



## Disaster Preparedness – the Long Way to a Preventive Culture

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### Facts and Numbers - Disasters and People Affected

#### 2004 and 2005: Years of Disasters

Each passing year sees new record-breaking economic and insured losses – not to mention the tragedy in terms of human lives lost. 2005 will go down in history as the most expensive year ever. With economic losses running at US\$ 200bn (in November 2005) and insured losses amounting to some US\$70bn (best estimate), the previous record (US\$ 145/45 in 2004) will be well and truly surpassed. Despite positive effects for catastrophe victims in some countries as a result of international efforts (IDNR, ISDR, etc.), such as in the case of the storm surge in Bangladesh, there a number of worrying trends. Individual natural catastrophes (EQ Bam 2003: 26,000, tsunami Asia 2004: > 200,000; EQ Pakistan/Kashmir 2005: > 80,000) are tragic milestones. The last time losses in terms of human life were encountered on the scale of 2004 and 2005 dates back to 1991 (Bangladesh storm surge). The tsunami in 2004 and Hurricane Katrina in 2005, which claimed 1,280 lives in New Orleans, a city located in one of the richest countries in the world, were all too clear an illustration. Even the best and most sophisticated warning system is useless if the alert does not reach the endangered populations, or if people fail to realise the need to act in accordance with the risks involved.

#### Sharp Increase in People Affected by Natural Disasters

The number of people reported being affected by natural disasters is increasing dramatically, while the number of global deaths from natural disasters, until recently, seemed to have been decreasing (see IFRC, 2003). The decrease of the reported death toll since the 1970s is at least partly a "result of increasingly effective preventative measures". (FAO, 2005, p. 6) But already during the last two decades, the decreasing numbers in Africa concealed raising numbers of deaths from natural disasters in Asia, America and Oceania (see IFRC, 2002). Now a sharp increase of the death toll due to natural disasters in the two years 2004 and 2005 might even reverse the global trend.

#### Poor People are the Most Vulnerable to Natural Disasters

Poor people, mainly but not exclusively in developing countries, are more vulnerable to natural disasters "because of their high dependence on natural resources, and their limited capacity to cope with climate variability and extremes [...] Often extreme weather events set back the development process for decades." (African Development Bank et al., 2003, p. V ff.). 75 percent of the world's population live in areas that have been affected at least once between 1980 and 2000 by earthquakes, tropical cyclones, floods or drought. Only 11 percent of the people exposed to natural disasters lived in countries classified, according to the UNDP Human Development Index (HDI), as those with a low HDI. But still, these countries account for more than 53 percent of the total recorded deaths (see UNDP 2003). Even more striking is the fact, that over 96 percent of disaster-related deaths in recent years have taken place in developing countries (World Bank 2001).

#### The Number of Environmental Refugees is Growing Rapidly

The number of people forced to leave their homes because of environment-related conditions already approximates and may someday dwarf the number of all categories of officially-recognized "persons of

concern,"<sup>1</sup> recently calculated at 19.2 million. There are predictions that by 2010 the world will need to cope with as many as 50 million people escaping the effects of creeping environmental deterioration (UNU-EHS, 2005). Red Cross research shows (World Disaster Reports since 2001) that more people are displaced now by environmental disasters than by war.

#### First signs of Compassion Fatigue

There are concerns that compassion fatigue has set in after the recent series of natural disasters, including the tsunami and hurricane Katrina. In 2004, the UN tsunami appeal was 80 percent funded within 10 days. But 18 days after the October 8th earthquake in Pakistan, the UN High Commissioner for Refugees, who increased its emergency shelter program appeal to \$30m from \$22m, said it had only received \$4 m so far (Huggler, 2005: p.27). It would be interesting to study why the press reported relatively little about this disaster. Is it also a general disaster fatigue of media or is the reason, that only a few western people were affected?

#### Emergency Assistance Increases in Absolute and Relative Terms

According to OECD development assistance statistics, in 1987-88 emergency assistance accounted for only 1.61% of the total development assistance to developing countries; in 2003, it was already 8.51% of the total (OECD, 2005), and it is likely that we see another increase in 2004 and 2005. The increase in the share of assistance flowing to relief and reconstruction "means less funding will be available for "regular" development activities helping eradicate poverty and boosting overall welfare" (Linnerooth-Bayer et al, 2005, p 4).

### Climate Change related Disasters

#### Increase in Weather Related Disasters

Analyses of natural catastrophes since 1950 reveal quite clearly that weather-related loss events have increased much more steeply than endogenic events (i.e. earthquakes, volcanic eruptions). Socio-economic factors (demographic trends, mobility, economic parameters) are comparable in respect of all event types, and this may be seen as evidence of climate change's influence on losses. An analysis of great catastrophes (based on the UN's definition) shows that weather-related catastrophes account for an overwhelming 70% of such events. Since global warming is linked in particular to an increase in extreme events, we must assume that the coming years will bring a distinct change in the relevant loss parameters (rain characteristics, storm strengths, etc.) and a deterioration in the risk situation all over the world.

#### Emerging New Weather Characteristics

We cannot lay out a simple cause-and-effect chain from a single severe weather episode back to human-induced climate change. We can, however, begin to identify those parts of the world where we are already measuring rather different weather characteristics from those that have been experienced in earlier decades (see Adger et al, 2002). There is increasing observational evidence that regional changes in climate have contributed to various changes in physical and biological systems in many parts of the world (IPCC 2001a; 2001b). These include the shrinkage of glaciers, thawing of permafrost, changes in rainfall frequency and intensity. Thus the frequency of intense precipitation events is increasing over many northern mid-latitude regions (Easterling et al., 2000). Shifts have also been observed in the growing season, early flowering of trees and emergence of insects, shifts in the distribution ranges of plants and animals in response to changes in climatic conditions. El Niño/Southern Oscillation (ENSO) episodes over the last two decades have been both unprecedentedly large (e.g., 1997/98) and prolonged (e.g., 1991/94; Trenberth and Hoar, 1997). There is still an ongoing debate whether the former changes are already attributable to climate change. But at least for the future it is expected, that climate change will exacerbate climatic extremes associated with El Niño-years.

#### Increased Scientific Evidence for a Link Between Climate Change and Disasters

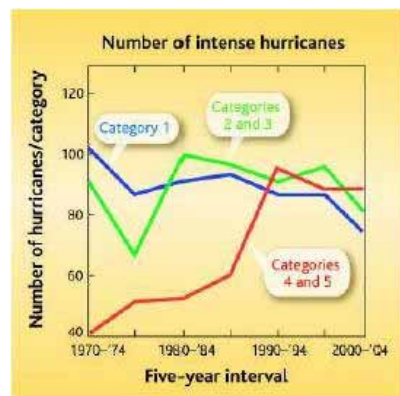
The Intergovernmental Panel on Climate Change (IPCC) concludes in its Third Assessment Report that the frequency of extreme precipitation events has increased over the past 100 years (IPCC 2001a). Over a few areas,

<sup>1</sup> According to the UN High Commissioner for Refugees' 2004 "persons of concern" include "refugees" (people who have fled persecution in their own countries to seek safety in neighboring states, 9.2 million), civilians who have returned home but still need help, civilians uprooted by violence but who remain within their own countries, asylum seekers and stateless people.

summer continental drying and associated risk of drought have also increased. The Panel states that "Part of the observed upward trend in disaster losses over the past 50 years is linked to socio-economic factors, such as population growth, increased wealth, and urbanization in vulnerable areas, and part is linked to climatic factors such as the observed changes in precipitation and flooding events."

British scientists, with a certainty of more than 90 percent, conclude that human influence has already at least doubled the risk of a heat wave exceeding the threshold magnitude of the European heat wave in 2003 (Stott, Stone and Allen, 2004).

Until recently, most scientists would have said that there was no evidence that global warming has had any effect on the planet's most powerful storms—dubbed hurricanes, typhoons, or cyclones depending on the ocean that spawns them. "Now, however, a connection is emerging between warming oceans and severe tropical cyclones" (Kerr, 2005, 1807). Emanuel (MIT) (Emanuel, 2005) shows for the first time that major tropical storms, both in the Atlantic and the Pacific region, have already increased since the 1970s in duration and intensity by about 50 percent. His projections are that this trend, induced by global warming, will continue in the future. Peter Webster (Georgia Institute of Technology, Atlanta) and his colleagues examined satellite records of storms around the tropics, a history which started 35 years ago. They found no long-term trend in the number of storms per year, only natural ups and downs, even as summer tropical sea surface temperatures rose 0.5°C. In the North Atlantic, where hurricane numbers have surged since 1995, such variability arises from changes in the strength of warm ocean currents (*Science*, 1 July, p. 41). But the researchers did find a sharp increase during the past 35 years in the number of category 4 and 5 tropical cyclones, the most intense storms that cause most of the damage on landfall. Globally, category 4 and 5 storms climbed 57 percent from the first half of the period to the second." (Kerr, 2005, 1807).<sup>2</sup>



**Bad trend rising.** The number of the most intense tropical cyclones is increasing worldwide.

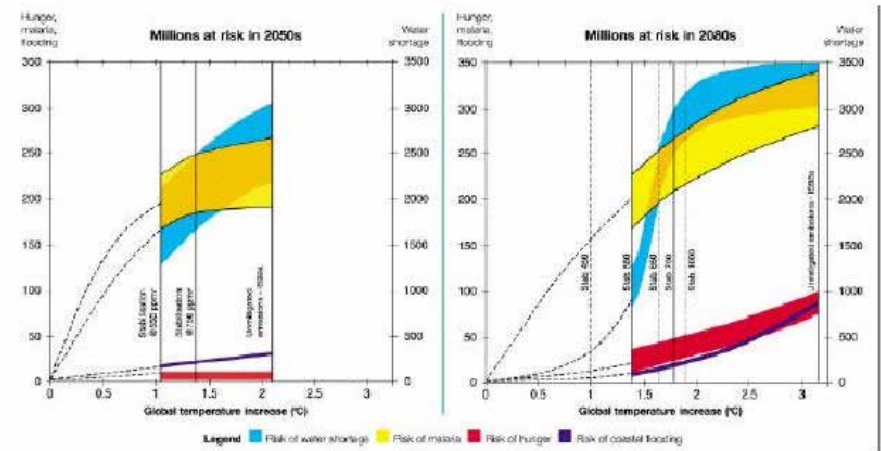
Source: Kerr, 2005, science, p. 1807

<sup>2</sup> Rahmstorf et al. (2005) summarized the debate: "Due to this semi-random nature of weather, it is wrong to blame any one event such as Katrina specifically on global warming - and of course it is just as indefensible to blame Katrina on a long-term natural cycle in the climate. Yet this is not the right way to frame the question.[...] we can indeed draw some important conclusions about the links between hurricane activity and global warming in a statistical sense. The situation is analogous to rolling loaded dice: one could, if one was so inclined, construct a set of dice where sixes occur twice as often as normal. But if you were to roll a six using these dice, you could not blame it specifically on the fact that the dice had been loaded. Half of the sixes would have occurred anyway, even with normal dice. Loading the dice simply doubled the odds. In the same manner, while we cannot draw firm conclusions about one single hurricane, we can draw some conclusions about hurricanes more generally. In particular, the available scientific evidence indicates that it is likely that global warming will make - and possibly already is making - those hurricanes that form more destructive than they otherwise would have been." The authors come to the conclusion that: "The current evidence strongly suggests that:

- (a) hurricanes tend to become more destructive as ocean temperatures rise, and
- (b) an unchecked rise in greenhouse gas concentrations will very likely increase ocean temperatures further, ultimately overwhelming any natural oscillations. Scenarios for future global warming show tropical SST rising by a few degrees, not just tenths of a degree." (Rahmstorf et al. 2005)

### Different Levels of Greenhouse Gas Concentrations Define Very Different Levels of People at Risk

Different levels of global mean warming would result in different numbers of people at risk due to climate change related hunger, malaria and flooding (Hare, 2003, p.69; based on Parry, et al. (2001)).



The numbers, extracted from this graph<sup>3</sup>, have only an indicative character. Still they show that a higher temperature level during this century can dramatically increase the number of people at risk. Take the following example: if there is an increase of 1 degree Celsius by 2080 above the 1861-1890 average, then every year one million additional people might be at risk due alone to coastal flooding. If there is an increase of 3,4 degrees Celsius, the number of people at risk would be multiplied by 80.

### Growing Consensus to Prevent Dangerous Climate Change – Limit Should be 2 Degrees

There is a growing scientific consensus "that in order to avert dangerous climatic changes, it is essential to comply with a 'climate guard rail' defined by a maximum warming of 2°C relative to pre-industrial values. As the global mean temperature has already risen by 0.6°C since the onset of industrialization, only a further warming by 1.4°C is tolerable. A global mean long-term warming rate of at most 0.2°C per decade should not be exceeded" (WBGU, 2003). The EU has accepted this challenging limit as basis for their politics.

### On the Way to a Preventive Culture

#### Greater Focus on Mitigation, Prevention and Preparedness Is Essential

While response systems must be improved, greater focus on prevention, mitigation and preparedness is essential. Not only moral but also economic imperatives support this conclusion. Anticipatory awareness raising and participatory disaster mitigation looks demanding at the initial stages. But Disaster Mitigation and Preparedness (DMP) is often very effective in limiting the damaging effects of disasters. "For example, cyclone shelters in the Bay of Bengal have proved effective in saving lives in the event of major cyclones (such as that of 1991). Also, drought in Africa in the 1960s, 70s and 80s resulted in widespread starvation and loss of life but in the 1990s a similar disaster was avoided as a result of the establishment of more effective early warning and response

<sup>3</sup> "Data estimated from figures in Parry et al. (2001) using data-extractor software. Temperatures in parentheses are relative to 1990, the temperature base year used by Parry et al. (2001). These figures should be treated as indicative only, as they are based on visual interpolation using a graphical data digitising programme" (Hare, 2003, p. 70).

systems" (La Trobe, 2002, p. 34).

### ***Vulnerable Groups Are Partners and Not Targets***

Vulnerable groups are *partners* and not *targets* in the process of coming up with measures to reduce vulnerability. The local people must actively participate in the identification of measures to be put in place. We must move away from having such groups *represented* to having them *participate*. Capacity-building efforts should empower local communities and incorporate their local knowledge. Sensitization and awareness raising with the vulnerable and poor communities is key. There is need to focus on the internal strengths (institutions, production systems, knowledge) and external opportunities to enhance these further. Information on disaster risk protection options "should be provided to citizens in easily understood, ideally local language and through means appropriate to the local context." (Battista, Baas, 2004, p. 28). For responses to be adequate, "crucial investments in information are called for" (FAO, 2005a, p. 7). Both access of the community to resources as well as information and equity of this access within the community are central. Also the media should be involved in awareness and sensitization campaigns.

The understanding that communities at risk are partners should also clearly be expressed in the methodology of risk assessments. Based on other risk assessments, Tearfund, for example, has recently developed a Participatory Assessment of Disaster Risk (PADR) (Available in December 2005 on <http://tilz.tearfund.org/Publications>).

### ***The Importance of the "First" Mile: Local Disaster Mitigation and Preparedness (DMP) Is the Key for Quick Reaction After Disaster to Save Lives***

It is important that international, national and local level DMP is undertaken in vulnerable regions. As most lives are saved during the first 48 hours of a disaster, and national or international emergency relief aid often does not arrive until 72 hours after the disaster has occurred, communities need to be equipped and taught how to help and save themselves and their livelihoods. The local capacity for immediate response is crucial. While national warning systems, for example, are a necessary DMP measure, if communities do not know how to respond to these warnings, lives will still be lost (see La Trobe, 2002, p. 35).

### ***The Challenge in Demonstrating Cost-Effectiveness of DMP***

The lack of resources for prevention and mitigation often reflects "the difficulty in demonstrating cost-effectiveness involved in saving lives and public property from natural disasters before they occur" (Battista, Baas, 2004, p.30). But there are first attempts to overcome this gap. It is becoming increasingly recognized that the longer the delay in addressing risk reduction, the greater the impact, scale and cost of emergencies. The World Bank has calculated that economic losses world-wide from climate related disasters could be reduced by 280 billion US dollars by investing just a seventh of that sum in disaster preparedness (IFRC, 1998, p. 110). A new study applied cost-benefit analysis to local-level DMP actions in the Indian states of Andhra Pradesh and Bihar. The results of the research highlighted that the projects made economic sense and were justifiable from a moral perspective as well. The report compared similar villages, some with DMP programs, some without. The result: For every Rupee invested in DMP activities in Bihar there is a return of Rupees 3.8. For every Rupee invested in DMP activities in Andhra Pradesh there is a return of Rupees 13.4 (Venton / Venton, 2004).

### ***Co-ordination as a Central Factor for Effective Prevention, Mitigation and Preparedness***

Co-ordination of activities and communication of actors are central factors for effective prevention, mitigation and preparedness. As an answer to these challenges the central government should acknowledge the role of local actors and provide an enabling normative framework; it should establish cross-sectoral (horizontal) disaster coordination committees at local level (not necessarily new structures) and eventually add new specialized functions/services to existing structures; and it should design and operationalize contingency and evacuation plans, with clear definition of authority roles and responsibilities.

### ***Much Can Be Learned by Traditional Coping Strategies***

Groups affected by natural hazards often have developed complex coping strategies which traditionally included (among others) shifting cultivation, crop diversification and transhumance. There is a lot of experience to date of

copied with climate variability and weather or other disasters: livelihood strategies, from individual to collective savings mechanisms and migration. Looking at rural livelihood strategies can provide an important means of learning more about how to strengthen household resilience to cope with shocks. Quite often the integration and mainstreaming of indigenous knowledge, technologies and management into current systems enhances the resilience of the community (see .Battista, Baas, 2004, p.28).

### ***The Link Between Poverty Reduction and Disaster Preparedness***

There is a strong link between poverty reduction and disaster preparedness. "People with adequate entitlements, such as access to education and healthcare, are better able to cope with environmentally related pressures." (WBGU, 2004, p. 3). Targeting is necessary, even in disaster situations, to ensure that resources reach those most in need. The poor people need access to resources especially during times of crisis. There is the need to create credit schemes and make them more accessible to the majority of the population. Poverty reduction strategies are central and can be very supportive for DMP. Two aspects, however, have to be kept in mind as well: some key mitigation requirements are not naturally related to livelihood protection, yet retain life-preserving importance. The "pro-poor-development" approach can play down the importance of specific actions needed to reduce disaster risks. And: Even among the poor, some are likely to be affected more than others. So it is important to target the most vulnerable (within households, communities or regions) in disaster prone areas to maximise efficiency of resource use.

### ***A Changing Vulnerability Context (Global Change) as a Challenge to the Existing Adaptive Capacity of the Community***

A rapid change of the vulnerability context often does not allow for traditional coping mechanisms to become effective and results in an overall loss in the adaptive capacity of the community. Key forces in this regard are climate change, urbanization, changing markets and environmental degradation. Regarding adaptation to global climate change, there is a broad consensus among development actors that it is a promising strategy to strengthen first of all the existing capacity to deal with present climate variability (African Development Bank, 2003, p.13). But an increasing number of events or increasing uncertainty due to changing weather patterns becomes a major problem. An increasing number of impacts of climate change are sufficiently certain to warrant proactive risk reduction measures now: For example, mountain glaciers and icecaps are melting across the world, with major implications for the communities who live downstream. In the Himalayas, the risks posed by Glacial Lake Outburst Floods (GLOFs) must be planned for and reduced. Equally, governments and organizations operating in small island states and along low lying coastlines "must plan now for the effects of sea level rise" (Red, Cross, 2003, p. 16f.)

### ***The Need of Insurance Related Mechanisms<sup>4</sup> Especially for the Very Vulnerable Population***

Traditional insurance markets dealing with weather related risks have a very low penetration in developing countries. "In the absence of insurance markets, households try to cope with weather risks by: a) self-insuring through asset accumulation, savings, and access to credit; b) income diversification; and c) informal insurance arrangements." (African Development Bank, 2003, p. 22) New capacities, technical support, and policy instruments are required, which will allow the incorporation of risk management into economic and sectoral planning instruments and improve access by the poor to insurance and other safety-net mechanisms. "It should be considered how insurance related mechanisms – especially for the very vulnerable population, which usually is considered as "non insurable" can be used as a risk reduction tool and as an incentive framework for increased adaptation" (CAN, 2005, 5; similar WBGU, 2004, p. 8). Also, FAO sees the need "to recognize the role of financial incentives and policy instruments in reducing food insecurity caused by natural disasters" (FAO, 2005 a, p. 8). It will be interesting to see, what kind of innovative options the Munich Climate Insurance Initiative (MCII) will present during the following years.

<sup>4</sup> The term "insurance-related mechanisms" refers to contractual arrangements that provide financial protection against specified contingencies, such as material losses or death. A more common synonymous term is pre-disaster "risk-financing arrangements."

## Challenges on the Way to a Preventive Culture

### Challenges for the Political Sector

It is not easy to implement risk reduction measures due to differing priorities as expressed by local, national and international decision makers. One problem is the competition between short term needs and potential long term benefits of disaster prevention and preparedness. Another major problem, as of yet, is that elections can be won by managing disasters, but so far not by preventing them.

One crucial institution in this regard is the media. Donor institutions should be encouraged to sensitize the media to report good practices / success stories and not just addresses relief efforts. This could be one important step to get politicians to engage in implementing the most pressing steps on the way towards a preventive culture:

#### **Supporting, Scaling up and Co-ordination with Community-Based Disaster Risk Reduction (DRR)**

Community-based disaster risk reduction is crucial to sustainable development. NGOs working with poor communities around the world are increasingly reporting the benefits of risk reduction measures: lives being saved, properties being protected, returns on investment and wider development benefits being achieved such as community empowerment. But NGO projects are not enough – good, community-based DRR **must** be supported and scaled up by local communities, national government, institutional donors and other agencies. There is a strong need for the coordination of the activities on all levels in order to "intensify cooperation to reduce the number and effects of natural and man-made disasters" (United Nations Millennium Declarations). Interventions should be designed in a participatory manner to ensure that they are useful and sustainable. External assistance should strengthen local strategies rather than replace them. This may include incorporating indigenous knowledge and management systems in current management systems. Partners need to have a significant input into shaping the actual design and implementation of an intervention. Governments which recognize the need for disaster preparedness, should not focus mainly on large-scale technology, such as national early warning systems while ignoring the need of local communities asking how to prevent disasters or how to respond to disasters and to react to early warnings.

#### **Removing Maladaptive Policies and Practices**

There is evidence that disaster risk accumulates historically through inappropriate development interventions (Battista, Baas, 2004, p.6; UNDP, 2003). Some examples are: "Poor land use (building on floodplains or unstable slopes), deforestation, uncontrolled population growth and urbanization, social injustice, poverty and economic short termism" (Red Cross, 2003; see also African Development Bank et al., 2003, p. 16f.).

Immediate benefits can be gained by removing maladaptive policies and practices.

#### **Mainstreaming Mitigation, Prevention and Preparedness into the Planning Process**

Risk reduction initiatives should be included in the existing context, agenda and priorities of developmental strategies. In many countries, further success of any development/poverty reduction strategy will depend on the awareness-raising of the threats caused by natural disasters and the attitude-changing towards a preventive nature of measures.

Countries use different processes to identify and implement key priorities at national, subnational and sectoral levels. At the national level, this may be

- a long-term development plan,
- a poverty reduction process
- or a national strategy for sustainable development (see OECD 2001; African Development Bank et al. 2003, p. 27).

"Future development decisions must be viewed through the lens of risk reduction" (IFRC, 2002). The development planning process varies from country to country and, in larger countries, even from province to province. Disaster Prevention and Preparedness strategies "will require fusing government- and institution-level approaches with bottom up approaches rooted in regional, national, and local knowledge." (African Development Bank, 2003, p. 27; see also Niang-Diop and Bosch, 2003). Risk preparedness, and in this context also climate change, must be accounted for in all local and national development planning. "Climate change intensifies the need for governments to have national policies in place that address their country's sustainable development needs" (La Trobe, 2002: p. 39).

### Challenges for the Donor Community

Within many donor organizations and part of the NGO (development) community, the awareness increases concerning threats caused by natural disasters. But like many governments, donors continue to focus more on 'bandaging wounds' rather than 'preventing injuries', emphasizing disaster response rather than preventive measures. Take as example the floods in Mozambique in the year 2000: six months before the floods arrived, the Mozambique government appealed to the international community for US\$2.7 million to prepare for them. It received less than half of this amount. Yet after the floods had hit, Mozambique received US\$100 million in emergency assistance. There are different challenges for the donor community on the way towards a preventive culture:

#### **Overcoming Internal and External Knowledge Barriers**

Development specialists within donor organizations frequently fail to integrate risk reduction into their work. One contributing factor is that most organizations fail to communicate effectively between sectors and departments. Another factor contributing to the limited mainstreaming of risk reduction is that it is very broad in its scope due to a wide range of preparedness and mitigation activities (ranging across a number of sectors), and a variety of agencies working in this field. Finally, the wide range of terminology used by the disaster management community to describe risk reduction can also contribute to a lack of understanding of the issue.

Actions that can be taken to address the internal knowledge barriers:

1. Those with a sound understanding of risk reduction (often those placed within the humanitarian aid sector) should seek to communicate more effectively with relevant development departments. This may require adopting developmental language and emphasizing the links between disasters and poverty.
2. Well documented case studies, although context specific, are useful in demonstrating to development sectors both what is meant by disaster risk reduction and how it can be implemented.
3. Although risk reduction should not and cannot stand alone if it is to be effective, a separate disaster risk reduction unit may be necessary to pilot projects, develop case studies and training materials as well as ensure the dissemination of these throughout an organization.

External aspects (focusing on the communities and the relation: communities- donors) should be addressed as well:

1. There is need to focus on the internal strengths and external opportunities among vulnerable communities - the most promising way of achieving sustainability in any initiative.
2. Ownership: Development sectors, which have a long term approach, have to take ownership of risk reduction. Disaster crises should be seen as an integral part of development, not as a kind of anomaly to it. It is a major breakthrough that the International Federation of Red Cross and Red Crescent Societies' Strategy sees disaster preparedness as one of the four core areas in the Strategy 2010 (Red Cross, 2003, p. 35)

#### **Building Strategies to Overcome Competition Problem**

A rising share of official development assistance is used for emergency assistance. The attempt of humanitarian aid departments to undertake disaster prevention is hampered by a rising number of disasters and increased pressure to respond. The answer to this problem is to mainstream risk reduction into development organizations in order that human and material resources for it can be increased. However, the need to engage with other important development issues is frequently given as a reason why more development finances could not or should not be invested in risk reduction. Other very real stressors, including HIV/ AIDS, are competing for the same resources.

Agreeing that resources will never be adequate, there is the need for the donor community to join hands and come up with long-term but sustainable strategies rather than un-coordinated one-off activities here and there. This will give opportunity to monitor/evaluate the strategy so far and make the necessary adjustments. To

integrate risk reduction properly into existing patterns, it is required to develop case studies and cost-benefit analyses in order to demonstrate the validity of risk reduction in development programming. Experience shows that the longer the delay in addressing risk reduction is, the greater the impact, scale and cost of emergencies. Risk reduction initiatives have to be built into the existing context, agenda and priorities of development strategies. In this way, risk reduction will be viewed less as competing with other development needs and more as an integral and vital part of development itself.

### **Building Ownership to Fill the Gap between Relief and Development Processes**

Many of the concepts associated with the design and delivery of risk reduction projects demand a developmental approach over a period of time far longer than the average relief intervention. Consequently, there is a general acceptance within the disaster management community of the need to increase the level of ownership of risk reduction among development sectors. However, as with relief sectors, risk reduction does not sit particularly comfortably with development specialists, as they tend to perceive disasters as an unfortunate detour on the developmental path. In doing so they fail to draw a link between the failures of development and inherent underlying risks represented in the form of a disaster. So disaster prevention and preparedness quite often fall in the gap between relief and development processes.

The following actions may be taken to increase the level of ownership of risk reduction by development specialists:

1. Ownership can only be achieved if the staff understands the importance and relevance of risk reduction to their work. Staff training, materials and technical support can help increase understanding. Organizations may need to employ additional staff to mitigate the work load. A risk reduction 'champion' to inform and educate staff (not to control them) within an organization might be important to promote disaster risk reduction internally.
2. A checklist, developed in cooperation with internal staff, could ensure that a project is approved only once it has been considered in light of the disaster risks it faces, and the way in which it will withstand and mitigate these risks (see e.g. Inter-American Development Bank).

### **Challenges for the Finance and Insurance Sector**

More and more actors see the need for new capacities, technical support, and policy instruments, that will allow the incorporation of risk management into economic and sectoral planning instruments and improve access by the poor to insurance and other safety-net mechanisms. In this regard there are different challenges for the finance and insurance sector:

#### **Investing in Insurance Literacy, Organizing Mutuals and Micro-Insurance**

There is a need to invest in educating the poor and marginalized communities about risks, vulnerabilities and exit coping mechanisms like insurance. The marginalized people also need to be organized into mutuals to address and cope with the risks and vulnerabilities. The options of micro-insurance should be explored and tested.

#### **Building Strategic Public-Private-Community Alliances**

There is greater need to build alliances to understand the extent of the issue providing insurance services for the poor and marginalized. It is important that new initiatives develop insurance-related solutions to help manage the impacts of climate related disasters, seeking to combine the resources and expertise of the public and private sectors. Partnerships between different stakeholders can provide a space and platform to learn from each other and offer better solutions to address the problem. Mainstream insurance and finance actors need to invest their resources on undertaking a few pilots through promoting unique partnership among different stakeholders. They should promote insurance approaches in cooperation with other organizations and initiatives within existing frameworks, such as the United Nations system, International Financial Institutions, international donors, NGOs and the private sector. (As a promising new alliance see The Munich Climate Insurance Initiative (MCII))

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