, p. 13) underscore the importance of analysing the broader environmental, social, political and economic context, as well as the institutions and structures that influence the manner in which assets are used and how access to and control over them can be gained and maintained. "A further dimension which is needed in the debate would address the key dimension of the freedoms and opportunities which are available to people to make use of their assets in political, economic and social arenas. This takes the debate into issues of accessible justice, political voice and human rights." (Norton and Foster 2001, p. 30).

Twigg points out the risk that the significance of natural hazards will be undervalued in the sustainable livelihoods approach, as disaster mitigation efforts often have to take place on higher levels than the household level. (Twigg 2001a, p. 21).

When it comes to operationalisation Cannon et al. (2003, p. 4) also criticise that "... there is little analysis of how shocks affect livelihood assets and outcomes and in most 'normal' DFID development work there appears to be very little or no attempt to reduce peoples vulnerability to hazards and disasters."

Participation and the focus on people and their views is an inherent and vital part of the sustainable livelihoods approach. Norton and Foster (2001) consider how a sustainable livelihoods-based analysis could contribute to the overall formulation process of a Poverty Reduction Strategy Paper (PRSP), and recognise the challenge in using sustainable livelihoods approaches, among others, to help to determine the right priorities (p. 27-29). They also see potential value of the approach in addressing cross-cutting issue. For example, in explaining the consequences of the HIV/AIDS epidemic in terms of human or social capital can be helpful by providing a thorough poverty analysis. However, they state that in order "... to take the analysis forward in a complex context of analysing linkages between macro and micro realities (as in a Poverty Reduction Strategy Paper (PRSP)) will inevitably require other



methodologies and approaches [than the sustainable livelihoods approach]" (Norton and Foster 2001, p. 31). All in all, they see the strengths of the approach as dominating the weaknesses, especially in its normative and analytical principles (2001, p. 30), which they maintain should be applied to other forms of analysis, such as cost-benefit and cost-effectiveness approaches (2001, p. 29).

evaluating existing conditions of vulnerability (physical, social, and economic) that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend. At the same time, it takes account particularly of the coping capabilities pertinent to the risk scenarios (cf. ISDR 2004, p. 16).

Norton and Foster describe the principles of the sustainable livelihoods approach as follows (2001, p. 30):

- > To seek processes which are accountable, which engage with the disaggregated, specific realities of poor people's conditions, which allow for appropriate subsidiarity in dealing with key issues, and which take a cross-sectoral perspective on the causes of deprivation and the analysis of measures to reduce it.*
- > To focus on the need to achieve livelihoods outcomes for the poor as a guide to applying the conceptual framework in practical situations and to encourage partners to use it.*
- > To seek to prioritise policy and programme actions.*

Further, they stress that the sustainable livelihoods approach does an invaluable job in rebalancing the importance of different factors within poverty reduction frameworks by giving more attention to people's access to productive assets as opposed to solely regarding health and education issues (Norton and Foster 2001, p. 31).

3.2 Risk analysis

Risk analysis is part of disaster risk management, and is comprised of the analysis of hazard and vulnerability, the two elements that "add up" to risk. These two kinds of analysis could contribute important information to the planning of projects and programmes with a strong poverty reduction focus.

Risk analysis aims at providing the basic quantitative and qualitative information to determine the nature and extent of risk by analysing potential hazards (location, intensity, and probability) and

The aim of risk analysis is the systematic use of information to determine the probability of events occurring and to identify appropriate measures for pre- and post-disaster activities. It should be carried out in a participatory manner and provide advice in project design, preparedness planning, and mitigation planning, while attempting to create or raise awareness at different levels. (For more details, see methodology description in GTZ (2004): Guidelines: Risk Analysis – a Basis for Disaster Risk Management).

Hazard analysis

Hazard analysis appraises the probability of an extreme event, its magnitude and duration. The analysis comprises the identification of possible hazards in an area, the identification of the endangered sites, and an analysis of the probability and the possible magnitude of occurrence. The natural hazards can be grouped into meteorological hazards (e.g., floods, droughts, hurricanes), geological hazards (e.g., earthquakes, volcanoes), and others, such as epidemics.

Vulnerability analysis and coping capacity

When assessing vulnerability, all factors affecting the capacity of a population to cope with hazards must be captured. First the potentially vulnerable people have to be identified, after which the factors that influence their vulnerability are estimated.

Here, different kinds of vulnerability can be distinguished:

- > *Physical vulnerability (e.g., building quality, population density),*
- > *Social vulnerability (e.g., education, social organisation, gender, minorities, power distribution, solidarity),*
- > *Economic vulnerability (e.g., wealth status, income security, resources),*
- > *Environmental factors that influence vulnerability (e.g., bio-diversity, arable land, degradation).*

Any self-protection mechanisms already in place (traditional practices of early warning and monitoring, evacuation plans, etc.) also must be considered under coping capacity.

Often, vulnerability is estimated through the potential damage to the population (life, health, wellness), to capital equipment (buildings, infrastructure), and to natural capital (forests, agricultural land). In a last step, the culturally-accepted level of risk is assessed.

When all these factors are considered, the hazard analysis provides vital information for preventing short-sighted development activities that would lead to increased risks (e.g., building houses in disaster prone areas). The findings can also be used for the cost-benefit analysis of particular measures. When carried out in a participatory way, this can contribute to the empowerment of the affected people, building up their capacity to actively make decisions on which risks they are willing to take.

As already mentioned in chapter 1.2, it must be kept in mind that the results of a risk assessment need not correspond precisely with the risk perception of the affected people. Especially now that highly-sophisticated, technical methods (such as Geographic Information Systems (GIS)) are used for assessing risks, gaps might exist between technical findings and people's understanding of risk; nonetheless, their points of view and perceptions about the risks they face must be included (see e.g. ISDR 2004, p. 64).

3.3 Monitoring the results of disaster risk management measures and poverty reduction efforts

Monitoring is a complex issue for practitioners and scientists concerned with disaster risk. A number of international initiatives currently are being undertaken in this field in order to develop sets of indicators for monitoring. Some of them are presented below, grouped by focus under either disaster risk management or poverty reduction:

Monitoring disaster risk management progress

Monitoring measures in the field of disaster risk management are being developed from two different aspects:

- > Monitoring disaster risk itself,
- > Monitoring the effects of disaster risk management measures.

A prominent example of the first type is the newly-developed UNDP Disaster Risk Index (DRI) (UNDP 2004, p. 29-56). This index ranks countries according to physical exposure to hazard, vulnerability and risk. Data constraints limit the DRI to three types of natural hazards: earthquake, tropical cyclone, and flooding. The index can be used to make a general comparison of the relative disaster risk faced by different countries. The underlying principle of the DRI – the relationship between poverty, development, and disaster risk – is an important one, but the index is also heavily criticised, because its information base is limited to recorded numbers of deaths without consideration of loss of livelihood.

The World Bank and Columbia University have jointly developed a set of indicators called “hotspots,” which draws on the same database, but organises information according to regions instead of individual countries. (www.worldbank.org/hazards/files/hotspots2002). Taken together, these two indices provide an interesting basis for decision-making in development co-operation. The plan to continue recording these indicators on a local level will help in setting priorities when disaster risk management measures are incorporated into poverty reduction programmes.

Even more interesting for the objective of this study is monitoring the effects of disaster risk management. Ideally, this would be done by simply measuring the decline of risks and the reduction of disasters. However, this is nearly impossible because:

- > The success of disaster risk management is the absence of disaster, so what is an appropriate measure?
- > Conditions, especially hazardous ones, and their characteristics change over time and vary according to location. No two hazards are identical; therefore, their impacts are not exactly comparable.

- > The intervals between catastrophes are often quite long, making it difficult to measure success.

Thus new ways for measuring success with disaster risk management must be found. One solution is to monitor proxy impact indicators, although the identification of proxies often is based only on assumption or ambivalent information. Key monitoring questions as to the effects of disaster risk management mainly relate to the strengthening of disaster response capacities, the extent to which lives and assets are better protected during disasters, and the improvement of food security during drought.

In addition to identifying indicators that can measure the risk of disaster, the University of Manizales, Colombia, is developing a „Risk Management Index.“ This index is intended to provide information about the progress of disaster risk management measures at the national level. Currently, the indicators are in their testing phase (www.idea.manizales.unal.edu.co).

The Department of Integration and Regional Programs of the Inter-American Development Bank (IDB) presents another interesting instrument for assessing the effects of disaster risk management measures (Bollin et al. 2003, p. 59–76). It is a monitoring system that focuses on



the community and local level, and applies a set of indicators that serves as a basis for decision-making within the scope of disaster risk management policy.

The indicators are organised around four key questions:

- > *How often and how intensely do disasters occur?*
- > *Who and what is affected?*
- > *What kinds of vulnerability exist in the community?*
- > *What are the strengths and capacities of the community?*

Reliable indicators are chosen and the questionnaire is applied and validated for sustainability and political sensitivity within the geographical and cultural context. The resulting risk index can be used repeatedly, making it possible to monitor progress achieved through interventions which have been applied to manage disaster risk. This monitoring system can test the effectiveness of local, regional, and even national disaster risk management policies. It is an inexpensive and easy system to use - two characteristics that should be highlighted, because monitoring systems can be time-consuming and expensive.

But the most striking aspects of the IDB participatory approach are:

- > *It promotes people's understanding about how disaster risk is related to their situation, including environmental aspects, changing demographics, and the literacy rate.*
- > *It includes peoples' capacities for and knowledge about coping with disasters.*

Monitoring is not just a technical exercise, and stakeholder involvement should not be merely a means for collecting monitoring data. Participation also enables stakeholder to question disaster risk management policy and to demand domestic policy dialogue on the issue.

Monitoring poverty reduction progress

There are several different measurements of poverty. The World Bank employs the „1 U.S. dollar a day“ poverty line (people with a daily income of US \$ 1 or less are classified as extremely poor), which is useful for comparative analysis of (extreme) poverty over time, among different countries, or within a given country. More complex are the composite UNDP Human Development Index, the Human Poverty Index, and the Gender-related Development Index. These do not measure poverty in terms of income, but capture such key characteristics as life expectancy, adult literacy rate, per capita gross domestic product, access to safe water, etc. (UNDP 2003).

Since the introduction of Poverty Reduction Strategy Papers „Poverty and Social Impact Analysis“ (PSIA) is gradually playing a greater role in assessing the effects of policy reforms on poverty reduction. PSIA examines not only the expected economic effects of structural poverty reduction strategies in general, but also focuses on how these affect different stakeholder groups and the different dimensions of poverty. The approach also analyses the political and institutional aspects of policy reforms, which often are neglected by monitoring exercises. A central idea behind PSIA and similar approaches to impact assessment – beyond just measuring the output or outcome of a specific programme or project – is to promote transparency and dialogue between government and civil society regarding public policy options and poverty reduction.

Whereas it is impossible to measure the impact of a single project or programme on national poverty rates, it is possible to describe its plausible contribution to poverty reduction. Specific outcomes for a targeted group can be documented. Several monitoring methodologies can make statements on these outcomes, most of which emphatically stress participation.

On behalf of the BMZ the GTZ-Mainstreaming Poverty Reduction Project advocates structuring poverty-oriented monitoring along the following questions or themes:

- > Who benefits from the project/programme services provided? (Women, men, poor or less poor persons, etc.)*
- > To what extent were the services used? (Scale, duration, demand)*
- > Are the users satisfied with the services? What do they think about their quality? Do they fulfil important needs?*
- > How do the beneficiaries use the services to improve their lives?*

The last two questions, at the very least, must be asked directly of the beneficiaries of a specific communal project or programme. Their answers provide a basis for estimating the scope and breadth of a given projects' impact.

The monitoring task is steadily being improved in the contexts of disaster risk management and poverty reduction. But currently, the monitoring initiatives are being undertaken by two separate sets of experts, each focused on just one of the fields (poverty reduction or disaster risk management). Although the two groups of experts have many problems in common and much experience to share (such as in dealing with vulnerability),

they usually work parallel to each other. True, poverty normally plays an important role in the monitoring of disaster risk management, but disaster issues are almost completely neglected in the monitoring of poverty reduction approaches.

The main message of this study is that the two topics, disaster risk management and poverty reduction, should be combined. Naturally, this also applies to monitoring. It is essential to bring the two expert groups together and to integrate the recently developed set of indicators on the effects of disaster risk management, especially the analytical ones, into the monitoring of poverty reducing programmes and policies.



4. The integration of disaster risk management and poverty reduction: Activities, actors, and prerequisites

This section discusses the relevance of a community-based approach to disaster risk management. It presents two successful examples of reducing both poverty and disaster vulnerability through the application of local knowledge and initiatives. We also focus on the roles of different actors in disaster risk management, and outline both the common ground as well as the differences between disaster risk management and poverty reduction.

4.1 Experience with disaster risk management and with coping systems at the local level

Local knowledge can contribute significantly to the reduction of vulnerability. It is also consistent with the principles behind GTZ's community-

gies, and courses of action which local communities have developed over the years to come to terms with threats to their livelihoods. This understanding tallies well with the livelihoods approach presented in the previous chapter in that it draws attention to local perceptions, and also, even more importantly, to how local communities act upon these perceptions. Using a broad definition of vulnerability, every measure that is designed to enhance the ability of a local community to cope with the hazards that threaten its livelihoods could be seen as some form of disaster risk management.

Development activities are geared towards strengthening the ability of communities to withstand adversity. Adversity can come in the form of a hazard that is beyond local coping capacities as well as in the form of destitution. Both (the inability to cope and destitution) can be a cause as well as an effect of disaster. More often than not, then, the challenge lies in explicitly making the connection between disaster risk management and poverty reduction in more development initiatives.

We draw on three examples in order to illustrate how such connections could be shaped. While two relate to development initiatives, the third case relates to the complex nature of disaster situations and how, under such circumstances, the connection between disaster risk management and poverty reduction can be practically established.

Misereor's work in an impoverished and drought-prone region of Zimbabwe

The first example concerns the work of the German NGO "Misereor" in the Zimbabwean region of Mutare, in Manicaland province. Misereor supports 250 families, who were resettled in the area between 1980 and 1997. Over the past five years, there has been little rainfall in the area as, indeed, in much of Southern Africa. As a result of this, the land is difficult to till and, consequently, the region is in the throes of hunger. Misereor's work, carried out mainly by the Catholic Development Commission, helps the local community to adopt appropriate farming techniques. The families are assisted with irrigated, household veg-

based approach to disaster risk management. The question that arises, however, is how local knowledge should be understood with reference to disaster risk management and, particularly, to coping systems at the local level.

For the purposes of this study, local knowledge can be understood as the stock of skills, strate-



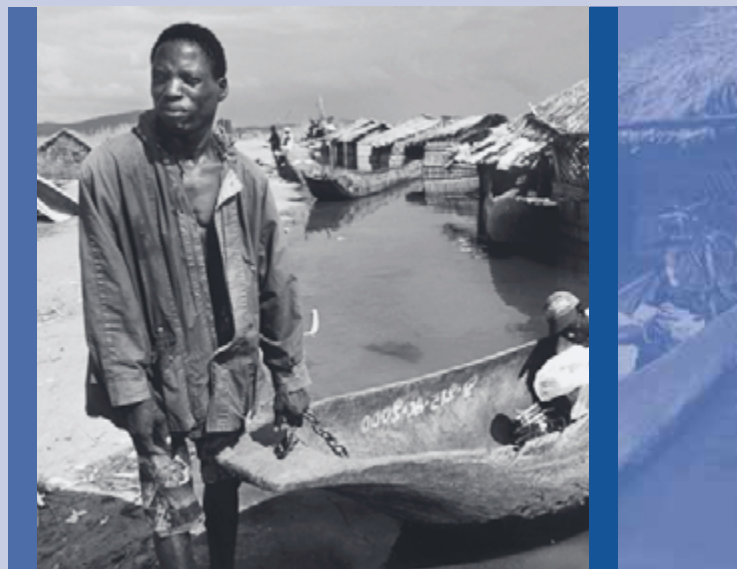
etable gardens that are to compensate crop failure. They are encouraged to give priority to plants that require little water. Further, they are taught to improve their storage technologies so that they do not lose too many seeds. Finally, assistance is provided to them to raise goats instead of cows, as the former require approximately nine times less water than the latter, with the added advantage that their dung can be used on the fields.

In addition to these measures, which are a direct response to the drought, Misereor is involved in other activities. These include the digging of wells and the construction of canals and irrigation systems, schools, and health posts. Such activities not only help the 2000-people strong community to withstand the onslaughts of nature, but also to respond actively to the ensuing poverty situation. This is achieved by going beyond prevention activities into forms of support that seek to restore some semblance of ordinary daily life. Over a period of three years, Misereor will channel € 165,000 of assistance to the community. This is, in our view, a good example of how disaster risk management and poverty reduction can be achieved concurrently at the local level. Misereor's work in the region is consistent with both: All that is missing is an explicit link between the two.

CARE International's attempt to re-vitalize the livelihood strategies of the Tuareg

Another example is found in Niger in West Africa, where CARE International Germany helps Tuareg nomads in the Air region to cope with the long-term effects of the successive droughts of the seventies and eighties, as well as the consequences of the armed rebellion carried out from 1991 to 1995. The Tuareg support themselves through caravan trade, raising camels and goats, oasis gardening, and handicrafts. These economic activities were severely affected by both the droughts and the rebellion. As a result, not only have the Tuareg become even more vulnerable to the natural hazard of drought, but also have become poorer.

CARE's work aims at restoring the Tuaregs' ability to regain control over their habitat. In his de-



scription of the 1984 hunger crisis, German anthropologist Gerd Spittler (1989), documented how the Tuareg had responded to the situation by stoically facing hunger and keeping their livestock alive until the bitter end. According to Spittler, the rationale behind keeping their livestock was the hope that they might survive the crisis, and then would need livestock to start over with. CARE is sensitive to this, as it orients its work towards strengthening the community's ability to manage in an environment for which they have developed coping strategies that are increasingly proving inadequate. Once again, we have an example that demonstrates how inextricably intertwined disaster risk management and poverty reduction are. Development initiatives under such circumstances as faced by the Tuareg must be both. Here too, the challenge consists of making the linkage more explicit.

The complexity of local perceptions and coping strategies in disaster situations in Mozambique

Our final example deals with the complexity of disaster situations. It is drawn from a village community that was hit badly by the floods of 2000 in southern Mozambique (see Christie and Hanlon 2001 for an account of the humanitarian operation). Although the village is located far from the flood plains of the Limpopo river, most of its mem-

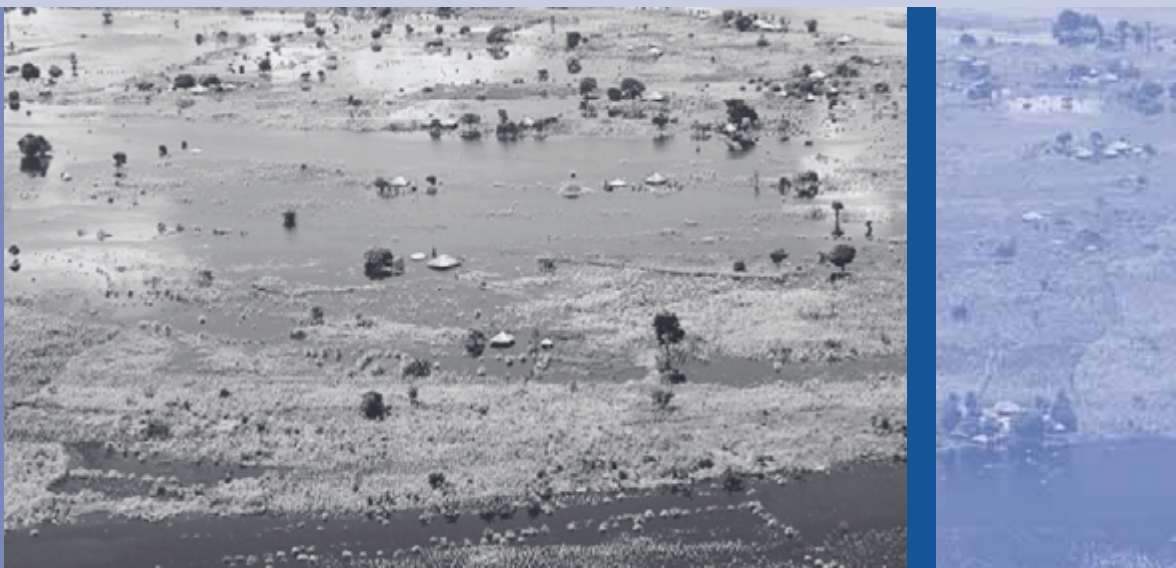
bers have fields and cattle in the valley. Some even have makeshift houses there, where they often stay for extended periods of time. Floods are not completely unknown in the area. In fact, the villagers say that floods are like guests, they come for a few days and then they depart. They are like generous guests, who bring presents. Indeed, floods clear the fields, loosen the soil and bring the promise of good harvests.

The floods in 2000, however, were unlike previous floods. This was not because they were the biggest in recorded memory, but rather because they stayed much longer than usual and when they finally left, they left hard soil behind which the villagers could not till with their simple hoes. As long as the water covered the length and breadth of the plains there was a lot of national and foreign relief activity. As soon as the water receded, though, these relief agencies also departed and left the community to their own devices. For these people, the real disaster was not the presence of the water, but rather their inability to come to terms with the situation left by the floods. It was this inability which led villagers to consider the floods, retrospectively, as a disaster (for more details see Macamo 2003).

Much of the village is very poor. In the past, people's main coping strategies have been labour

migration to other countries or to urban centres, family solidarity, and petty labour within the community. Such strategies allowed the community to view natural hazards such as floods as natural phenomena that did not necessarily mean misfortune or result in decline. But given the difficult economic situation that has been prevailing in the country and the region as a whole over the last few decades, these coping strategies have become useless. Thus the community is even more vulnerable to natural hazards, which in turn has increased its poverty. The village is locked in a vicious circle from which it can emerge only if development policy purposefully combines disaster risk management and poverty reduction. This would mean taking into account local perceptions of disaster and integrating them into policies designed to improve the community's livelihoods.

Early warning systems were in place before the floods in 2000 and worked quite well. People were warned well in advance of the floods. But because the local people perceived floods as natural, non-hazardous events with some benefits, they simply did not take the warnings seriously. As reported, many even refused to leave the valley, fearing that the warnings were a ploy by civil servants to get them off their land and steal their cattle. An otherwise effective prevention mechanism such as this early warning system can func-



tion properly only if it takes into account local experience. In this case, it would have meant emphasising measures designed to build trust between the community and the state as well as translating the technical language of early warning into local idioms of reaction to hazards.

Experiences with disaster risk management and with coping systems at the local level reveal that development practice has, indeed, a wealth of experience that only needs to be explicitly applied. Development practice should and often does include both disaster risk management and poverty reduction, but the intrinsic connection between the two must be reflected in the intentional design of interventions.

4.2 Who does what?

The discussion about the allocation of competencies and responsibilities is a highly political one that must be carried out in order to achieve successful disaster risk management. Before presenting the recommendations for the integration of poverty reduction and disaster risk management in section seven, we must come to a broad understanding of what the different actors in the developing countries are already doing, and why and how they are doing it. We take a closer look at the functioning of institutions, and at the way disaster risk is perceived and managed or reduced. Of course, the specific institutions involved vary from country to country; therefore, this section reviews the overall issues and general principles.

Local actors

Local political institutions and local communities have played a major role in disaster risk management in recent years. This is appropriate, as the impacts of disasters are mostly restricted to a locality or a region, and do not always affect an entire country. It also means that local knowledge must be enhanced in order to minimise vulnerability to disasters. Further, national authorities often fail to react rapidly and efficiently, so it is important that the endangered areas improve their own capabilities to prepare and protect their populations. By shifting at least part of the

responsibility for disaster risk management to the local political level and local communities, an understanding of local behaviour (settlement on dangerous slopes, deforestation) would necessarily become clearer to those most directly involved, and hence result in changed and improved practices. The approach of community-based disaster risk management (GTZ 2003a) invests the affected people with a stake in decision-making and greater responsibility, which is intended to produce more sustainable results than would a top-down approach.

Local communities' institutional capacities for addressing hazards have long been underestimated. Slowly, the scientific community and development practitioners have come to recognise how local communities diversify their production and manage scarce resources to cope with natural hazards. On the other hand, local institutions and community networks clearly are overwhelmed by hazards that affect broad sectors of the population and require support from higher-level institutions, especially when HIV/AIDS, vulnerabilities that emerge from changing demographics, or declining resources collide with the "natural" hazards.

Government

Although community-based disaster risk management is an effective way to reduce vulnerability to disasters, the national government remains the most important actor that manages the overall system and is responsible for the safety and security of its citizens. The government is the institution that co-ordinates local, national and international approaches for managing disaster and ideally that equalises private and public interests. But the government can perform satisfactorily only if it orients its behaviour to the three pillars of governance: economics, politics, and administration. Regarding the economic aspect of governance, disaster risk management should be a consideration of the monetary and political decisions made by the state and should be accounted for in the national budget. Seen from the political aspect, the government must establish the legal framework, provide for capacity development, and decide on the institutional set-up for disaster risk management. Decisions and tasks that revolve around disaster risk must be shared with

the other public and private stakeholders at the national and sub-national levels. Naturally, any decentralisation of disaster risk management must be accompanied by the decentralisation of financial resources. And finally, the administrative aspect requires governments to ensure that agreed reforms of the institutions which accompany disasters are actually carried out.

Non-governmental organisations (NGOs)

The NGOs in developing countries raise their funds mainly in northern countries, where it is far easier to collect donations for traditional relief assistance than for prevention, mitigation and preparedness. For example, in 2001 the European Union spent only 1,5 % of its European Community Humanitarian Office (ECHO)-budget for disaster mitigation and preparedness. The remainder (approximately US \$ 450 million) was spent for humanitarian aid (IFRC 2002, p. 14. Total ECHO-budget in 2003 € 600 million. ECHO 2004, p. 13). The earmarking of funds typically and persistently limits many NGOs to a traditional disaster relief approach instead of adopting a broader perspective on the relationship between disaster and poverty reduction. Another reason for this is that funding for poverty reduction is often fragmented and invested in small

projects that have very limited impact on structural risk reduction (Christoplos 2003, p. 98).

Nevertheless, some local NGOs have developed interesting initiatives that aim at changing the relief approach and increasing the emphasis on disaster mitigation and preparedness. One example is reported from the Gujarat State in India, where the work of 11 local NGOs in disaster risk management was investigated by Oxfam (India) (Twigg 2001). As the impacts of disasters such as cyclones and floods (the study was carried out before the earthquake in 2001) slowed down development programmes, some NGOs rethought their approaches. They demanded food security programmes and the stimulation of economic activities specifically to prevent migration to hazard-prone locations. Plans exist for increasing earnings and savings to improve the standards of living and housing. NGOs that had already undertaken relief work began concentrating on improving the capacity of disaster victims to effectively demand the relief to which they were entitled.

Numerous international NGOs are active in the disaster risk management field. The activities of the German Agro Action in Nicaragua serve here as a representative example of these initiatives.



German Agro Action supports its national partner in the set-up of community-based emergency aid committees. It also supports the formulation of emergency aid plans, with the objective of introducing a disaster risk management approach into local planning activities. To analyse the specific hazards in the project region, German Agro Action assisted with the analysis of satellite photographs and climatic data and contrasting them with local common knowledge. The result was the production of maps that mark areas prone or vulnerable to hazards that are used as a planning base for regional policy (see: www.welthungerhilfe.de).

Multilateral and bilateral development institutions

Interest in disaster risk management is growing amongst multilateral and bilateral development institutions. The World Bank, for instance, lists three areas of action for reducing poverty in its Development Report 2000/2001 *Attacking Poverty*: In addition to promoting opportunity (understood as economic opportunity) and facilitating empowerment, it strongly emphasises enhancing security. Enhancing security is described as: “Reducing poor people’s vulnerability to ill health, economic shocks, crop failure, policy induced dislocation, natural disasters, and violence, as well as helping them cope with adverse shocks when they occur. A big part of this is ensuring that effective safety nets are in place to mitigate the impact of personal and national calamities.” (World Bank 2001, p. vi). The disproportionately greater impact of disasters on poor countries and especially on the poorer population segments of the affected countries is a fact which has been incorporated in the work of the Disaster Management Facility (DMF), the World Bank unit responsible for disaster risk reduction. The same is true for the Inter-American Development Bank (IDB) which intends to integrate disaster risk management checklists into all Bank development programmes. This is a positive contribution to the continued pressing need for bridging the gap between disaster risk management rhetoric and practice.

UNDP, the UN organisation responsible for development and poverty reduction, focuses on

aspects of disaster risk management through its Bureau for Crisis Prevention and Recovery (BCPR). This set up promises to further the integration of poverty reduction and disaster risk management, as already evidenced by the newly-developed Disaster Risk Index (DRI). This index fosters an improved understanding of the relationship between development and disaster risk (UNDP 2004, p. 2). The DRI allows statements to be made about the average risk of death from earthquake, tropical cyclones, and floods for a specific country. “It also enables the identification of socio-economic and environmental variables that are correlated with risk to death ...” (UNDP 2004, p. 30).

The United Nations declared the 1990s the “International Decade for Natural Disaster Reduction” (IDNDR). One result of this was the establishment of the International Strategy for Disaster Reduction of the United Nations (ISDR) co-ordinated by the Inter-Agency Task Force on Disaster Reduction, supported by a secretariat in Geneva. This strategy involves several UN organisations such as OCHA (Office for the Coordination of Humanitarian Affairs), WMO (World Meteorological Organisation), UNEP (United Nations Environment Program), FAO (Food and Agriculture Organisation) and WHO (World Health Organisation). Its central objective is to promote disaster reduction in order to prevent human, social, economic, and environmental losses due to disaster.

The co-operation between UNDP and ISDR is very fruitful. Currently, the two organisations are working towards a framework for joint reporting on disaster risk reduction. UNDP plays an active and central role in the implementation of the International Strategy for Disaster Reduction, although the implementation of disaster risk management is also part of almost every UN strategy in disaster-prone countries.

The German Federal Ministry for Economic Co-operation and Development (BMZ) declared as early as 1997 that emergency-oriented development aid must be an integral part of development co-operation (BMZ 1997, p. 17). Disaster risk

management must be integrated into the development programmes of different sectors. This concerns above all those programmes that support decentralised municipal development, the sustainable management of natural resources, and rural development in hazard-prone regions.

special attention to the problems of extreme poverty. In preparation of the World Summit on Sustainable Development (WSSD), DKKV provided political advice to various ministries. At that time and as a follow-up of the summit, DKKV underlined the necessity of effective disaster reduction measures as a prerequisite to achieving sus-



The Federal Foreign Office is the leading ministry of the German government for humanitarian aid and disaster risk management. Its purpose in the context of disaster risk management is to promote projects for people who are highly vulnerable to natural disasters. Because the findings of research on disaster prevention all too often are not put into practice, the Federal Foreign Office concentrates its efforts and funding on supporting disaster risk management projects in doing just this. Another pillar of its commitment is to further the disaster risk management concept through ensuring its inclusion in the declarations and action plans of international conferences.

Since the IDNDR (International Decade for Natural Disaster Reduction 1990-1999), the German Committee for Disaster Reduction (DKKV – successor of the „German Committee“), has been emphasising the relevance of the disaster risk management issue for developing countries with

tainable development, thus working towards an integrated approach for the implementation of disaster reduction as a cross-cutting issue.

The scientific community

Extensive experience has demonstrated that putting scientific knowledge into practice is no simple feat, but is hindered by complex socio-political processes. Hence the role of the scientific community must be re-examined. Christoplos sees an important new role for the ISDR (International Strategy for Disaster Reduction) in bridging this gap (Christoplos 2003, p. 101). The ISDR is the product of the IDNDR (International Decade for Natural Disaster Reduction), which had a primarily scientific orientation. Through different inter-agency working groups, ISDR promotes the integration of scientific research on disaster into policy, and takes a special look at the roles of vulnerable communities in risk management. In the German context, the DKKV platform supports the

establishment of multi-institutional and multi-sectoral networks, including research institutions, implementing agencies, and political institutions (e.g., Zentrum für Naturrisiken und Entwicklung Bonn-Bayreuth (ZENEB), Deutsches Forschungsnetzwerk Naturgefahren).

Fortunately, the previously one-sided preoccupation with disaster issues on the part of the natural sciences is slowly but surely changing. Now there is increased co-operation between the social and the natural sciences in performing research on disaster risk management. Especially fruitful is the collaboration between the branches of geological sciences and social and physical geography.

The private sector

So far, private sector engagement in disaster reduction in poor countries has been limited. Despite the current and fairly intense debate with the insurance industry and even financial market companies about the role they and their instruments should play in reducing disaster impact, no real business opportunities have been created to date. Nevertheless, international re-insurers such as “Munich Re” provide important expert information about economic disaster risk.

Initial experience with a „work security insurance“ has been made by SEWA (Self-Employed Women’s Association), an association for self-employed women workers in the informal economy in India (www.sewa.org). SEWA insures 32,000 women against illness, widowhood, fires, and floods. The organisation has demonstrated that insurance for the poor can be run in a self-reliant and financially viable way.

Water management, which represents a large market for international investment and is closely linked to flood hazards and landslide risk, is another area where private investment could play a significant role. So far, private investment in developing countries focuses mainly on large cities such as Shanghai, Bogota, and Mexico-City, and is linked to infrastructure improvement. The companies involved there engage very rarely in protection of natural resources or the financing of integrated watershed management programmes to reduce disaster risk. Main rea-

sons for this are imperfect environmental legislation and the inadequate internalisation of external, environmental costs. The current debate on “green accounting” and the financing of environmental services might foster private investment in the future, especially in this sector, as well as creating income opportunities for farmers who preserve natural resources.

The most developed field of private investment is remote sensing and geological surveys. Private satellites, remote sensing, and geological survey enterprises provide a wide range of very important services for early warning and disaster-sensitive planning procedures (e.g., for flood and drought warning, seismic zoning, etc.). However, those services are financed mainly through multi-lateral loans or foreign technical assistance.



4.3 Prerequisites for an effective integration of disaster risk management and poverty reduction efforts

As early as 1994, Lavell stated: "... that significant change will only be achieved to the extent that disasters and their mitigation can be transformed into a significant political and economic problem, and an integral part of any development planning framework. To isolate disasters and make them a 'special problem' is in itself an invitation to disaster. To the extent that governments operating under precarious economic circumstances and facing multiple social demands can be convinced that investment in disaster prevention will bring real, accountable, tangible development benefits at a local, region and national level, some advance may be made. While disasters continue to be seen as 'abnormal, 'unpredictable' and 'uncontrollable' little will be achieved." (Lavell 1994, p. 62).

Lately, attempts have been undertaken at several political and institutional levels to integrate disaster risk management and poverty alleviation or development planning in the spirit of Lavell's text. But clearly, there is still a long way to go.

Fortunately, the preconditions for improving this integration already exist:

- > The instruments and methodologies of poverty reduction and disaster risk management are similar (e.g., the sustainable livelihoods approach) and revolve around the same issues (such as the consideration of vulnerability in monitoring activities). But further development and adaptation to specific situations continue to take place without taking into consideration the knowledge and experience which have already been made in the "other" approach. In effect, each disaster risk management or poverty reduction initiative starts from scratch, instead of being based on shared experiences and mutual learning. Exchange between the two fields would be fruitful for both.
- > The sustainable livelihoods approach is broadly accepted, and can provide the framework and context for integrating disaster risk management and poverty reduction. Where practitioners of

one are not familiar with the instruments of the other, exchanging information would enrich sustainable development planning. An example of this is risk analysis, which normally is not part of poverty reduction measures.

- > As cross-cutting issues, the points of departure for poverty reduction and for disaster risk management overlap. Ideally, representatives of both approaches do not act independently, but rather try to mainstream their concerns into political decision-making. They also make efforts to integrate them into other development sectors, such as rural development, environmental protection, the health sector, etc. But so far, they typically try to do this individually, instead of acting jointly.
- > Both approaches are engaged are mostly the same political and institutional levels. Disaster risk management and poverty fighting measures concentrate on local, national, and regional levels.
- > Moreover, the same is true for the institutions and individuals responsible for the issues: They are also often identical.

Representatives of poverty reduction approaches have, in recent years, been quite successful at taking this issue to higher decision-making levels, thus influencing policy. In contrast, disaster risk management (still) is concentrated more at local and regional decision-making levels. For long-lasting and comprehensive development change, action at all political levels is indispensable. The success of disaster risk management, especially through its community-based approach to local level decision-making is slowly but surely gaining recognition. However, its role in supporting higher decision-making levels should be enhanced.

So far, this study has taken a look at the actors involved in disaster risk management and poverty reduction efforts, as well as local experience with both. In the next section we examine how disaster risk management can contribute to various poverty reduction initiatives, as well as how disaster risk relates to national and international poverty-fighting goals.

5. Incorporating disaster risk management into national and international poverty reduction concepts

Poverty reduction is the overarching goal of the international community and is the focus of the Millennium Development Goals, the Poverty Reduction Strategy Papers (PRSP), and other national strategies, such as the German Program of Action 2015, as just one example. The realisation of these programmes support the reduction of disaster risk. Likewise, disaster risk management contributes to reaching the overarching goal of poverty reduction.

5.1 What can disaster risk management contribute towards achieving the Millennium Development Goals (MDGs)?

At the UN General Assembly in 2000, all 190 heads of the member states agreed to the Millennium Declaration. This declaration reaffirms certain fundamental values as being essential to international relations in the twenty-first century: Freedom, equality, solidarity, tolerance, respect for nature, and shared responsibility. The 190

“Interventions geared towards mitigating the adverse effects of disasters and crises are a vital part of efforts to achieve the Millennium Development Goals. After all, it is the poor, the vulnerable and the oppressed who are most affected by environmental degradation, natural hazards or the eruption of violent conflict. They are also the most likely to suffer the consequences in the form of death and displacement and the systematic loss of development gains.” (United Nations General Assembly 2004, p. 20).

states adopted practical and achievable targets – The Millennium Development Goals – for relieving the blight of extreme poverty and making such rights as education, basic health care, and clean water a reality for all (Annan 2003, p. 2). The UN member states agreed on eight develop-

ment goals that have been broken down into 18 targets with 48 indicators to measure progress. Most goals are to be achieved by 2015. All endorsing countries and international development organisations now affirm that they are working to achieve these goals.

On behalf of the German government, the BMZ has developed the Program of Action 2015, which outlines the concrete steps Germany will take to contribute towards reaching the goals and advancing the fundamental values outlined in the Millennium Declaration.

The Millennium Development Goals are mutually supportive and require a multi-sectoral approach, including disaster risk management. Below, we briefly outline the relevance of and support offered by disaster risk management to the goals (UNDP 2004, p. 16).

Goal 1: Eradicate extreme poverty and hunger

Disaster risk management is essential for preventing disasters from increasing poverty or destroying poverty reduction achievements. The same is true for hunger. Poor nourishment reduces individuals' capacity to cope with the stress caused by disasters. And disasters destroy resources and assets, thus leading to hunger. The objective of disaster risk management in this context ideally

is to ensure that food production and stocks are not threatened by hazards such as droughts, floods or tropical storms, in order to achieve sustainable food security.

Goal 2: Achieve universal primary education

Proper education is effective in preventing disasters, because appropriate knowledge and analysis skills result in the understanding that environmental degradation increases vulnerability to potential hazards. Also, education helps prepare people to participate actively in decision-making processes, enabling them to defend their rights, for instance, to intact and resilient environments. But education can also be affected by disasters, for example, when educational facilities are destroyed by earthquakes or floods, are not safely constructed, or are built in unsafe locations. One objective of disaster risk management is to encourage governments to incorporate building codes into national planning processes.

Goal 3: Promote gender equality and empower women

A high rate of female illiteracy is one barrier to women’s participation in important levels of decision-making. Their low status in many cultures is another. Most disaster mitigation and relief efforts are managed in high-level arenas where women are not present. Consequently, their abundant knowledge on local sustainable development and risk reduction is not available to the organisations making the large-scale decisions. This real loss of potential human resources must be overcome by “orienting disaster risk policy so that it builds

on the social capital represented by women [that] can enable a more informed development policy.” (UNDP 2004, p. 16).

Goals 4 - 6: Reduce child mortality, improve maternal health, combat HIV/AIDS, malaria and other diseases

Disaster and disease are closely intertwined. The loss of resources such as tillable land through natural hazards can have severe impact on the health of the affected person. Children and pregnant women experience higher risk, because they depend more than men on natural resources and family assets. The HIV/AIDS pandemic has progressively eroded the resilience of the ill individuals, their families, communities, and governments. Ill people cannot cope with the stress caused by disasters, and the community that has to care for them is likely to become overburdened. Catastrophic events such as floods or droughts destroy drinking water, sanitation, and health care systems, increasing the risk of disease. One of the objectives of disaster risk management is to minimise the danger of epidemics by minimising the causes.

Goal 7: Ensure environmental sustainability

Major disasters can destroy urban and rural environments. In turn, non-sustainable land-use patterns such as settlement in endangered areas,



the over-exploitation of natural resources, and deforestation (to mention only a few) can trigger disasters like landslides or floods. One of the focal points of disaster risk management is to “encourage governments to address the problems created by mega-cities, the location of settlements in high-risk areas and other manmade determinants of disasters.” (ISDR 2002, p. 288). Disaster risk management, the central tenet of which is the sustainable management of natural resources, supports this goal.

Goal 8: Develop a global partnership for development

National debt burdens, trade restrictions, and global climate change are just some of the factors that hamper poverty reduction initiatives and currently reduce human vulnerability to disasters on a global scale. Here, too, the two-way relationship between disaster risk and poverty becomes apparent. For instance, trade reforms can stimulate a form of development that generates hazard and increases vulnerability, if disaster risk is not taken into consideration. A global partnership that integrates disaster risk reduction into overall development policy is crucial.

The objective of the MDGs is to direct development planning towards priority goals. As we have mentioned above, disaster risk management can contribute towards achieving the MDGs. And again, the equation works both ways: All these goals can have an impact on disaster mitigation, because their object is to minimise poverty and vulnerability. But these affirmative statements are no guarantee for action, nor do they guarantee that the processes entered into really will reduce disaster risk. For example, the third target of goal seven is improving the life of slum-dwellers, and its indicators are safe drinking water, sanitation and water disposal (UNDP 2002, p. 29). However, protection against floods and landslides would also be important indicators. Unfortunately, the provision of sanitation alone is no guarantee for sustainable development in disaster-prone areas.

Much work remains to be done. Efforts are needed both at the conceptual level to uncover the gaps between development measures and disas-

ter risk management in the MDGs and how they could be overcome, as well as at the executive level to make development practitioners, governments and citizens more aware of the disaster risk issue.

5.2 How can disaster risk management contribute to improving Poverty Reduction Strategy Papers (PRSPs)?

In 1999, at the G 7/8 summit in Cologne, a debt relief initiative for Heavily Indebted Poor Countries (HIPC II) was signed. It established that future debt relief of the most highly indebted poor countries was to be based on the drawing up of structural poverty reduction strategy papers (PRSPs), which present the countries’ development policies. The papers must satisfy a number of conditions: They must promote macro-economic and financial stability, and must guarantee the broad participation of civil society in the formulation, implementation, and monitoring processes. Funds freed up through debt remission or made available by International Development Association (IDA) concessional loans (PRSPs have been made a requirement for these) must support the reduction of poverty. The ownership of the formulation and implementation process is meant to lie in the hands of the indebted country. A recipient country’s PRSP is also to serve as the basic reference for donor countries in planning future assistance. About 70 countries have shown interest in preparing a PRSP, 44 Full-PRSPs have been submitted to the World Bank and at least 12 more countries have begun progress in this direction, as they have submitted an Interim-PRSP (www.worldbank.org, February 2005).

The overall assessment of PRSPs so far is mixed. One positive aspect is the general tendency towards a stronger poverty orientation of policy processes. Others are higher transparency of political processes, the increased channelling of funds into social programmes, greater responsibility for development policy being taken by the respective countries, and greater civil society par-



ticipation. Civil society participation is, however, also one of the most strongly criticised aspects. Despite the gains, agreement is widespread that broad participation of civil society, parliaments and other actors has been insufficient so far – in some cases, not truly taking place. Furthermore, the tendency of the World Bank, International Monetary Fund, and donor countries to dominate the processes reduces the recipient countries' actual ownership. The lack of clear priorities, the predominance of short-term indicators, and overly positive estimates of future growth rates for the funding of programmes are further negative aspects.

Nevertheless, the PRSP is more than just another paper that the donor community demands from the developing countries. It certainly plays an outstanding role in the countries' policies and in the relationships between donors and recipients – and probably not just because of the considerable amounts of money which are negotiated on the basis of PRSPs. Therefore, if the disaster-development linkage is to be supported at high levels, the PRSP would be the right vehicle.

How can the knowledge of disaster risk management improve the PRSPs? What types of support do PRSPs offer in moving disaster prevention

and mitigation forward? Let us examine the PRSPs of two countries that have been severely affected by disasters, in recent years: Honduras and Nicaragua. How are their experiences reflected in their PRSPs?

Both papers shed light on the relationship between environmental degradation and disasters: "The sustainability of the PRS is also related to the need to reverse the process of environmental deterioration, to decrease the level of ecological vulnerability and to prevent future disasters." (PRSP – Honduras 2001, p. 93). And both papers stick to the point that vulnerability to disasters and poverty go hand in hand. The analysis of the relationship, although sometimes a bit too superficial, appears reasonable. While developing countries often are reproached for preferring the preparedness and ad hoc response approaches over ones of disaster reduction or mitigation (World Bank 2001, p. 172), this cannot be confirmed for Honduras or Nicaragua, because reducing disaster is an integral part of both their PRSPs.

The Honduran paper emphasises housing problems. This aspect of the disaster problematic is repeated several times, for instance: "In the housing sector, public funds have been allocated to projects beyond the reach of poor families, resulting in marginal neighbourhoods often built on sites unsuitable for habitation, lacking basic urbanisation, full of environmental problems and exposed to natural disasters." (PRSP – Honduras 2001, p. ii).

The strategic planning of the Nicaraguan PRSP is organised around four pillars. The third of these, better protection for vulnerable groups, points out the relevance of disaster risk management. As revealed in the first paragraph explaining this pillar in the PRSP, the potential effects of disaster have become a central concern: "Improved social services, however, may not be sufficient, to assist Nicaragua's extremely poor, as noted earlier, they often lack information on or the means to access these services. [...] Moreover Nicaragua's many natural disasters perpetuate poverty." (PRSP – Nicaragua 2001, p. 34).

Although these examples take up the issue of disaster from different angles, two important weaknesses relevant for dealing with disasters are evident in both:

- > In general, the issue is not treated as a trans-sectoral one. Although it is true that a connection is made to the environmental problem, there is almost none made, for example, to governmental or health aspects.
- > Even more problematic is the fact that budgetary allocations to the different programmes and projects do not reflect the importance which the disaster issue has been given in each of the two PRSPs. Although it is not always easy to discern what is included under specific budgetary rubrics, in the Honduran paper, for example, there is no specific heading which refers to improving the housing conditions which are threatened by disasters. And in the case of Nicaragua, no programme or project has been planned to improve the situation of the poor who are vulnerable to disaster (other than the one food security programme for poor rural families affected by natural disaster that could be found). (PRSP – Nicaragua 2001, p. 131).

Ideally, what would be added on disaster risk management so that PRSPs can be used more effectively to help people move out of poverty?

> **Analytical work**

Poverty analysis, which is a central element of the PRSPs, should be enlarged by risk analysis, an instrument that provides detailed information about the risk of disaster in a certain region or sector of the population. The result should be a country-specific conclusion on the significance of vulnerability and disaster risk management for poverty reduction. At the same time, because risk analysis is a participatory instrument, the potentially affected population would be involved in the different analytical steps, which would raise awareness of the problems and processes of disaster risk management.

> **Formulation of the strategy**

Based on the risk analysis, approaches to disaster mitigation and prevention should be incorporated into the relevant sectors of the PRSP. For example, the section on good governance could propose mechanisms to strengthen local competencies and responsibilities for disaster prevention and mitigation; the chapter on environmental protection could consider national and local regulation of land use; and so on.

> **Implementation**

During the implementation phase, particularly relevant sectors such as environmental and resource management, decentralisation, health, housing, and education should be given special support (capacity development, advice, resources) for minimising risks and integrating disaster risk management activities into their projects and programmes.

> **Monitoring**

Indicators that address the effectiveness of policy measures that are essential to disaster preparedness, prevention and mitigation should be integrated into the monitoring system.

We have outlined above – admittedly in a fairly sketchy way – how knowledge and instruments of disaster risk management could improve the PRSPs. In section 5.4, we discuss in more depth how this can be done and, ideally, by whom. But first we look at the relationship between disaster risk management and Germany's Program of Action 2015.



5.3 Disaster risk management and the German Program of Action 2015: In what ways do they coincide?

As mentioned earlier, the BMZ, on behalf of the German government, has developed the Program of Action 2015 (AP 2015), which presents the specific steps Germany is taking to contribute towards reaching the Millennium Development Goals. “For the German government, poverty reduction is an important element of its overall policy, which is guided by the principle of sustainable development.” (BMZ 2001, p. II). Furthermore, poverty reduction has been designated to be the overarching task of German development policy (BMZ 2001, p. II).

of poverty) has been fully incorporated into the AP 2015. This opens up broad fields of action that can address many aspects of poor people’s situations in coupling disaster risk management with fighting poverty.

For example, two of the activities belonging to the 6th priority area, ensuring access to vital resources – fostering an intact environment, read as follows: “... the German government contributes towards designing and formulating UN policy in this area and supports projects to better protect people from natural events in countries and regions that are highly prone to disaster.” And “[it] will support the elaboration of strategies enabling poor population groups to adjust to cli-

The AP 2015 consists of ten priority areas for action, for each of which, in turn, a number of specific activities are suggested. The priority areas for action are:

1. *Boosting the economy and enhancing the active participation of the poor,*
2. *Realising the right to food and implementing agrarian reform,*
3. *Creating fair trade opportunities for the developing countries,*
4. *Reducing debt – financing development,*
5. *Guaranteeing basic social services – strengthening social protection,*
6. *Ensuring access to vital resources – fostering an intact environment,*
7. *Realising human rights – respecting core labour standards,*
8. *Fostering gender equality,*
9. *Ensuring the participation of the poor – strengthening good governance,*
10. *Resolving conflict peacefully – fostering human security and disarmament.*

It should be noted that the expanded definition of poverty according to the OECD-DAC Guidelines on poverty reduction (see figure 1 – Dimensions

mate change as a contribution towards food security and disaster prevention.” (BMZ 2001, p. 22).

In addition, the AP 2015 provides a framework for action on disaster reduction, which encompasses the following activities (BMZ 2001, p. 22):

- > Turn research findings of specialist academic institutions on disaster prevention into practical solutions which can be implemented,
- > Strengthen national and international disaster reduction committees,
- > Develop intersectoral disaster reduction networks,
- > Support training and education measures at schools, universities and in adult education,
- > Establish international co-ordinating agencies to provide early warning about floods, fires, etc.,
- > Participate in shaping and formulating UN disaster reduction policy.

Despite its advancement of these important activities, there is still a need that the Program of Action 2015 takes up disaster risk management more systematically. The importance of the relationship between disaster risk and such relevant issues as, for example, economic development (priority area for action 1) is until now not clear enough.

So far, two AP 2015 progress reports are available, giving us the opportunity to see how the activities relating to disaster risk management have progressed and been realised.

Both reports, dated June 2002 and January 2004, are still vague concerning disaster risk management issues. They do not make it possible to trace the different actions prescribed by the AP 2015 to learn of specific progress over the past three years in the area of disaster prevention and mitigation. In the corresponding line of action under the heading “realisation of emergency aid and its effective connection with structural reconstruction and disaster prevention and mitigation,” there is a very general indication that programmes of the UNHCR receive support from the German government. The report also says that development-

oriented emergency aid in the water, health and education sector has been realised (BMZ 2002, p. 22-23). Further information on particular activities related to the reduction of disasters is not provided in this first progress report.



The second progress report, formulates general statements about the importance of disaster risk management to guarantee sustainable development (BMZ 2004, p. 12-13 and 27-29). A concrete reference to the AP 2015 framework of action on disaster reduction is the realisation of the international conference on early warning in 2003 (BMZ 2004, p. 14).

The obvious conclusion to be drawn from these reports – that Germany has supported precious few activities in the field of disaster reduction – would definitely be false, because it in fact has supported numerous activities. Unfortunately, they simply were not included in these progress report. In its twelfth report on development cooperation the German Federal Government states that, according to paragraph VI of the Millennium Declaration, it aims at reducing the disaster risk in affected countries by three elements: The risk analysis, the disaster prevention and the preparation for disasters. In the report preventive reconstruction is regarded as an additional element, which tends to include disaster prevention in planning and implementation of emergency aid as well as in reconstruction schemes (BMZ 2005, p. 77-79).

We can draw certain conclusions from analysing these three papers:

- > A process-oriented understanding of disaster risk management exists, which goes far beyond the former approaches of disaster preparedness or emergency aid.
- > The understanding of disaster as a trans-sectoral issue, as set out in the 1996 BMZ policy paper entitled “BMZ’s Development-oriented Emergency Aid,” has not yet been acted upon thoroughly (cf. GTZ 2002, p. 24). For example, no linkage has been established between the last priority areas for action (resolving conflicts peacefully) and disaster risk management. The idea of complex emergencies, which has moved beyond a linear explanation of disaster risk towards a socio-political perspective which recognises the links between armed conflicts and vulnerability, should be more incorporated into the AP 2015.

The Program of Action 2015, because of its importance for the BMZ and the German government, is the point of departure for making the connection between poverty reduction and disaster risk management. The ground is prepared; the details are in progress to be worked out.

5.4 How can disaster risk management be applied ideally within the different national and international poverty reduction and development concepts?

Generally speaking, it is true that a lot of elements of the different poverty reduction and development strategies can have a positive impact on governments and individuals who must cope with hazards. The good governance discussion – which is also central for the German Program of Action 2015 – takes up the question of the rights, duties and responsibilities of the government and civil society. It emphasises the issues of enforcement and setting up the required institutions, which are also important for the prevention and mitigation of disasters. The broad understanding of poverty reduction which underlies the Millennium Development Goals stipulates important economic and

social conditions for the participation of vulnerable groups in decision-making. The Poverty Reduction Strategy Paper (PRSP) places empowerment at the centre of poverty reducing strategies. The objective of the recommended pro-poor or broad-based approaches to growth is to achieve equitable reinforcement of the economic capacities of poor and vulnerable groups. Because of their overwhelming importance, each of these could serve as a useful point of departure for programmes, measures and instruments of disaster risk management. But while many of them officially recognise the importance of disaster risk management in meeting their own goals, the actual practise remains far behind.

What is still needed is:

- > *Thorough and systematic treatment of the disaster risk issue, not as an „add on“, but as a trans-sectoral theme in MDG, PRSP and AP 2015 discussions, implementation and reports,*
- > *Reflection of the importance of disaster risk management, not only in the poverty analysis, but also in indicator lists, budgets, etc.*

Why has this not yet happened consistently?

- > *Doubt exists as to the benefit of investment in disaster risk management, especially in areas where disasters occur only seldomly,*
- > *The complexity of the relationship between poverty reducing strategies and the disaster risk management can paralyse action,*
- > *Insufficient knowledge about the options and advantages that disaster risk management has to offer.*

How can German development co-operation further promote disaster risk management?

Raising awareness and developing capacity are essential, basic requirements for the implementation of disaster risk management strategies in poverty reduction programmes.

Although the interrelation between disaster risk management and fighting poverty seems obvious, it is still necessary to point this out repeatedly in order to raise awareness about it (which is also true for other trans-sectoral issues, such as sustainability and gender). Local people's interest in the issue must be aroused, and broad support for it must be mobilised amongst public-sector institutions in both developing and developed countries. "Raising awareness involves helping people and institutions to better grasp the hazard problem and current levels of vulnerability, as well as the cost and benefit connection in disaster risk management at the economic, social and political level." (GTZ 2002, p. 32).

Raising awareness is strongly interconnected with capacity building or capacity development. Although Holloway mentions that even significant investments in capacity building have not always fulfilled the promise of strengthened disaster reduction capabilities (Holloway 2003, p. 2 and p. 6), they are no less necessary for producing skilled practitioners able to integrate disaster considerations into ongoing activities and services. The GTZ policy paper on "Capacity Development for Sustainable Development" does not only focus on people's or organisations' capacities, but also on the strengthening of institutional capacities (GTZ 2003, p. 3). This relatively new approach reinforces previous capacity building efforts, and makes them more effective.

In accordance with the message of this policy paper, capacity development should adopt the following three focuses:

Human Resource Development

Human resource development is especially relevant to the PRSP approach, because ideally it involves civil society in the formulation of the strategy, its implementation, and the monitoring processes. Therefore, citizens should know about the advantages of risk analysis. They should be able to articulate their knowledge, for instance about coping strategies, so that it might be considered in the formulation of the PRSP. To improve the implementation phase, citizens should be informed about such issues as environmental aspects and how they relate to disaster

risk. Moreover, they should have the skills to integrate disaster considerations into poverty reducing programmes and projects. And finally, civil society should learn how to measure progress in disaster prevention and mitigation. In most countries, significant capacity building is needed to enable civil society to perform these tasks. It is also necessary to enhance people's negotiating and articulating skills through special training programmes, so that they are able to assert their right to live in safety.



Organisational development

NGOs need to be equipped to become able partners of government in the PRSP context. Many organisations require training to deepen their theoretical knowledge about the relationship between poverty reduction and disaster risk management, as well as their lobbying skills, so that they can take part effectively in policy dialogues. NGOs need to be conversant in cost-benefit analysis, in order to convince and put pressure on decision-makers in favour of disaster risk management. They also need to learn how to transform theoretical knowledge into practical work, so that they can influence the projects and programmes that result from the PRSP.

In some countries, the PRSP-process goes hand-in-hand with decentralisation efforts, creating new duties for NGOs. Many NGOs need support in developing their own position within this new constellation, and their role in disaster risk management. These changes also create the risk that

some governments might try to dispense of unpopular issues by turning them over to NGOs. If NGOs are assigned disproportionate amounts of responsibility for some of the underlying tasks of disaster risk management, they could well be overburdened in the long run.

Institutional development and the development of policies

The three poverty-fighting initiatives that are focused on in this section, the Millennium Declaration with its MDGs, PRSP, and the German AP 2015, can be improved through increasing and broadening knowledge within the decision-making institutions on how disaster risk management and poverty reduction are related. Making this interconnection clear is also a prerequisite for treating disaster risk management as a trans-sectoral issue. In addition, the capacity to develop mechanisms for transforming this knowledge into practice must be enhanced.

Development co-operation must strengthen the capacities of institutions in developing countries to deal with hazards in terms of disaster risk management, and to overcome the limited approach of preparedness and response, which is still widely practised. Already, PRSPs often reflect this programmatic shift, but the supporting budg-

etary shift still remains to be realised. The negotiation capacities of the ministry or institution in charge of disaster management must be reinforced so that it is able to bring the issue to the table, even in the face of severe economic and political constraints. New legislation is needed; once passed, the laws must be enforced. Such laws should include environmental regulations and building standards, for instance, for appropriate design and materials in earthquake-prone regions.

Whether the application of disaster risk management development is successful or not also depends on a number of factors over which development policy has little influence. These include the general political situation, the specific context (e.g., the country’s disaster history), and the openness of different actors towards change.

But there are numerous other points of departures for our concern beyond its integration into high-level poverty reduction approaches. The following section looks at the role to be played by academic research, while the final section provides a broader spectrum of recommendations for integrating poverty reduction and disaster risk management.



6. Identification and description of aspects demanding further research efforts

6.1 Introduction

Both disaster risk management and poverty reduction are central focuses of development work. While the former can be loosely located at the interface between development aid and relief work, the latter belongs squarely to the area of development aid. Since this paper makes the case for bringing the two focuses closer together, it appears that the main contribution that the scientific community can make in this regard will refer to the limits and potential of such an undertaking. This has both advantages and disadvantages. The obvious advantage is that, ideally, science takes a considerable step back from practice to be able to reflect upon what takes place without necessarily committing itself to the actual outcomes. The disadvantages follow precisely from this distance. Indeed, development and relief work are about people and their livelihoods. The measure of any reflection is often the impact it has on them. The academic tendency not to commit itself to practical outcomes may be counterproductive if science is not prepared to think through the policy implications of its findings.

Still, we think that there is some sense in embarking upon an academic exercise, the immediate practical relevance of which is not apparent. Much policy work is informed by academic reflection, particularly the areas under discussion, namely disaster risk management and poverty reduction, which by and large reflect the state of the art in academic discussions. The purpose of this chapter is to reflect upon issues that, on the surface, might not be of immediate practical relevance, and yet are central to anticipating potential problems and bottlenecks. The direction in which we argue here should neither be taken as the last word in academic discussion, nor should it be held to enumerate the only issues and approaches worthy of scientific consideration. Rather, it reflects where the attempt at combining disaster risk management and poverty reduction led us in terms of considering the issues and conceptual frameworks most likely to stimulate scientific discussion that can be useful to practice.

In chapters two and three, an attempt was made to demonstrate how vitally important it is to bring

disaster risk management and poverty reduction closer together. Of the reasons that were given for this attempt, two stand out. The first is that neither development practice nor the scientific community have seriously undertaken to explore (i) the potential such a linkage may have. Indeed, the trend has been towards viewing them separately and seeking to address them according to the types of issues each of them raises. Development practitioners, for example, have been concerned with enhancing the ability of countries to cope with natural disasters by strengthening their prevention mechanisms. The scientific community, in turn, has concentrated its attention on clarifying the concept of risk, how it can be measured, and by whom. While useful in their respective areas of application, these endeavours have stopped short of drawing the implications that seem to us necessary in order to meet the challenges of development. One way in which development implications could have been drawn might have been a concentrated analysis of (ii) the impact disaster risk has on poverty reduction, as clearly set out in chapter 5. This is in fact the second reason why we recognised the need to demonstrate the importance of seeing disaster risk management and poverty reduction as a co-dependent pair.

In fact, bringing these two concepts together would, in our view, allow both development practitioners and the scientific community to rethink the goals of development aid in a very fruitful manner. As we have attempted to show, vulnerability to disaster can both be the result of the condition of poverty of a country and sections of its population, as well as a major cause of it. In other words, vulnerability can both describe the extent of a country's poverty and the range of problems it must come to terms with in order to overcome its condition.

Before delving into the research implications suggested by the approach favoured in this paper, it is important to bring into focus some of the more relevant elements of the academic approach to disaster risk management and poverty reduction. For ease of presentation, our attention is directed to the conceptual approaches which have proved more difficult to integrate within the context of

more practical development work. As we hope to show, these approaches contain useful elements that point out the potential of bringing disaster risk management and poverty reduction closer together, thereby further accessing the main argument of this paper. The emphasis will, therefore, be on the conceptualisations of risk as a normal and necessary feature of life as far as disaster risk management is concerned, and “institutionalisation” with regard to poverty reduction.

6.2 Disaster management and risk

The scientific study of risk has traditionally been dominated by economics and, to a lesser extent, psychology. Indeed, central to the concerns of science has been the attempt to understand how individuals and societies come to terms with insecurity. As the often cited etymology of the concept of risk suggests, this concern dates back to medieval Europe, more specifically to the Italian notion of “risicare” (to dare). It referred to the danger of loss associated with the hazards of sea trade. The idea of insurance developed, therefore, as a response to this danger and was meant as a cushion for merchants in the event of loss of their merchandise. In other words, through insurance, merchants transferred the danger of loss to brokers who made a living out of taking risks on behalf of others.

What articulated risk taking and the danger of loss was insufficient information as well as lack of control over external factors inherent in trading activities. To put it differently, merchants were neither sure whether their merchandise would reach its destination, nor could they control such external factors as weather conditions, security in high seas, or fluctuations in prices and consumer preferences. Frank Knight (1964), the first modern economist to devote considerable attention to risk, identified risk-taking as the driving force behind capitalist entrepreneurship. Only those prepared to take chances could also make profits. In fact, this idea has been central to economic thinking on risk (see Bernstein 1996). It provides, in a very important sense, a societal definition which, as we will show shortly, has played a major role in

the attempts to understand disaster and risk in the developing world. True, modern capitalist society emerges in this understanding as a type of society that comes to terms with insecurity by taking risks.

Economists have not been alone in this understanding. Philosophers (see for example Hacking 1990) and historians (Porter 1995) as well as sociologists (Kaufmann 1973, Nowotny and Evers 1986) have reflected upon chance, probability, quantification, and science in a general sense as the modern response of Western society to insecurity. This view has led some (Bonß 1995, see also Beck, Giddens, Lash, 1994, although not in a direct way) to suggest a classification of societies around notions of risk. The immediate implication of such a classification centres around two closely related notions, namely insecurity and uncertainty. The former refers to a conscious and informed decision to take risks, whereas the latter describes the condition of individuals and societies that lack sufficient information to take risks consciously. Thus, risk and everything that comes with it is held to be typical of modernity.

This view has been challenged by many scholars. One particularly relevant challenge was posed by Mary Douglas and Aaron Wildavsky (1982). In their work they operate with a less deterministic notion of risk. They assume that all societies and individuals can, and do, take risks. They differ, perhaps, in the type of risks they take as well as in the value they attach to risk-taking behaviour. These insights allowed them to identify different “risk cultures”, a concept that we do not intend to pursue as it would take us too far away from our main concern. But Douglas’ and Wildavsky’s reservations are important because they conceptualise risk as an anthropological constant. This helps us to put into perspective a very important conceptual contribution to the risk debate which has direct relevance to this study.

Niklas Luhmann, a German sociologist, introduced an analytical distinction between hazard and risk (1991; 1990). Previous scientific discussion had implied that risk-taking is modern while vulnerability to hazards is traditional. Luh-

mann suggests that both are dimensions of the same phenomenon. Risk, in his view, is simply the conscious and calculated decision to face a hazard. In other words, risks are not necessarily a bad thing, but rather an essential feature of life. Indeed, most of life consists of risk-taking in the sense of translating hazards into risks. Luhmann's analysis is meant to shed light on the discussion that followed Ulrich Beck's seminal work on the risk society (1986). While acknowledging the fears of those who saw more disadvantages than advantages in technological developments, for instance, Luhmann draws attention to the apparently contradictory fact that the price of security is not less, but rather more risk. To put it simply, the ability of societies and individuals to reduce insecurity hinges on their ability to translate hazards into risks.

There are two conclusions which can be drawn from Luhmann's conceptual clarification, both of which are of enormous importance to the subject at hand. One conclusion is that risk is an imminent feature of social life, and by implication, it inheres in almost everything that individuals and communities do. The other conclusion is that any discussion of risk must take into account the structure of decisions that help individuals and

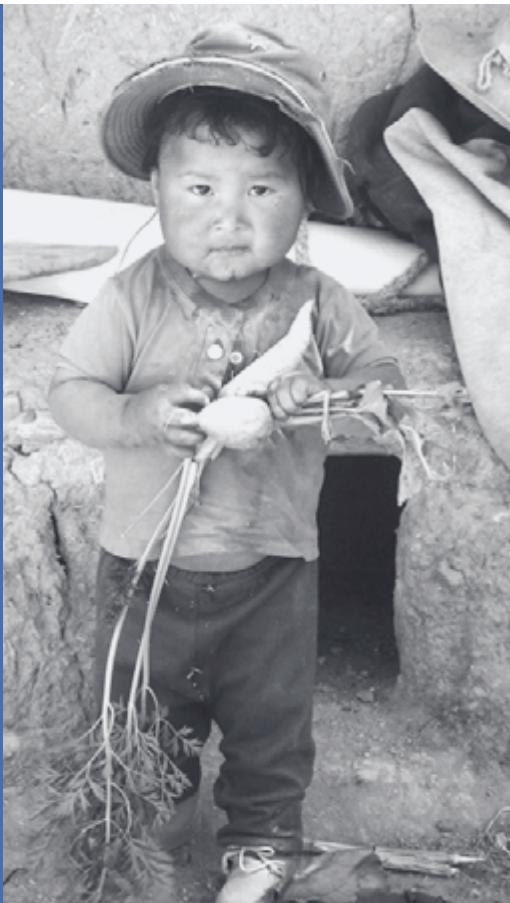
communities to take risks. As far as the first conclusion is concerned, the central idea boils down to the need to ask how far the factors that influence the lives of individuals and communities can be classified as hazards or risks in terms of Luhmann's analytical distinction. Development practice has used a variety of concepts such as vulnerability and livelihoods analysis in order to grasp the factors which stand in the way of improving living conditions. One shortcoming of such concepts is their reliance on a structural approach which leaves too little room for the role that individuals and communities play in structuring their own lives. Indeed, there is a tendency to portray individuals and communities as victims of alien factors. The analytical separation of hazards from risks allows for descriptions which emphasise local agency by drawing attention to individual and local understandings of problems and local solutions to them.

As for the structure of decisions, there are two aspects to be borne in mind. On the one hand, it is of interest to know how individuals and communities produce their risks and, on the other hand, how the efficiency of those risks is hampered by factors beyond their control. The first aspect is related to what individuals and communities con-



sider to being hazards and, consequently, how they translate them into risks. Life in a drought-prone region can be made bearable by the diversification of income sources through migrant labour, kinship solidarity and, indeed, political violence, among other strategies. An adequate description of the structure of decisions requires an account of the strategies which individuals and communities adopt to come to terms with their natural, economic, political and social environment. The second aspect asks questions about the external environment that influences the efficacy of local risk producing activities. In other words, how useful is migrant labour as a coping strategy vis-à-vis drought in times of economic slump or restrictions in cross-border movements? How do individuals and communities react to such external constraints, i.e. how do they translate them into risks?

It follows from this brief account of the academic approach to risk that the notion of disaster risk management requires conceptual clarification. For one thing, it sounds like a contradiction in terms. Strictly speaking, i.e. in terms of the analytical distinction between hazard and risk, there can be no such thing as “disaster risk management”, but rather disaster management, which can be analytically translated as risk. Disaster management aims at producing, or enabling individuals and communities to produce their risks. In so doing it diminishes their vulnerability to natural, economic, political and social hazards. This is, of course, not particularly innovative when seen against the background of development practice. In fact, the notion of disaster risk management involves not only the appraisal of the hazards which individuals and communities face, but also a consideration of the activities which must be undertaken in order to prevent or, at least, to buffer their impact. In this sense, then, looking at disaster management as risk only restates what development practice has been doing all along. What is different, however, is that this conceptual approach does not restrict its definition of hazards to factors external to individuals and communities. Not only are droughts, floods, volcanic eruptions as well as wars and economic slumps to be seen as hazards, but also all activities that are undertaken in order to come to terms with hazards. We shall come back to this point later.



6.3 Poverty reduction

Academic discussion on poverty has centred on measurement much like discussions in development practice itself. Measurement should be understood in broad terms. In fact, it refers to the main activity of science, which consists of working out criteria on the basis of which empirical reality can be described. In this very broad sense, therefore, measurement is about definition. Only on the basis of definitions can the reality of poverty be retrieved in the form of a discussion of its causes as well as effects, but also the impact of various policy-measures on poverty as a whole. Debates on measurement reflect, therefore, basic contradictions as well as agreements over reality. Notions such as relative and

absolute poverty as well as the more general head count index and human development index do offer an adequate framework for academics to pursue their inquiries into the empirical reality of the concept of poverty. This framework, however, appears to have serious shortcomings, the most important of which is the circular nature of the underlying concept of poverty. Indeed, the traditional understanding of poverty allows development practitioners to merely state the problem. It is descriptive in nature, not analytical.

Since a major goal of academic research is the analysis of social, economic, political and natural phenomena it would appear that one contribution science can make to poverty reduction is to go beyond its descriptive content and seek to uncover its analytical elements. Over and above legitimate criticisms that academics have voiced as to the sheer complexity of defining poverty in ways acceptable to normatively informed individual and institutional actors, it seems that there is one empirical aspect that should not be neglected. The definitional difficulties have never prevented individuals and institutions from tackling the problem of poverty. The starting point for analytical reflection should, therefore, be precisely how the problem of poverty has been tackled.

Poverty might be thought of not simply as an essential category, but also as a social construct. The inflationary use of social constructivism in the social sciences should not prevent us from acknowledging the extent to which poverty becomes a sociologically visible problem not when people suffer or experience it, but rather when the suffering it causes becomes the object of intervention. This insight goes back to the German sociologist, Georg Simmel, who argued (1999 [1908]) that, sociologically speaking, poverty was above all else an institutional category. While this might appear at first sight to be extremely restrictive, we think it offers us interesting possibilities to pursue lines of inquiry that may still prove relevant. Simmel argued, in fact, that poverty was the object of social, economic or political intervention. In other words, not the actual suffering of people is of interest to a sociological description and analysis of the phenomenon of poverty, but rather the way in which society gives visibility to that suffering. The

underlying idea in this perspective is that the reasons which make individuals or institutions wish to tackle the problem of poverty are essential to an understanding of the phenomenon itself.

This idea is of much relevance to poverty reduction for three main reasons. First of all, it provides an approach to poverty which makes light of the distinction between qualitative and quantitative descriptions of the phenomenon. Indeed, once poverty is seen as that which lends legitimacy to institutions, the question of whether measurement should be qualitative or quantitative loses relevance as the main criterion for definition. This does not, however, mean that measurement is not important, it only becomes secondary to the important task of knowing what criteria institutions use to make sense of poverty. Secondly, the difficulties that academics and development practitioners have always experienced in their attempts at defining poverty are partly related to the concept's heavy reliance on normativity for coherence. There is, in this connection, the danger of seeking to overcome these difficulties by adopting extreme relativist positions. One such relativist position would insist on viewing poverty perhaps in cultural terms. Understanding poverty as an institutional product helps surmount these difficulties by drawing analytical attention to the norms that inform one particular case of poverty and the debates which give visibility to it. Such norms and debates are at the basis of institutions which address the issue of poverty. In other words, one does not need to argue that poverty is in the eye of the beholder, for the one form of poverty that is of interest is the poverty that is made visible by intervention. In this sense, therefore, approaching poverty from this perspective allows us to ask questions concerning how a given society or community addresses the problem and draw further policy implications using available understandings as the starting point for discussion. Finally, this approach draws attention to one crucial, but often neglected aspect of development practice. For intervention to be sustainable it must be firmly located within the society where the problem to be tackled is. The institutional production of poverty implies that programmes to fight poverty are endogenous in a very important sense, i.e.

they reflect how a given society makes the problem visible and amenable for intervention.



An interesting problem arises out of this approach. Indeed, if attention is brought to bear on the way in which a society or community gives visibility to poverty, legitimate fears may arise as to those sections of any given population – ethnic, religious or racial minorities, women, age-groups, etc. – whose poverty is not the subject of “official” attention. More often than not, this is the point at which international development institutions and programmes and local communities may clash over the purpose of intervention as well as the priorities that should be set. The international development institutions by virtue of their humanitarian mandate have a universal approach to poverty which is larger and more ambitious in scope than the intellectual, material and political means available to local communities or developing societies. Acknowledging local communities’ or developing societies’ institutional definitions of poverty amounts to being sensitive to the intellectual, material and political constraints within which they tackle the problem of poverty. This sensitivity, however, does not commit the international development institutions to ignoring other forms of suffering in any given local community or society. On the contrary, a focus on local institutional definitions may allow us to see the grey areas in such definitions and give us valuable

insights into how neglected forms of poverty might be addressed in a constructive manner with local communities and societies. Looking at how communities and societies give visibility to poverty is a preliminary to further work.

6.4 Disaster risk management and poverty reduction

Academically, the attempt to bring disaster risk management and poverty reduction together is relatively easy to accomplish from a constructivist position as generally expounded here. Indeed, we have looked at both notions not as essential categories, but rather as processes. From an academic point of view, the challenge in articulating these notions for development practice consists in stressing their process character by looking at the way in which both risk and poverty are produced. Risk production is a constitutive element of social, political and economic life much like the visibility of poverty is the result of human intervention through institutions. The process character which these categories have is deeply related to a much larger process, namely development itself. Indeed, there is a sense in which risk production and the institutionalisation of poverty can be taken as indicators of development.

The purpose of disaster risk management and poverty reduction is to make development possible. While development can be understood in many different ways, two stand out which clearly articulate present concerns regarding relief and humanitarian interventions. One can understand development, on the one hand, as the promotion of well-being or, on the other, as the creation of conditions which are conducive to such well-being. In both cases, risk and poverty offer useful analytical elements. Disasters, in particular – but the same can be said of poverty – show the fissures within the social, economic and political structures of societies which stand in the way of development. When risk production fails and disasters strike, these fissures develop into cracks which disrupt the normal structure of everyday life. In a way, then, and contrary to a widely held view, it could be argued that disasters do not put

development at risk. As a matter of fact, disasters bring to full view the very problem of development in these societies. One consequence of this is surely that disasters, as indeed poverty also does, provide an entry point to understanding and tackling the problems of development.

The combination of disaster risk management and poverty reduction in the sense suggested here can be understood as a plea to insist on a notion of development that places emphasis on enabling aid recipients to formulate their own solutions. This insistence does not commit anyone to the view that local communities know better and that they are best left alone as a naïve “people’s first approach” might feel tempted to emulate. It means solely that disaster risk management and poverty reduction stand a better chance of success if they are based on local processes of risk production and poverty institutionalisation.

The idea of risk production can be expanded to cover not only natural, economic, political and social hazards, but also foreign humanitarian and development intervention. Indeed, development initiatives from abroad reflect processes of risk production in the countries in which they were formulated. In local African contexts, such initiatives are not risks, but hazards, which local communities have to tame in order to be able to go about their lives. In a nutshell, development aid and humanitarian intervention can be major sources of insecurity in local contexts. An even more important point that could be made, one that ties up nicely with the conceptual distinctions made further above, is that both humanitarian as well as development policy would be well advised to approach the problem of vulnerability as one that has a global complexity. Features of capitalist industrialisation may contribute towards an unequal distribution of risks to the disadvantage of developing countries, as Ben Wisner (2003) persuasively argues. Nonetheless, policy makers should resist the temptation to reduce the complexity therein involved by assuming simple causal relationships of the type implied in the idea that capitalist industrialisation causes pollution and, thereby, the vulnerability of people in developing countries. Capitalist industrialisation is the response of specific societies to their per-

ception of hazards. Through industrialisation they not only seek to reduce their vulnerability to hazards, but also, and more importantly, they produce risks, which structure their social, economic and political institutions. Pollution appears in two conceptually different lights. As far as developed societies are concerned in their relationship with less developed regions, pollution can be seen as a risk, whereas for developing societies on the receiving end of technology it can be construed as a hazard. In other words, while it is true that this view may be flawed by a certain homogenising perspective – after all, pollution affects people even in developed countries differently (see Geenen 2004) – the latter lack the institutional arrangements necessary to tame its consequences. The challenge to policy makers lies precisely in devising mechanisms through which developing societies can be assisted in their attempts to turn the hazard of pollution into a risk. Disasters allow us to appreciate the extent to which development can be understood as a process which consists of enabling countries to produce their own risks.

As far as research questions and gaps are concerned, the need to bring the focus to bear on the relationship between disaster risk management and poverty reduction allows for the identification of some crucial areas. These can be summed up as (a) conceptual clarification, (b) tools for the measurement of the impact of disaster risk management on poverty reduction and for the measurement of the impact of poverty reduction on disaster risk management; a central element of both should be an analysis of vulnerability, particularly as far as its causes, structure, and consequences are concerned; finally (c) the political economy of the relationship between disaster risk management and poverty reduction. These areas obviously do not cover the whole range of issues that should merit the attention of the academic community. However, they are useful to the extent that they stand at the interface between practice and research. Only in so far as research results can be brought to bear on the practice of development do they deserve pride of place in the range of issues identified as worth further probing into. These are further developed at the end of chapter 7 in the form of recommendations.

7. Towards a better integration of disaster risk management and poverty reduction: Some recommendations

As has been shown in this study, the German Government and many international organisations acknowledge the strong relationship between disaster risk management and poverty reduction. Daily political practice demonstrates, however, that there is still much room for improvement. True, for Germany, poverty reduction lies at the core of BMZ's development programme, but given the serious nature of disaster issues and their potential impact on the targeted goals of reducing poverty, there is need for an even stronger political commitment to disaster risk management. In fact, the latest study by the German Advisory Council on Global Change (WBGU) stated: "... the German poverty reduction strategy currently being pursued must be adapted in anticipation of the likely regional impacts of global environmental changes." (WBGU 2004, p. 3). And further: "Disaster Prevention should also become a new sectoral priority in development co-operation." (WBGU 2004, p. 3). From this viewpoint, too, it is imperative to mainstream disaster risk management into development work. This section contains recommendations that can help with developing implementation strategies.

These recommendations are set out in three subsections: Proposals in 7.1 are directed specifically at German development co-operation and, similarly, the development co-operation activities of other donor countries. Subsection 7.2 makes recommendations relevant to co-operation with partner countries and multilateral partners such as relevant United Nations, European Union bodies, and development banks. Finally, subsection 7.3 sets out recommendations concerned with the work of universities and research institutions. The chapter closes in 7.4 by highlighting the next steps to be taken by the different German actors.

7.1 Recommendations for the German development co-operation system

In the context of the German development co-operation system, there are four main, interrelated tasks involved in integrating disaster risk management and poverty reduction: (a) the dissemination of knowledge about disaster risks and its

relation to poverty; (b) the inclusion of disaster risk management in relevant sector and country strategies; (c) making disaster risk management central to relevant programmes; and, finally, (d) the systematic application of disaster risk management tools to poverty reduction programmes. Below, we provide the rationale for taking up these issues and then list the activities that we deem appropriate in achieving the targeted results.

7.1.1 Dissemination of knowledge

Disaster risk management is firmly anchored in the BMZ Sector Department "Emergency – and Transitional Aid". However beyond the responsive approach disaster risk management is classified as a trans-sectoral task due to an increased emphasis on preventive aspects. In spite of this knowledge about it among those in charge of co-operation policy, projects, and programmes is not widespread enough. Thus spreading such knowledge is an important first step towards the successful integration of disaster risk management and poverty reduction throughout the German development co-operation system.

Four recommendations on how to disseminate the knowledge gap are:

- > Encourage dialogue amongst the BMZ departments on disaster risk management, the concerned regional departments, and the departments on poverty reduction and social development, as well as with the implementing organisations and the scientific community through the introduction of this topic into the existing system of project design.
- > Use the introductory seminars on poverty reduction for senior personnel of development agencies to disseminate knowledge about disaster risk management. To this end, brief and persuasive guidelines could be produced for use by trainers.
- > Provide special training programmes for people who will come into closer contact with the disaster risk management issue, either because

they will work in a high-risk country or in a sector that is vulnerable to hazards, taking care to treat disaster risk as part and parcel of ongoing development activities. Experience has shown that such training programmes can help in motivating experts and decision-makers and in making the topic more amenable to them (GTZ 2002, p. 32). Experiences from efforts to mainstream gender have shown that it is not difficult to offer a general training programme on a special cross-cutting topic. What is needed instead is a programme that is tailored to the specific needs of project or programme managers, and one which helps them to learn step by step how to integrate the two issues into their daily work.

- > Undertake political lobbying in a multi-disciplinary and cross-sectoral manner at all relevant ministries and levels in order to become effective. To this end, DKKV, as the German network for disaster reduction, can be utilised as a co-

ordinating forum for such initiatives and activities.

The dissemination of knowledge should be fostered by the entities responsible for disaster risk management and poverty reduction at BMZ and the implementing organisations of BMZ-funded German development co-operation. For broader effect, BMZ sector departments and BMZ/GTZ advisory projects for poverty reduction and disaster risk management should play a special role. Also, non-governmental organisations are important partners in development co-operation, and their support will be crucial to the successful dissemination of knowledge. DKKV as the multi-stakeholder UNISDR platform in Germany provides a network interlinking all relevant agencies and institutions dealing with disaster reduction. Within its mandate, DKKV could take the lead in political lobbying, public awareness, and co-operation with scientific institutions.

7.1.2 Inclusion of disaster risk management into the relevant strategies

Equally important as the dissemination of knowledge is the inclusion of disaster risk management into relevant sector and country strategies. One of the strategic goals of the January 2005 World Conference on Disaster Reduction (WC-DR) in Kobe was stated as: "The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels ..." (ISDR 2005, p. 3). Indeed, such sector and country strategies are used by the BMZ and the implementing organisations to guide the content of co-operation. For the integration of disaster risk management into poverty reduction measures to be successful, it needs to begin at an early planning stage. Sector and country strategies provide a framework within which this early integration could take place. In order to achieve this integration, BMZ sector department "Emergency and Transitional Aid" should, as a first step, initiate and coordinate foster the dialogue with the relevant sector and regional departments.



The most important kinds of planning documents are:

- > *The Country Strategy Papers (Länderkonzepte) and the Sector Strategy Papers (Schwerpunktstrategiepapiere, SSP), two important BMZ planning, management, and steering instruments. It must be ensured that both take the national poverty reduction strategies as a basis and consider disaster risk management measures adapted to the identified hazards and vulnerability.*
- > *The Program of Action 2015. Here it is of particular interest to use the progress reports to address disaster risk management in a systematic manner.*

7.1.3 Disaster risk management as a central topic for all BMZ-funded programmes in disaster-prone regions

This paper presents disaster risk management as not just another project, but rather as a development goal. While it might still make sense to apply the single project approach, especially in countries with a specific risk problem that needs to be treated independently from other programmes or projects, this approach could, indeed, be useful for introducing disaster risk management into a country. However, in order to link disaster risk management with poverty reduction and sustain-

able development, it needs to be integrated into reconstruction processes in the aftermath of disaster and also as a cross-sectoral issue in co-operation programmes in disaster-prone regions. Disaster risk management can offer insights into people's livelihoods. This, in turn, can assist with understanding why people are vulnerable and how broader strategic thinking can support the planning and implementation of poverty reduction programmes. Making disaster risk management a central issue in programmes that seek to reduce vulnerability is a major contribution towards further improving German development co-operation and achieving its goals.

To ensure that disaster risk management is properly viewed as a cross-sectoral issue, BMZ and the implementing organisations of BMZ-funded projects and programmes should seriously consider the following seven recommendations:

- > Combine the two issues right at the outset of new co-operation programmes in order to avoid disaster risk management being treated only as an add-on issue.
- > Liaise with specific country groups and departments of the development organisations that are concerned with countries where high risk is prevalent. Provide them with applicable concepts, materials, and information about the specific risk problem in their country, how it connects with the poverty issue, and the possible solutions.



- > Develop a strategy for drawing attention to these issues within the German implementing organisations. Such a strategy should include a mechanism for disseminating new knowledge and experience in projects and programmes throughout the organisations.
- > Document best practices and make them broadly available to the relevant public.
- > Include disaster risk sensitivity to poverty reduction in a set of minimum standards for good programme design.
- > Together with the executive personnel of the implementing organisations, develop a strategy for the integration of the two issues. Based on the experience with mainstreaming gender, we know that this enables broader impact of the knowledge gained in projects and programmes.
- > Extend co-operation beyond the traditional sectors, such as rural development and housing, to those of good governance and related areas, because such programmes aim at improving those state organisations that also play major roles in disaster risk management.

7.1.4 Systematic application of existing tools

Capacity development within German development co-operation, the integration of the issue in relevant strategies, and lobbying for the topic are important tasks that comprise the groundwork for poverty-oriented disaster risk management at the conceptual stage. At the operational stage, the following steps and approaches are recommended to link poverty reduction and disaster risk management:

- > Conduct risk analysis during project and programme preparation, especially for countries and regions with high levels of vulnerability to disasters or sectors that are capable of contributing to improving disaster risk management. Risk analysis instruments should be sensitive to income level, age, education, gender, and ethnicity, and the results should be used in

designing new programmes. Carefully examine disaster mitigation activities in light of the fact that inequality often worsens in the aftermath of disaster. The integration of risk analysis into poverty reduction policy is an evolving process;



therefore, ensure that human and institutional capacity is appropriately strengthened and involve the public and civil society organisations in supporting the information and decision-making needs of individuals.

- > Apply the concepts of sustainable livelihoods as the framework for discussions on poverty reduction in the partner countries and for planning poverty reduction programmes, as this approach considers several forms of vulnerability, as well as types of “capital” that poor people possess.
- > Supplement the monitoring of poverty reduction programmes with indicators that relate to the success of disaster risk management at the local, regional, and national levels.

The BMZ/GTZ advisory project on disaster risk management in development co-operation has already formulated guidelines for risk analysis and presented other tools that have been used in different regions of the world. It currently is work-

ing on impact indicators and other instruments useful for poverty reduction. The project is responsible for producing and disseminating this information amongst German development co-operation actors, whom we urge to use the tools.

7.2 Recommendations for the German contribution in partner countries and the international community

In co-operating with partner countries and the greater international community on development activities, the following six German initiatives can provide the entry points for fruitful exchange: (a) raising awareness of and developing capacities for poverty-oriented disaster risk management; (b) integrating disaster risk management into Poverty Reduction Strategy Papers; (c) supporting institutional reforms for a better integration of disaster risk management and poverty reduction; (d) attaching more value to community-based disaster risk management approaches; (e) strengthening capacities and promoting the taking of responsibility at the international, national, regional, and local levels; and (f) supporting international organisations in their formulation of policies.

German development co-operation is in an advantageous position for firmly anchoring disaster risk management and poverty reduction in development work. The responsibility for fostering these approaches lies with the BMZ departments for poverty reduction and disaster risk management. The implementing organisations must then ensure the integration into projects. While some of the following recommendations relate to the appropriate use of the available communication channels, others encourage German development co-operation to apply its technical expertise to the further entrenchment of the issue in development activities.

7.2.1 Raising awareness and developing capacities

In order to strengthen the capabilities of individuals, organisations, and institutions, German-supported measures should meet the following challenges:

- > The current levels of human resources, local knowledge on disasters, and civil society's coping strategies must be considered in awareness-raising and capacity development



activities. Strategies for transferring knowledge about the specific threats presented by different kinds of disasters and about coping strategies that can prevent or mitigate the disaster impact need to be developed within the context promoting self-help. It is important that the specific local and societal perceptions of risk and its underlying causes be taken as the basis for capacity development. In this context, awareness-raising activities should focus on the possible origins of disasters, the relevance of disaster risk management for poverty reduction, and the links between poverty and vulnerability.

- > German co-operation with the partner countries should increase capacity development for non-governmental organisations that deal with issues of poverty reduction and disaster, or that work in disaster-prone areas. Local NGOs have knowledge that is critical to developing poverty-sensitive disaster risk management approaches that are suited to the specific region. They should be trained on methodologies that combine these two issues in local projects and programmes, and about the costs and benefits of disaster prevention strategies. Above all, the organisations should be supported in improving their networking capacities and in evolving into decision-making institutions. Local NGOs often need to learn how to lobby and negotiate with decision-makers in order to advocate poverty-oriented disaster risk management. Also, German development co-operation and organisations that research disaster risk management issues in the partner countries should increase and deepen their exchange of knowledge about and experience with poverty-oriented disaster risk management.
- > Institutional capacity development for disaster risk management must address the formulation of relevant policy, the development of a conducive legal and administrative framework, and the performance of risk assessment, disaster prevention, mitigation, and disaster preparedness activities. Knowledge about mechanisms for transforming disaster risk management theory into practice needs to be increased. Successful disaster risk management also requires efficient and trusting co-operation between

state institutions, the private sector, and civil society. All stakeholders need to be shown the advantages of this co-operation, and their negotiation skills need to be improved.

7.2.2 Integration into Poverty Reduction Strategy Papers (PRSPs)

PRSPs are an ideal vehicle for addressing institutional changes, financial aspects, economic procedures, and questions of sustainability in the development process. For this reason, they are an important starting point for disaster risk management. German development co-operation currently supports 26 partner countries in various stages of their PRSP processes, from the poverty analysis that feeds into the formulation of the Strategy, on through implementation and monitoring. We have six recommendations for the BMZ and the implementing organisations that relate to each step of PRSP planning and implementation:

- > Offer advice to partner governments about how to make disaster risk an important element of PRSP poverty analysis through the adoption of risk analysis. Because risk analysis is a participatory instrument that provides detailed information about the given disaster risks, it can yield valuable information on people's vulnerability and their exposure to natural hazards, thereby providing a basis for decisions about risk-reducing measures that contribute, in turn, to poverty reduction.
- > Incorporate disaster mitigation and prevention in the formulation phase of the strategy, taking into account each relevant issues such as economic development and the environment. To this end, minimum standards and guidelines should be developed.
- > Assist partner countries in the prioritisation of investments, bearing in mind advice from international development agencies can sometimes be problematic, as it interferes with delicate political processes. PRSP advisors should point out repeatedly how disaster risk management can support sustainable development.

- > Ensure that adequate funds are allocated to disaster risk management in the budgeting of PRSP. At the same time, raise awareness on the far-reaching economic consequences of disasters on the one hand, and the positive returns of measures that prevent disasters on the other. German development co-operation should provide methodology for cost-benefit analysis and foster awareness of low-cost measures and the investment character of disaster risk management.
- > During the implementation phase, advise sectors that significantly support the reduction of poverty levels through disaster risk management, rural development, decentralization, environmental and resource management, health, housing, and education. Central to this advice should be how to remove barriers to the adoption of a disaster risk management approach.

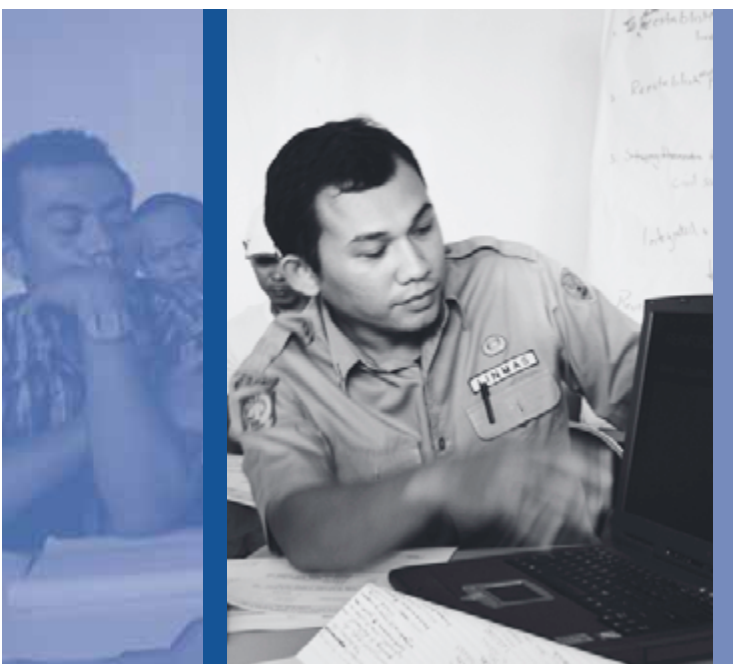
- > Offer advice on the formulation and integration of indicators in the monitoring system that assess the effectiveness of policy measures essential to disaster preparedness, prevention, and mitigation.

7.2.3 Supporting institutional reforms

“Disasters are unsolved problems of development, which means they are therefore problems of governance, in its broadest sense. Good governance needs to be placed at the heart of risk management.” (IFRC 2002, p. 36).

Advice related to institutional reform, therefore, must focus on the following issues:

- > An effective cross-sectoral organisation of disaster risk management and poverty reduction is needed. The institutional setup must reflect the link between disaster risks and development. It has to take into account the shared responsibility and the need for co-ordination between the concerned departments and sectors. These are primarily the departments of the environment, disaster management, planning, finance, and education.
- > Support ongoing decentralisation processes in partner countries with particular attention paid to linking the national level more strongly with the local or municipal level, because knowledge about the specific poverty and disaster situation is available at the local level. Also, people’s capabilities to prepare and protect them self need to be strengthened. It should be noted that decentralisation does not mean simply delegating competencies and resources to local organisations, because two problems could ensue: (a) central governments might abdicate their responsibilities to local governments that could then be over-extended when trying to meet this task, and (b) the delegation of too much responsibility to the local level could de-politi-



cise disaster risk management. People at this level often are not in the position to address broader aspects of vulnerability, but most often can react only with the single-project approach, which is not necessarily integrated into the broader poverty reduction approach. In order to minimise these potential problems, advice should be given to partner governments regarding the setting up of a coherent institutional framework, the need to strengthen institutional capacity, and the development of a strategy that delineates the competencies and responsibilities of each actor concerned with disaster-sensitive poverty reduction (GTZ 2003a, p. 13-15).

- > Support partner governments and civil society in formulating an agreement that sets the standards of a coherent disaster risk strategy, and that spells out the responsibilities for which each key actor will be held accountable. This is necessary because a shift of responsibility most often is accompanied by a shift in power, influence, and resources. The standards also could be used to monitor performance, while bearing in mind that a longer-term objective is the empowerment of the public and civil society to hold government accountable. Experience with such a contract could lead to the creation of legal regulations for disaster prevention, mitigation, preparedness, and response.
- > “Adopt, or modify where necessary, legislation to support disaster risk reduction, including regulations and mechanisms that encourage compliance and that promote incentives for undertaking risk reduction and mitigation activities.” (ISDR 2005, p. 6)
- > Strengthen the organisational capacities and improve the knowledge of NGOs, grassroots organisations, and representatives of civil society so that they can participate more fruitfully in exchanges with governments on disaster-related poverty reduction. Based on the experience with Poverty Reduction Strategy Papers (PRSP), we have learned that civil society’s influence on governments’ plans is more effective when its representatives sit on technical committees. German development co-operation should support such forms of participation

to ensure that vulnerability, capacities, and priorities are properly assessed and considered.

7.2.4 Valuing community-based approaches

“Despite international initiatives, the front line against disasters is held by at-risk communities themselves, which are often the main actors in disaster mitigation and preparedness. Especially in developing countries, where the state’s capacity to protect its citizens may be limited, communities rely on their own knowledge and coping mechanisms to mitigate against disasters, as they have done for generations.” (IFRC 2002, p. 22). Similarly, the World Conference on Disaster Reduction (WCDR) in Kobe agreed on the strategic goal to: “Promote community participation in disaster risk reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of necessary authority and resources.” (ISDR 2005, p. 7 (h)).

Strengthening the power of individuals and communities at the local level can be achieved through the following four steps:

- > Identify successful traditional forms of managing disaster-related problems and combine them with “modern” forms. Local expertise on living with disaster complements work at the national level.
- > Foster government appreciation and valuing of local actors’ capabilities. Local approaches are often superior in that they are less costly, less prone to corruption, more rapid, and more effective in providing help in an emergency. Good practice examples need to be shared with decision-makers.
- > Introduce and encourage capacity building measures where knowledge about the causes of vulnerability, and about disaster risk and ways to reduce them is lacking. Advice should focus on increasing awareness about potential sources of vulnerability within societies.

- > Because over-stating the case can lead to paralysis, provide a realistic appraisal of resources and the range of local measures for planning purposes.

7.2.5 Strengthening capacities and responsibilities at all decision-making levels

The challenge posed by the task of reducing people's vulnerability consists in linking disaster risk management and poverty reduction at all levels. Additionally, as Pelling notes: "For best effect we need to understand not only how actors operate at each level, but how local-level, bottom-up participatory approaches articulate with international and national top-down agendas." (Pelling 2003a, p. 238).

German development co-operation should offer advice at the different levels involved, in consideration of the interlinkages, as follows:



Regional/cross-border level

"It is crucial that there is understanding that leads to the acceptance of countries in the same region sharing both information and their concerns in various forums, so that they may collaborate more effectively in their activities." (ISDR 2004, 176). In other words, the exchange of information, knowledge and experiences across countries should be encouraged, taking CEPREDENAC (Co-ordinating Centre for the

Prevention of Natural Disasters in Central America) and PREANDINO (Andean Regional Program for Risk Prevention and Reduction) as models. The common tasks for German development co-operation and partner countries are:

- > Integrate the poverty issue into the existing risk-reduction strategies for specific sectors and regions,
- > Increase research on the different aspects of vulnerability,
- > Build national and international capacities,
- > Promote the exchange of information and experience between comparable institutions in neighbouring countries,
- > Promote region-wide disaster risk management programmes that include poverty reduction aspects,
- > Attempt to ensure strong commitment to the issues at the highest decision-making levels of the public sector.

National level

"It is generally agreed that national governments bear the prime responsibility for protecting their citizens against disaster." (IFRC 2002, p. 24). To perform this responsibility well requires a shift from an event-driven approach to a process-oriented one, which could in turn require a change in government functions. It follows that governments should be encouraged to serve as co-ordinating bodies for the broad spectrum of actors. Governments' (new) tasks within a disaster-sensitive poverty reduction approach are as follows:

- > Integrate disaster concerns into the formulation, implementation, and budgeting of Poverty Reduction Strategies,
- > Integrate poverty concerns into the national action plans for disaster risk management,
- > Support the establishment and/or strengthening

of national platforms for disaster reduction as multi-sectoral and multi-stakeholder arenas for addressing all aspects of disaster reduction (as called for by the Hyogo Framework for Action),

- > Clarify the roles of the different partners within the disaster-sensitive poverty-fighting strategies,
- > Create legal provisions and financial frameworks for effective disaster risk reduction,
- > Develop institutional capacities to assess and respond to risk,
- > Organise locally to reduce vulnerability: initiate local partnerships amongst networks, community organisations, and advocacy groups,
- > Encourage joint risk reduction measures by government agencies, technical specialists, and community and local residents,
- > Disseminate basic public information on hazards and on measures to reduce risk,
- > Ensure public understanding and the implementation of standards and codes designed to protect private and public assets and critical infrastructure,

- > Promote and encourage public participation in the design and implementation of risk and vulnerability-reducing measures as part of poverty reducing strategies at local and national levels (adapted from: ISDR 2004, p. 81).

Regional level

The role of departmental or provincial institutions in disaster risk management is often neglected in the papers on the issue. This level however, plays an important role in reducing disaster risk and should therefore be a main partner in German advisory projects and programmes. Relevant tasks are:

- > Apply the national strategies, programmes, and goals for poverty reduction to the specific regional situation, and put them into action,
- > Co-ordinate the various, individual projects of the local level and integrate them into the broader poverty reduction approach,
- > Encourage the association of the municipalities within larger disaster regions,
- > Provide the national level with specific information concerning regional vulnerability.



Local level

In the end, disaster affects the fate of individuals. Therefore, organisations closest to the affected people (such as municipalities, local NGOs, and civil society organisations) have a crucial role to play in reducing disaster risk. This is why much effort has been put into strengthening their roles in disaster risk management in recent years. Now the focus must be shifted to linking the two issues together – and also must be expanded to adapt community-based disaster risk management knowledge to cities, because urban vulnerability tends to be greatly underestimated in disaster risk management. The tasks for the different institutions at the local level are too numerous to list here, and the interested reader is referred to the GTZ-paper on community-based disaster risk management (GTZ 2003a, p. 32-33) to review the more practical tasks, here we concentrate on the more political ones:

- > Recognise the importance of disaster risk reduction as being central to the economic and social well-being of the municipality,
- > Anchor disaster risk management firmly in long-term community poverty reduction plans,
- > Find the right mix between tangible short-term and long-term measures, even though the long-term ones cannot be exploited for political ends,
- > Apply the criterion of social equity in decision-making,
- > Encourage public support and responsibility for poverty reduction measures,
- > Present disaster risk management as a matter of tangible and immediate value to local residents,
- > Relate current, local needs to other levels of decision-making,
- > Allow for local control and widespread participation throughout the complete process of risk assessment, planning, implementation, and monitoring of disaster-sensitive poverty reduction measures,
- > Foster trust between the municipality and the people at risk (adapted from: ISDR 2004, p. 142-143).



7.2.6 Supporting international organisations

International organisations should take the lead in internalising disaster risk management issues in their poverty work by ensuring that poverty reduction programmes can remain robust during disasters. “This would require development of tools and methodologies, training and awareness raising of senior management and staff, and the possible modification of their own institutional process to ensure that [...] vulnerability is addressed with due diligence.” (African Development Bank et al. w. d., p. 29).

The BMZ should improve its disaster risk management advisory capacity to enhance its impact on the following international organisations:

- > WFP (World Food Program) which has the mandate to decide on new policies for food aid that are carried out by ECOSOC (Economic and Social Council of the UN) and FAO. As a member of this board, the Ministry should develop strategies and use its influence to strengthen awareness of the significance of disaster risk management for sustainable food aid.
- > UNDP and further UN organisations involved in the International Strategy for Disaster Reduction (ISDR), which should be encouraged to seek greater coherence among their policies concerning disaster risk management and poverty reduction. The BMZ can target UNDP country co-operation frameworks to shift towards a greater poverty orientation in disaster risk management. Furthermore, BMZ should strengthen its potential by building up strategic alliances with partner countries or development banks to design recommendations to ECOSOC, who can influence the UN General Assembly.
- > European Union (EU), through (a) projects and programmes that are financed through the European Development Fund (EDF) and (b) projects and programmes directly financed by the EU budget. Furthermore, EU Country Strategy Papers offer room for the articulation of poverty

oriented disaster risk management. These papers are co-ordinated between the partner countries' representatives and the EU delegations in the countries along with the development co-operation official in charge in the German embassies. Also, the BMZ can influence the papers' content regarding the poverty orientation in disaster risk management within the appropriate EU committees.

7.3 Recommendations for the scientific research community

7.3.1 Research issues

The major challenges as far as research is concerned centre around (a) conceptual clarification, (b) the development of tools to measure the impact of disaster risk management and poverty reduction, and (c) the political economy of disaster risk management and poverty reduction. “Disaster risk management” and “poverty reduction” do not necessarily mean the same things to the individuals and institutions that operate with them across different cultural, social, economic, political and organisational environments. For this reason, it is all the more important that the academic community helps with conceptual clarification in order to make communication and intervention more manageable. The same goes for the tools that are required to measure the impact of interventions on the problems they are meant to solve. In other words, instruments are needed which can produce knowledge on how disaster risk management impacts on poverty reduction and vice versa. Finally, disaster risk management and poverty reduction take place within institutional frameworks. In development and relief work, there is a tendency to consider the content of the practical work in isolation from the institutions which actually do the work. More often than not, criticisms bear either on the work or on the institutions. In other words, the impact of the work is assessed against the background of the appraisal of the institution or vice versa. In fact, in many instances a proper understanding of both

institutions and work is not possible without a more integrated approach, i.e., one that looks at the political economy of relief, humanitarian, and development work.

Several German research institutes, universities, and research networks deal with natural disaster. These institutes, universities, and networks should foster research on the above issues. Relationships with German implementing organisations are important for linking science and practice, and to consider the broad body of practical experience. The National Platform, DKKV, of which most of the actors are members, can play an important co-ordinating role in this context.

7.3.2 Conceptual clarification

Work is needed on the following:

- > Clarification of the concepts “disaster risk management” and “poverty reduction”, taking into account different areas of intervention (i.e., development work or humanitarian action) with a view to establishing the potential as well as the limits of their analytical and empirical combination;

- > Identification of further areas into which the combination of “disaster risk management” and “poverty reduction” can be extended; this should include the focussed study of current projects and programmes with particular relevance to the underlying concepts.

7.3.3 Tools for the measurement of the impact of disaster risk management on poverty reduction and for the measurement of the impact of poverty reduction on disaster risk management

These tools should make the following possible:

- > An assessment of the ability of individual countries to manage disaster risk and reduce poverty as a result of programmes focussing on the combination of the two. In particular, studies should be conducted on the constraints and opportunities that the social, political, and economic conditions obtaining in a given country offer for the successful combination of disaster risk management and poverty reduction;
- > Analysis of how countries, communities and organisations translate “disaster risk management” and “poverty reduction” into practice



against the background of their individual assessment of vulnerability, deprivation, and insecurity; this should be coupled with studies of how local notions of disaster and poverty articulate with the suggested attempt at combining them;

- > The description and analysis of the context within which decisions on disaster management and poverty reduction are taken, who takes them, on what authority, and the kinds of conflicts that ensue thereof;
- > The description and analysis of the experience of disaster, risk perception, potential for action, and willingness to act, all of which should be considered against the background of the micro, (i.e., population), meso, (organisations), and macro level (the whole society, the articulation of different societal elements), as well as globally.

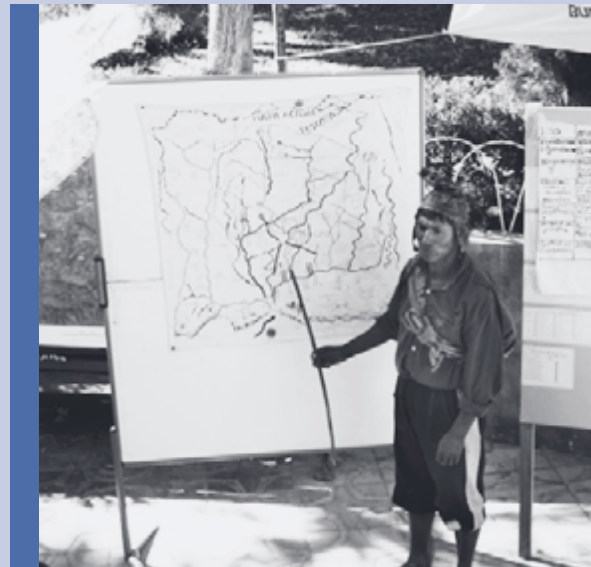
7.3.4 The political economy of disaster risk management and poverty reduction

In order to understand how institutions and interventions are changed by practical work on the ground, investigation is needed into the following:

- > How the practical work on the problems of disaster and poverty reduction shapes the institutional set-up;
- > How current experiences of disaster and poverty reduction influence institutional set-ups;
- > What other factors – social, economic, political and natural – are relevant to the design of institutional responses to disaster and poverty;

7.4 First steps to take

Chapters 7.1 to 7.3 present a broad range of possible measures for improving the integration of poverty reduction with disaster risk management. We consider the most urgent issue to be the raising of awareness and the development of capacities for poverty-oriented disaster risk management within German development co-operation.



The first steps to be taken are:

- > The BMZ should develop a road map for increasing and disseminating knowledge about the issues. This road map should be formulated jointly by the implementing organisations and the National Platform for Disaster reduction (DKKV), and supported by the two BMZ/GTZ advisory projects: the GTZ-Mainstreaming Poverty Reduction Project and the GTZ-Sector Project on Disaster Risk Management.
- > The implementing organisations (governmental, semi-governmental and non-governmental) should carry out disaster risk management training programmes for personnel involved in poverty-reduction measures in disaster-prone regions as soon as possible. The GTZ-Sector Project on Disaster Risk Management currently is preparing special training sessions that will be offered to all concerned organisations in Germany.
- > The academic community should support the raising of awareness with conceptual clarification. This will guarantee that the complex concepts of poverty reduction and disaster risk management will be understood and intelligently applied.

This action-oriented approach of raising awareness must be carried out in parallel with the

strategic approach of integrating poverty-oriented disaster risk management into relevant national and international policies:

- > The two BMZ Sector Departments should develop and co-ordinate a strategy for integrating this issue into relevant papers that are concerned with the poverty reduction topic.
- > The GTZ-Mainstreaming Poverty Reduction Project, should focus on PRSPs and take the lead in integrating disaster risk management concerns into selected PRSP advisory processes on a pilot basis.
- > The GTZ-Sector Project on Disaster Risk Management, on the other hand, should foster the integration of disaster risk management concerns into selected BMZ poverty-oriented country and sector strategies.

> NGOs and other implementing organisations are encouraged to integrate disaster risk management into selected poverty reduction programmes. Pilot experience should be analysed and exchanged.

> DKKV should take the initiative in promoting the further integration of disaster risk management into international policy papers. It should support the BMZ in contributing to the formulation of poverty-oriented development policies within the EU and UN.

We believe the other measures listed above should follow these first steps of raising awareness and formulating policies.



Abbreviations

AP 2015	Program of Action 2015
BCPR	Bureau for Crisis Prevention and Recovery
BID	Banco Interamericano de Desarrollo (Inter-American Development Bank)
BMZ	German Federal Ministry for Economic Co-operation and Development (Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung)
CEPREDENAC	Co-ordinating Centre for the Prevention of Natural Disasters in Central America
DAC	Development Assistance Committee
DFID	Department for International Development of the United Kingdom
DKKV	German Committee for Disaster Reduction (Deutsches Komitee für Katastrophenvorsorge e.V.)
DMF	Disaster Management Facility
DRI	Disaster Risk Index
ECHO	European Community Humanitarian Office
ECLAC	Economic Commission for Latin America and the Caribbean
ECOSOC	UN-Economic and Social Council
EDF	European Development Fund
EU	European Union
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GTZ	German Technical Co-operation (Gesellschaft für Technische Zusammenarbeit und Entwicklung GmbH)
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IDB	Inter-American Development Bank
IDNDR	International Decade for Natural Disaster Reduction
IDS	Institute of Development Studies
IFRC	International Federation of Red Cross and Red Crescent Societies
ISDR	International Strategy for Disaster Reduction
KfW	Kreditanstalt für Wiederaufbau
MDG	Millennium Development Goals
NGO	Non-Governmental Organisation
OCHA	Office for the Co-ordination of Humanitarian Affairs
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PREANDINO	Andean Regional Program for Risk Prevention and Reduction
PRSP	Poverty Reduction Strategy Paper
PSIA	Poverty and Social Impact Analysis
SEWA	Self-Employed Women's Association
SLGS	Sustainable Livelihoods Guidance Sheets
UNDMTP	United Nations Disaster Management Training Program
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNHCR	United Nations High Commissioner for Refugees
WB	World Bank
WBGU	German Advisory Council on Global Change (Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderung)

WCDR	World Conference on Disaster Reduction
WFP	World Food Program
WHO	World Health Organisation
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development
ZENEB	Centre for Nature Risks and Development (Zentrum für Naturrisiken und Entwicklung)

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