

Disaster risk reduction: a call to action



© Yann Arthus-Bertrand/La Terre vue du Ciel - Flooded houses south of Dhaka, Bangladesh (23°21' N, 90°31' E)

• **THE ROLE OF LOCAL
STAKEHOLDERS IN LINKING
DEVELOPMENT TO DISASTER
REDUCTION**

Interview with Andrew Maskrey
(UNDP/BCPR and Chair of the IRP)

• **RECOVERY AND
RECONSTRUCTION**

Lessons learned from Japan and
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• **EARLY WARNING SYSTEMS
AND EFFECTIVE RISK
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The role of the UN Special
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President W. J. Clinton

• **FROM DISASTER
RESPONSE TO DISASTER
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REDUCTION AND SUSTAINABLE
DEVELOPMENT**

Helena Molin Valdés
(UN/ISDR Deputy Director)

• **LOCAL LEVEL RISK
MANAGEMENT AND STRATEGIC
PLANNING**

Concepts and practices from
Central and Latin America

This special issue has been prepared and produced in conjunction with:
the International Recovery Platform (IRP) and the United Nations International Strategy for Disaster Reduction (UN/ISDR)

The Delnet Programme of the International Training Centre of the International Labour Organization (ILO), a specialized Agency of the United Nations, supports and assists the local actors in the promotion of the territorial development processes since 1998. Delnet addresses technicians, managers and officials of public and private institutions involved in local development and decentralization processes. It offers training, information, technical advice and networking tools, through the use of most updated Information and Communication Technologies. Delnet brings together more than 1,500 institutions in 71 countries all over the world in English, Spanish and Portuguese languages.

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the International Recovery Platform (IRP)
the United Nations International Strategy for Disaster Reduction (UN/ISDR)**

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Flooded houses south of Dhaka, Bangladesh (23°21' N, 90°31' E)

Bangladesh is a delta plain covered by a vast network of three hundred waterways. From June to September, heavy monsoon rains cause the rivers to overflow their banks and flood nearly half of the country. Accustomed to this natural cycle, part of the country's population lives permanently on chars, Ephemeral River islands made of sand and silt deposited by the rivers. In 1998, however, two-thirds of the country remained under water for several months following the worst flood of the 20th century, which claimed 1,300 lives and left 31 million Bangladeshis homeless. An effect of global warming, natural disasters of this kind are becoming increasingly common, and six years later Bangladesh was once again hit by devastating floods. It is one of the most heavily populated countries on Earth, and also one of the poorest and the most at threat from climate change. Before 2020, 20 million Bangladeshis may be forced to leave their country because of the gradual disappearance of their land under the rising waters.

Since 1990, Yann Arthus-Bertrand has been flying over a hundred countries. His aerial photographs, which cannot be dissociated from their captions, invite all of us to reflect upon the Earth's evolution and the future of its inhabitants. Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. Limits to our planet's ecosystem appear everywhere: fresh water, ocean water, forests, air, arable land, open spaces... At this critical stage, the alternative offered by a sustainable development policy should help to bring about the necessary changes in order to "meet the needs of the present without compromising the ability of future generations to meet their own needs." Each and every person can and must act and contribute to the future of the Earth and mankind, starting right now. Website: <http://www.yannarthusbertrand.org>

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 **local.glob** (Global Thinking for Local Development), launched in April 2005, is produced by the Delnet Programme of the International Training Centre of the ILO and endorsed by the Editorial Board – which includes people with great experience of local development and representatives from organizations of recognized international prestige.

We have chosen the title **@local.glob** for this new publication since our aim is to provide, in each issue, a forum for opinion, exchanges and thinking on processes of decentralization and local development in a globalized world. The local and the global interact are both a cause and an effect of debate, analysis and reflection on the complexity of our world.

Local development came to the fore many years ago by the practical route, when local actors began to face specific problems concerning the management and growth of their territory. The international community now officially acknowledges the key role played by local government in implementing sustainable economic, social and environmental development policies.

We at **@local.glob** believe that we must go a step further and put local development at the top of the agenda, giving it the role it should play in a globalized world. Sound thinking arising out of the experience of local actors throughout the world must be created and reflected in concrete regional development policies. A theoretical framework is also essential to ensure that local development policies are effective. It is also crucial, however, for this theoretical framework to be underpinned by concrete experience, sound decisions and failures, and the lessons not only of best practices but also of mundane errors.

Each issue appears thanks to the cooperation of people and institutions whose daily work demonstrates their great commitment to decentralization and local development, by making their vast theoretical and practical experience available through their articles and supporting this forum for constructive dialogue, reflection and participation.

At the beginning of the new millennium, the world's nations committed to an ambitious, global, development agenda to fight poverty, disease, environmental degradation, hunger, illiteracy and the devastating consequences of disasters caused by vulnerability to natural hazards. The overriding Millennium Development Goals (2000), the Johannesburg Plan of Implementation for Sustainable Development (2002) and the Hyogo Framework for Action (2005-2015) provide concrete priorities for action to meet these challenges. The deadline for most of these development targets is 2015— only nine years from now.

Nearly 75% of the world's population is at risk of disasters triggered by natural hazards. Global trends show that urban growth, environmental degradation and global warming exacerbate the impact of disasters and increase the vulnerability of the world's communities, in particular, the poorest.

The time has come to take unprecedented action to change our global development course. It is urgent that we reset our priorities to embark on real sustainable development, in which both poverty and disaster risk are reduced. To make this happen, governments in hazard-prone countries must make disaster risk reduction a priority in their national policies and make the resources available to turn these policies into practice to ensure sustainable development.

The United Nations system and its related organizations can provide leadership in promoting this change. The International Recovery Platform (IRP), which emanates from the Hyogo Framework for Action, works to serve affected communities and nations more effectively by ensuring that disaster risk reduction is an essential component of recovery efforts and by facilitating a better coordination and information-sharing mechanism among key international agencies involved in post-disaster recovery operations.

The IRP is a pragmatic mechanism to bring forward the UN agenda on disaster and poverty reduction by using recovery as a key opportunity to reduce disaster risk. Well-planned recovery can reduce a population's vulnerability through economic growth, employment opportunities, social services and the rebuilding of physical infrastructure. But, without proper care and understanding, recovery efforts can also increase the risk of disaster.

*To build more resilient communities we must focus our efforts on the local level. This journal, **@local.glob - Global Thinking for Local Development** aims to give voice to the local realm and, at the same time, address decision-makers worldwide.*



*We hope this special issue of the journal **@local.glob** will contribute to a global debate on how to accelerate a common process of collaboration and coordination at local, national, regional and international level on implementing the Hyogo Framework for Action and achieving the Millennium Development Goals. Our main purpose is to facilitate and support efforts by governments, local authorities, international organizations, and multilateral financial and trade institutions to invest in reducing disaster risk and to promote sustainable development policies that will create better opportunities for all.*

*Sálvano Briceño
Director
ISDR secretariat, UN*

*José Manuel Salazar-Xirinachs
Executive Director
ILO Employment Sector*

Geneva, July 2006

Fighting poverty, environmental degradation and the devastating consequences of disasters caused by vulnerability to natural hazards are objectives that can only be accomplished if they are undertaken in an integrated manner: **promoting sustainable development policies** at different levels, by diverse stakeholders, within a multi-sectoral approach.

In other words, **the responsibility for meeting and implementing the Hyogo Framework for Action 2005-2015¹ and achieving the Millennium Development Goals** does not lie just at national and international level: it **needs involvement, participation and commitment by local authorities, local social and economic stakeholders and the community as a whole.**

Based on the assumption that disaster risk reduction should focus on the root of the problem rather than on its symptoms, the ILO Crisis Response and Reconstruction Programme (ILO/CRISIS) and the Delnet Programme of the International Training Centre of the ILO (Delnet) last year became members of the International Recovery Platform (IRP), with a specific mandate to support capacity building activities that would link recovery efforts to sustainable development strategies.

ILO/CRISIS was created within the Employment Sector of the ILO in 1999 in order to develop tools and provide technical support services for crisis-torn countries facing employment-related challenges. It seeks to promote socio-economic reintegration of crisis-affected groups and to strengthen the ILO's capacity to respond in a timely, comprehensive and effective manner to different types of crisis situations. The main focus is on generating a quick impact in terms of employment creation with a view to laying the basis for a sustainable socio-economic recovery process and long-term job opportunities.

Delnet has worked as a local development support programme since 1998, with the objective of enhancing both human and institutional capacities in a world in which local level decision-makers are increasingly assuming greater responsibility for developing their territory through strategic planning and for improving the quality of life of its inhabitants.

The objectives and activities of ILO/CRISIS and Delnet are two faces of the same coin, sustainability. Our joint support for the 2015 agenda within the framework of the IRP will only have a significant effect if local sustainable development is the core of our action.

"Underlying the devastation of a disaster are often vulnerabilities stemming from poverty, social exclusion, and environmental degradation"². Although a sustainable community cannot stop tornados, hurricanes, earthquakes, floods and drought from happening, it must be able to reduce the physical damage to its territory and its inhabitants

¹ Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters <http://www.unisdr.org/we/d/0/4/6/2>

² Source: <http://www.ilo.org/public/english/employment/crisis/index.htm>.

and thereby minimize the social, economic and environmental impact.

The more disaster risk reduction strategies are internationally supported and integrated into local and national policies and – last but not least – into local strategic planning, the closer we shall get to meeting the development standards that the Earth's scarcity of resources and its social inequities urgently call for.

*This special issue of **@local.glob** is dedicated to local, national and international decision-makers who are aware of the fact that sustainability and disaster reduction are not an unreachable utopia: they can be achieved with commitment and responsibility*

“Sustainability is an embracing concept that can give localities a framework within which to do many of the forward-looking things that they are already doing (or want to do), whether they be improvements in lifestyle, safety, economic opportunity, or protecting the environment.”³

*We hope you will enjoy reading this third issue of **@local.glob**: “Disaster risk reduction: a call to action” and we also hope that you will find inspiration for further action and commitment.*

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Turin and Geneva, July 2006

³ Source: Natural Hazards Center, Holistic Disaster Recovery. Ideas for Building Local Sustainability after a Natural Disaster, University of Colorado, USA, 2001.

Disaster risk reduction and sustainable local development



- **Jaime Valdés - Disaster risk reduction: a call to action**
- **Noroarisoa Rakotondrandria - Africa seeks to shift from disaster response to disaster prevention**
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Disaster risk reduction: a call to action

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Disasters and their impact: an approximation to the reality

Natural phenomena such as earthquakes, hurricanes, tidal waves, volcanic eruptions, landslides, drought and other events of greater or lesser magnitude have always been present on our planet. They are the consequences of dynamic changes in an earth that is in perpetual motion. Through the history of mankind, many such events have caused damage with disastrous consequences for the local population and their means of subsistence. Most cultures, however, learn how to live alongside, know and respect natural threats and the laws of nature, thus allowing great civilizations to grow up in harmony and balance with the environment and their own surroundings.

The international community began the new millennium by feeling encouraged that although the magnitude, recurrence and number of people affected by disasters due to natural phenomena had increased in the last decades, the number of fatalities had fallen. Sadly, just one year later, the world found itself facing a desperate situation and the heartening picture built up during previous decades proved to be but a temporary respite. The Asian tsunami and earthquake in December 2004, the hurricanes in the Caribbean and the Gulf of Mexico in 2005 and the earthquakes in Pakistan at the end of the same year were just some of the major world events that revealed the vulnerability and fragility of our societies before the horrified eyes of the world and the powerlessness of the international community (despite all our huge resources and scientific and technical advances). This lesson left us with a balance of hundreds of thousands of dead, wounded and missing; millions of homeless people – with their economies and means of subsistence destroyed.



SOURCE: DR. PEDRO BASABE - UN/ISDR

Phreatic-volcanic explosion of the Guagua Pichincha, Quito, Ecuador, October 1999

We estimate that over recent decades, 250 million people per year on average have been affected at various times. More than 58,000 lives and more than 67 billion dollars (USD) have been lost as a result of disasters caused by natural threats. In 1990, 90 million people suffered the impact of disasters compared to 255 million in 2003. Between 1990 and 2003, a total of 3.4 billion human beings on our planet suffered the consequences of disasters¹.

¹ D. Guha-Sapir, D. Hargitt, P. Hoyois, *Thirty Years of Natural Disasters 1974-2003: the Numbers*, CRED/UCL Presses, 2004.

Nearly 75% of the world population live in areas that have been struck by disaster at least once between 1990 and 2000. Every day, an average of 184 people die due to catastrophes in various parts of the world and over the past two decades, more than 1.5 million people have lost their lives as a consequence of these disasters. Only 11% of the world population exposed to natural threats live in countries with a low Human Development Index (HDI) yet these account for 54% of deaths, while countries with a high HDI are home to 15% of the population but the mortality rate is just 1.8%².

These alarming figures beg the question: *is the world progressing inexorably towards forms of development that generate and increase the risk of disasters or is it possible to halt and reverse the current process?* The forecasts are not very comforting. According to United Nations forecasts, it is estimated that losses due to disasters will rise to 300 billion USD and 100 thousand lives per year by 2050³.

The numbers paint a bleak picture and are only the tip of an iceberg, since they do not reflect the true impact of disasters and their consequences in terms of the physical and mental health of the affected target groups; in terms of economies, means of subsistence and production by the local population; in terms of families that lose their breadwinner or in terms of countries with a low HDI, which have little or almost no possibility of recovering after a disaster. Neither do these figures consider the impact of so-called minor disasters that can drastically increase the above statistics.

Disasters are a consequence of development and risk accumulation

At this stage of mankind's history and development, with our high level of scientific and technical knowledge, when we possess unimaginable technological resources that have taken man to space, when communications are immediate and time forecasting and threat awareness technology is better than ever before, we may well ask ourselves how it is possible that the world is going

backwards at such an alarming rate that we cannot even protect the life of our citizens - when we should be progressing in the direction of greater risk reduction. We must start to answer this question by considering whether the development model can continue at its current rate and guarantee a more sustainable planet given the current rate of decline in natural resources and generation of vulnerable areas, or if we need to seriously question current development practices.

Disaster risk is a cumulative process that combines natural, socio-natural and man-made threats with human actions that create conditions of vulnerability. The vulnerability of a society determines its level of susceptibility to a threat being potentially disruptive and causing one or many minor disasters with damage to the community and affected people.

Disasters are the outcome of a complex mix of actions linked to economic, social, cultural, environmental and political-administrative factors that are determined by inadequate development processes, structural adjustment programmes and economic investment projects which do not consider the social or environmental cost of their actions. The situation is worsened by the unfair distribution of wealth and opportunities, deficient settlement patterns in high-risk areas (mainly involving the most vulnerable target groups), unbridled urban growth with no proper planning, continuous environmental degradation, poor ability to manage and reduce the risk of disasters by authorities and communities, lack of human, technical and material resources in affected societies, etc.

Although it is certain that the impact of disasters is greater in poor countries, especially those with a low Human Development Index, the responsibility for risk reduction and also generation does not lie just at local or national level – it also lies at supranational and even global level, as is the case with global economic policies, global warming of the Earth, climate change, desertification and environmental degradation. The repercussions of many of these measures are felt far from the area where the decisions were taken or where the

² UNDP – Bureau for Crisis Prevention and Recovery, *Reducing Disaster Risk: a Challenge for Development*, UNDP, 2004.

³ A. Lavell, *Local Risk Management. Ideas and Notions Relating Concept and Practice*, CEPREDENAC/UNDP, 2003.

actions were carried out, affecting, in the first instance, developing countries or target groups at the greatest risk of economic and social exclusion. **Risk reduction is everybody's responsibility and, due to ethics and the basic principles of humanism and solidarity, is mainly the mission of those who possess the necessary knowledge, resources and instruments and have the best opportunities to conduct the fight against disasters.**

The above problems are exacerbated by a series of myths or misconceptions that make a society even more likely to be vulnerable to disastrous situations. Even experts assert that *disasters are natural*, that *population growth generates risks*, that *a society cannot deal with the consequences of a disaster on its own and requires external aid*, that *the disaster period only lasts a couple of weeks and things quickly return to normal*, to mention but a few. Reality, local experiences, the wisdom of communities and scientific knowledge has shown us that most disasters may be avoided and are not natural, even though the threat may be natural. Disasters are caused by the vulnerability factors that we ourselves generate together with the threats, lack of ability and poor risk management. Deficient development often reinforces the danger or constitutes new threats.

People are not killed by earthquakes or the wind of a hurricane but by physical constructions or secondary factors that are not necessarily related to the threat. People are not the problem but the solution and the main resource available to developing countries. It has been shown that the local community and the people in the area are the main line of defence and the basis for reconstruction in an emergency situation. In 1998, when Hurricane Mitch hit Central America, it was the local communities in affected countries that rose to the occasion and dealt with the emergency and even with the reconstruction process. In places where disaster reduction strategies are implemented, a better response is achieved and the reconstruction process is more efficient. Dozens of examples in Africa, Asia or Latin America support this statement.

In any case, outside aid is not always sufficient or is

not necessarily adapted to the true needs of a country or area following a disaster and more closely reflect what the financial institutions have to offer than the needs of those affected. Generally, conditions are imposed that the country is not in a position to comply with or the aid schemes do not allow for the forecasting and generation of new risks. This increases the level of debt and economic dependency still more, which can even lead to conditions of greater vulnerability.

The deficient development processes that enhance and exacerbate the impact of threats are compounded by the fact that actions taken by the international community and countries to reduce disasters are mainly focused on response and continue to be dominated by humanitarian aid and emergency management and not on prevention. In many situations, this attitude

Many people living in subsistence economies do not have the means to allow them to live without contributing to the depletion of local natural resources and thus giving rise to vulnerability factors in their areas. Unfortunately this is the source of survival for approximately one third of the world population⁴. Depletion of the means of survival of less favoured people is not, however, the greatest problem: in an attempt to generate short-term financial gain and income, states, international financial institutions and major international corporations promote development megaprojects or projects such as hydroelectric dams, roads, natural resource exploitation (forestry, water, mining, fishing, etc.), town developments in low or high river basins, etc., that do not consider and include risk factors or allow for the generation of new vulnerabilities and threats. Such projects therefore contribute to the generation of high risk indices that endanger the ecological balance of affected areas and also the survival of the local inhabitants, especially those that live in the original villages, which is where most natural resources are conserved.

By the deforestation of the native tropical woodland to plant exogenous species or for stock rearing, by cutting down or reducing mangrove swamps to rear shrimps or other species, by flooding great swathes of land for reservoirs, by building over extensive fertile areas and covering them with asphalt or concrete, we are eliminating and reducing the natural defences that ecosystems use as windbreaks, to calm waves, keep back water, prevent erosion and thus prevent human, economic and environmental disasters. **A basic principle of any social process is that economic growth cannot come at any price or be valued more highly than sustainable human development, the environment and people's lives.**

⁴ Source: UNEP, 2000, as quoted in the document: *Disasters and Human Settlements. Situation in the Caribbean Basin*, UN-HABITAT, 2002.

can increase the causes of vulnerability if we do not act in a planned manner in conjunction with the local authorities and communities and focus on sustainable development. Emergency actions and humanitarian aid are generally more visible and quantifiable in the short term and, in some way, they serve to assuage guilty consciences, show results, provide greater visibility and gain credibility following a disaster. Aid for development is not increasing on a global scale, but humanitarian aid has grown significantly⁵.

Lengthy periods elapse between the *end of humanitarian aid* and the start of reconstruction activities (processing of plans and projects, resource management, negotiations, etc.). During this time, the local people are left with little or no support for recovery and must make do as best they can, without the appropriate resources and capabilities. During this time lag, new disaster risk scenarios may arise, adding to the risks that were present before the disaster. In some cases, long-term reconstruction never takes place or is delayed due to a death of implementation and preparation capabilities after the emergency stage.⁶

The international community is becoming aware

Despite everything I have said previously, the picture is not entirely gloomy and glimmers of light are beginning to be seen in the struggle against disasters. The international community is increasingly beginning to gain new awareness of the direct effects of disasters on development and also the effects of development systems on disaster risk generation.

We are very gradually changing our habits of acting only in emergencies and ceasing to see disasters as random, fortuitous events but rather as a process of risk accumulation that must be considered and incorporated in all actions involved in the development of a country or area. The disasters themselves have acted as triggers to make the international community sit up and take action to reduce their effect. At present, major disaster risk management processes are taking place on a local,

national and supranational level in the Americas, Asia, Africa and even in Europe.

The United Nations (UN) proclaimed the decade of 1990-1999 the **International Decade for Natural Disaster Reduction** (IDNDR), which allowed us to make significant progress in gaining awareness of and promoting a culture of prevention. Major achievements were made in the setting up of national disaster reduction systems and in raising awareness at national and international level within national governments, local governments and also in civil society. Non-governmental organizations, research centres, universities, municipal promotion institutions, local governments, etc., have been increasingly involved in the area.

At the end of the past decade, the **International Strategy for Disaster Reduction** (UN/ISDR) was proclaimed to keep up the good work begun by the IDNDR and to respond to system needs for a permanent world framework to coordinate and promote disaster risk reduction. The UN also declared a need for the ISDR to incorporate local, national and regional development processes with the aim of seeking greater sustainability in future actions.

At the same time, various system organizations such as the **United Nations Development Programme** (UNDP), the **UN Environment Programme** (UNEP), the **International Labour Organization** (ILO), amongst others, promote programmes and projects designed to reduce risk in the most vulnerable countries and populations of the world.

A set of international instruments such as Agenda 21, the Convention on Climate Change and the Kyoto Protocol, the Johannesburg Declaration and its Plan of Implementation for Sustainable Development, the Convention to Combat Desertification and Drought, the Millennium Declaration and the Millennium Development Goals, are important instruments approved and ratified by the majority of UN member states and may become excellent tools for progress in disaster risk reduction and in sustainable development.

⁵ D. Guha-Sapir, D. Hargitt, P. Hoyois, *Thirty Years of Natural Disasters 1974-2003: the Numbers*, CRED/UCL Presses, 2004.

⁶ Delnet Programme, *Specialization in Sustainable Local Development and Disaster Risk Reduction - Theoretical Framework*, Delnet ITC/ILO, 2006.

These instruments are complemented by the **Hyogo Framework for Action 2005-2015, Building the Resilience of Nations and Communities to Disasters**, adopted at the **World Conference on Disaster Reduction** (WCDR) in January 2005. This tool, which is supported by nations throughout the world and has been ratified by the United Nations General Assembly, serves as a starting and reference point for national and local policies and processes designed to reduce the risk of disasters⁷.

Challenges for the future: a call to action

Understanding that disaster risk is determined by a pre-existing situation, in which the human factor plays a part, allows us to become aware of the need to seek development strategies based on disaster risk reduction processes aimed at sustainability. To do this, we must set out a twofold objective: reduce existing vulnerability (built up by historical process through the implementation of unsustainable development practices) and promote processes that prevent conditions arising that could give rise to new risk scenarios in the future. We must act on the structural development causes that generate the risk and not only on their symptoms, as has been the predominant tendency in the past.

A wide-ranging consciousness-raising process has allowed us to make progress to the extent that communities and societies can call on the necessary tools, agreements, strategies and above all, an international framework for action and consensus (the Hyogo Framework for Action) that allows us to promote a culture of prevention and make progress in reducing the risk of disasters with a view to sustainable human development. It is now the responsibility of states, international organizations, the UN System and all actors involved to apply the measures, strategies and recommendations that they themselves have proposed, signed and ratified. The necessary bases and tools have already been established and there can be no more excuses for dragging our feet. Risk reduction cannot continue to be a matter of reacting to emergencies but must become a matter of development.

The states, the international community and the key actors must trust in and promote to a much greater extent a reinforcement in local capabilities and the participation of all sectors. They must enhance the use of endogenous resources in countries, areas and communities and base disaster risk reduction strategies on the local situation, treating the environment, the natural habitat and people as the main resources for carrying these processes forward.

International financial institutions, states and donor organizations must assume responsibility for allowing for a risk component in all projects to reduce current risk and also to prevent the generation of new vulnerabilities and threats. During the post-disaster reconstruction stage, the actions implemented should not place affected communities or countries into debt but should consider interest-free loans for economic and social development that are adapted to the true situation in countries and not based solely on offers of cooperation and subject to conditions that those affected cannot meet.

One new and great challenge that is gaining ground is to develop new economic, credit and loan policies that will give states incentives to invest in disaster prevention and reduction. These could include the reduction of foreign debt, the provision of interest-free loans and the implementation of local economic development projects aiming to reduce poverty, etc. At the same time, we must promote policies to penalise projects or actions that deplete the environment and generate risk. A “environmental or disaster tax” could be applied to activities that generate risk, pollute the environment and deplete natural resources. These resources could be invested in an attempt to reverse the negative consequences of unsustainable actions and be managed at the local level to fulfill a twofold objective: reduce disaster risk and create job opportunities in the territories.

Transnational corporations and companies that are not properly regulated in such countries must establish minimum ethical standards and criteria to halt the decline in natural resources and environmental pollution and the destruction of the means of subsistence of the people who inhabit the affected areas, particularly in the

⁷ For more information on the Hyogo Framework for Action, see section IV of this review, in the chapter on international organizations.

original villages whose very existence is under threat and fundamental rights are violated.

The struggle against disasters means a serious, ethical and moral commitment since the lives and means of subsistence of major sectors of the world population hangs in the balance. This is the responsibility of all actors who play a part in risk reduction and/or generation. We will make little progress in risk reduction and sustainable development without any firm commitment by states to include risk reduction as a public and development policy in economic, social, cultural and environmental sectors, with proper administration, monitoring mechanisms and true decentralization and allocation of competences and resources to the local environment (which is the place actually affected by the decisions, measures and disaster risks).

Experience tells us that the key to preventing, alleviating and, in the best possible scenario, avoiding the impact of disasters is to: reduce the risk before it arises in the first instance; guarantee a good preparation if a potential destructive event occurs; and ensure rapid, effective and appropriate reconstruction after the emergency phase.

Reconstruction may be considered a window of opportunity and one of the best times to introduce the topic of disaster risk reduction in the planning of sustainable development while also promoting proactive and permanent strategies that allow the building of safer societies. Reconstruction must focus on reinforcing the capabilities of key actors in local development and in the affected communities but also on improving quality of life, reducing poverty, creating sources of dignified employment and safe economic development, and also guaranteeing a higher level of safety in the future for assets, means of subsistence and particularly people's lives.

However impossible this may seem, no effort is too big if its aim is to prevent human catastrophes and guarantee greater harmony between people, society and the environment. *A society is safe when it learns to live with itself as well as to live with the Earth. Disaster risk reduction strategies will be successful when governments and the general public understand that disasters are much more than a chance event, that they constitute a lack of readiness on their part and reveal their own negligence*⁸. ■

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Africa seeks to shift from disaster response to disaster prevention

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Africa is not the most disaster-prone region, but it is the most vulnerable one. However, measures have been taken, over the last four years, to address this situation.

With support from the Africa Regional Outreach Office of the UN Inter-Agency Secretariat for the International Strategy for Disaster Reduction (UN/ISDR Africa) or from UNDP country offices, African countries have taken major steps to shift from disaster response to disaster reduction.

A Ministry for Disaster Reduction in Gabon

In Gabon, a National Platform for Disaster Risk Reduction was launched on 4 August 2004. During the launching, officials from various ministries issued recommendations such as the establishment of a National Council for Disaster Risk Reduction under the leadership of the Prime Minister.

Still better, the Gabonese Government, in March 2006, after considering that disaster risk reduction was a component of sustainable development, established a Ministry of Disaster Reduction and Management. The UN/ISDR Africa focal point, also the immediate former director-general in the Ministry of Welfare, has been appointed Permanent Secretary in the new ministry.

The Ministry is planning to organize a sub-regional workshop for 19 African countries with the view to establishing a Disaster Reduction Centre for Central African countries.

Toward a flood early warning system in Angola

The Angolan Department of Civil Protection, with sup-



Kenya, Africa

port from UNDP and NORAD (Norwegian Agency for Development), is carrying out a pilot "Flood Early Warning System" project in the province of Benguela (western Angola) where many people living along the Coporolo, Cavaco and Catumbela rivers – therefore in vulnerable flood areas - suffer almost annually from the impacts of floods.

The early warning system is being established in close collaboration with scientists, educationists, national institutions and local communities. Local leadership

structures (administrative, communal, traditional, and religious) are also involved in awareness and educational programmes on early warning issues and disaster prevention measures aimed at reducing the impacts of floods.

The early warning system works in six different phases: data collection, data updating and storage, data analysis, flood forecast, warning dissemination, disaster preparedness. After completion of the pilot phase, the system will be adapted to the country's national early warning system.

Disaster reduction mainstreamed into development plans in Madagascar

Disaster risk reduction has been mainstreamed into regional and municipal development Plans in Madagascar's disaster-vulnerable areas.

Regarding national resource allocation to disaster reduction, the country's Ministry of Economy, Finance and Budget is highly aware of the importance of risk assessment for each development project. In this context, the Ministry expressed the need for capacity building on disaster risk assessment for its staff.

Meanwhile, as the country's Poverty Reduction Strategy Paper (PRSP) will come to an end in late 2006, the National Government was requested by the World Bank to draft a document called "Madagascar Action Plan" (MAP) that will replace the PRSP and will cover the period 2007-2012. With assistance from UN/ISDR Africa, the country's National Disaster Management Agency has presented its action plan for disaster risk reduction for integration into the MAP. The action plan includes decentralization, public awareness and capacity building for various stakeholders and decision makers.

Journalists to help raise awareness on disaster reduction in Senegal

A training session on disaster reduction was held for the "Convention of Young Reporters in Senegal" on 9 and 10 March 2006, organized by the Senegalese Na-

tional Platform for Disaster Risk Reduction. The training aimed at forging partnership between the Department of Civil Protection and young reporters, and at enhancing the young reporters' knowledge of disaster risk reduction.

At the end of the training, the young reporters committed themselves to taking part in all disaster risk reduction activities such as public awareness raising, disaster risk reduction policy/strategy development and programmes. A plan of action on "Media and Disaster Risk Reduction" was also developed.

Africa's pace in disaster reduction "resolute"

It is to be noted that other activities are under way in other African countries. In fact, Africa's pace in disaster reduction seems to be more resolute and faster than that of other regions of the world.

Mainstreaming disaster reduction into school curricula will soon be a reality in Cape Verde, Uganda, the Seychelles and Madagascar, and African education ministries are now eager to engage in this particular agenda. Also African academics' involvement in disaster reduction has kicked off with a University Network on DR in Africa.

Introducing insurance for DR has become a reality in Malawi, and the Seychelles is following suit. One more country - Senegal - has mainstreamed DR into its Poverty Reduction Strategy Paper.

More national platforms for disaster risk reduction have been established, increasing their total number to 15; and many more are in the pipeline. An African Regional Centre for Disaster Risk Management will be established in Egypt. The "First African Ministerial Conference on Disaster Risk Reduction" was held in December 2005, and plans are under way to lobby African finance ministries for permanent resource allocation to disaster risk reduction.

Last but not least, disaster risk reduction is poised to be on the agenda of the next African Union Summit of Heads of State and Government in June-July 2006. ■

Recovery and reconstruction after the Great Hanshin-Awaji earthquake in Japan

Lessons learned from the experience of Kobe

Masahiko MURATA
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Introduction

More than 11 years have passed since the Great Hanshin-Awaji Earthquake occurred early in the morning of 17 January 1995. That massive vertical-thrust earthquake (M7.3, depth 16km) robbed us of many precious lives and destroyed urban infrastructure in a moment. Not only did houses and other buildings collapse but fires broke out in many places. The catastrophe left more than 6,433 dead (including my own grandmother) and brought down 249,180 buildings (including the house I was born in).

At that time, I was a Hyogo Prefectural Government official in charge of public works. As such, I was immediately involved in rehabilitation. Soon, I moved to the public works reconstruction headquarters, where we formulated a Priority Three-year Infrastructure Reconstruction Plan as part of the 10-year Phoenix Plan or Great Hanshin-Awaji Earthquake Reconstruction Plan, aiming at “creative reconstruction”, or “Building Back Better than Before for the 21st Century”, with local leadership.

In January 2005, a World Conference on Disaster Re-

Restoring of the highway which collapsed in the Great Hanshin-Awaji earthquake: images before and after the reconstruction



SOURCE: PHOTOS BY HANSHIN EXPRESSWAY COMPANY LIMITED

duction (WCDR) was held in Kobe. It adopted the Hyogo Framework for Action (HFA), which generated the International Recovery Platform (IRP). Together with municipal governments, citizens, companies, NGOs and other parties, the Hyogo Prefectural Government completed a Ten-year Reconstruction Overall Verification and Recommendation.

This report includes lessons learned from the disaster, countermeasures taken, whether successful or not, and recommendations for the future based mainly on the experience of the local government (Hyogo Prefectural Government).

Restoration and reconstruction

Despite the difficult conditions, including severed traffic networks and paralysed urban functions, restoration has been rapid, thanks to the dedicated efforts of those involved and great support from people both inside and outside Japan. Only six days after the earthquake, a provisional supply of electricity was restored. Water and gas were reconnected within three months. Japanese Railways had reopened all its lines by April 1995. Private railways, which had suffered tremendous damage, resumed normal service by August. The Hanshin Expressway formally reopened all of its lines at the end of September 1996. More than 90% of damaged houses and buildings were cleared within one year of the earthquake. The 14 million tons of rubble this produced was all processed by April 1998, with some of it used for land reclamation. All residents of the 48,300 emergency housing units were in permanent housing by January 2000.

Lessons from the earthquake and the reconstruction activities

From the initial response phase immediately after the earthquake to the fully fledged restoration phase, measures were taken in a range of fields, and much was done to reach the goal of the Phoenix Plan: "creative reconstruction". However, it has become clear that many tasks remain, not only in the stricken region but in Japanese society as a whole.

This report provides examples of lessons learned and action taken by local governments with great support from the national government and related organizations. It looks at: 1) newly created systems and mechanisms; 2) exceptional operation or expansion of existing systems and projects; 3) pioneering initiatives.

1) Delay in the initial response by governments

<Lesson>

Because the earthquake hit the capital and damaged local government disaster management headquarters, their initial response was very slow. Not only the headquarters but almost all the traffic and telecommunications systems (even satellite telecommunications) were destroyed. It took three days for the national government to grasp the extent of the damage.

<Countermeasures>

The national government improved risk management by establishing a Deputy Chief Cabinet Secretary for Crisis Management, a Cabinet Information Collection Center and more. It also developed an Early Evaluation System (EES) to estimate damage quickly, and an Emergency Measure Support System (EMS) to enable related agencies to share information and help implement emergency government measures.

At the local level (Hyogo Prefectural Government), a practical disaster management system was set up. The Disaster Management Center, the first such government building in Japan, opened in 2000 with the "Hyogo Phoenix Disaster Management System" as its core facility. The System uses Internet technology to provide information – including estimates of damage, relief support needs and relief stockpiles in the area – and enables the government to collect, process and provide relevant information smoothly in the event of a disaster.

<Recommendations>

A system should be set up by which information can be collected, transmitted and shared quickly and accurately among disaster reduction agencies, the public administration and private citizens in the event of a disaster.

2) Coordination among organizations

<Lesson>

Local governments could not get detailed damage information and could not request immediate help from the national government or other agencies such as the Self-Defence Force, even though the damage was too great for the local government to cope with.

Severely damaged hospitals were too busy coping with casualties to cooperate with other medical agencies.

<Countermeasures>

Disaster-related organizations have built a nationwide disaster emergency response system. One component consists of national agencies like the National Police Agency, the Fire and Disaster Management Agency, the Coast Guard and the Self-Defence Force. The second is the Inter-Prefecture Mutual Support Agreement. The third is medical agency cooperation. The Hyogo Prefectural Government set up the first local government emergency medical centre in Japan.

<Recommendations>

Large-scale disasters such as earthquakes and tsunamis are expected to hit Japan in the near future. A system by which information can be collected, transmitted, and shared quickly and accurately across prefectural boundaries among disaster reduction agencies, the public administration and private citizens therefore needs to be established.

3) Lack of preparedness

<Lesson>

More than 80% of the victims were killed by collapsing buildings. Most damaged buildings did not comply with the building code, revised in 1981, when they were already old.

Immediately after the earthquake, fire broke out and spread among those old wooden houses in a densely built-up area, burning more than 7,400 houses. (The figure above shows the relationship between the damage level and the date of construction.)

<Countermeasures>

The national government's 1995 "Seismic Building

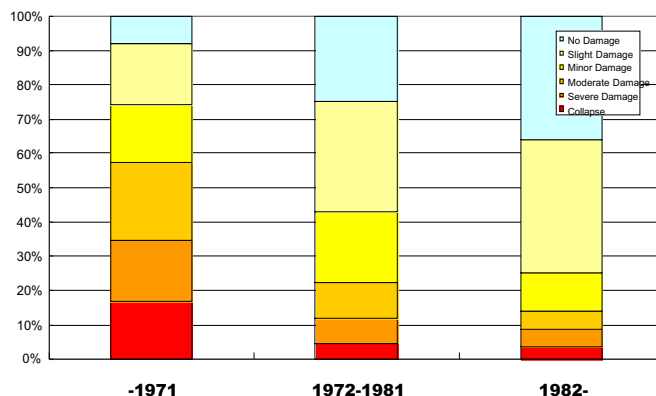


Fig. 2 – Relation between the damage level of buildings and the date of construction

Retrofitting Act" promoted the seismic retrofitting of vulnerable buildings. Local government also subsidized retrofitting.

National and local government shoulders two thirds of the cost of seismic diagnosis of buildings. For retrofitting large buildings, 13% (15% in dense residential areas) is shouldered by governments. Some local governments provide additional support.

<Recommendations>

In spite of that, in 2005, 25% of buildings in Japan, including public buildings, still needed reinforcement against earthquakes. More therefore needs to be done to improve the earthquake resistance of housing and public facilities in a methodical manner, based on a reliable inspection system.

4) Importance of community and volunteers

<Lesson>

About 80% of some 35,000 trapped persons were rescued from the rubble of collapsed buildings by people in the local community. This shows the effectiveness of voluntary fire extinguishing and rescue/aid activities by local citizens during the immediate aftermath of a large-scale disaster.

After the earthquake, a total of 1.38 million volunteers rushed into the affected areas from all over Japan and overseas. These volunteers took part in a wide range of relief and support activities, offering great help in the time of need, especially as regards medicine, building work, welfare and logistics, even though there was no

special volunteer coordination system.

<Countermeasures>

To support volunteer activities, the government designated January 17 "Disaster Management and Volunteer Day", and enacted a law to promote specific non-profit activities in March 1998. Furthermore, the Hyogo Prefecture has instituted a subsidy programme for reconstruction volunteer activities.

The Hyogo Prefecture has supported volunteer disaster response groups through training to nurture leaders, and by providing goods and equipment. As a result, the percentage of households participating in volunteer disaster response groups increased from 27.4% in 1995 to 94.7% in 2005.

<Recommendations>

Create mechanisms that encourage the activities of the non-profit organizations (NPOs) and NGOs involving community bodies, which have broadened their remit in response to the earthquake.

5) Helping affected people become self-sufficient

<Lesson>

Some of the damaged area had a rapidly aging population. Of those who died, 44% were over 65 years old. The earthquake also hit the small-scale industry area. In addition, dispersal of the community weakened the local mutual aid system, which increased the need for special support for vulnerable people.

To allocate new temporary houses, a lottery system was introduced. This completely shattered the old community, and led to more than 200 lonely deaths without family care among elderly people.

<Countermeasures>

New compensation systems were introduced. Furthermore, 16 items of special legislation were enacted, including revisions to local tax law, exceptional provisions under the national tax law, and special measures for the reconstruction of urban areas stricken by disaster. Measures were taken to reduce national and local taxes, including income tax, residency tax and property tax, insurance payments and premiums, and to relax construction restrictions in urban

areas.

One of the most effective and flexible examples of a new support framework was the "Great Hanshin-Awaji Earthquake Reconstruction Foundation".

A fund of 900 billion yen was established in April 1995, and, over ten years, projects worth 354 billion yen were developed:

- Livelihood Restoration Fund: loans and interest support for funding the rebuilding and purchasing of homes;
- rent subsidies for private housing;
- assistance for voluntary activities;
- assistance to revitalize shopping arcades and community businesses;
- assistance for reconstruction and community-building;
- interest support, etc., for housing construction in areas designated for the Restoration and the Urban Environmental Improvement Project;
- a Socioeconomic Rehabilitation Aid System (April 1997) to help victims to rebuild independent livelihoods.

A National Assurance Programme for Victims of National Disasters was proposed and, gaining the support of over 25 million people, the Act Concerning Support for Reconstructing Livelihoods of Disaster Victims was passed (May 1998), which led to the creation of the Victims Self-help Assistance Fund system (July 1998) and the Residential Stability Assistance system (March 2004).

An independent prefectural supplementary system to support housing reconstruction was set up in April 2004. Communal spaces were provided for vulnerable people. Local emergency housing, to which living support advisers (LSAs) were assigned, was built for elderly people and the disabled. Social centers were also built, and lifestyle assistance advisers deployed.

<Recommendations>

With regard to supporting the rebuilding of homes, there is a limit to what can be achieved solely through independent efforts such as earthquake insurance plus public assistance, so we need to create a system which integrates self-support, mutual support and public

support, one example being benefit systems based on mutual assistance by home owners.

Systems for helping elderly disaster victims live independently, designed for the super-ageing society of the future, need to be established. This could be done by setting up new local health care systems and systems to facilitate mutual support among regional residents.

6) The importance of urban planning

<Lesson>

We have learned a lot about urban planning:

- Live in harmony with nature.
 - The damage to buildings was connected to properties of the ground, such as the existence of active faults. Damage was also evident to buildings which stood on steep slopes in the foothills.
 - In order to ensure safe living in cities, there is a need to formulate plans for land use in harmony with nature.
- Importance of water and greenery.
 - Trees lining roads and hedges around private homes contributed to containing the spread of fires.
 - Rivers, water for agriculture, and the sea were useful in both extinguishing fires and supporting daily life. It is important, therefore, that the development of networks of water and greenery as infrastructure should be promoted.
- Disperse or decentralize urban functions.
 - Because the disaster affected the downtown area where government, culture, business and other functions were concentrated, the earthquake shut down the entire city.
 - Given this, it is important to build an urban structure in which functions are appropriately dispersed.
- Balanced transport system.
 - The cutting off of east-west transport routes by the earthquake brought urban functions to a virtual halt. Consequently, there is a need to construct a transport system in which accesses are balanced and a wide variety of alternative routes exist.
- Importance of urban infrastructure.
 - Numerous fires broke out in densely populated areas with mixed residential and industrial use. As these fires spread, widespread destruction was

caused to entire districts. It is therefore important to rearrange urban space, creating basic public facilities such as roads, parks and public squares.

- Build to withstand earthquakes and resist fires.
 - Many people lost their lives when old houses collapsed. It is therefore important that buildings be constructed to withstand earthquakes and resist fires.
- Importance of lifelines.
 - It is important to develop a failsafe approach which ensures that the entire system will not be paralyzed in the event of a disaster.

<Countermeasures>

Along with the Hyogo Phoenix Plan, “new metropolitan cores” such as Kobe New Eastern City Center (HAT-KOBE) and Awaji Garden City have been developed.

As for the reconstruction of the affected downtown areas, 20 land readjustment projects and 15 urban redevelopment projects are proceeding with community and government hand in hand. Their swift completion is expected to regenerate urban areas and revitalizing communities. Although it is necessary to launch a well planned urban reconstruction policy as early as possible, the full agreement of local residents is also needed. For this reason, a two-step system of decision-making on urban planning was set up, with the first stage consisting of decisions on the overall framework and the second on roads, parks and other elements intimately connected with people’s daily lives.

A comprehensive transport system has been developed. The opening of the Akashi Kaikyo Bridge (April 1998), the world’s longest suspension bridge, together with several relevant expressways and more, has helped to develop a high-standard road network possessing both speed and interchangeability.

The Port of Kobe has seen the development of Japan’s first container terminal with a deep-water (15m) berth.

A Rokko Mountain Range Green Belt Development project to build a continuous belt of forest to protect against landslides along the mountain slopes adjacent to urban areas is now under way.

<Recommendations>

Some urban reconstruction is still on going and its swift completion is expected to regenerate urban areas and revitalizing communities.

Tell the world and the next generation

The experience of the earthquake, and the lessons learned from it, should never be forgotten. They should be made known widely, both within Japan and overseas.

The Asian Disaster Reduction Center (ADRC)

In July 1998, the Hyogo Prefectural Government invited the Asian Disaster Reduction Center in Kobe with the support of the national government, to contribute to international disaster risk reduction through information-sharing and capacity-building activities. This was regarded as one of the ten success stories of the United Nations International Decade for Natural Disaster Reduction (IDNDR, formerly ISDR activities), in which Japan's disaster management experience was shared with other Asian countries¹.

The Great Hanshin-Awaji Earthquake Memorial, Disaster Reduction and Human Renovation Institution (DRI)

Many memorial monuments and some memorial facilities have been built in the affected area. The main facility is the Great Hanshin-Awaji Earthquake Memorial, Disaster Reduction and Human Renovation Institution, established in 2002 by the Hyogo Prefectural Government with the support of the national government to disseminate lessons from the disaster.

The DRI houses international disaster-related organizations such as the ADRC (Asian Disaster Reduction Center), UN/OCHA (United Nations Office for the Coordination of Humanitarian Affairs) in Kobe, the UNCRD (Centre for Regional Development) and the EDM (Earth-



The Great Hanshin-Awaji Earthquake Memorial, Disaster Reduction and Human Renovation Institution

quake Disaster Mitigation Research Center).

The World Conference on Disaster Reduction and the establishment of the IRP

Fifteen international disaster-reduction organizations, besides the DRI, opened in the Kobe New Eastern City Center after the great earthquake.

A World Conference on Disaster Reduction was held in Kobe in January 2005. It triggered the establishment of the IRP, which is also located in the DRI building.

Eleven years after the great disaster, the seriously damaged Hyogo Prefectural Government has achieved creative reconstruction, building back better than before. Moreover, it is keen to contribute to worldwide disaster risk reduction through the activities of those institutions, based on the lessons learned from its harsh experience. ■

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¹ Please visit <http://www.adrc.or.jp/>.

Women, disaster risk reduction and sustainable development

A gender perspective

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A gender approach in disaster reduction is built on the understanding that both women and men are part of the same society, which as we know, does not mean we have the same rights, education and options to manage - nor in "normal" times, neither when a disaster strikes. Examples from recent tsunami-stricken South Asia, Central America, India and the Pacific, show that women can act as agents of change. Several studies do confirm, however, that women are most of the time much worse affected than men when a disaster strike and less benefited when recovery begins. We therefore need to address the specific concerns of women already when designing disaster reduction policies and measures.

The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, adopted by 168 Governments in January 2005, at the World Conference on Disaster Reduction in Japan, provides a clear commitment that can guide policy makers and the community at large to engage more systematically in reducing risk to disasters. The expected outcome is to substantially reduce the losses from disasters, through the achievement of three strategic goals and five priorities for action. The Hyogo Framework for Action puts disaster risk reduction into the context of sustainable development planning, programming and poverty reduction strategies, as well as an opportunity to be addressed in emergency preparedness and recovery programmes. It states, as part of the



cross-cutting principles, that:

- A gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training;²
- Both communities and local authorities should be empowered to manage and reduce disaster risk

¹ The ISDR Secretariat (UN/ISDR) collaborated with the United Nations Division for the Advancement of Women in the organization of an expert meeting on *Environmental Management and the Mitigation of Natural Disasters: a Gender Perspective* held in Ankara, Turkey, 6 - 9 November 2001, including the holding of an on-line debate, moderated by Elaine Enarson, expert in gender and disasters. Many of the experiences reflected in this article are based on these discussions and from continued dialogue at the Commission on the Status of Women of the UN (2004 and 2005) and within the Gender-and-Disaster-Network, <http://www.gdnonline.org/>.

² As reaffirmed at the twenty-third special session of the General Assembly on the topic: "Women 2000: Gender Equality, Development and Peace for the Twenty-first Century".

by having access to the necessary information, resources and authority to implement actions for disaster risk reduction.

Disaster reduction policies and measures need to be implemented with a twofold aim: to enable societies to be resilient to natural hazards, while ensuring that development efforts decrease the vulnerability to these hazards. Sustainable development is not possible without taking into account multi-hazard risk assessments in planning daily life, and as such is an issue that impacts on the lives of both women and men. Given that the magnitude of a disaster are partially influenced by the political, economic and socio-cultural contexts, mainstreaming gender into disaster reduction policies and measures translates into identifying the ways in which women and men are positioned in society. This enables the mapping of not only the ways in which the lives of women and men may be negatively impacted, but also the ways in which they can contribute to disaster reduction efforts.

In other words, cultural patterns that structure the lives of women and men must also be clearly understood. Women's and men's differing needs, roles, and social power in different social and cultural contexts need to be taken into account. Men are usually seen as primary income generators while women's economic activities, often the mainstay of the household economy, are less visible. Women carry the primary responsibility for the care of children, the elderly, the disabled and the ill whose mobility and survival in disasters may be limited. Gender-specific dependencies and vulnerabilities based on reproductive differences are relevant in disasters, as is the respective ability of women and men to participate fully in household, community and national decision-making about hazard and risk.

Disasters: increased impact

During the past decade natural hazards, such as earthquakes, landslides, droughts, floods, tropical storms,

wild fires and volcanic eruptions, resulted in significant losses in human life and livelihoods, the destruction of economic and social infrastructure, as well as environmental damages. Anecdotal evidence suggests that women are typically the most affected by disasters, which was certainly the case during the tsunami.³ Men lose their lives more often than women due, in part, to their use of hazardous machinery in emergency relief efforts and during the rebuilding phase. In contrast, women were highly over-represented among the 120,000 killed in the 1991 cyclone in Bangladesh, and in more recent events, because cultural norms constrained their access to emergency warnings and cyclone shelters.

A study carried out by the *WHO Collaborating Centre for Research on Epidemiology of Disasters (CRED)* in Tamil Nadu, India, during 2005-2006, found that young children, the elderly and women between 15 and 50 years of age had the highest risk of death during the tsunami. "Swimming ability appeared to be a significant protective factor against mortality and it is likely that more women would have survived the tsunami if they had known how to swim. As expected, individuals from fishing families and from households located less than 200 meters to the sea had a much higher mortality risk than others. Although the two factors were closely linked, the most influential risk factor was the proximity of an individual's dwelling to the sea."⁴ The results of this study suggest that the vulnerability of coastal populations could be reduced in a number of ways. Promoting and providing swimming lessons amongst women and girls is likely to reduce their risk in flooding disasters. Whilst the relocation of entire fishing communities away from the coast may not be feasible, improvements in local housing and other infrastructure could strengthen the resiliency of such populations in the future, as could the investment in multi-purpose emergency shelters. Early warning systems are likely to be beneficial, however, careful consideration of message dissemination methods is required to ensure their effectiveness. These should be developed with a gender sensitive approach in conjunction with community disaster preparedness and awareness programmes.

³ No systematic sex disaggregated data are available.

⁴ D. Guha-Sapir, L.V. Parry, O. Degomme (Belgium) and P.C. Joshi, J.P. Saulina Arnold (India), *Risk Factors for Mortality and Injury: Post-tsunami Epidemiological Findings from Tamil Nadu, CRED, 2006*. (Study funded by ISDR Secretariat).

Gender relation structures are part of the social and cultural context that shape a community's ability to anticipate, prepare for, survive, cope with, and recover from disasters. The loss of women's home-based workspace, supplies, and equipment can have serious repercussions for the household economy. However, these losses are rarely documented. "The women who lost all their belongings and their life-long savings in India, after the recurrent floods during the monsoons, have not been able to compensate their losses decades later", says Madhavi Ariyabandu, Programme Manager for Disaster Mitigation of the NGO, ITDG-South Asia, based in Sri Lanka. "This situation has threatened their security within the family relationship. Children (both girls and boys) drop out of school. Young girls whose families lost their savings and jewellery during the floods, which were to provide their dowry in marriage, either lost the opportunity, or had to delay getting married. This has serious implications for their social status, psychology and survival."

In both rural and urban households hit by Hurricane Mitch in Central America in 1998, significant increases were reported in rates of female-led households, which doubled by some accounts. A year after the devastating storm, Honduran relief workers reported that half the sheltered households were headed solely by women; in Nicaragua, 40% of household were run by women⁵.

Women: agents of change

Nevertheless, women are not only victims; they are also agents of change. Further, women and men, working together, can identify those hazards that threaten their homes and livelihoods and work together to build safer communities. Some examples illustrate how this can be done.

Gender-sensitive risk assessment model in the Caribbean⁶

Women's Community Based Organizations in the

Dominican Republic and St. Lucia participated in an exploratory project to map risk in their communities, including the daily disasters that affect low-income women's lives and the hurricanes, landslides, and fires to which they are exposed. With training in basic research methods, the community women conducted interviews, recorded life histories, developed photo essays and drew risk maps to assess their own strengths and the dangers they face. This information was then compiled into Community Vulnerability Profiles to be used by community leaders and shared with local emergency managers. A set of practical guidelines was developed to help women's and other community groups conduct research to assess risk.

Reducing women's risk, capitalizing on window of opportunity after Hurricane Mitch

Several studies show that increased violence against women is often a secondary effect of post disaster stress all over the world. The Honduran NGO Puntos de Encuentro conducted a major household survey, participated in a social audit, launched public education campaigns, and developed workshops on women and reconstruction after Hurricane Mitch in Nicaragua. To mitigate possible violence against women in the aftermath, Puntos de Encuentro integrated antiviolence education directly into post disaster recovery work. Working through various media outlets, they developed a community education campaign with a key message: "Violence against women is one disaster that men can prevent." "This workshop not only enabled participants to work through the emotional difficulty of post-traumatic stress but also helped them understand the need for transforming gender roles in their community", one observer recalled. Puntos de Encuentro's work has been used as a model for capitalizing on the window of opportunity to challenge structural inequalities that undermine community solidarity in the face of disaster⁷.

Reducing social vulnerabilities: skills training and loans for women following disasters

Increased opportunities for non-traditional skills build-

⁵ P. Delaney and E. Shrader, *Gender and Post-Disaster Reconstruction: The Case of Hurricane Mitch in Honduras and Nicaragua*, LCSPG/LAC Gender Team, The World Bank, 2000.

⁶ E. Enarson with L. Meyreles, B. Hearn Morrow, A. Mullings and J. Soares, *Working with Women at Risk: Practical Guidelines for Assessing Local Disaster Risk*, International Hurricane Centre, Florida International University, 2003. (Available at: <http://www.fiu.edu/~lsbr>)

⁷ P. Delaney and E. Shrader, op. cit.

ing and employment are often reported in the wake of major disasters. In India, women received skills training in safe housing construction techniques after the Latur and Gujarat earthquakes, working through community-based women's groups, mitigation agencies, and government recovery programmes. They also helped redesign new homes that were better suited to provide both a working space and a residence.

In Unawatuna, southern Sri Lanka, most community members depend on tourism for their livelihoods⁸. The tsunami in December 2004 destroyed all property along the coast, eliminating residents' primary source of income. Hotel and restaurant owners challenged the government by obtaining loans and rebuilding against new restrictions. Since the tsunami, women organized into credit collectives, participated in business management trainings and began taking out loans to start or rebuild their businesses. A local NGO provided the financial support but the women decided who should take the first loans based on stated need. Groups consisted of women who managed hotels, ran fruit stands and sold clothing and handicrafts on the beach. When the group decided who should receive the first batch of loan money, one empowered female hotel owner, Priyanka, said the criteria should be based on what people say they need. Collectively, the women then decided that priority should be given to women who want to start businesses for the first time.

Early warnings and getting the message across—overcoming the barriers

Gender sensitive messages—and means of dissemination—are key elements to life-saving early warning to get across and to be “people-centred”. Cheryl Anderson, University of Hawaii, gives an example from Hawaii, where women participated as community educators: “During the 1997-98 El Niño event there were three locations out of seven in our study that had a few women who participated on the ENSO (Pacific El Niño Southern Oscillation) task forces to mitigate drought. These women were responsible for developing public education and awareness programmes in which information was spread from village-to-village and public

service announcements were broadcast on radios and television. In addition, a campaign to treat water before drinking helped reduce the recorded incidence of diarrhoeal disease.”

Understanding the scope of disaster and risk reduction

The United Nations adopted an International Strategy for Disaster Reduction (ISDR) in 2000, as a partnership with Governments, UN Agencies, regional bodies, civil society and communities, to further pursue increased awareness and public commitment to vulnerability and risk reduction, expanded partnership and networking, as well as research and implementation on hazards, risk and specific disaster reduction measures. Disaster reduction, as envisioned within the ISDR framework, aims to build disaster resilient societies and communities to withstand natural hazards and related technological and environmental disasters, and reduce environmental, human, economic and social losses.

It is important to stress that gender equality in disaster reduction policies and measures requires promoting women to have an increasing role in leadership, management and decision-making, as well as recognising women's position in their community and the larger society. Since disaster reduction activities are part of development, they are linked to promoting the general welfare of societies, without increasing the risk to hazards.

The initially cited *Hyogo Framework for Action*, represents a solid commitment and basis benchmark for how to move forward to substantially reduce disaster losses. Its principles, three strategic goals, five priority areas of action with key activities and decisions on follow-up and implementation arrangements, indicate the way forward for States, regional and international organizations, promoted and facilitated by the ISDR system. Systematic reports on progress will be prepared by the ISDR secretariat. Let us make sure that these actions and reports are gender sensitive! ■

⁸ Adapted from: Six Village Profiles: *Women's Journey from the Tsunami to the Future* compiled by the NGO Swayam Shiksam Prayong (SSP), India, in support of the Gender and Disaster Sourcebook, December 2005.

For more information contact the ISDR Secretariat isdr@un.org or visit ISDR website: <http://www.unisdr.org>.

See the flagship publication: "Living with Risk: A global

review of disaster reduction initiatives (2004)" at the ISDR website.

For the Gender and Disasters Network see: <http://www.gdnonline.org>.

GENDER EQUALITY IN DISASTERS SIX PRINCIPLES FOR ENGENDERED RELIEF AND RECONSTRUCTION

1. THINK BIG. Gender equality and risk reduction principles must guide all aspects of disaster mitigation, response and reconstruction. The "window of opportunity" for change and political organization closes very quickly. Plan now to:

- respond in ways that empower women and local communities
- rebuild in ways that address the root causes of vulnerability, including gender and social inequalities
- create meaningful opportunities for women's participation and leadership
- fully engage local women in hazard mitigation and vulnerability assessment projects
- ensure that women benefit from economic recovery and income support programmes, e.g. access, fair wages, non-traditional skills training, child care/social support
- give priority to social services, children's support systems, women's centres, women's "corners" in camps and other safe spaces
- take practical steps to empower women, among others:
 - consult fully with women in design and operation of emergency shelter
 - deed newly constructed houses in both names
 - include women in housing design as well as construction
 - promote land rights for women
 - provide income-generation projects that build non-traditional skills
 - fund women's groups to monitor disaster recovery projects

2. GET THE FACTS. Gender analysis is not optional or divisive but imperative to direct aid and plan for full and equitable recovery. Nothing in disaster work is "gender neutral." Plan now to:

- collect and solicit gender-specific data
- train and employ women in community-based assessment and follow-up research
- tap women's knowledge of environmental resources and community complexity
- identify and assess sex-specific needs, e.g. for home-based women workers, men's mental health, displaced and migrating women vs. men
- track the (explicit/implicit) gender budgeting of relief and response funds
- track the distribution of goods, services, opportunities to women and men
- assess the short- and long-term impacts on women/men of all disaster initiatives
- monitor change over time and in different contexts

3. WORK WITH GRASSROOTS WOMEN. Women's community organizations have insight, information, experience, networks, and resources vital to increasing disaster resilience. Work with and develop the capacities of existing women's groups such as:

- women's groups experienced in disasters
- women and development NGOs; women's environmental action groups



- advocacy groups with a focus on girls and women, e.g. peace activists
- women's neighborhood groups
- faith-based and service organizations
- professional women, e.g. educators, scientists, emergency managers

4. RESIST STEREOTYPES. Base all initiatives on knowledge of difference and specific cultural, economic, political, and sexual contexts, not on false generalities:

- women survivors are vital first responders and rebuilders, not passive victims
- mothers, grandmothers and other women are vital to children's survival and recovery but women's needs may differ from children's
- not all women are mothers or live with men
- women-led households are not necessarily the poorest or most vulnerable
- women are not economic dependents but producers, community workers, earners
- gender norms put boys and men at risk too, e.g. mental health, risk-taking, accident
- targeting women for services is not always effective or desirable but can produce backlash or violence
- marginalized women (e.g. undocumented, HIV/AIDS, low caste, indigenous, sex workers) have unique perspectives and capacities
- no "one-size" fits all: culturally specific needs and desires must be respected, e.g. women's traditional religious practices, clothing, personal hygiene, privacy norms

5. TAKE A HUMAN RIGHTS APPROACH. Democratic and participatory initiatives serve women and girls them best. Women and men alike must be assured of the conditions of life needed to enjoy their fundamental human rights, as well as simply survive. Girls and women in crisis are at increased risk of:

- sexual harassment and rape
- abuse by intimate partners, e.g. in the months and year following a major disaster
- exploitation by traffickers, e.g. into domestic, agricultural and sex work
- erosion or loss of existing land rights
- early/forced marriage
- forced migration
- reduced or lost access to reproductive health care services
- male control over economic recovery resources

6. RESPECT AND DEVELOP THE CAPACITIES OF WOMEN. Avoid overburdening women with already heavy work loads and family responsibilities likely to increase.

- identify and support women's contributions to informal early warning systems, school and home preparedness, community solidarity, socioemotional recovery, extended family care
- materially compensate the time, energy and skill of grassroots women who are able and willing to partner with disaster organizations
- provide child care, transportation and other support as needed to enable women's full and equal participation in planning a more disaster resilient future

Source:

Elaine Enarson, 2005. Gender and Disasters Network

<http://www.gdnonline.org/resources/genderbroadsheet.doc>

Community disaster education and preparation

The work of National Red Cross and Red Crescent Societies

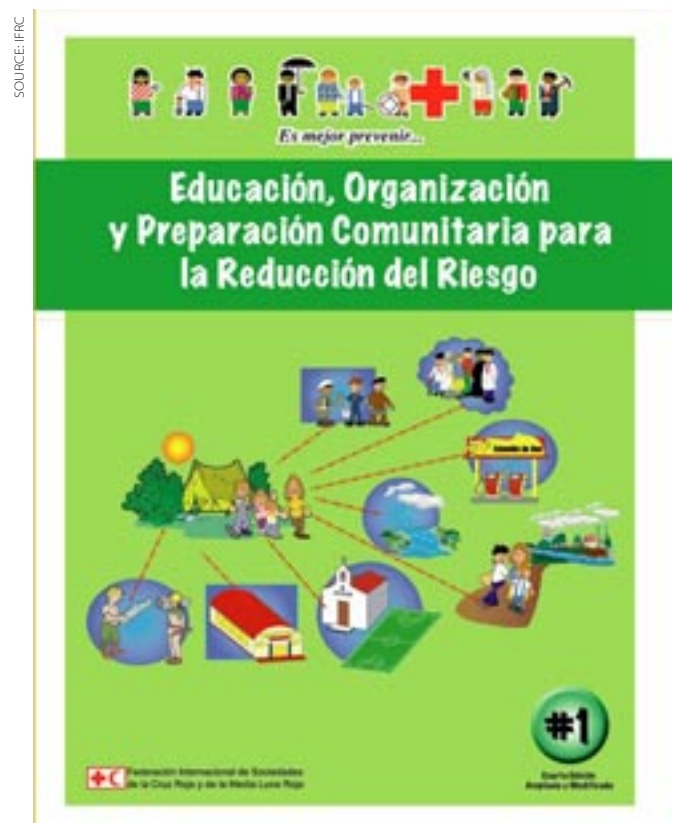
Xavier Castellanos M.
Senior Officer Disaster Preparedness & Response
International Federation of Red Cross and Red Crescent Societies

Introduction

For more than fifteen years, the National Red Cross and Red Crescent societies have pioneered the participative activities of *Community Disaster Education and Preparation*. This has been done with the firm resolve of reducing the number of deaths as a result of destructive natural phenomena and also of reducing levels of vulnerability experienced by people affected by disasters. On this premise, the work undertaken by the network of volunteers in each country helps to strengthen the capabilities of National Red Cross and Red Crescent Societies throughout the world.

The result of our experience in the field has also meant that we have been able to develop strategies and procedures that grow as we learn. Getting fully to grips with the most affected communities and processes has benefited specific risk reduction actions. While it is certain that the principle of working with communities focuses on ensuring the greatest possible community participation in situations of vulnerability and ensuring that communities are the main actors responsible for risk and analysis and decision making when it comes to reducing risk, it is also certain that nothing happens very quickly and a medium to long-term strategy is required. In the Americas, for example, the lessons we have learned during more than 10 years working with communities confirms the importance of extending and linking disaster preparation and disaster response actions with health, development and institutional reinforcement activities.

The result of various analyses and studies carried out at the beginning of the millennium ended with an



Cover of the IFRC Training Module No. 1 for Central America (October 2004)

undertaking by National Societies in America to implement the 2003-2007 strategic framework which, within the field of disasters, places special emphasis on the need to go beyond the continuum view of disaster and take vulnerability as a starting point for better-rounded development and hence risk reduction.

As I will describe in greater detail below with reference to Central America, community education activities for disaster, combined with institutional reinforcement ac-

tions by the Red Cross itself and local institutions have helped save lives and reduce the risk of disasters, and also to coordinate efforts for preparedness and response in the face of possible catastrophe.

Creation of a regional reference centre for community disaster education

In the region of Mexico and Central America, the Red Cross runs more than seven National Red Cross Societies. These comprise approximately one thousand offices distributed throughout the seven countries, which report to a central office in each country. These offices, known as section or departmental branches, are organized over different levels. In some cases, these offices can call on all the infrastructure they need to cover the humanitarian needs of the area where they work. In other cases, they have average, minimum or very meagre resources. In all our branches, the common denominator nevertheless remains the same: volunteers committed to the humanitarian tasks of the International Red Cross Movement who work on a daily basis with communities that live in conditions of great vulnerability.

Support for the reinforcement of programmes that each National Society undertakes is received through the Regional Delegation of the International Red Cross and Red Crescent Federation that operates out of the city of Panama and national donor Red Cross Societies. From Panama, we promote coordination, regional coherence, assimilation of good practices and support for projects that promote the reduction of vulnerability in the broadest sense of the word.

As an outcome of one of the evaluations we carried out on community disaster programmes undertaken in 2002, the following points were adopted as strategic recommendations for improving our approach to disaster risk reduction in Central America. We should:

1. Synchronise disaster system mechanisms more effectively
2. Take community knowledge and skill into consideration
3. Reinforce community response capabilities
4. Extend coordination with local authorities

5. Promote shared training procedures and materials

These recommendations were ratified at continental level within the action framework for the 2003-2007 period as a result of the Inter-American Red Cross Conference held in Santiago de Chile in 2003.

To follow through the points noted above, the International Red Cross Federation set in motion various strategic actions through its Panama office to achieve the Santiago de Chile undertaking and the recommendations of the evaluation carried out on the community disaster education programme. After analysing the institutional capability of Red Cross organizations in the region, the community disaster education programme aims to offer higher quality services by focussing on ensuring a common procedure with training materials and processes aimed at four main areas:

- Programmes aimed at education establishments
- Programmes aimed at families
- Programmes aimed at community members
- Programmes aimed at small enterprises

The implementation of these action lines, added to the undertakings adopted by the National Societies in Santiago de Chile, required the regional Red Cross organizations to implement a different service model that will allow us to achieve our goals within specific areas in the fastest, most appropriate manner possible. For this purpose, we set up the Regional Reference Centre for Community Disaster Education, which has been in operation since October 2003 in San José (Costa Rica) within the premises of the country's National Society. Throughout 2004, our strategy was to consolidate the setting up of the Centre and to develop educational material, which was produced with the technical support of the Regional Delegation and the contribution of various experts from National Societies in the region. Our brief for 2005 was to ensure greater leadership of this Centre at regional level, with regard to offering community disaster education services to the National Societies. Our aim for 2006, in the meantime, is to consolidate the use of all training materials produced, complete the preparation of a handbook for risk reduction in small enterprises and gather the lessons we have learned in community work.

As a result of the process undertaken from October 2003 to May 2006, the efforts of this regional centre, achieved with the technical support of the International Federation have allowed:

1. The setting up of a solid base of Red Cross facilitators in each of the Central American countries for each of the modules developed (12 in total).
2. To promote the exchange of experiences and best practices between community participation procedure practitioners for the reduction of vulnerability and also assistance to ensure appropriate implementation of the participative procedure that the International Federation promotes in each module.
3. The development of a regional mechanism for applying community experiences systematically and also the development of interactive modules for members of the public with access to virtual technology.
4. Examination of existing knowledge in the region on best practices in the application of the vulnerability and capability analysis procedure within the field of risk reduction.
5. Extension of the group of strategic members that each of the National Societies may count on to undertake more well-rounded actions for risk reduction.
6. Undertaking of disaster mitigation and preparation, early warning and community disaster organization actions.

The training processes are underpinned across the board by our special interest in guaranteeing the development and implementation of a participative procedural approach that is broadly analytical and our interest in working directly with the communities since the communities themselves must assume responsibility for the decisions they adopt as a result of the assessments.

The focus of the service within the six countries is also to ensure that community disaster education and preparation programmes consider six horizontal components, all of which include a general focus:

- a) Early alert
- b) Identification of risk reduction microprojects
- c) Vulnerability and capability assessment (VCA)
- d) Means of subsistence
- e) Community response and emergency plans

- f) Community first response and risk reduction brigades

The results achieved within the above six sections reveal a need to invest more time in learning about the approach as far as means of subsistence is concerned. By its very nature, this topic is still new within the action framework of National Red Cross Societies within Central America.

Just two years after the beginning of the project, more than 700 volunteers have been trained in participative procedures and in the use of the materials developed. Approximately 44 communities have benefited directly from the process, which involves a vulnerability and capability assessment (VCA) together with community disaster preparation. We have also, however, been able to offer indirect benefits to those communities that already had projects in operation. This was the case with El Salvador, whose community programme reaches more than 51 communities. The programme adopts part of the VCA process to help with the process of equipping communities to deal with disasters more effectively. These 51 communities have now been equipped with new analysis tools for risk reduction.

The community work process involves volunteers going out to local areas, followed by an appropriate analysis of risk with a participative focus. This is then used as a basis for developing a capability analysis of actions that communities can undertake using their own resources and methods to reduce their levels of vulnerability. An institutional analysis may also be carried out to implement local reinforcement and capability mechanisms with the aim of supporting communities more effectively.

Consolidating the community education programme throughout the region

As in the case discussed above, we are attempting to ensure widespread dissemination of participative procedures, tools and processes in all countries throughout the region. Our aim in this is to improve the impact of our work on the community. As part of this regional effort to harmonise the use of training materials, working procedures and mechanisms for applying participative

community processes systematically, the International Federation, together with the Regional Reference Centre for Community Disaster Education, promoted the development of training courses for National Society facilitators who are able to support national training processes on a regional level. Each of the Central American Red Cross organizations then organized training courses that, unlike the regional organizations, included the presence of various actors from the Red Cross and also from the national emergency systems and the various ministries and organizations that work at community level.

Rolling out the project to the communities involved numerous challenges for the National Societies. In the specific case of Costa Rica, the National Red Cross Society signed an agreement with the Ministry of Education, undertaking to train approximately 3000 educational establishments per year within the country, using the "Protected School" module, which allows the educational establishments to establish their levels of vulnerability more effectively and also by developing mechanisms that allow solutions to be sought to problems identified. For the National Society, this meant increasing its ability to deliver the service by increasing the initial number of 5-10 branches to 52 throughout the country. We hope that the number of branches will grow as trained, specialised people are taken on.

The Red Cross in Honduras continued its project (now in place for more than four years) designed to reduce vulnerability at household level. The project uses a new version of a "Preventive Family" module that now includes a more extensive vulnerability and capability assessment in the home and also covers conversion measures to reduce vulnerability, knowledge of risks faced by the family and ability to prepare the members of each family.

In Nicaragua, the Red Cross applied the VCA procedure to more than 30 communities on the North Atlantic Coast, the South Atlantic Coast and in the Pacific region of the country. It then identified small mitigation projects that the Red Cross was able to carry out with the support of the communities themselves, the local authorities and other organizations.

Such was the general eagerness to institutionalise the use of this procedure and the training materials, the Red Cross in Panama was able to call on the aid of private enterprises and other donors to reach more than 200 communities with the aid of various modules produced to tackle vulnerability within its educational establishments (schools and colleges). With the aid of the International Federation, the Regional Reference Centre managed to train National Society volunteers in record time so that the Red Cross in Panama was able to achieve its aim of reducing vulnerability. The case of Panama is a good example that shows us how, by harmonising common training tools and procedures, the support of sister National Red Cross Societies promotes a significant interchange of knowledge and experience to achieve one common goal: saving lives.

Community first aid activities continued to be the basic axis for the transfer of knowledge at community level. First aid is therefore complementary to the normal tasks of risk reduction and reinforcing the ability of communities to respond and recover in the event of disaster.

This entire process of consultation, communication, field practice, taking on board of lessons learned and training material development, means that the modules developed¹ for the project, i.e. the basic programme modules, are able to benefit from new vulnerability assessment and risk analysis resources.

Our support for a new project backed by the ProVention Consortium² allowed us to develop more specialised training materials that are complementary to the project even though they do not form part of the project itself. These new materials extend the quality of our risk reduction actions.

Last but not least, in 2007 we hope to evaluate the results we have achieved over recent years: the progress, achievements, difficulties and shortcomings in risk reduction actions. This will allow us to improve our current strategy and include areas that require even greater attention, such as risk reduction in urban areas and major cities. The lessons we have learned in this area will serve as a basis for future actions in the field of mitigation and preparation. ■

¹ a) Education, Organization and Community Preparedness for Risk Reduction; b) The Prepared Family; c) Community First Aid; d) Protected School.

² More information at: <http://www.proventionconsortium.org>.

Disaster risk reduction: experiences from Asia and Central America

@local.glob offers a space for key actors in the local world to present the most successful experiences of development in their territories. According to the definition of *best practices for the development and improvement of living conditions adopted by the United Nations*¹, “successful experiences” and “good practices in local development” are considered to be initiatives that help to improve the living conditions of the inhabitants of a particular territory and support local development and decentralization processes, strengthening the capacity and recognition of local actors and their communities.

If you are interested in publishing an example of good practice in local development in this section of the journal, you can download the model document available at [Delnet Web Page](#) or contact the editorial team: local.glob@delnetitilo.net.

Introduction

In previous issues of this journal, we discussed the role of the environment in a context of local development strategies. Taking into account other studies in this field, it was stressed that local development strategies, contrary to the type of development that was pursued until the end of the 1970s, allow for ecological limitations on economic growth and development, the risk of degrading nature and limited natural resources. Implementation of local development, however, has required a radical change that has led to improving and taking into account the environment from a double perspective: as a factor of development and as a key element for the sustainability of that development.

As a factor of development, the environment should not be considered solely as something to be conserved. A passive attitude of conservation, defence or protection towards the environment must be complemented by an active attitude that considers environmental quality as one of the reasons for development and a strategic opportunity to promote new enterprises—from rural and environmental tourism to business initiatives for recycling and treating waste—as local producers of income, employment and business structures. This will help avoid the risk that public activities, such as ecological protection of areas and natural spaces, end up making them sanctuaries for all species of fauna and flora except one: the human being, who will be forced to leave flee because of the impossibility of carrying out activities that produce the economic income required for his subsistence.

Sustainability has been one of the great contributions to development theory and practice during recent decades. This concept has made us aware that production can also lead to degradation. No economic system crosses the “ecological boundary” without deteriorating the quality of life and leading to a certain danger of self-destruction.

The focus of the following pages is disaster produced by natural threats and its interrelationship with development strategies. *[Please continue to page 38]*

¹ Source: UN-HABITAT Best Practices and Local Leadership Programme.

Indonesia: Strengthening communities through post-disaster reconstruction

Maximizing the benefits to local labour in the Aceh construction boom

KEY INFORMATION

Geographical location	Banda Aceh and Aceh Besar Nanggroe Aceh Darussalam Indonesia
Dates	Beginning of activities: February 2005 Scheduled completion: December 2006
Scope	<ul style="list-style-type: none"> • Economic Development and Employment Generation • Local Development Financing • Gender Equality • Infrastructure
Implementing organization	International Labour Organization
Financing and/or cooperating organizations	<p>Donors:</p> <ul style="list-style-type: none"> • Government of Netherlands, New Zealand, Australia, Finland, Ireland, the Netherlands, New Zealand, and the United States • United Nations Development Programme <p>Partner Organizations:</p> <ul style="list-style-type: none"> • Local Government Manpower Offices
Head and contacts	Parissara Liewkeat, Programme Manager, ILO Aceh Peter Rademaker, Deputy Director, ILO Jakarta Office
Total budget	US\$ 7 million for the period

Sources of information on the experience: International Labour Organization (ILO/CRISIS)

INITIAL SITUATION, TARGET GROUP AND PRIORITIES

Men and women living in the town of Banda Aceh and the surrounding district of Aceh Besar were severely affected by the tsunami of December 2004 and therefore became the primary target beneficiaries of the ILO Aceh Programmes. Right after the tsunami, they needed food, shelter, cash and access to income-generating activities. Their communities and support network had vanished overnight, and the local government agencies to support them had neither the means nor the technical capacity. Those organizations, too, had lost the staff that formed the core of their technical capacity.

The ILO services focused on placing the Acehnese into jobs in the reconstruction sector, i.e. with reconstruction agencies and construction work. This evolved from “cash-for-work” for clearing rubble to more comprehensive employment services that mediated between job-seekers and organizations needing labour for reconstruction. Since many Acehnese people lacked the skills required for the jobs, ILO provided skills assessment, short-cycle skills upgrading and training, and post-training and on-the-job support. People interested in self-employment and setting up small enterprises were given entrepreneurship training and follow-up support, including access to financial services. From labour force surveys and job-seeker registration, it became clear that

young people and women lacked marketable skills and faced social barriers to labour market access, so the ILO, together with its partner organizations, launched specific training and support programmes for them. Beneficiary selection methods have evolved from open registration, community nomination, to trade-group labour mobilization.

OBJECTIVES AND STRATEGY OF THE INITIATIVE

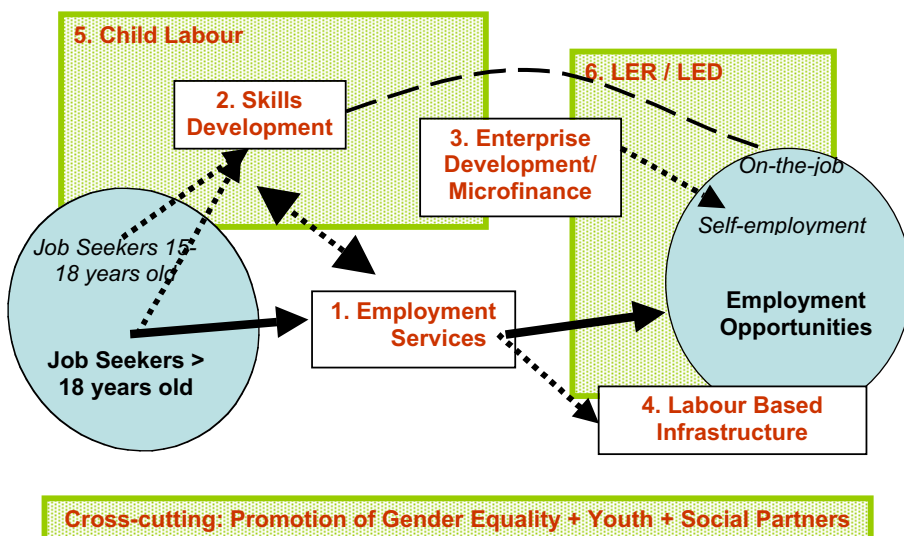
To contribute to the sustainable economic reconstruction of Aceh, the ILO Aceh Programme strives to maximize gainful employment and employability among the Acehnese, to strengthen and rebuild local institutions, and to empower the socially and economically disadvantaged. Each of the programme’s six components - prevention of child labour, local economic recovery and development, employment services, vocational training, labour-based rural infrastructure rehabilitation, and enterprise development - has its own specific target group, institutional intermediaries, partners and delivery mechanisms, all managed through a central management unit. The ILO’s work has aimed from day one to sustain results by working through provincial and district manpower, labour, education and public works offices, trade unions and cooperatives, employers’ organizations, business chambers, etc. A strong effort was made to ensure equal access by both men and women. All components implemented a range of

pilot initiatives in the first year, which generated immediate local employment while serving as on-the-job training opportunities for staff of partner organizations. This also allowed the ILO to adapt regularly to a very dynamic environment.

MOBILIZATION OF RESOURCES

Funding for the ILO Aceh Programme started through the UN Flash Appeal and developed through specific proposals to donors. Within the United Nations, the UNDP has been a major partner, as has the OCHA (United Nations Office for the Coordination of Humanitarian Affairs). Bilateral donors have included the Governments of Australia, Canada, Finland, Ireland, the Netherlands, New Zealand, and the United States. Private-sector funding came from ADECCO and MIGROS. A range of trade union bodies, including the British Trade Union Confederation, the ILO Staff Union and the International Confederation of Free Trade Unions, are also contributing. All funding has the goals of getting people back to work, building institutional capacity and ensuring maximum employment for the Acehnese, but each different project proposal has its own particular focus, time frame and budget structure. Overall management is entrusted to a Programme Management Unit, which is responsible for managing and integrating the work of all components. The ILO Aceh Programme has seven international staff and 30 Indonesian staff, of whom five are non-Acehnese.

Activities are designed and run together with local organizations in both the government and non-government sectors. Training of trainers targets skilled workers in Aceh as much as possible. In construction skills training, use of non-Acehnese trainers was necessary as there was a shortage of construction skills trainers in government training institutions and the private training sector. The ILO has the immense advantage of being able to draw upon its international expertise in post-crisis and post-



disaster work. Existing ILO training and/or operations manuals such as the Emergency Public Employment Services Guidelines, the Operational Guide on Local Economic Development in Post-Crisis Situations, the Start and Improve Your Business Trainers' Manual, and the Competency-based Trainers' Manual were quickly adapted and translated into Bahasa Indonesia, and have guided the work. It has become evident that some of this material needs further refining, which is now being done with local partners.

PROCESS VARIABLES: METHODOLOGY ADOPTED AND PROBLEMS ENCOUNTERED

From February to July 2005, each component responded to the emergency situation and the start of early recovery, with availability of funding dictating the pace and scope of the work more than other capacity constraints. This phase included a vast campaign to set up employment services with thousands of people registering as job-seekers. The ILO assessed their skills, referred them for training, and matched them with vacancies from the many agencies involved in rehabilitation. As expected, the transition period of September 2005 – February 2006 proved to be difficult. The programme was made more integrated by adopting common geographical areas of work and mutual referrals of beneficiaries. As the context changed rapidly, the weakness of the institutional capacity of some key partners became obvious and led to delays. Miscommunication with partner organizations about respective strategies and funding principles strained institutional relationships, with some expressing scepticism about ILO's contribution. This was linked to the strong growth of the ILO team, with many people working with ILO for the first time and needing to come together as a team on strategy and way of working.

A series of internal, external and situational assessments took place at the end of 2005 to identify the strengths and weaknesses of the ILO programme. It was obvious that the most successful interventions so far, i.e. the local economic recovery in communities, concrete-block-making women's enterprises, the Start and Improve Your Business training programme for young people, and English language training, were

those that involved staff of local partners, be they government or private sector counterparts, throughout the process. More problems were found in areas such as employment services and skills training, which were implemented directly by the ILO for lack of institutional partners.

After the evaluations, the ILO revised its operational approach to providing employment services and vocational training. A new 'key client' approach was developed that involved a reduction in the generic provision of ILO assistance to all-comers, and a more concentrated, tailored provision of ILO assistance to fewer organizations. The objective is to secure greater impact from existing resources by providing a better service to those large organizations that are critical to the success of the reconstruction effort.

'Key clients' in this context are selected large organizations in the construction sector (housing and infrastructure) with significant operations in the ILO's focus districts of Banda Aceh and Aceh Besar. Potential clients are identified by the ILO's technical team. Discussions are then held with these organizations to ascertain their interest in a closer relationship with the ILO, and if this is positive, individually structured agreements are reached. It is expected that the ILO's key clients will change as construction schedules and recruiting requirements change. The priorities are to:

1. Provide a more intensive, tailored service to source and place labour for key clients.
 - a. Employment services' resource allocation will shift towards key clients and away from the generic provision of employment services to all organizations.
 - b. Priority access to the ILO's engineering graduate intern scheme.
2. Provide specific, targeted short-course vocational training to workers or employees of key clients (including those sourced by the ILO's employment services component), with a view to contributing to greater quality and efficiency of construction.
3. Increasingly over time, deploy the expertise of other ILO components such as enterprise development

and local economic development to help key clients rebuild the local economy.

The number of clients at any one time will be limited, commensurate with the ILO's available resources. In addition, the resources available to the ILO's employment services component allow greater reach in terms of key clients than is possible for other components.

OUTCOMES

The ILO has laid the foundations for achieving the three goals of getting people to work, strengthening institutions, and empowering the socially and economically vulnerable. To date, the ILO services have reached about 30,000 individuals, mostly in the districts of Aceh Besar and Banda Aceh. Ten women-run community businesses are absorbing the demand for construction materials; 94 organizations have received employment services from the ILO. The Manpower Office received technical assistance from the ILO. It has issued and actively advocated the Ten Priority Guidelines on Employers' Responsibilities in the Reconstruction of Aceh to ensure compliance with national labour laws and protection of Acehnese workers. Two technical communities of Start and Improve Your Business trainers, a concrete-block-making course and business development support for women are actively providing outreach services in Aceh with funding from the ILO and other sources. The Kecamatan Development Programme's manual is being refined with added emphasis on employment and economic recovery. The local resource-based rural infrastructure rehabilitation programme is about to expand its work from 20 kilometres in two districts to 220 kilometres in five districts. A micro-lease programme is about to be launched at a newly set-up Islamic cooperative branch of the BQB in Meuraxa.

There is also increased local capacity as regards the Start and Improve Your Business training programme for young people and women, women's concrete-block-making enterprises, trainers' associations, a local resource-based approach to rural road rehabilitation, business recovery using local economic advantage appraisal methods, and creating new microfinance

products while enhancing local banks' capacity. The demand for services from partner organizations and a positive response from donors indicate the success of these initiatives.

The employment services and vocational training components, both of which have institutional capacity building as their core objective, were tested by the reconstruction labour market challenges. Their achievements will take time, given that local labour offices lost many staff to the tsunami and institutional restructuring. At present, both are refining tools and models to fit the conditions of Aceh, using the 'key client' approach.

The challenge of fitting women into the construction-dominated labour market is real. But early efforts to build networks, boost capabilities and set up businesses are paying dividends. The implementation of the 'key client' approach has enabled the ILO to advocate support for women's employment in the reconstruction boom; many organizations are sympathetic but lack the expertise to act. Some of the clients are now exploring ways to make their contractors purchase building materials from women's groups. Putting women into core construction work remains difficult. Having to shoulder family responsibilities and lacking skills, many women are not likely to find gainful employment in hardcore construction work. Contractors are willing to hire them, but time and skills limitations will make them vulnerable to low-paid work. The ILO and a handful of partner organizations have persistently demanded policy attention and allocation of resources to gender-specific action in the reconstruction effort. In March 2006, the BRR (the government agency responsible for the reconstruction of Aceh) appointed a gender adviser to its Director.

SUSTAINABILITY

The ILO Aceh Programme was designed as a medium-term development programme. The first 18 months were 'direct action' to recover lost livelihoods and build employment promotion tools and approaches that suited the Acehnese. The subsequent 2-3 years will be a capacity-development phase in which the ILO will concentrate

its technical assistance on selected local organizations, particularly the manpower offices, the public works offices, the national education offices, the planning offices, and worker and employer organizations. Once there is sufficient institutional capacity within each of these organizations, there may be a demand for continued but less intensive ILO support for policy development and monitoring.

The promotion of maximum employment for the Acehnese during the first year of the reconstruction period is a difficult task when local manpower offices have weak capacity and the Acehnese labour force is relatively inexperienced. The Cash for Work Programme has distorted the market's wage-setting mechanism, resulting in Acehnese demanding wages much higher than non-Acehnese workers. The ILO has focused on developing tools for skills training and enterprise development and demonstrating approaches to the manpower offices and other relevant government organizations during the first year of its operation. These targeted organizations have indicated interest in strengthening their own ability to use the tools and operationalize the programme. The ILO is currently mobilizing resources for the second generation of project proposals, dedicated to institutional capacity-building and supporting local organizations in implementing tools and programmes that have been conceived during the first year of post-tsunami recovery.

LESSONS LEARNED

The tsunami of 26 December 2006 destroyed not only the lives of people but also the capacity of local communities and institutions. Communities lost their leaders and networks. Local institutions lost their technical personnel. Programmes and activities in emergency periods have to be delivered immediately, i.e. without the active involvement of local institutions. This strategy allowed the ILO to extend its services to about 30,000 individuals during its first 12-18 months in Aceh. But while people are getting back on their feet and finding jobs, restoring a strong economy for the people of Aceh remains to be done. It requires investment in institution-building, governance of the labour market, and local knowledge and expertise. The ILO's second-gen-

eration tsunami-response projects do all this. They will align the ILO's programme with those of local governmental agencies, and will develop innovative employment-related programmes within those agencies. The output-oriented programme-implementation approach will be replaced with a knowledge-based process-management approach. One of the most important projects currently looking for resources is on labour market information systems and analysis. The reconstruction of Aceh and Nias as a whole has not been based on sound labour market analysis. The overwhelming devastation caused by the tsunami unfortunately created the false idea that employment strategy development and labour market governance were of lower priority than projects with tangible output such as debris-removal, training and injecting cash into the local economy.

TRANSFERABILITY

The ILO Aceh Programme has provided a unique opportunity to bring to bear the full range of ILO tools and approaches relevant to a post-disaster situation. The recovery of livelihoods and jobs has been central to the UN strategy and therefore placed the ILO in a good position to make its contribution.

There have been numerous opportunities to learn from the work in Aceh in terms of refining tools, aligning approaches better, etc. The challenge is to make sure such learning indeed occurs at the institutional level within the ILO. Efforts to do this are under way.

The Aceh programme has also clarified further the ILO's role in the larger UN response to crisis and disaster. Although overlaps in mandate and competition still occur, the joint work on livelihood recovery has allowed the ILO to become better positioned and better prepared for future situations.

Of course, Aceh is a very specific case. First of all, the scale both of the destruction and then of the international response was unparalleled. But also, Indonesia has strong institutions and a strong government that certainly suffered from the disaster but was quick to rebound. Work in Aceh also saw the peace process take off. ■

Nicaragua: Local disaster prevention and mitigation strategies

Strengthening municipal authorities for land management in Matagalpa

KEY INFORMATION

Geographical location	City of Matagalpa and Rio Grande de Matagalpa river basin Nicaragua
Timeframe	Project pilot stage: May 2002 to June 2003 Stage I: July 2003 to December 2005 Transition stage to stage II: January to June 2006 Stage II planned for the period 2006 - 2009
Activity sectors	<ul style="list-style-type: none"> • Land planning • Technology and telecommunications (geoinformation technologies) • Soil and environmental use management • Decentralised cooperation
Executing agency	United Nations Office for Project Services (UNOPS) upon the request of the International Strategy for Disaster Reduction (ISDR) with the technical support of the UNOSAT Project
Financing and/or cooperating organizations	<p>Donors:</p> <ul style="list-style-type: none"> • State of Geneva / DAEL – Land Planning Department <p>National organization are project members:</p> <ul style="list-style-type: none"> • Matagalpa Municipal Council (ALMAT) • Matagalpa Regional University Centre (CURMAT/UNAN – ODESAR, UNAG and ADHS – POPOL VUH)
Head and contacts	<p>Suzanne Lerch (State of Geneva / DAEL – Department of Urban and Land Planning) Tel.: 022 327 45 24 / Email: suzanne.lerch@etat.ge.ch</p> <p>Alain Retière (UNOSAT) Tel.: 022 917 85 19 / Email: alain.retiere@unosat.org</p>
Total budget	USD 602,605 (Stage I and transition)

Sources of information on the experience: United Nations Office for Project Services (UNOPS)

INITIAL SITUATION, TARGET GROUP AND PRIORITIES

The project “Strengthening municipal authorities for land management in Matagalpa and the Rio Grande de Matagalpa Basin” arose out of new awareness in the wake of Hurricane Mitch in 1998 which revealed the fragility of this Central America area and the need

to prevent and reduce the risk of destructive events at government and local community levels. In 1999, upon the request of the International Labour Organization (ILO), working in conjunction with the International Strategy for Disaster Reduction (ISDR), the Geneva State Land Planning Department (DAEL), the United Nations Office for Project Services (UNOPS) and the UNOSAT Programme (provider of satellite images and

geographical information services), a team of specialists based in Geneva was deployed to draw up and implement a support programme for affected Central American municipalities. The original feature of this programme was its emphasis on decentralised cooperation.

The technical, organizational and managerial resources of the municipal authorities in Nicaragua, in particular, proved unable to cope with the disaster and the country suffered more severe damage than others. Due to this need, the Matagalpa Municipal Council expressed a will to plan for the future by introducing *“mechanisms that involve the participative implementation of planning processes which incorporate the variables of natural disaster mitigation, prevention and preparation”*.¹ The project, designed in 2000, entered its pilot stage in 2002 and is currently phasing in the second stage. This paper sets out the results of the first stage, which concluded in 2005.

OBJECTIVES AND STRATEGIES OF THE INITIATIVE

The project aims to contribute to the following **development goal**:

To reduce the vulnerability of the area by building the capacity of the Matagalpa Municipal Authorities and local project partner organizations to cope with natural disasters and organize their prevention through local development strategies.

Three specific objectives may be identified within the framework of this overall goal:

1. Facilitate access to geographical information and skilled technical resources for land management in the Municipality of Matagalpa and Rio Grande basin area by setting up the **Matagalpa Geographical Information Centre (CIGMAT)**;

The environmental, political and socio-economic context in North Eastern Nicaragua

At the end of the 19th century, the region was typically forested and inhabited exclusively by natives of the area. As the region opened up to colonisation, the incoming European families began to grow coffee and this is still the most important economic activity in this region of the country. The city of Matagalpa grew up and prospered as the main Atlantic coastal port, trading agricultural consumables and equipment for tropical products. The area was hard hit during the civil war, firstly due to the repressive *Somocista* regime and later due to the struggles between counter-revolutionaries and the *Sandinista* regime. Once the conflict was over, this area was regularly affected by seasonal floods as a result of the hurricanes that grow up off the Atlantic coast of Nicaragua. Matagalpa is surrounded by high mountains and crossed from North to South by the Rio Grande de Matagalpa: its main risks and vulnerabilities are determined by two elements: a river that easily bursts its banks in the flood season, and the danger of landslides caused mainly by uncontrolled residential growth in inappropriate areas.

Another feature of the region is the fact that it has become the main reception area for population overflow from Pacific region. Extensive agriculture is the most common productive practice but this is carried out in a disorganized manner that puts pressure on areas set aside for forestry and thus seriously affects human employment.

The frequency and severity of climate phenomena in this fragile area, which is also affected by economic and social crisis, has led to very severe environmental repercussions. The populated centres in the region pose the challenge of ensuring better quality of life with essential services: water, light, transport, waste disposal, housing and employment.

Political debate in the area is very remote from regional development strategies. The political parties and many of the various candidates competing for popular election seats at local and national level are fuelled by consumerism and a short-term view. At local level, it is very common to find institutionally weak authorities remote from political power, with few resources and few capabilities. Despite this, the importance of promoting land management by town councils is becoming increasingly recognised by various international organizations as crucial to ensuring governability, disaster prevention, sustainable development and the protection of investments.

¹ Municipality of Matagalpa, *Nicaragua bella y vulnerable*, Municipality of Matagalpa, Nicaragua, 2002.

2. To support local authorities in their task of **planning land management** and in particular the Municipality of Matagalpa, which is considered the leading institution in the Rio Grande basin.

3. To strengthen coordination mechanisms at local, micro regional (departmental), regional (basin) and international level, by **making room for critical dialogue between Central and North/South America to foster cooperation.**

In March 2003, the national partners, DAEL and UNOPS discussed operational tools and procedures for beginning Stage 1 of the project. These included: co-ordination, management and monitoring mechanisms; consolidation of the CIGMAT technical and management team; development of a sustainability strategy; drawing up of an operational plan for the production of an urban development plan for the city of Matagalpa and the consolidation of a Municipal technical urban planning team, as major goals to be achieved during the three years of project implementation.

In May 2003, within the framework of the regional decentralised cooperation programme (RLA/99R71): "People helping people", a cooperative agreement was signed between the Canton of Geneva, the Council of Matagalpa and UNOPS/ISDR for the implementation of the Project *Strengthening municipal authorities for land management in Matagalpa and the Rio Grande de Matagalpa Basin.*

MOBILIZATION OF RESOURCES

The Guatemala headquarter of UNOPS was identified as the body responsible for implementing the project, in terms of administration, and also technical support through UNOSAT and in conjunction with UNOPS Geneva, DAEL and national and local organizations. In 2003, once the finance had been approved and the pilot stage completed, UNOPS signed **two executive agreements** for the implementation of services. The first was signed **with the Independent University of Nicaragua Regional University Centre (CURMAT - UNAN)**, and served as a basis for the organization and structuring of the Matagalpa Geographical Infor-

mation Centre (CIGMAT). The second was signed **with the Matagalpa Municipal Council (ALMAT)**, for the setting up of a Land Planning Office and the drawing up of an Urban Development Plan for the city of Matagalpa.

As part of the agreement signed with UNAN, UNOPS provided a total of USD 181,271 to facilitate operation activities required for the CIGMAT part of the project.

For the Matagalpa Municipal Council (ALMAT) part of the project, UNOPS provided a total of USD 145,583 for the implementation of Matagalpa city Urban Plan activities. This investment covered the purchase of equipment and vehicles for the Land Planning Office (OPT) and the cost of technical staff. In accordance with the terms approved by the DAEL/Canton of Geneva in 2005, the agreement with ALMAT was extended to March 2006, with the aim of concluding the activities of the Urban Development Plan Promotion and Socialisation Plan. Including this extra funding, it is estimated that the total investment in this component will be USD 151,729.

To sum up, the total investment in both project components, including rescheduling of the outstanding balance in 2006, will amount to a sum of USD 356,227.

The third part of the project relates to the technical and administrative assistance services provided through UNOPS and UNOSAT, the funding for which amounts to a sum of USD 141,389. As part of this investment, a total of USD 86,738 was earmarked for UNOSAT products and services supplied to the newly set up association CIGMAT during the three years of the project, and these sums currently form part of its assets.

PROCESS VARIABLES: METHODOLOGY ADOPTED AND PROBLEMS ENCOUNTERED

In general, the project went ahead without any major incidents or drawbacks.

UNOPS conducted frequent monitoring and carried out various field visits with the aim of assessing

progress in activities for each part of the project. These monitoring visits allowed them to tackle and resolve various problems encountered during implementation through appropriate discussion and analysis with the project partners. Tripartite meetings were held once a year between DAEL, UNOPS/UNOSAT and project social organizations with the aim of analysing the general progress of the various parts of the project; reviewing and approving project plans and annual budget and also to guide debate and reflect on the sustainability of CIGMAT.

The legal recognition of CIGMAT was an extensive process that took longer than planned, since advance approval was required by the National Assembly under national law. The change in the municipal government in 2005 and the intervention of the mayor were a positive help in speeding up formalities with the Legislative Assembly.

Lastly, the CIGMAT partner organizations expressed their concern over demands for services and/or requirements by potential clients of the centre that it has not been possible to satisfy and also the UNOSAT response time. If new challenges are to be met, it is a priority to improve the relationship between these two technical units. UNOSAT, for its part, has indicated that certain limitations are affected by satellite programming and atmospheric conditions in the region, which are factors outside its control. The new orthorectified SPOT 5XS 2005 images will nevertheless allow CIGMAT to benefit from more extensive geographical coverage and state-of-the-art resources to meet future demands.

OUTCOMES

The results achieved for each specific objective are detailed below:

Objective 1. Facilitate access to geographical information and skilled technical resources for land management in the Municipality of Matagalpa and the Basin.

Result 1.1. Regional information centre organized, operational and properly equipped, with staff trained in management of the geographical information system

and centre management.

CIGMAT was awarded legal status in August 2005 (public corporation), i.e. two years after the local legal formalities were started. Despite this, CIGMAT has been technically organized and structured as a service organization delivering geographical information since July 2003, when the staff were formally recruited (technical, managerial and administrative).

During its first three years of life, beginning with the satellite images supplied by UNOSAT, CIGMAT has delivered:

- Various products to the municipality and basin geographical information centre: the first tourist plan of the area, coffee route map, digitalisation of the topography of local towns, rivers and roads, cartography of areas at risk of and affected by flood, soil use maps, gradient and hydrography maps, and other thematic maps;
- Educational activities and contact with various organizations that could become direct users of the services or strategic allies;
- Participation in regional events on topics related to environmental information management.

Objective 2. To support local government in their task of planning land management.

Result 2.1. Matagalpa Municipality Land Planning Technical Unit set up and operational.

The first stage of the project included technical and financial assistance to the Municipality of Matagalpa to ensure that the council was able to call on a unit and qualified technical team to support its land management plans and programmes. In August 2003, the technical team that set up the Land planning Office (OPT) for the municipal council was recruited to make the office operational.

The OPT made major contributions to the council in accordance with requirements identified as priorities:

- Development of terms of reference for the City of

Matagalpa Drainage Plan Project;

- Outlining of risk situations to the El Clavaria Barrio Residents for awareness-raising and possible relocation to more suitable areas;
- Diagnosis of family homes affected by the tropical storm;
- Review of terms of reference for the location of a new municipal dump
- Help the land registry map and record points located in the sand dunes;
- Solid waste diagnosis and route maps, map of neighbourhood boundaries, run-off, hydrography and municipal services;
- Review of project profile and design of the Environmental Research and Management Centre;
- Evaluation of damage caused by rain in the neighbourhoods of Apante, Otoniel Arauz, Lucidia Mantilla, Manuel Piqueras and Sandino Sur;
- Coordination with the National Institute of Urban and Rural Housing (INVUR) to draw up a housing project;
- Technical recommendations to consultants of GONSAM, S. A. on the Risk Analysis Study and Development of a Municipal Plan for natural disaster prevention and mitigation;
- Participation in the development of the technical working proposal being developed by AMAT in the Río Grande de Matagalpa sector, Managua tributary.

Result 2.2. Urban Master Plan for the city of Matagalpa, drawn up with public participation and the technical support of Decentralised Cooperation.

The aim of the urban development plan is to identify sensitive areas and reduce vulnerabilities. CIGMAT has provided basic geographical information together with a study of the geological and physical features of the region. The OPT used this information to draw up a full diagnosis of the area using a participative method that involved social leaders and the main social organizations in each of the urban neighbourhoods and the most important outlying neighbourhoods committed to the future growth of the city. Some 72 municipal executives supported the OPT technical team in the identification and evaluation of land conflicts, risks and potentials.

Objective 3. To strengthen coordination mechanisms at local, micro regional (departmental), regional (basin) and international level, by making room for critical dialogue between Central and North/South America to foster cooperation.

Result 3.1. The project experiences were shared and disseminated at national and international level, as a contribution to the debate on the application of digitalised geographical information in area management and also to feed back to the process promoted in Matagalpa.

Result 3.2. Critical North/South dialogue on Decentralised Cooperation organized and examples of operational coordination.

Specific advances have been made in reflection and critical dialogue on decentralised cooperation through:

- Special advice by colleagues from the Canton of Geneva government;
- Support missions on the topics of land regulation, institutional aspects of GISs, run-off drainage master plan;
- Remote support for the development of a tourist plan;
- Identification of new partners and participation of municipalities in Geneva and France (border) from 2006, for disseminating and discussing key aspects of the project with a greater number of potential decentralised cooperation actors, and also to diversify finance sources;
- To ensure the viability of the longer term projects by establishing strategic alliances with cooperative organizations operating at national level, (Swiss Agency for Development Cooperation SDC, Netherlands Development Cooperation Service and the European Union) and also enter into formal relationships with Nicaraguan government offices active in land management;

It may be concluded in general that the project satisfactorily complied with its aims with regard to the setting up and running of CIGMAT and OPT. It succeeded in strengthening local capacity for the management

of space technology to help the overall local development process. The municipality can also now call on an Urban Development Plan and Land Regulatory Plan to guide the actions of municipal governments over the next ten years.

SUSTAINABILITY

Project sustainability depends to a large extent on the development of the second stage, planned for 2006-2009. The new resources must pave the way for the decentralised and well-coordinated management of land resources under more harmonious development models, that promote the long term achievement of:

- An effective economy that actively contributes to the generation of employment and the increase of productive investment;
- Greater social equality so that social demands for essential services can be comfortably met;
- An effective and sustainable management of natural resources, with optimal use of farming, forestry and pasture systems, conservation of biodiversity and rational use of soil and water with the aim of improving food safety based on a local market;
- Horizontal integration of all local initiatives and projects to include climate change and geological risk protection factors.

Apart from the above, we must also remember that the sustainability of the initiative will depend on its ability to cater for the demand for services and the possibility of obtaining financial resources from other sources, whether governmental or non-governmental.

LESSONS LEARNED

Since the beginning of the project and during the various tripartite meetings, the representatives of project partner organizations have been advised of the need to include a greater number of members and take specific action to allow the community of CIGMAT service users to be extended in the short term. Now that the organization has legal status, it is hoped that during the next stage, the new association management will

be more open to the inclusion of other actors as part of the association and work actively to include other basin municipalities as project beneficiaries.

The ALMAT, for its part, is able to call on an important key land management tool, defined in the Urban Development Plan and the Regulatory Plan for the city of Matagalpa. ALMAT has nevertheless shown an interest in keeping the OPT as part of the organizational structure of the council so that the technical team can continue their efforts to promote the proper management of local resources and support the most vulnerable sectors living in high risk settlements.

TRANSFERABILITY

In September 2005, once the goals of the first stage of the project had been achieved to a large extent, the second stage was drawn up covering a broader geographical area, to enable other councils may benefit from the know-how and technical assistance of CIGMAT in land management and the introduction of disaster prevention regulations.

UNOSAT seeks to permanently extend the capabilities of the CIGMAT and ensure its sustainability. Together with partners such as the European Space Agency (ESA) and the European Council for Nuclear Research (CERN), UNOSAT promotes cooperative agreements with international scientific institutions, promotes the search for new customers for CIGMAT services and provides technical support for the permanent updating of its geographical database. This support is part of a global initiative that includes the implementation of projects similar to CIGMAT in countries such as Algeria and Korea.

The use of satellite images was until very recently a privilege enjoyed by a very small group of institutions in industrialised countries. Nowadays, through the support of European space agencies, the Global Monitoring for Environment and Security Initiative and UNOSAT, local communities that are a priority due to their vulnerability also have access to this service, which is essential for managing risk and designing sustainable development through land planning. ■

Good practices, good policies

Concrete experiences as a motor for change

Emilio Carrillo
International Expert on Local Development
Professor of Economics at the University of Seville
Deputy Mayor and Director of Town Planning for the City of Seville, Spain

[From page 26]

Earthquakes, hurricanes, tsunamis, volcanic eruptions, mudslides and droughts—all part of the daily life of our planet—repeatedly devastate communities around the globe, revealing our vulnerability and fragility before such phenomena. Unfortunately, this vulnerability results in hundreds of thousands of deaths, injured and missing, millions of internally displaced and destroyed economies and means of subsistence. During past few decades, more than 1.5 million persons have been killed as a result of those disasters. The United Nations has estimated that by 2050 catastrophes will lead to an annual average loss of 100,000 lives at a cost of more than 250,000 million euros.

The severity of these facts and estimates has awoken the international community to a growing awareness of the dimension and the consequences of this problem. Greater attention is being paid to the structural effects of risk on development and not just to the symptoms, as had been the case for a long time. There are now two objectives: reduction of the existing vulnerability, which is the result of the use of unsustainable development practices whose harmful effects have been accumulating over time, and the promotion of processes that prevent the creation of conditions that produce new risk scenarios in the future. These two objectives are aimed at decreasing the direct impact of disasters on development and the effects that they have on development systems in creating risk of disasters.

The United Nations made an important contribution to this change in perception and attitude about disasters by declaring the 1990s the International Decade



for Natural Disaster Reduction (IDNDR). At the end of that decade, the International Strategy for Disaster Reduction (ISDR) was established to meet the need for a permanent worldwide framework for coordinating and promoting a reduction of the risk of disasters. In unison, various organizations of the United Nations system—the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and the International Labour Organization (ILO)—established and promoted programmes and projects aimed at reducing risk in the world's most vulnerable countries. In January 2005, the Hyogo Framework for Action 2005–2015 was adopted at the United Nations World Conference on Disaster Reduc-

tion (WCDR) with the backing of many countries and was recently ratified by the General Assembly.

Given this, we should not be surprised that good practices for reacting to disasters and the interrelationship of disasters with development strategies have begun to appear in several parts of the world. The following good practices have become apparent: the efforts made by the inhabitants of Banda Aceh and Aceh Besar in Indonesia to deal with the terrible effects of the tsunami of December 2004 and those of the city of Matagalpa and the Río Grande de Matagalpa Basin in Nicaragua that came to light under the impact of Hurricane Mitch of 1998.

Banda Aceh and Aceh Besar (Indonesia)

The force of the facts has made us look beyond the idea of “unlimited growth” based on infinite expansion of production and inexhaustible natural resources and of “omnipotent growth”, alone capable of solving problems of employment, land use and distribution of wealth.

Nonetheless, economic growth continues to be a priority goal, making possible the generation of jobs and income and increasing the economic and financial basis for improved public services and social benefits producing a balance in the spatial and personal distribution of wealth (in accordance with the famous saying: “We must grow in order to share”). To the “ethical limits” sometimes placed on growth—the creation of wealth not as an end, but as an instrument for achieving greater welfare and equity—another must be added: “structural limits” defined by a new technological and economic framework that makes growth a necessary but insufficient condition for achieving certain goals (for example, the elimination of unemployment) whose achievement should inevitably be linked to complementary steps and deep changes in social attitudes and behaviour. Likewise, the notion of “ecological limits” (awareness that a drive to produce can also lead to degradation) implies a need to find a middle ground. No economic system crosses the “ecological boundary” without decreasing the quality of life and running a serious risk of self-destruction.

This increases the importance of microeconomics without cancelling the importance of macroeconomics and links the economy to other parameters such as the environment, technology and land use. This marks a trend towards decentralized production and decision making and the stimulation of the economy through public initiatives. This thinking has become part of what today is called integral development, including, in its own right, local development.

This was the focus used in the Indonesian districts of Banda Aceh and Aceh Besar that we are discussing here. After the disaster created by the devastating tsunami of December 2004, the ILO post-disaster reconstruction programme immediately adopted the objective of not only reconstructing infrastructure and housing but also of strengthening communities that lost their leaders and had seen their social networks weakened—and local institutions. A programme that is still in operation was created with six components managed by a central unit operating in close cooperation with provincial and regional labour, education and public works departments and with trade unions, co-operatives, employers’ organizations and chambers of commerce. As a result of this integral intervention and focus not only has immediate local employment been created in key sectors for the reconstruction of the area affected by the disaster (construction of houses and infrastructure, rehabilitation of buildings and manufacture of construction material) but also training programmes and business development have been created that is specifically oriented to the most vulnerable social and economic population groups, strengthening the participating organizations.

Another important reason for this strategy’s success has been the training and employment activities specifically aimed at women, who successfully joined the traditionally masculine construction labour market. This experience leads to a concept of development that takes into consideration the need for economic growth; but not at any price and fully aware of its limitations without holding it sacred. This supports the interrelationship between the economy, environment, technology and land, based emphatically on sustainable development and taking into account the importance of social development with the conviction that there cannot be

economic efficiency without social efficiency and creating mechanisms for decentralization, participation and negotiation, increasing the weight of the local public agencies and civil society.

It can be said that local development, namely integral development, is a long-term process with multiple goals. It is a complex process that, to express it in graphical terms that are easy to remember, should meet the “logic of three triangles” reflected in the following three interconnected points of sustainability.

ECONOMIC SUSTAINABILITY	ENVIRONMENTAL SUSTAINABILITY	SOCIAL SUSTAINABILITY
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Economic development Efficiency Competitiveness	Sustainable development Ecology Conservation	Social development Equity Cohesion

On this basis and returning to natural disasters, it must be stressed that their risk is a cumulative process combining natural and man-induced threats that create the conditions of vulnerability. Disasters are the result of a complex mix of activities linked to economic, social, cultural, environmental and political-administrative factors that are related to inadequate development processes, structural adjustment programmes and economic investment projects that do not take into account the social and environmental costs of their activities.

Although it is clear that the impact of disasters is greater in poor countries, especially those with a low index of human development, the responsibility for reducing and creating risk are the result of local and national phenomena as well as supranational and even global phenomena, such as economic globalization and policies to combat global warming, climate change, desertification and environmental degradation.

Matagalpa and the Río Grande de Matagalpa Basin (Nicaragua)

Full incorporation of local areas into development practices and theory has been one of the main changes

in economic thought and practice over the past few decades and is a key reason that development is today much more than economic development. This change is acquiring even more importance as the process of globalization advances and the conceptual, strategic and operational importance of local areas increases.

This novel prism for looking at the role of local areas has been accompanied by changes in the traditional attitude of regulating it strictly from the point of view of urban planning and allocation and rationalization of uses. The new richer and broader approach promotes the organization of local areas in which urban planning factors become important together with social, economic, geographic, environmental, demographic and institutional factors. The notion of territorial equilibrium has become a central concern. Equilibrium must be viewed as an idea and objective that force us to think in terms of integral land management.

From this new territorial perspective, local realities, experiences, community wisdom and scientific knowledge have shown us that most disasters can be avoided and are not natural; they are threats that can be avoided. Disasters cause physical and mental harm to the persons affected and damage the economies, means of subsistence, production of local inhabitants and families that often lose their breadwinners.

Are the factors of vulnerability that we ourselves produce together with the threats and lack of capacities and poor management of risk the causes of disasters? Often, inadequate development adds to dangers and creates new threats. People are not the problem: they are developing countries’ main resource and the best solution they have. It has been demonstrated that in emergency situations the local community and local inhabitants are the first line of defence and the basis for reconstruction.

The Nicaraguan good practice discussed here is based on strategic planning. The project “Strengthening of Matagalpa municipio and the Río Grande de Matagalpa Basin for land management” was a reaction to the awareness created by the effects of Hurricane Mitch in 1998 that brought to light the fragility of Central America and the need for governments and local

communities to prevent destructive events and reduce their risk. Aware of this vulnerability, the mayor of Matagalpa adopted the strategic objective of providing “mechanisms that lead to implementation of a participatory form of planning processes that incorporate the variables of mitigation, prevention and preparation for disasters of natural origin”. At the request of the International Strategy for Disaster Reduction (ISDR) Programme and with the technical support of the UNOSAT Project, the United Nations Office for Project Services (UNOPS) responded to this need and in May 2002 implemented a pilot project to reduce vulnerability and strengthen the capacity of the Municipio of Matagalpa and local partner organizations to deal with natural disasters and organize their prevention with local development strategies.

It was proposed to work with three lines of complementary action: first, to create a geographic information centre in the municipio using geographic information systems based on satellite images and technical support for land management; secondly, to support the local government of Matagalpa, considered the leading agency in the Río Grande Basin, in carrying out its responsibility for land use planning; and thirdly, to strengthen coordination mechanisms at the local, micro regional (departmental), regional (basin) and international levels, promoting venues for meaningful Central American and North/South dialogue on decentralized cooperation.

The results of this initiative are already available. During its three first years of operation, the Matagalpa Centre for Geographic Information (CIGMAT) has become the centre of reference for local geographic information, producing processed satellite images, the first local tourist plan, a map of coffee trade, digitalization of the topography of local municipios, rivers and roads, maps of areas at risk of flooding, soil use maps, maps of slopes and hydrology, thematic maps requested by local universities, churches, municipal delegations of the Ministry for Health, NGOs, farmers and businesses. In addition, the municipio has a very active territorial planning office that has participated in the preparation of an urban development plan for Matagalpa that will be used to guide sustainable development in the municipio over the next ten years.

Recourse to the preparation and implementation of a strategic plan has become common in the life of many cities. Strategic planning is a new form of governing urban agglomerations in a climate of consensus and collective participation of the economic and social agents that make it possible to go beyond lack of foresight, conceive a desirable future and define tangible means for achieving that. Basically, strategic planning seeks a double effect: on the one hand to determine the city's strategic objectives that make it possible to achieve a position of competitiveness and quality of life in the medium term and on the other hand to stimulate the merger of the strategies of the agents that have the capacity and the resources to make possible the desired city.

It is important to point out that strategic planning, while certainly a single concept, can be divided into two interrelated fields with different conceptual and operational natures: socio-economic strategic planning (production, technology, business structures) and physical and territorial strategic planning (spatial, urban planning, land use).

On the one hand, strategic planning is socio-economic, production, technology and business-oriented in nature. It provides a global vision of the city in a process of permanent change and establishes priorities and focuses efforts, organizes objectives and defines infrastructural development projects and the creation of income and employment, promotes public-private cooperation, creates a common strategic culture, reinforces in the community various leaders (institutional, social, economic, etc.) and leads to a programme of action.

On the other hand, the city is above all a physical reality, making it necessary to create the “city that we want” in “the area that we have”. In its real form, the model city requires coherent physical urban planning based on a reference model, capable of turning it into a reality and capable of guiding the city's urban and territorial development towards the goals chosen by its citizens. A policy is required that seeks responsible and rational urbanization that provides the urban system with a more sustainable basis and greater territorial balance, with coordinated and integral effects, the environment, local culture, technology, the social sphere, the economy and the intangibles that affect de-

velopment with the fundamental objective of maintaining and improving the quality of life of its inhabitants.

What we commonly refer to as strategic planning—socio-economic planning—and that is usually incorrectly called urban planning—must be understood and implemented as physical and territorial strategic planning; two faces of the same coin. The creation of spaces for coexistence and social cohesion, the provision of infrastructure for achieving a more organized, balanced and united city, sustainability and the urban environment as central points of the quality of life, the importance placed on culture and historical-artistic heritage or the creation of employment, socio-economic and business promotion and innovation must be given expression in the city's spatial reality and developed locally.

Socio-economic strategic planning does not have a precise basis in the domestic legislation of many countries. Quite to the contrary, it is often the successor to physical territorial strategic planning, which is obligatory in several countries for municipios from the perspective of their powerful urban planning abilities. While endemic financial shortcomings bear down with all their weight on local governments when it is time to back projects originating from socio-economic planning, territorial and urban planning generate notable income that argues for their implementation. This ambivalence must be intelligently overcome and capacity created to bring together both areas of planning, seeking synergies and finding in one of the areas the legal and financial support for those who suffer from the other in order to achieve integral and fully operational strategic planning.

Conclusions

The conclusions derived from these two case studies reinforce and back those made by Jaime Valdés in his excellent work published in this journal. States, the international community and key actors must do much more to promote and strengthen local capacities, the participation of all sectors and make possible the use of local resources, land and communities and base the reduction of the risk of disasters on their own reality, taking into account the environment, the natural habitat and people as the main resources for carrying out these processes.

Experience shows us that the key for preventing, mitigating and, in the best of cases, avoiding the impact of disasters is first of all to reduce their risk before they happen. In the event of the occurrence of a potentially destructive event, good preparation ensures rapid, effective and appropriate reconstruction.

Reconstruction can be viewed as a window of opportunity and one of the best moments to introduce the topic of reduction of the risk of disasters in planning for sustainable development and to promote proactive and permanent strategies that make it possible to make societies safer. Reduction of the risk of disasters should be focused on the strengthening of the capacity of key local development actors and the affected communities and towards improving the quality of life, reducing poverty, creating sources of rewarding employment and sustainable economic development, as well as guaranteeing the greatest degree of security for property, the means of subsistence and, especially, the life of persons in the future. ■

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Interview



Andrew Maskrey

**Chief of the Disaster Reduction Unit of the
UNDP Bureau for Crisis Prevention and Recovery**

The role of local stakeholders in linking development to disaster reduction

Interview with Andrew Maskrey

Chair of the International Recovery Platform

Chair of the IASC Cluster Working Group on Early Recovery

Chair of the ISDR Reference Group

Chief of the Disaster Reduction Unit

United Nations Development Programme Bureau for Crisis Prevention & Recovery (UNDP/BCPR)

Interviewing Andrew Maskrey offers a great opportunity to look at the conceptual and practical evolution of disaster risk management and its relationship with sustainable development over the last 25 years. He is currently Chief of the Disaster Reduction Unit of the UNDP Bureau for Crisis Prevention and Recovery (Geneva, Switzerland) and, since September 2005, has been the Chair of the International Recovery Platform. But we have to go back to the 1980s to look at the beginning of a professional career that has had to do with both disaster prevention and development planning.

How and when did your commitment to disaster reduction start?

My involvement with disaster reduction happened totally by accident... Let's go back to 1982, when I was working in Peru as an urban planner at the National Institute of Urban Development.

A major earthquake had just been predicted in Lima. In fact, it never happened. Nevertheless, the Japanese Government gave the Peruvian Government a considerable amount of money to conduct an analysis of earthquake risk in Lima and to produce a plan to protect the city. For various, mysterious reasons – at that time I didn't know anything about earthquakes except that they shook me around in bed – the Director of the Institute entrusted me and a team to develop that plan.

For me, it was actually a happy coincidence, because I started looking at the whole problem of earthquake



risk not from a natural scientist's perspective, but from the perspective of urban processes. In other words, I examined what was actually making the city vulnerable to earthquakes and therefore what we could modify in urban processes to make the city safe.

One of the things we discovered was that most of the risk in Lima was concentrated in very old inner-city neighbourhoods, in an area that was built from the 17th to the 19th century. Houses in that district had originally been designed for the rich; each building was occupied by only one family. One hundred years

ago, the rich started moving out to the periphery of the city and those buildings have gradually been occupied by 20, 30 or even 40 poor families. Vulnerability in those houses, originally safe, was increasing year by year, due to intensive use – imagine 40 families living in a building designed for one – and to a total lack of maintenance.

I suddenly realized that the disaster risk in Lima was only tangentially related to earthquakes. The earthquake was always there, and had been there for millions of years. It had more to do with how the city was developing, how it was managed.

If vulnerability is concentrated, as you say, in old inner-city buildings full of people – as it is in many urban areas around the world – what can one do about it?

The solution could have something to do with changing the laws on renting houses. In this specific case, for instance, there was no incentive either for the owner or for the tenants to maintain the building.

I realised then, in Peru, that real disaster prevention wasn't just about physical measures. It also had to do with legal measures, economic incentives and a range of urban management measures which could actually change the cities risk profile over time.

In other words, the first lesson you learned from Peru was that disaster prevention is related much more to development than to natural factors.

Yes, totally related to development, in this case urban development. That was really what got me interested: a kind of a theme that involved every single aspect of development.

The second important step was provoked, in some way, by what happened to the plan we prepared in Peru. We spent eight or nine months developing the plan to protect the city, as employees of the Peruvian Government, and then, as soon as we finished our work, it got stuck on a shelf and nothing happened!

So a couple of colleagues from the same team and I decided to create an NGO to work directly with local communities and local authorities. Our theory was that unless the people who are actually affected by disasters and who actually suffer, politically start demanding safety and security, nothing is going to happen. If you just rely on a Ministry to do something, nothing will happen, because any initiative has to be based on a concrete need and political demand. That's why, in 1983, we founded the Center for Disaster Prevention and Research (PREDES).

This was the same year as a major El Niño event which caused severe flooding, droughts and mudslides in Peru and Ecuador and produced dramatic effects on land. We started working in a highly vulnerable valley quite close to Lima, directly with local communities and local governments, on planning what to do to reduce vulnerability and then helping them to get resources from the central government or from others to actually start doing things to reduce vulnerability. We worked on this for several years and, while we didn't realise at the time, it was one of the first significant experiences in the world in local-level risk management.

We can definitely say that you started learning from practice and immediately dealing with substantial environmental and socio-economic tragedies, such as those triggered by El Niño events. On the one hand we can see you are the kind of person who likes doing practical work, but, on the other hand, we also know that you enjoy writing. Did you report part of that experience in any of your books?

Yes, I started writing from the beginning simply reflecting on my experiences, and in 1987 I published a book called "Community Based Disaster Mitigation", which I think had quite a considerable impact. It was actually one of the first books that focused on the local perspective. Before, mainstream thinking was that disaster reduction was a strictly scientific and technical discipline - the job of seismologists, meteorologists, engineers, architects, etc. So, released at the end of the 1980s, the book became something of a milestone in local-level risk-management theory and practice.

What happened next?

After that, I went back to urban planning and development until 1991, when two things happened that brought me back to the disasters area.

One event was an earthquake in north-east Peru. It affected an area where I was actually working on a regional development plan. So I suddenly felt called upon to do something. We helped the local governments do a post-earthquake reconstruction plan, which was extremely successful and really reduced the vulnerability of the area.

The next episode was a year later, where on the strength of the post-earthquake recovery work I got invited to a disaster conference in Los Angeles (USA). Despite the fact that quite a few years had gone past since I started working on local level risk management the whole discussion of natural disasters remained strictly scientific and technical. There was little discussion about development, communities, or the key role of local authorities. I came away convinced that if this was the IDNDR (International Decade for Natural Disaster Reduction) something had to change.

In the intervening years, I had got to know quite a lot of people who had started working independently but from a similar perspective, in Colombia, Ecuador, Mexico, Costa Rica, etc. And I thought we could not have any kind of impact individually, so it was important to meet up and decide something.

Was that when LA RED¹ was born?

Yes. Our first meeting was held in Limón, on the Caribbean side of Costa Rica. We didn't really have an agenda, but when we met, we decided to create a network in order to do some proper comparative research on what was happening in the most affected countries. The international community – as well as national and local governments – had very little knowledge of what exactly was going on in Latin America, so “awareness”

was our first objective. We decided, secondly, to set up a system for sharing information and, thirdly, to advocate change in international policies that, at that time, were about response, preparedness, and scientific investigation (with very little link to development).

How could you actually cause change? What kind of knowledge and skills were required of experts who wished to be part of LA RED?

Far from having precise requirements, it was most important to share the expertise, the experience and, if possible, the fieldwork each one of us had that was relevant to the aim of the LA RED project. Initially, we were a very heterogeneous group of 15 people or so from universities, NGOs, local governments and even regional or international organizations. The only thing we had in common was this passion for changing things.

In the seven years after our creation in 1992, we published about 10 books, ran a journal that came out every 6 months and developed a system for recording disasters, called “*DesInventar*”. We then started turning our research into learning and training tools on local-level risk management, especially for municipalities, which is actually where disasters are most felt. We also sparked off dozens of meetings all over Latin America that brought many hundreds of people into the orbit of LA RED.

Once La Red had been consolidated as a network, we started having more global contact, and we helped set up two sister networks: one in South Asia (Duryog Nivaran) and one in Southern Africa (Periperi). It was interesting to see that there was more and more worldwide interest in local-level risk management linked to development.

After this very creative period in Latin America –whose results showed that it really had a global impact– where did you move next?

In 1999, I just felt I had to do something different, and

¹ Andrew Maskrey was the founder and, between 1992 and 1999, the General Coordinator of the Network for Social Studies in Disaster Prevention in Latin America: La Red.

that was when I joined the UNDP in Geneva. The UNDP had been supporting countries through its country offices since the 1980s, mainly by developing legislation and national institutions. In 1998, we got given a system-wide mandate to build capacities (from the former UN Department for Humanitarian Affairs, the DHA) and I was part of the new team that came in to enable the UNDP to develop a corporate capacity.

Between then and now, we have built up a portfolio of capacity-building programmes in about 60 countries, worth approximately 90 million USD. Within the UN/ISDR system, we cover a number of subjects: governance (including local governance); recovery; risk analysis and risk identification, which builds on the Disaster Risk Report we published two years ago, which measures vulnerability and risk; capacity development (DMTP); urban risk; and linking disaster reduction to climate change.

The UNDP's focus is on building national capacity to reduce disaster risk. More concretely, we are trying to develop the areas mentioned above into programming at the national level with the governments in the key countries. Because of its nature, the UNDP usually works through its Country Offices.

We have a team in Geneva, and regional teams in Delhi, Bangkok, Nairobi, Johannesburg and Panama. We are also putting together new national posts within the most risk-prone countries.²

Among the key areas you've just mentioned, let's talk about "recovery". The UNDP was one of the leading agencies in the creation of the International Recovery Platform (IRP). As Chair of this new inter-agency initiative, could you briefly explain to our readers why one year ago, when the IRP was launched, recovery became a priority within the UN system?

First of all, I wish to say that the UNDP, like the ILO and the FAO and other agencies, has supported recovery for

a long time. But, if you compare the recovery side with humanitarian assistance, you quickly see that for the immediate response to disasters there is a very strong system-wide coordination mechanism, based on resource mobilization through flash appeals, assessment, etc. In the last few years, all UN institutions have really improved their response tools and response capacity.

On the recovery side, sometimes it works, sometimes it does not. It depends on how good the work of the UNDP, the ILO, the FAO and so on is, but a primary mechanism for inter-agency coordination has not yet been established and therefore actions are more improvised. So, two years ago, we started some discussions, initially with the Japanese Government, to develop a platform for UN agencies, the WB, the IFRC, the ADRC and others to really start bridging this gap. That meant putting into place tools, methods and instruments for recovery. These are not the same as those of the humanitarian system, but they need to be just as efficient.

It cannot happen overnight, but I hope that in five-ten years' time we will be doing recovery as efficiently as the UN now coordinates response. To reach that ambitious goal, we need an enormous amount of capacity-development and training.

Towards the end of 2004, we started brainstorming on that, which led to a big meeting in Kobe, Japan, in May 2005, where we agreed to create the IRP to achieve a more coordinated UN system approach and methodology so that the recovery process could help transform disasters into opportunities for sustainable development.³

Could you please briefly describe what has been achieved during this first year of activities? What are currently the main challenges, difficulties and opportunities for the IRP?

This first year of IRP activities has been dedicated to preparatory work: setting up the secretariat in Japan, a capacity-building coordination system, a task force

² For more information on the UNDP and the UNDP/BCPR mandate and activities, please visit: <http://www.undp.org/bcpr>.

³ For more information on the International Recovery Platform, please visit: <http://www.recoveryplatform.org>.

on post-disaster needs assessment, and pulling together best practice and case studies. There are three main clusters of activities: 1) advocacy and knowledge management; 2) training and capacity-building; and 3) enhanced recovery operations. I see them as inter-related components of a single process. As with the humanitarian system, it could take ten years to make an impact.

At the moment, I see a series of challenges that can become good opportunities if all the agencies involved stay committed.

We'll soon get a better, more systematic knowledge base, which we can use to really start doing advocacy, because one of the weaknesses - or even threats - is that not many people, not even in the UN, or at the WB, or in governments, understand that recovery really is more about transforming risk than just about physical rebuilding. Even if you have done nothing to reduce risk over years or decades, recovery after a major disaster offers that opportunity provided you are ready. However, there is a kind of denial about the real nature of recovery and a gap in the way efforts are coordinated, between immediate humanitarian help when disaster occurs and the reconstruction phase. We must spread information and increase awareness about the real nature of recovery. Unless we do that, it will be difficult to get governments seriously committed to recovery.

We will have an opportunity that we must not miss once we get the PDNA and planning methodology for recovery. With such a tool we can really improve the predictability and efficiency of what we do in the field after disasters. We must have enough human capacity to apply the methodology. Tool development and capacity development need to go hand in hand. This is the main challenge, but also a potential strength, within the IRP system.

Finally, as Mr. Salvano Briceño, Director of the ISDR, stated at the end of our last Steering Committee meeting, "We will have to ensure that collaboration and coordination really contributes to a common process. That common process is to ensure the implementation of the Hyogo Framework for Action. The IRP should not run around providing support for all disasters; instead, it needs to concentrate on coordination, networking,

and knowledge exchange. We do understand that the IRP is an essential component of the ISDR system and it should be used to strengthen it."

Governments' participation is crucial to success in this. Do you see commitment to recovery increasing at the national level, worldwide?

I have the feeling that governments are starting to understand the real need for recovery, thanks mainly to the work of the global media. Before, many disasters didn't get reported. Now, as with the tsunami, the earthquake in Pakistan and hurricane Stan, disaster has turned into a political problem constantly reported by the media. It's like anything in the world: unless you turn it into a political problem, it does not exist.

Gradually, the affected people are gaining more voice and are urgently asking for concrete support. Many governments are starting to think about how to deal with concrete problems reported at the local level. Previously, governments were only concerned about reconstruction, strategic infrastructure and major economic sectors. Poor and vulnerable people have not been economically or politically important so far in recovery processes. I think it is only recently that there has been political pressure to take the recovery of the affected population seriously. That's why, as I said before, advocacy is important, and we have to do a lot more: writing stories, feeding the press, doing seminars, etc.

What do you think is the role of local stakeholders in disaster risk reduction?

First of all, all disasters are local disasters. Why? Because, even in the case of a very big disaster, like Hurricane Mitch, one single hurricane provoked 500 small disasters in 500 small municipalities. A hurricane is something abstract; the disaster is real, and it happens at the local level. And what happens in one municipality is different from what happens in another.

The more local authorities and local populations know about their risks and their vulnerabilities by doing their own risk assessment and risk analysis, the more

they can learn about what they can do about it and the better chance they have of: a) gradually reducing risk all the time; b) reducing their losses; c) using the recovery as an opportunity to transform risk.

Let me give a concrete example. Most municipalities, for instance in Latin America, are totally unequipped to do anything, especially small or rural municipalities. I remember, after the earthquake in Peru in 2001, the UNDP, the ILO and UN/HABITAT did an assessment. One of their recommendations was that the municipalities should rebuild the houses using appropriate technology to make them safer in the case of future earthquakes. Then we discovered that in the 21 most affected municipalities, there was only one civil engineer.

So capacity-building – not only in relation to disaster reduction but also in development planning, environmental control, infrastructure and technology – is a key priority for any local authority.

At the same time, however, many of the causes of disasters are not local. Flooding in a specific small area can be caused by deforestation 100 miles away. One single local authority cannot solve the problems caused by national infrastructure projects, multinational strategies and so on. Therefore, the only way of making things change is to work with networks and associations of municipalities, on a larger scale.

Moreover, depending on the level of decentralization, local authorities also have strong limitations. That's why I would ultimately say that local-level risk management has to start with the most simple: what you can do with what you have. If what you can do is to organize people to evacuate when there is a flood, do that. There are many small, concrete actions that can have long-lasting positive effects as they increase people's awareness and strengthen local organizations. Gradually, some results will become evident.

The case of La Masica in Honduras⁴ is a good example. There was a very strong capacity-building programme

on local level risk management in 1997-98. When Mitch struck, the whole central disaster response system in Honduras collapsed. But this small community was able to escape with no deaths. They had their own plan and, without waiting for instructions from Tegucigalpa or San Pedro Sula, they evacuated the people to a safe area.

In conclusion, what would be a good balance between local and national policies that would reduce disaster risk and enhance sustainable local development?

I like the image of the pyramid. There is no point in having capacity at the top, if there is nothing at the bottom. But if you have capacity at the bottom, then it should be supported from the top. So the ideal situation is to have a central government with a programme to build the capacity of local authorities for local-level risk management, to develop plans and provide funding to actually implement those plans.

There is a national programme to build the capacity for local-level risk management in India that involves 170 of the most vulnerable districts, with a population of 500 to 600 million people. This is the biggest local-level risk management programme in the world. The programme essentially aims to contribute towards the social and economic development goals of the national government, to enable the selected multi-hazard States to minimize losses of development gains from disasters, and to reduce vulnerability. The programme emphasizes sustainable disaster-risk reduction in those States in order to build capacity at all levels to institutionalize the disaster risk management system in India.

What I like about it – and the reason why it is a good example of balance between local and national levels – is that it is centrally supported and it is based on the institutionalization of risk management through a participatory process that links disaster-reduction strategies with the development process and decentralization. ■

⁴ La Masica is a municipality in the department of Atlántida, Honduras.

UNITED NATIONS DEVELOPMENT PROGRAMME CRISIS PREVENTION AND RECOVERY

The Crisis Prevention and Recovery Practice Area of UNDP is one of UNDP's five core practice areas, spearheaded by the Bureau for Crisis Prevention and Recovery (BCPR), one of nine major bureaus within the institution. Consistent with UNDP's mission to promote sustainable human development, the focus is on the development dimension of crisis situations. UNDP works to prevent armed conflicts, reduce the risk of disasters, and promote early recovery after crises have occurred. Through UNDP's Country Offices, BCPR staff support local government in needs assessment, capacity development, coordinated planning, and policy and standard setting.

PREVENTION AND RISK REDUCTION

UNDP works to prevent and reduce the risk of two types of crises: natural disasters and armed conflict. While the dynamics of disaster and conflict situations differ, there are approaches which are common to both. UNDP seeks to build national and local capacity through the development of tools and training of personnel. One aspect of this training is focused on convening and facilitation skills which enable stakeholders to solve problems through constructive dialogue. Overall, UNDP promotes the integration of prevention considerations into long-term development planning.

RECOVERY

Following disasters and armed conflict, UNDP assists UN country offices and national governments to stabilize human security and lay the foundation for a return to normalcy. Recovery is a multi-dimensional process which begins in the early phases of a humanitarian response. Recovery encompasses economic, governance, social, and security dimensions, and considers the specific vulnerabilities of displaced populations. As in prevention, strengthening capacity of national authorities and civil society; facilitating dialogue and community-driven solutions; and integrating with long-term development plans are key to UNDP's approach in recovery situations. In addition, there are some key technical areas which are relevant.

UNDP has been selected to lead early recovery activities on behalf of the Inter-Agency Standing Committee (IASC), a coordinating body for UN and non-UN humanitarian partners. Two primary objectives of this coordinated effort are comprehensive planning of early recovery activities, and improved integration of early recovery into existing programming. To achieve these goals, efforts will be made to develop tools and methods to assess post-disaster and post-conflict needs. In addition, the fast, predictable mobilization of technical expertise will also be a priority.

More information at: <http://www.undp.org/bcpr>

UNDP/BCPR - DISASTER REDUCTION UNIT

The Disaster Reduction Unit (DRU) within BCPR is made up of a team of 7 Geneva based professionals with specialized expertise in disaster reduction, together with 5 Regional Disaster Reduction Advisors located in Bangkok, Delhi, Nairobi and Panama at the service of UNDP Country Offices.

DRU provides technical and advisory support to UNDP Country Offices in disaster reduction and recovery by:

- Developing disaster reduction strategies and capacity building programmes
- Training human resources for effective disaster reduction
- Mainstreaming disaster reduction into UNDP Country Office cooperation frameworks, programmes and projects
- Supporting sustainable recovery frameworks and programming

These services include:

- Promoting the implementation of multi-hazard risk reduction programmes at all levels, including community based projects;
- Supporting resource mobilization efforts for capacity building programmes and projects;
- Hosting the Secretariat of the United Nations Disaster Management Training Programme (DMTP);
- Serving the UN Country Teams and partners;
- Identifying opportunities and synergies with other thematic areas, such as climate change adaptation;
- Providing emergency grants and in-kind assistance after major disasters;
- Facilitating partnerships in sustainable recovery processes;
- Identifying and recommending expertise and specialized human resources.

More information at: <http://www.undp.org/bcpr/disred/>



Reducing Disaster Risk: A Challenge for Development, UNDP/BCPR, New York, USA, 2004

This report - one of the latest DRU publications on disasters - demonstrates that development processes intervene in the translation of physical exposure into natural disaster events. To argue that disaster risk is not inevitable, it offers examples of good practice in disaster risk reduction that can be built into ongoing development planning policy.

Full version available at: [UNDP/BCPR/DRU Web Site](http://www.undp.org/bcpr/dru). © 2004 UNDP/BCPR

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- **Indian Ocean Tsunami 2004**
 - **UN Special Envoy for Tsunami Recovery**
 - **UCLG commitment to reconstruction**
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- **Bolivia: Disaster management as part of local planning**

Early warning systems and effective risk reduction

The role of the United Nations Special Envoy for Tsunami Recovery

In promoting risk-reduction efforts, the UN has benefited from the active support of the Secretary-General's Special Envoy for Tsunami Recovery, former US President, Bill Clinton.

The following presentation on the Special Envoy's role has been prepared by Delnet in collaboration with President Clinton's Office at the UN in New York.

At the Third International Conference on Early Warning, held in Bonn, Germany in March of this year, former United States President Bill Clinton underscored to the assembled audience of policy makers, practitioners, students and journalists, the importance of early warning systems in saving lives and livelihoods.

President Clinton attended the Bonn meeting in his UN capacity - as the UN Secretary General's "Special Envoy for Tsunami Recovery". His appointment, announced in February 2005, followed a resolution of the United Nations General Assembly on the Indian Ocean tsunami which included the recommendation that the Secretary-General appoint a Special Envoy to help sustain global political will in the recovery effort.

Since being appointed, the Special Envoy has played an active role in both the tsunami recovery process and in promoting risk-reduction policies more generally. Supported by a small office at United Nations headquarters, President Clinton has worked to keep the international community committed to the massive recovery effort and to building back better.

President Clinton has described his main priorities as Special Envoy as follows:

- Keeping the world's attention on the tsunami operations in order to avoid the short-term attention-span that has characterized so many previous international efforts of this kind, as well as to ensure that promises-made do not become promises-forgotten.



President William J. Clinton at the UN Economic & Social Council ECOSOC, New York, USA, July 14, 2005

- Supporting coordination efforts at the country and global levels, to ensure that all the actors, governmental and non governmental, public and private, local as well as international, retain the spirit of teamwork that characterized the operations from the first days, and that resources are used to maximum effect.
- Promoting transparency and accountability measures that will, on the one hand, ensure resources are

used well and for the reasons intended, and, on the other, retain the engagement of the millions of donors to this operation, from the smallest households to the largest corporations for this and future crises.

- Championing a new kind of recovery, one that not only restores what existed previously, but goes beyond, seizing the moral, political, managerial and financial opportunities the crisis has offered governments to set these communities on a better and safer development path.

At the close of the first year of operations, the Special Envoy's report to the Secretary General¹ noted that "given the scale of the disaster, the recovery process (is) still in its early phase." It noted, nevertheless, some of the important achievements of the first year, including construction of transitional shelters, temporary schools and health clinics as well as groundbreaking on permanent homes and key infrastructure. According to the report, "each affected country faces different challenges, and the picture of progress is therefore an uneven one; yet common to all is the reality that it will take many years for individual households, and the wider economies on which they depend, to recover from the most destructive disaster caused by a natural hazard in recorded history."

During his second year, the Special Envoy has increased his efforts at promoting the implementation of a wider disaster reduction agenda globally, as well as supporting efforts to strengthen national and regional capacities for tsunami early warning and response in the Indian Ocean region.

In an opinion piece featured in the *International Herald Tribune* on 24 December 2005, President Clinton - elaborating on his key goals for 2006 - emphasized the need to ensure continued progress on disaster risk reduction. The UN Special Envoy noted that less than one month after the tsunami struck, 168 countries came together in Japan and agreed to the Hyogo Framework for Action, which set strategic goals, priorities and concrete steps for governments to reduce disasters over the next ten years. These included national education campaigns to ensure that populations recognized the early signs of



Tsunami destruction in Banda Aceh

impending disaster, better planning for land use to avoid investments in disaster prone areas, as well as agreement on standards for disaster-resistant construction and restoration of environmental mitigation measures. He remarked that "these changes will require policy and resource commitments that have yet to be made," calling for these efforts to "move more quickly."

Following that opinion piece, President Clinton issued a strong statement to mark the one-year anniversary of the adoption of the Hyogo Framework, urging governments to implement the recommendations of the Framework without delay.

The "last mile" of the early warning systems

The need to develop people-centred early warning systems, which ensure that warnings "reach the beach" and people know how to react has been strongly promoted by the Secretariat of the International Strategy for Disaster Reductions (ISDR) for some time now. The issue was also highlighted in previous international early warning conferences that took place in Potsdam, in 1998 and in Bonn in 2003.

In his keynote address at this year's Bonn early warning conference, President Clinton drew on the example of Bangladesh to illustrate the effectiveness of risk reduction measures, highlighting the costly lessons that country had learned from a cyclone in 1973 that took more

¹ UN Office of the Secretary-General's Special Envoy for Tsunami Recovery, *Tsunami Recovery: Taking Stock after 12 Months*, UN, 2005.

than 300,000 lives. The Envoy described how the Government of Bangladesh and its partners had subsequently put in place effective early warning and preparedness measures involving modern cyclone-forecasting systems and more than 5,000 volunteers to get the message out to the villages. He pointed out that when a cyclone of similar force struck in 1997, 200 people were killed – still too many but a dramatic drop from the 1973 toll. “The interesting thing to me is what Bangladesh did to marry old-fashioned communication with modern technology, the so-called ‘last mile’ of the early warning system. It’s something that we dare not forget in our UN work for the tsunami and in general we dare not forget,” he added.

A UN-commissioned Global Survey of Early Warning Systems, which was prepared for the Bonn Conference in March, notes that, over the last 30 years, deaths from disasters have been declining, partially due to the role of early warning systems and associated preparedness and response systems. The report stresses, however, that to be effective, early warning systems must be people-centered and must also integrate four elements-- knowledge of the risks faced; a technical monitoring and warning service; the dissemination of meaningful warnings to those at risk and public awareness and preparedness to act. Failure in any one can mean failure of the entire early warning system, the survey warned.

Addressing these issues raised by the survey, in Bonn, the UN Special Envoy emphasized that effective early warning would take more than scientifically-advanced monitoring equipment. “All the sophisticated technology won’t matter if we don’t reach real communities and people. Satellites, buoys, data networks will make us safer, but we must invest in the training, the institution building, the awareness-raising on the ground.” Calling on participants and the wider international community to do more, he noted “[if] we want effective global early warning systems, we must work together, government to government, federal and local officials, scientists with policy makers, legislators with teachers and community leaders.”

President Clinton expressed his hope that the Bonn Conference would lead to a new global effort to put in place effective early warning systems everywhere as part of a more comprehensive disaster reduction effort. Referring to the UN survey, he noted that it revealed that there



President William J. Clinton at the EWC III

were still big gaps in the early warning systems: “[In] an all-familiar pattern, developing countries, disproportionately affected by disasters, still often have ineffective or non-existent early warning systems,” he noted.

Strengthening the Indian Ocean Tsunami Early Warning System (IOTEWS)

During a roundtable on the Indian Ocean early warning system at the Bonn Conference, President Clinton endorsed an inter-agency initiative to support Indian Ocean governments to develop and strengthen their national plans for tsunami early warning and response. Each of the seven consortium members have committed to helping governments develop detailed plans for particular aspects of their national tsunami early warning and response system.

Target areas include tsunami warning centers and communication systems, disaster management, evacuation planning, public education, and environmental risk management. Several countries have already expressed interest in the offer. Partners include the Intergovernmental Oceanographic Commission of the UN Educational and Scientific Organization (UNESCO), the

World Meteorological Organization, the UN Office for the Coordination of Humanitarian Affairs, the UN Environment Programme, the International Federation of Red Cross and Red Crescent Societies, the UN Development Programme and the World Bank. The ISDR secretariat coordinates and facilitates this multi agency initiative.

This initiative was further discussed at a recent regional ISDR workshop in Bangkok focusing on the IOTEWS, and progress made by countries will be reported to the upcoming Intergovernmental Coordination Group meeting in Bali (31 July- 2 August).

Future challenges

At the Bonn Conference, the UN Special Envoy also cautioned that, while preventing future disasters was very important, hundreds of thousands of people are still struggling to recover from past disasters – such as the tsunami, the Pakistani earthquake, and the Gulf Coast hurricanes. He stressed that those people must continue to be a priority. “In the tsunami-affected region, we are working hard to help the survivors get back on their feet. Economic and social infrastructure was wiped out across the region. Homes and families, schools and teachers, health clinics were devastated. Recovery is going to take years, but we are making progress.”

And what exactly is that progress? Today, nearly 100,000 new homes have been built or are being constructed throughout the tsunami-affected region. Many more are in the pipeline. Over 600 permanent schools are under construction while temporary facilities have enabled children to go back to school more quickly than many imagined. Tourist numbers are on the increase in Thailand and the Maldives, while In Sri Lanka, over 70% of households have reportedly regained a regular source of income.

The UN Special Envoy continues to advocate for a reconstruction of the tsunami-hit region that is coupled with progress on risk reduction. In Bonn, he reported on the significant progress made in creating an Indian Ocean tsunami early warning system with an interim system up and running by April 2005. A total of 29 countries engaged in the Indian Ocean process have quickly



Third International Conference on Early Warning, Bonn, Germany, March 27, 2006

set up a regional network and have started to up-grade their telecommunication infrastructure. The initial Indian Ocean system will be inaugurated by July of this year, with real-time data coming from new seismic tide gauge stations and buoys.

Nevertheless, much more needs to be done. The biggest challenge of an end-to-end warning system is in ensuring the “last engineering mile,” so that warnings not only reach communities on the coastline, but that these communities also know how to react.

A common lesson learned in the past few years is that disasters can strike anywhere and at any time. Hurricane Katrina tragically illustrated this as it devastated an area the size of the United Kingdom, killing more 1,300 people, displacing hundreds of thousands and leaving close to half a million jobless. And the current hurricane season, which has just begun, will no doubt threaten the lives and livelihoods of many for the next six months throughout the Americas.

At Bonn, President Clinton remarked that “[we] have all learned a lot from the things that have happened.” He added, however, that “the question is whether we will put what we know into action. In the end, disaster reduction is about making the right development choices: where to locate a school, how to protect buildings better, how to build them better, how to pursue sustainable development. It's about investing in practical and effective people-centered early warning systems. And it's about addressing the long-term challenges that will give us more natural disasters, particularly climate change...” ■

United Cities and Local Governments



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Tsunami 2004 – Response to the disaster and commitment to reconstruction

Based on the UCLG Tsunami Action Report 2006

More information available at: <http://www.cities-localgovernments.org>

On 26 December 2004, an earthquake struck the Island of Sumatra, Indonesia, followed by a tsunami, which struck the coasts of numerous countries in Southern and Southeast Asia and on the Eastern coast of Africa, causing an unprecedented disaster. The toll was some 300,000 dead. After this dramatic event, the international community and local governments throughout the world mobilized to provide aid to the victims.

The impact of the tsunami on local government

In the Province of Aceh in Indonesia, 14 out of the 21 local governments were paralyzed or had their operation severely impeded. In the Province of North Sumatra, 3 local governments out of 23 have difficulties. Out of approximately 76,000 local government staff in the Province of Aceh, nearly 3,000 were killed and over 2,000 are missing.

In Banda Aceh, a city of 240,000 inhabitants that was 50% destroyed, the Mayor was killed as well as two municipal councilors. 20% of municipal employees and a quarter of teaching staff also died. 60% of facilities and infrastructure were wiped out. Twenty municipal councilors lost their homes, and numerous municipal buildings were destroyed, as well as the town hall.

In Sri Lanka, many districts were affected by the catastrophe: 75 local governments, of which nine were municipalities, were paralyzed due to human and material losses. The following infrastructure, which is within the competence of these local governments, needs to be reconstructed: 14 health care centres, 72 nursery

schools and day nurseries, 166 bridges, 1,238 km of roads, 27 marketplaces, 75 public buildings, 118 wells and 97 vehicles, machines and various equipment.

The response to the disaster: UCLG as a focal point for information exchange

The local government response to the disaster took different forms: emergency, financial aid, supply of personnel and materials, appeals to citizens to make donations and organization of events to aid the victims.

The UCLG World Secretariat was asked to become the **focal point for information exchange on the actions of the world's local governments in the affected areas**, and to ensure coordination with the United Nations and its agencies.

According to the information that the UCLG World Secretariat gathered on the actions undertaken by its members (in January 2006), one hundred cities and local governments from 25 countries together mobilized over 14 million Euros.

The commitment of UCLG in the reconstruction phase

The reconstruction phase has already begun and local governments are playing an important role, different to that of International Organizations and NGOs. **Local government actions are based on partnership with the local authorities in the affected areas.**

The diversity of responses to the emergency

Out of a selection of some one hundred cities and local governments in 25 countries (5 in Asia and the Pacific, 2 in the Middle East, 15 in Europe, 1 in North America and 1 in Africa), the reactions in the emergency phase were as follows:

- 62 agreed to provide emergency financial aid to the different NGOs present in the countries.
- 36 appealed to their inhabitants to make donations. Collection boxes were installed in city halls and information was posted on websites for those who wished to make donations by bank transfer, with special accounts being opened to this effect.
- 9 sent materials, including medical materials, water purifiers, drinking water and pumps to clear the sanitation systems.
- 6 sent personnel, namely medical teams, rescue teams with dogs and technical teams.
- 5 organized events, such as concerts or art festivals to raise money for NGOs.

They use their experience in local management, whether in restoring essential services or local governance, development of local democracy or citizen participation. Thus, local government cooperation aims to strengthen local authorities and provide them the means with which to participate in the coordination of the reconstruction process, ensuring that it can be carried out in keeping with the needs of the local population. This is the case with many action plans developed in the most affected provinces and districts, thanks to the support of UCLG member cities and local governments associations and under the coordination of the Secretariat of the organization. To date, some projects have been implemented and nearly completed, while many others are still in progress.

UCLG is calling on cities and local government associations across the globe to support the international aid efforts in Asia and East Africa.

- Click here to see [local government initiatives](#) on the tsunami.
- If your city or local government association is undertaking activities to help the international aid effort, please send details to the [UCLG World Secretariat](#).

Several UCLG missions to Indonesia have taken place to meet with Indonesian local authorities to agree actions for the reconstruction phase. Two initiatives have been developed with the Municipality of Banda Aceh¹, one of the cities most affected by the tsunami:

- A project to develop the communication capacity of the Municipality of Banda Aceh, in partnership with the Digital Solidarity Fund, that facilitated the creation of an information system for the management of municipal equipment;
- A waste management project with many components: support to a water strategy, providing collection equipment, and installation of a treatment system. This project, submitted to UCLG by the Mayor and the Head of Sanitation and Park Department of the Banda Aceh Municipality, is in the process of being developed with the support of cities from the region of Catalonia, including Barcelona, Cités Unies France and the City of Apeldoorn in the Netherlands.

Moreover, UCLG Secretariat is developing a **database of local government experts** to enhance the resources of the United Nations, through the UN Office of Coordination of Humanitarian Affairs (OCHA). Through this facility, UCLG is strengthening its partnership with the UN and supporting local government initiatives to help cities faced with disaster situations.

We invite all [@local.glob](#) readers to follow the development of this and other initiatives of decentralized cooperation in partnerships with the local authorities of the affected areas, through the UCLG Web Site: <http://www.cities-localgovernments.org>.

The UCLG and the Delnet Programme have set up a shared virtual space to facilitate access to information, networking, cooperation and exchange of experience between local governments and socioeconomic actors throughout the world. The activities and initiatives of this important organization will be voiced and publicised in this space, available on <http://www.delnetitcilo.net/uclg> and also in this journal.

¹ The city of Banda Aceh is situated at the northern point of Sumatra and covers an area of about 61 km² divided into 9 sub-districts, 89 villages with about 213,000 inhabitants.

Local level risk management

Concepts and experience in Central America

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Abstract of a paper prepared for the Disaster Preparedness and Mitigation Summit, 21-23 November, 2002, New Delhi, India

Full version available at: <http://www.desenredando.org>

Introduction

Magnum disasters, those that affect large territories and have important impacts on infrastructure, population and production, may be seen in various different dimensions. On the one hand, they are crisis situations that elicit the response of national and even international disaster response organizations and are likely to be given the denomination of “national” or “regional” scale disasters. On the other hand, a large scale disaster can also be looked at as a myriad of small scale, local, community or family level disasters all related to the same physical detonating agent. This may be an earthquake, hurricane, flooding, volcanic eruption, tsunami or one of many other possible disaster hazard agents. The nature of the damage and destruction and its social and territorial distribution may take the physical event as a point of reference, but in the final equation damage and loss is determined by the differential levels of exposure and vulnerability of the population, infrastructure and production. This varies enormously between different spatial and social units and, in consequence, levels of damage and difficulties in recovery will be commensurately differentiated. Even within a single spatial or social unit differential levels of damage will be found that reflect this heterogeneous structuring of social vulnerability (Hewitt, 1997; Lavell, 2000; Wisner et al, 2003).

Large scale disasters, those that tend to receive a good part of the attention and to be registered in international disaster statistics, are, however, but one component of

the disaster problematic. Alongside these events, a multitude of small and medium scale disasters occur that are restricted in social and spatial terms to small zones, localities and communities. These events tend to be recurrent, have to be dealt with by local authorities or families, are related to a wide range of hazard types and accumulatively account for very significant losses which according to some may be proximate to the losses associated with large scale disasters.¹

Whether we are dealing with large or small scale disaster events, both have a common characteristic. Their occurrence is related to the prior existence of risk, a condition that implies the interaction in time and space of what are known as hazards and vulnerabilities. These generate conditions that presage and announce future disaster. That is to say, risk is a latent condition, whilst disaster represents the actualization of existing risk conditions where the physical event serves as a detonator of disaster, but not its final cause. Risk is generated by a series of complex social processes that are instigated by different social actors and at different spatial scales. But, risk is always expressed in concrete terms, and can be measured most adequately, at the micro social and territorial scales. And, the playing out of risk when transformed into disaster always has a concrete and differential expression at the local level.

It is now well accepted that disaster preparedness and response requires the active participation of the local population. Centralized response structures are inad-

¹ See the “DESINVENTAR Database” developed by LA RED in Latin America. LA RED is a Network of specialists in Disaster Risk Management, created in 1992 in Port Lemon, Costa Rica. More information: <http://www.desenredando.org>.

equate and can not respond effectively to disaster when expressed at the same time in multiple different areas and places. The first to respond to disaster and instrument early warning measures are local populations and authorities. Over the last ten to fifteen years more and more attention has been given to the stimulation and strengthening of local disaster preparedness and response capacities, although much has still to be done in these areas.

With the increase in saliency of primary risk reduction and risk management concerns over the last ten years in particular, a good deal of attention has been given to local risk management principles and activities. This has taken up on lessons learned and practices implemented at the community levels during the 1980s and early 1990s (Maskrey, 1989). More recent experiences, however, have broadened the conceptual base and action framework for local level initiatives in favor of more development oriented and holistic approaches. The basis of this type of intervention can be found in the recognition that risk is expressed locally and although the processes by which it is constructed are not restricted to this level, the most adequate entrance to the problem and its resolution is with the active participation, collaboration and leadership of local actors. In the Latin American context, and elsewhere, there is also a growing conviction that local level risk management can not be divorced from the local level development challenge and matrix, and that risk and development management must go hand in hand. Disaster risk reduction will be most effective when it is considered in the light of daily life risk factors such as unemployment, ill health, malnutrition, lack of basic hygiene and social and family violence. These conditions typify or define underdevelopment, social exclusion and poverty. Hazard reduction, vulnerability reduction and increases in social resilience must go hand in hand in order to construct more disaster resistant communities and localities (Lavell et al, 2005).

The increase in local risk reduction and management concerns in Central America and changing approaches

Prior to the 1998 impact of Hurricane Mitch in Central America, local level risk management had been promoted on a very limited scale. Initiatives with community

or local level preparedness, early warning systems and risk reduction had been promoted by such organizations as the International Red Cross, GTZ Germany, and The Latin American Network for the Social Study of Disaster Prevention-LA RED, but this was not a generalized fact. Some initiatives had also been taken by the national disaster organizations in the framework of recommendations emanating from the International Decade for National Disaster Reduction, whilst a limited number of community-based organizations had also taken up on the problem in disaster prone areas.

Hurricane Mitch and the earthquakes in El Salvador in 2001 stimulated a rapid increase in the saliency of local level risk reduction management and measures. This was not only promoted by the evidence thrown up with the events themselves but also by policy dictates emanating from Central American government resolutions in the framework of the Central American Integration System, and follow up to these by the Central American Coordinating Centre for Natural Disaster Prevention-CEPREDENAC.

Following Mitch, relatively large scale investment has been made in local risk management concerns, financed by a large number of international organizations and institutions. These include OFDA-AID, DIPECHO of the European Union, the Swiss Cooperation (SDC), UNDP and UNICEF, the World Bank and Inter American Development Banks. Schemes have been implemented by a wide variety of international and national NGOs, including CARE, CHF, Action Aid, Oxfam, CARITAS, Plan International, the Humboldt Centre in Nicaragua and the Centre for Disaster Prevention in El Salvador. Moreover, government based institutions promoting municipal development and decentralization have taken up on the challenge and developed local level risk reduction programmes or concerns.

A 2002 rapid inventory exercise promoted by a UNDP-CEPREDENAC project in the region (see, Lavell, A. et. al. 2005), identified over 150 local level initiatives in the seven Central American countries all promoted since 1998. These cover a large array of topics and approaches, where different aspects of local level risk reduction come into play. Undoubtedly, a more thorough inventory process would reveal a considerable number of additional efforts by smaller NGOs and community based groups.

One interesting and relevant aspect that can be discovered as regards the new spate of interest in local risk management concerns relates to the way an important number of the initiatives are promoted by development NGOs involved with the promotion of local development, decentralization and environmental management. This diversification of schemes and approaches, which compliment initiatives developed by risk and disaster institutions, responds to the prevailing belief that risk management is best achieved when linked to development processes, when seen as a parameter of development and a cross cutting theme built into development initiatives, in the same way as many environmental and gender initiatives have been approached over the last years.

This approach recognizes that risk is constructed with the normal processes of social change and development. And, that disaster risk reduction, prevision and control is best approached when considered within the framework of the search for increased overall human security and the reduction of global risk, including daily life style risk associated with poverty. In this way, consideration is not only given to the reduction of existing risk, but also to avoiding the construction of new risk in the future, product of inadequate development processes and projects. Considered in this way, risk management then becomes a strategy for social and economic transformation and development and not simply a conservative mechanism for reducing risk where no improvements occur in the basic living conditions and economic options available to the population. Increasing resilience and going from coping to thriving then assume their due position in the overall risk reduction process.

The merging of concept and practice and the parameters and characteristics of best practice local risk management

During the last 15 years in Latin America, considerable advance has been made in the development of conceptual frameworks, first for community level disaster prevention and, during the last six years, with notions regarding local level risk management. An important contribution to this debate has been made by LA RED. On the other hand, the implementation of local level schemes and projects has allowed a considerable amount of experien-

ce and knowledge to be gained as regards good practice and successful risk reduction actions and strategies, whether subject specific or of a more general kind. The aforementioned CEPREDENAC/UNDP project in Central America also provided valuable information for the development of concepts and the design of interventions. In the present summary section we will briefly provide a definition of local level risk management and identify the major parameters or characteristics that contribute to the successful development of such practice.

Disaster risk management considered in generic terms can be seen as relatively complex social process aimed at the reduction of existing disaster risk levels and the prevision and control of future risk in society. This process signifies the implementation of a concatenated series of activities that finally lead to the implementation of risk reduction or control strategies, instruments or actions. These activities include:

- The construction of risk scenarios for delimited areas, sectors or populations, considering particular hazard and vulnerability factors, the social processes and actors behind these and the development context in which risk is manifested.
- Decisions as to acceptable and unacceptable risk levels, taking into account the social, economic, cultural and political context in which risk is manifested.
- The identification of potential risk reduction or control strategies, instruments or activities and the discussion and negotiation of feasible, optimizing solutions.
- The implementation of the selected risk reduction strategy and measures.

The notion of disaster risk management is not a terminological substitute for disaster prevention and mitigation. Rather, risk management applies to the full range of activities considered under the traditional notion of the disaster cycle or continuum. Risk reduction, prevision and control are pertinent in pre impact contexts and also with regards to preparedness, response, rehabilitation and reconstruction. Risk is present in all these stages, and is ever evolving and changing, requiring different approaches and types of intervention. Where risk management is used to reduce existing risk we may refer to corrective or compensatory risk reduction and where it is used to predict and control future risk we may refer to

prospective risk management. Prospective risk management is used in the context of development planning and project processes searching to guarantee adequate levels of security or sustainability for new investments.

The principle defining characteristics or parameters of risk management are the following:

- It is a process and not a product. That is to say, the particular instruments, actions or interventions used to reduce or control risk do not define the process itself. Rather, these are the result of an analytical and decision making process by which decisions are taken as regards adequate types of intervention.
- It should be considered in the light of development objectives and contexts and should be considered a strategy or dimension of development and project planning and not as an adjunct to this. Risk management that builds on and is integrated into the debate on development and the strategies for achieving this is likely to be far more successful than the instrumentation of one off practices or activities that search to reduce risk, but without contributing to the transformation of basic social and economic conditions in affected areas.
- Full participation of the subjects of risk is fundamental in the search for and implementation of adequate risk reduction schemes. That is to say, risk management can not be seen as a technical or technocratic pursuit, solely in the hands of professionals or technical staff. Participation of affected groups is an obligatory component of successful risk management.
- Participation is the basis for the appropriation of risk management by affected groups and such appropriation is a defining characteristic of the process and the basis for future sustainability. External professional and technical actors are clearly highly rel-

evant but must work alongside the subjects of risk in searching for adequate interventions that respond to their needs and requirements and which uses their capabilities, resources and opportunities.

The above mentioned characteristics are fundamental to the definition of local level risk management. A key parameter in this definition relates to the participation in, and **appropriation of the process by local organized and institutional actors or individuals**. Local level risk management can not be practiced by external actors. These may play an important part in establishing, fomenting or strengthening local level management and its structures, strategies, practice and instruments, but they can not in themselves be seen to practice local level risk management through the projects they bring to local areas.

Finally, it is necessary to comment that very few examples of local level risk management exist that comply fully with the characteristics and parameters described above. Rather, these serve to establish a type of utopian, best practice to be sought in the future. To date, most local level interventions or practice are externally driven and controlled and participation and appropriation have only been partially achieved. However, many examples exist where partial and thematic approaches have been implemented with encouraging results, and where several of the parameters used above for defining local level risk management best practice have been respected. This includes the establishment of early warning systems, the design of local level development plans dimensioned with risk reduction considerations, the strengthening of local risk management organizations, the promotion of ecologically sound agricultural development, risk conscious river basin planning, and the instrumentation of diverse hazard control mechanisms, including dykes, terraces, reforestation and slope stabilizing mechanisms, etc. ■

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Vulnerability of small and medium enterprises to disasters

The case of tourism in Central America

Emilio Zevallos V.

FUNDES - The business solution network in Latin America

<http://www.fundes.org>

Disasters caused by natural phenomena have become a development issue, above all in Latin America (and particularly in Central America) due to their recurrence and also due to the great impact they have on production in these countries. In Central America alone, the cost of damages caused by various types of disaster has been calculated at nearly fifteen billion dollars between 1970 and 2005 (see Table 1).

Practically the entire region has suffered at least one major disaster over the last 30 years. Central America is also one of the more vulnerable regions within Latin America due to the recurrent ravages of nature and also because the area's economic and social backwardness makes it more vulnerable and less likely to be able to deploy sufficient resources for establishing an effective

disaster prevention and awareness strategy.

The rising rate of disasters in the region is also an alarm signal that we need to take steps to minimize their human and economic impact. Hence the importance of disaster prevention. It is nevertheless unclear whether this should be exclusively the duty of the State or whether the private sector should also contribute to the development of an effective strategy.

Although the preventive aim of reducing vulnerability to such effects is important, we must also aim to generate sufficient investment to promote the development of more sustainable systems. It is therefore important to encourage more active participation by the private sector so that prevention and development may be seen as two sides of the same coin.

Table 1. Damage caused by disasters due to natural phenomena in Central American countries between 1971 and 2005 by decade (in millions of dollars - USD)

	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Panama	Total
1971-80	0.20	0.00	1,002.50	561.00	847.38	0.05	2,411.13
1981-90	89.50	1,310.00	100.00	101.00	756.00	60.35	2,416.85
1991-00	344.09	389.60	748.00	3,938.90	1,275.42	1.30	6,697.31
2000-05	21.00	2,235.00	1,009.80	168.00	40.35	0.00	3,474.15
Total	454.79	3,934.60	2,860.30	4,768.90	2,919.15	61.70	14,999.44

The disasters included are: drought; earthquake; epidemic; extreme temperature; famine; flood; insect infestation; volcano; waves/surge; fire; windstorm.

Source: "EM-DAT: The OFDA/CRED International Disaster Database <http://www.em-dat.net> - Université Catholique de Louvain - Brussels - Belgium"

The Economic Commission for Latin America and the Caribbean (ECLAC)¹ considers the following to be important aspects of an all-round development strategy:

- Competitiveness
- Equity
- Governability
- Reduction of vulnerability

Though the public sector is responsible for aspects of governability and also equity, the private sector can help by promoting competitiveness and reducing vulnerability (at least from a business perspective).

When faced with such considerations, one wonders whether there can be a single, standard response to any disaster, what the impact of a disaster would be on the private sector and whether there is only one impact.

We can start to answer these questions by defining two effects. The first, which we will term the *impact effect*, is the direct and immediate consequence of the disaster on the affected target group. The second effect, known as the *trickle-down effect*, is the medium and long-term consequences of the disaster that filter down through the economy due essentially to the target group's lost production capacity and buying power.

In economies such as the Central American economy, these effects have different impacts according to enterprise size since this region is home to a small and very dynamic group of enterprises (medium-sized, but above all large) that are competitive and integrated with the international economy, which exists alongside an enormous sector of small and microenterprises with very low levels of integration, whose dynamism depend to a large extent on domestic (or local) economic activity. In certain production sectors, the large enterprises may act as a driving force on the SMEs even though no direct link exists (e.g. as suppliers or distributors) between them. The effect of the disaster is therefore clearly differentiated and the responses cannot therefore be standard.

In the first case (large enterprises), if the impact effect

has given rise to damage in the business infrastructure, the other members of the production chain respond in the short term by delivering effective support, unless a general insurance policy is in place. The trickle down effect is inversely proportional to the number of contingency plans in the network (redistribution of work flows to other sites, presence of insurance policies, etc.), which allow the term of reconstruction to be extended with the support of a financial cushion.

This effect is determined by the enterprise's level of integration in international markets and the need to maintain efficient production in the chain. Although preventive measures are not always present, response to the event is fast so that production can be rebuilt and some costs can be reabsorbed. When the response is not so fast, the other links in the chain can absorb the cost and the infrastructure replacement time. One example of this is the rebuilding of the Cancun hotel area in the wake of Hurricane *Wilma*. Some hotels quickly began rebuilding while others (run by international chains) took longer because they were covered by an insurance policy and because they could redirect their customers to other tourist destinations run by themselves (or they could take advantage of the situation to carry out a full-scale refurbishment to offer something "different" to their customers).

In the second case (SMEs), both effects (*impact and trickle down*) are devastating for the enterprise and the local environment. When a small enterprise's production capacity is impaired, with no production chains acting as a failsafe mechanism and with the buying powers of its customers reduced by the disaster itself (or a significant reduction in customers, as in the case of tourism), no all-round response can provide such enterprises with a way out of the problem. The consequence is an imminent decline in the area's financial conditions unless safeguarding mechanisms are put in place by the State (whether national, regional or local).

Private measures must allow for differences between the various levels of enterprise while also analysing potential for joint action where an incentive exists to do so. Sectorial analysis seems to be an appropriate first step.

¹ ECLAC, Subregional Headquarters in Mexico, *El tema del desarrollo: la reducción de la vulnerabilidad frente a los desastres*, LC/MEX/L.428, 7 March 2000.

The case of tourism

In this case, the incentives arise out of the SMEs rather than the large enterprises. Destruction following a disaster determines changes in tourist flows in the short term. The large companies are relatively unaffected if they can redirect their tourist flows to other comparable destinations (as is the case with the large hotel chains, airlines, etc.). Large hotels/airlines or charter flights are, however, crucial to the production chains of SMEs (whether or not the two are directly linked). The reason is that these large infrastructures are responsible for attracting significant flows of tourists, who are responsible for activating the economic activity of small enterprises (craft industries, restaurants, clothing and footwear, local transport and other services).

In the short term and after a disaster, the potential for *local substitution* of the tourist demand (i.e. the possibility of replacing foreign tourism by local tourism) is low and the impact is less, due to the buying power of local tourists (at least in developing countries). Immediate public actions are also directed essentially at rebuilding the physical infrastructure for the civil population. The rebuilding of the economic infrastructure is low priority or less of a priority.

Hence the importance of coordinated public-private action, firstly to assess the extent of the damage and then to carry out an economic evaluation and also a physical evaluation. In such circumstances, identification of local leadership is crucial to ensuring coordination with local actors.

At a later stage, it is crucial to reactivate key economic activities to drive the production chain. This key link drives all aspects, from infrastructure to technical assistance. The building of local activities around the lead activity boosts the performance of these “follower” activities and allows recovery times and costs to be reduced.

At this stage, the forging of alliances between large and small enterprises is the start of integrated local reconstruction complemented by technical assistance arising out of joint economic evaluation of the damage conducted by the public and private sectors.

The need for joint public and private operations and joint ventures between large and small enterprises to form networks that allow disasters to be dealt with in a coordinated manner is crucial to reducing the vulnerability of the region and promoting truly sustainable development. ■

Costa Rica: The sub-regional office of SINAC (National System of Conservation Areas) in Saraquipí has coordinated different activities with the municipal environmental office and the other municipalities included in the Río Tárcoles basin (Pacific Coast). These initiatives, ranging from short workshops to strategic training, have the objective of getting local governments and enterprises involved into the sustainable management of the coastal mangrove forest.



Italy: Education in environmental culture

Antonio Varaldo

Natural science teacher

Liceo Paritario Valsalice (secondary school), Turin, Italy

Latitude: 45° N, Longitude: 8° E – This is Turin, Italy, in the heart of Western Europe, at the foot of the Alps, around the corner from France and one hour's drive away from the big city of Milan. It was the first capital of unified Italy almost one hundred and fifty years ago, and the host city of the Olympic Winter Games in 2006. It is the headquarters of major national industries and in the political, social and cultural avant-garde.

But let us rewind the tape to one year ago: 10 January 2005. It is a Monday, and school is starting again after the long Christmas break. Teachers and pupils, in both primary and secondary schools, are talking about the tsunami which burst into the holiday festivities on 26 December.

A week later, on 17 January 2005, the Ministry of Education publishes directives on secondary school reform. One of the changes is the suppression of a traditional subject – Earth Science – which includes astronomy, geology and physical geography. It was part of the A-level exam and a chance to promote environmental culture.

The combination of these two events brings out a clear dichotomy: on the one hand, the natural disaster revealed modern human inadequacy in our interaction with the environment; on the other, in the so-called “developed world”, which should lead in research and understanding of the planet's dynamics, school policies seem ambiguous. The question is how environmental education – especially on more urgent issues – should be developed. In other words, how important is ecology in our privileged and presumably well-educated, rich and technologically advanced western world? What are the school objectives? What values are shared by public opinion and official policy? What constructive role could we play regarding such immense disasters, which increasingly hit the poorest parts of the planet? And what about the environmental problems in the western world?

Here are some thoughts, though they have no ambition

to provide any definitive answers.

In the last few years, I have been working on an Earth Science school textbook, and I have had to go through the whole programme and revise it from a teaching perspective. In short, I identified all fundamental issues and the interplay of complex earth dynamics. To understand reality, every phenomenon needs to be looked at from a broad viewpoint.

Even if the subject is the point of departure for a modern environmental culture, we find that the teachers, regrettably, are graduates in biology or branches of biology; they therefore lack certain specific knowledge. Furthermore, the new policy has already been approved and natural science *per se* will not be included in the school curriculum.

Paradoxically, at the end of the 2005 school year, the A-level exam was specifically based on the relationship between humans and big natural disasters, inspired by recent notable insights. I read some A-level exam papers, and with disappointment I noticed that after 13 years at school, all those 19-year-old students could come up with were a few superficial ideas laden with convenient rhetoric. There was nothing wrong with them, but a global understanding of the phenomenon and its gravity – past responsibilities and future perspectives – was missing.

We Europeans are proud of the modern developed models which regulate our living together – including the rules of democracy, workers' rights and citizens' freedom. Nevertheless, the tragic event of December 2004 has reminded us how backward and inappropriate our approach to nature is. Schools bear some responsibility for this. Many discoveries have been made and Earth Science is the discipline which should analyse our progress in science over the last century as regards the ocean floor, plate tectonics, space exploration, climate change, hydro-geological instability, etc. However, there has been no adequate joint approach. The educational lacuna has developed into

an operational fissure in the absence of suitable monitoring strategies, data management or analysis of the many interactions on and inside our planet.

From my perspective, what is even worse is the total absence of a philosophy, a joint position on humanity's role in terms of values, needs and perspectives. It is not by chance that at school relevant subjects (such as philosophy or history) are approached in a lengthy retrospective, from ancient times to the modern era. How many students know that in the 19th century the planet was inhabited by one billion human beings, whereas today there are 6.5 billion of us? That life expectancy increased from 30 to 65 years in the last century and that the world population has doubled in the last 40 years? How 18th and 19th century innovative research on evolution, genetics and the human mind, on economics and on universal physical laws, is now valued? Our modern world is based on these things.

The term 'ecology' has the same root as 'economics' – *oikos*, which means house, habitat and, in a contemporary view, the earth system as a whole. Even the etymology of the two disciplines suggests how they should understand and regulate the planetary system (the former from the perspective of nature, the latter from that of resource management) with the ultimate aim of safeguarding its integrity and overall balance. Unfortunately, ecology calls for substantial methodological innovation, balancing research and implementation, whereas economics reveals deep doctrinal divides that undermine its initial ambition to be an ecumenical science. Nonetheless, it is unacceptable that six hundred million people are over-nourished and double that number have no drinking water; and that in south-eastern Asia, "development" has meant destroying coastal mangrove forests and building hotels and shanty towns.

So far, school has only partially dealt with pure environmental themes. In primary and middle school, geography and natural science teachers cover them only marginally, and high school books dedicate only brief sections to the human-environment relationship. As I said above, an innovative – meaning global and organic/holistic – approach is essential. This should also be reflected in book titles; I would prefer *The Human Planet* to *The Relationship between Humanity and the Environment* because it emphasizes that humans should consider themselves part of the Earth's ecosystem and responsible for guiding its develop-

ment and its dynamics.

Last summer and autumn, other natural disasters took place: hurricane Katrina in the Southern USA, hurricane Stan in Guatemala, and the devastating earthquake in Kashmir. I asked my 160 students and found out that half of them had sent an sms to help the tsunami victims last year, whereas less than 5% sent one for the earthquake (though it caused 47,000 deaths, half of them children). It is undeniable that the mass media – TV and newspapers – play a crucial role in reporting these events. Standards of scientific news are rather low, with admirable but rare exceptions.

The improper popularization of scientific knowledge goes hand in hand with a widespread tendency to include weather information in front-page headlines, making it sound sensational and catastrophic even when it is not. Similarly, reports of scientific discoveries or technological innovations are full of gaps and mistakes. It is obvious that the consequent ignorance on environmental topics makes people indifferent, even fatalistic. The outcome is discouraging, in terms of both knowledge and action.

Finally, a few recent examples reveal the problematic situation on a more regional level. In 1994 and 2000, two violent floods caused dozens of casualties and heavy damage in Piedmont (in the north-west of Italy). The deeply inadequate territorial planning revealed a huge gap between advances in scientific knowledge (in chemistry, biology, energy, hydro-geology, etc.) and unnecessarily complex and contradictory town-planning legislation. Waste disposal, recycling and pollution (of the air in cities, of rivers, seas and ground water tables) are impending dangers. On the one hand, this is the result of absolutely defective energy strategies; on the other, public management policies have missed the point.

The overall balance is not at all encouraging. It seems clear that the privileged parts of society, who have made progress with the development of a harmonious environment, are going adrift. They are victims of wrong past choices, unable to formulate and support a suitable cultural and educational model. However, those who still believe that sustainable development is possible must recognize that the only way forward is research, awareness-raising and dialogue. Schools have a primary role to play in all of this. ■

Disaster management as part of local planning

The experience of PROMIC and SDC in Tiquipaya, Bolivia

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This article discusses a personal experience as part of a multidisciplinary team working on a Risk Management Project in Tiquipaya, Bolivia. The author worked as a trainee for PROMIC¹ (Programa Manejo Integral de Cuencas) [Integrated Watershed Management Programme] with the support of the Swiss Agency for Development and Cooperation (SDC) as part of her Nadel postgraduate course.

Introduction

Risk Management is attracting more attention and its international importance has grown due to the frequency and intensity of natural disasters in recent years. Natural phenomena exacerbated by human actions can destroy and halt life in a community. The negative impact of disasters is so great that the local target group cannot tackle the situation with their own resources, particularly in the poorest countries with a low human development index.

As part of the Swiss Strategy for Disaster Reduction in Bolivia, a process was begun to identify specific actions designed to encourage disaster prevention within the various Programmes and Projects implemented by SDC in Bolivia².

To this end, PROMIC is currently implementing a pilot project *Participative Promotion and Institutionalisation of Risk Management within the Framework of Town Planning in Tiquipaya*.

Project goals³

The project aims to work together with the actors involved (local authorities and civil society in Tiquipaya)

¹ <http://www.promic-bolivia.org>.

² Source: <http://www.sgc-grcosude.com>.

³ Extract from the official project document.

Nadel is a Postgraduate Course in Development Cooperation

run by the ETH – Federal Institute of Technology of Zurich (Switzerland) and COSUDE in Berne that trains university graduates for cooperation in developing countries. The course consists of three parts: one semester of theory, a traineeship in a land project and one semester for developing newly-acquired knowledge and skills. More information at: <http://www.nadel.ethz.ch>.

Project area of influence:

The project is delimited geographically by the south face of the Tunari mountain range and the area affected by the Taquiña, Chutakawa, Khora Tiquipaya and Thola Pujru watersheds. Specifically, 4 villages in the Tunari mountain range (Linkú Pata, Cruzani, Totora and Thola Pujru) and Districts 4, 5 and 6 in the valley. The pilot project lasted one year (June 2005 - June 2006).



to identify risks and response capabilities present in the area. The final result of the project will be the drawing up of a Strategic Risk Management Plan for the Tiquipaya local authorities that also includes the conceptualisation and development of risk analysis support tools to be included in local planning resources.

Risk Management: a new concept for the local people and the authorities

Although the municipality of Tiquipaya is afflicted by floods, hail storms, ice and drought every year, Disaster Risk Management is not treated as part of local planning. The concept is new to the communities and also to local authorities and technicians. The communities generally organize themselves when a disaster happens, for example when the valley is flooded, but neither the governments nor the communities prepare to face future risks when the rainy season is over and this means that the same mistakes are made year after year.

Before looking the way we went about including the concept of risk in Tiquipaya's local planning activities, it could be useful to define Risk Management according to SDC⁴.

"Risk Management" is understood to mean the planning and execution of actions to prevent or reduce the effect of a disaster in a global manner, seeking ways to encourage each local authority to include the concepts of prevention and preparation in their strategic local planning development plans. Risk analysis is based on two essential components: 1) threat evaluation; 2) evaluation of vulnerabilities.

As far as threat evaluation is concerned, the first essential step is to be aware of potential causal factors of disasters. The essential requirement for the evaluation of vulnerability is to be aware of the level of exposure of the target group or infrastructure to the potential source of the threat and also its response capability. The "risk" is the potential for damaging consequences or losses to arise as a result of interactions between natural threats

or threats induced by human activity and a condition of vulnerability. By convention, the relationship between threat and vulnerability is described thus:



Procedure adopted in this specific case⁵

The Strategic Risk Management Plan drawn up involves various actors with the aim of identifying and complementing risks associated with natural phenomena. The two groups considered to be most important are: the target communities in the mountain range and valley and the municipal authorities and technicians. The procedure adopted was developed considering the following stages:

1. The baseline

The first stage of the project involved establishing a baseline in the mountain range and in the valley. The study units differed due to the different geographical conditions prevailing in the mountain range and the valley areas respectively. In the valley area – a peri-urban area – the study units were the housing blocks while in the mountain range, areas of dominant use such as farmland, pasture, woodland, etc., were considered. In both cases, different tools were used to identify threats and vulnerabilities, namely:

- Community workshops
- Semi-structured interviews
- Verification surveys
- Satellite photos of areas of dominant use and risk areas
- Various field databases for information gathering (databases for Grassroots Territorial Organization

⁴ Swiss Agency for Development and Cooperation (SDC), *Compatibilidad ambiental y prevención de desastres*, SDC, Managua, Nicaragua, March 2004.

⁵ Produced by the PROMIC team.

(GTO) managers, databases for GTOs and databases for blocks).

As far as satellite photos were concerned, mountain range participants identified the limits of their communities and described the various areas according to their land use (farmland, pasture, etc.). Valley participants delimited the areas of their own GTOs and their respective blocks. The existing infrastructures – whether these were industrial, educational or health establishments – were also identified. In both cases, areas likely to determine a certain level of risk were marked on satellite images of the project area.

2. Risk maps

At the second stage, all the geographical information collected was processed using GIS ILWIS software. 1:5000 and 1:7000 scale topographic plans or maps were taken as a basis.

The risk analysis was based on four main factors: threat, exposure, vulnerability and capabilities. Different indicators were established for each factor so that the information could be transferred to the GIS. A scale of 0 to 5 was used to describe the following categories: no risk, very low, low, moderate, and very high.

Lastly, a value was allocated to the various indicators so that we could adjust the results, which are weighted depending on the importance of the factor in relation to all the others.

The final outcome was a range of disaster risk maps.

3. Strategic Risk Plan

The provisional maps were used to develop a Strategic Risk Management Plan with the communities and local authorities through 3 stages (information, consultation and coordination).

This plan is a tool drawn up in accordance with committed actors that aims to encourage the introduction of processes that could reverse situations identified as problematic (unfavourable conditions) as far as the occurrence of risks of disasters is concerned.

Another complementary action carried out as part of

the pilot project was a communication and awareness stage to recover and strengthen the capabilities of the various actors in potential disaster situations and to promote the inclusion of a risk management component in municipal development planning processes.

To this end, we distributed leaflets covering key points for analysing threats and vulnerabilities to help strengthen local organizational capacity and procedures for tackling disaster situations. Radio slots (microprogrammes) were also broadcast through 3 local radio stations, taking advantage of the radio station coverage.

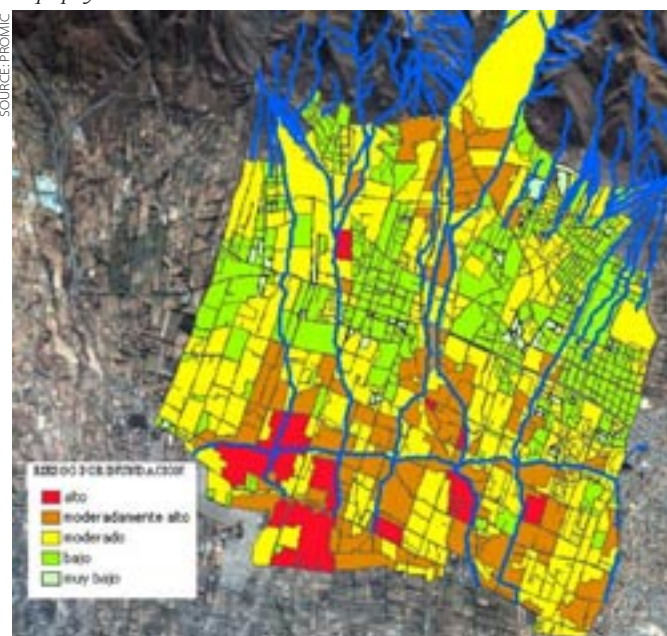
Since this was a pilot project, we cannot speak in terms of final results. Despite this, an important first step has been taken that, in the medium term, may help relatively small municipalities to improve the way they tackle disaster situations by considering the concept of Risk Management.

Lessons learned

After working for one year in the field of Risk Management in Bolivia, I wish to share the following experiences:

The increasing frequency and intensity of disasters

A first example of a Risk Management map in the municipality of Tiquipaya



throughout the world highlights the importance of including Disaster Risk Management in development aid as a specific and explicit factor: it is a key aspect of sustainability because it affects all dimensions of development (economic, social and environmental).

During the project, the local communities showed great interest in exchanging experiences and a high demand for information. Some communities expressed a certain level of disinterest due to the fact that their experience of disasters was negative. In other words, the local community is less interested in taking part in training workshops and flood discussion and analysis forums when the same problem arises year after year without the town council or prefecture bringing about any change in attitude by introducing specific disaster risk reduction actions.

The work carried out by PROMIC with the two actors (local authorities and civil society) highlighted the death of communication between the two actors in this specific area. This lack of communication has caused conflict between both actors, with both sides displaying prejudice and reproach.

“Risk management is not important in our municipality and there is no demand for it from the people”. These concerns were voiced to us on various occasions by the local authorities, despite the fact that the project objectives were clearly stated and shared from the outset. As we worked with the communities, we realised that the region is exposed to a high disaster risk and has been seriously affected on many occasions in recent years.

In other words, establishing a good level of organization and communication between actors would help us to tackle and reduce the severity of certain risks, above all those caused by human action (for example the rivers bursting their banks due to deposits of waste, failure to clean river beds, etc.). Greater damage could also be avoided by introducing laws and policies to deal with the problem of illegal settlements and mining in risk areas.

Lastly, the experience raised certain concerns about project planning, the actual level of participation and ownership. It is important to continue monitoring the consistent and active involvement of local government at both strategic and operational level throughout project implementation, even though this was a clearly stated aim in the official project documents.

A high level of cooperation between the executing agencies, the donors, the local authorities and the community is important in this regard. Project sustainability depends to a large extent on the level of participation of local authorities and empowerment of community actors: conditions are unlikely to improve in the area if the municipal authorities do not give their support and backing, however good the project is and however good its results.

Conclusion

Despite the existence in Bolivia of a law on Risk reduction (Law 2140 and 2335) and national papers such as the Strategy for Poverty Reduction in Bolivia (EBRP) and National Dialogue (Law 2235), Risk Management must still be included more systematically in all local government policies. It must be included directly, specifically and explicitly in national dialogues if it is to become an effective tool in the fight against poverty. Risk management should also be considered by the responsible actors at various government levels so that the topic is given due consideration in national, departmental and municipal planning.

To sum up, the *Risk Management in Tiquipaya* project is one of five risk management projects that SDC is running in Bolivia. Similar projects are also taking place in Peru and Ecuador. Such projects (in the 3 countries) are part of SDC national project and the experiences will inform SDC's new Disaster Risk Reduction strategy, which is the operational stage of the Hyogo Framework for Action: *mainstreaming disaster risk reduction into development*.

A Knowledge Management Secretariat (KMS) was set up to organize projects in Bolivia⁶. ■

⁶ More information available at <http://www.sgc-grcosude.com>.

Open section



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Was 2005 the year of natural disasters?

Why do natural disasters seem to be increasingly frequent and increasingly deadly?
Poor and vulnerable people are usually the worst hit

Theresa Braine
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<http://www.who.int/bulletin/volumes/84/1/news10106/en/index.html>

Tsunamis, hurricanes and typhoons, earthquakes, locusts and now the threat of a flu pandemic. Will 2005 be remembered as the year of natural disasters?

The year 2005 saw the aftermath of the 26 December 2004 earthquake and tsunami waves in Asia, hurricanes in central and north America, notably Katrina, which triggered flooding in the US city of New Orleans, and the 8 October earthquake in Pakistan and India. The year also saw famine after crops were destroyed by locusts in Niger.

Virtually unnoticed by the outside world was tiny El Salvador where the country's highest volcano, Ilamatepec, erupted on 1 October, displacing more than 7,500 people and killing two. A few days later Hurricane Stan swept through and killed about 70 people with floods and mudslides.

From January to October 2005, an estimated 97,490 people were killed in disasters globally and 88,117 of them in natural disasters, according to the Center for Research on the Epidemiology of Disasters (CRED), a WHO Collaborating Centre that operates a global disaster database in Belgium. According to CRED, the number of natural disasters — floods, windstorms, droughts and geological disasters — recorded since 1900 have increased and the number of people affected by such disasters has also increased since 1975.



Hurricane Stan, El Salvador, October 2005. Picture sent to the Delnet mailing list by participants from El Salvador.

Is this as bad as it gets, or could it get worse? Why do natural disasters appear to be increasingly frequent and increasingly deadly?

Today's disasters stem from a complex mix of factors, including routine climate change, global warming influenced by human behaviour, socioeconomic factors causing poorer people to live in risky areas, and inadequate disaster preparedness and education on the part of governments as well as the general population.

Some disasters experts reject the term "natural disasters", arguing that there is almost always a man-made element.

"I don't like to use the term 'natural disasters,'" said Dr. Ciro Ugarte, Regional Advisor for Emergency Preparedness and Disaster Relief with the Pan American Health Organization (PAHO) in Washington DC, explaining that natural disasters would not have such a devastating effect on people's lives if they were not exposed to such risks in the first place.

Natural phenomena do not always generate human disasters. Ugarte noted that in 2005, several earthquakes that struck in South America were of a higher magnitude than the one that devastated northern Pakistan and parts of India in October, but these hit sparsely populated areas and therefore caused less damage. The same goes for several tsunamis in 2005 which were not deemed "disasters" because they didn't endanger anyone, Ugarte said.

Natural phenomena are likely to affect more people because Earth's population has increased. According to the United Nations Population Fund, this stands at about 6.5 billion people and is projected to reach 9.1 billion people in 2050.

Marko Kocic, spokesperson for WHO's Health Action in Crisis department, said that some communities are more vulnerable to the effects of natural disasters than 100 years ago because of ecological degradation. He said that, for example, when tropical storms hit the Caribbean in September 2004, there was nothing to stop storm waters gathering and wreaking devastation in Haiti because of deforestation.

"We need to tackle the underlying issues, such as poverty and inequity," Kocic said, adding: "In many countries, people cut down trees because wood is the cheapest fuel".

Disasters are also a consequence of development and industrialization. In Europe, experts believe that countries such as France and Germany are more adversely affected by floods today because major rivers, such as the Rhine, have been straightened to ease commercial

traffic.

Global warming as well as routine, cyclical climate changes are causing a higher number of strong hurricanes in the Caribbean, meteorologists say. Add to that the increasing number of people living in areas such as coastlines, in substandard housing and the destruction in a crisis of essential infrastructure, such as hospitals, and you have the potential for more devastating disasters than a few decades ago.

"I don't like to use the term 'natural disasters', disasters would not have such a devastating effect on people's lives if they were not exposed to such risks in the first place."

There have always been disasters. The bubonic plague wiped out more than 25 million people, or 37% of Europe's population, in the 1300s. More recently, the 1918-19 flu pandemic killed between 20 and 40 million people worldwide. One of the earliest recorded disasters, the eruption of Vesuvius in 79 AD, buried the ancient Roman city of Pompeii killing about 10,000 people. Today, two million people live within its possible range, illustrating one major difference between then and now.

tween then and now.

About 75 disasters were reported globally in 1975, according to CRED. In 2000 the figure peaked at 525 and dropped to just under 400 in 2004. By far the highest number of fatalities — about 450,000 — occurred in 1984. In 2004 nearly 300,000 died in disasters, but the number of people affected has soared since 1975 with about 600 million people affected by disasters of all kinds in 2002.

So complex and intertwined are the factors behind these disasters that some experts believe the most practical approach to preparedness may be to focus on reducing the risks rather than factors behind the risks.

Dave Paul Zervaas, regional coordinator for Latin America and the Caribbean at the United Nations' International Strategy for Disaster Reduction (ISDR), argued that preparation should focus on making people less vulnerable to disasters.

"We think it's much more important now to look at

vulnerabilities, because you have factors you can control," Zervaas said. "You can work to lower vulnerability [to disasters]."

Hurricane Katrina in the United States is a good example, Zervaas said. A number of factors contributed to the damage and loss of life. The storm was huge. It struck a city whose levees had not been maintained or strengthened for years, and government agencies' response to the emergency was at first inadequate.

In Central America storms such as hurricanes Mitch and Stan have wrought damage with rain and landslides rather than wind. "The poverty issue and the social inequity situation have not become much better in most places," said Zervaas, adding that migration to cities conspires with a lack of urban planning to put people in danger.

Clearly, climate change — whether helped by human behavior or not — is playing a role. Hurricane experts say the world is in the midst of a routine, cyclical climate change that causes the Caribbean to heat up, increasing the frequency of powerful storms. The effect of this is greater than that of global warming, according to Stanley Goldenberg, a meteorologist at the US National Oceanic and Atmospheric Administration in Miami.

While earthquakes represent some of the most devastating disasters in recent years, these are diminishing in strength compared with earlier times, Ugarte said. Nowadays an earthquake with a magnitude of 8, 9 or 10 on the Richter scale is rare, the one in south Asia in October 2005 was 7.6, Ugarte said, adding: "But yes, we are seeing a lot of damage. You will probably find more damage in the future for phenomena that are less in magnitude than in previous years."

Experts agree that the poor are disproportionately hit. "In several of these countries, the poor people are looking for spaces to build their houses or their communities [and] they find spaces that are not already used," Ugarte said. "And those spaces that are not already used are usually the spaces at higher risk for natural phenomena.

There's a huge relationship between this kind of damage and poverty."

For this reason financial services play a role in both prevention, and damage limitation and recovery. A report entitled, *Climate change futures: health ecological and economic dimensions*, published in November 2005 assesses the risks generated by climate change.

One of several scenarios "would involve blows to the world economy sufficiently severe to cripple the resilience that enables affluent countries to respond to catastrophes," according to the report, which was published by the Center for Health and Global Environment at the Harvard Medical School and sponsored by reinsurance company Swiss Re and the United Nations Development Programme. While it is important to

encourage people, governments and companies to buy insurance, not everyone can afford it or see the need.

Microfinancing is another avenue, giving poor people the means to improve their economic situation so that a disaster does not hit them as hard as it would otherwise, and also by lending them money to use in recovering from it.

Many countries are working to improve their disaster preparedness, but more needs to be done, Ugarte said.

"Countries are now better prepared in comparison to 1970," he said. "But now the level of preparation and risk reduction that you need is huge in comparison to that year."

The Michoacan earthquake in Mexico in 1985 showed that being well prepared was not enough because hospitals in the disaster zone were destroyed. Likewise, in Grenada Hurricane Ivan damaged and disrupted much of the Caribbean island's health system, making it difficult for health workers to respond to the needs generated by the hurricane.

PAHO has expanded its programmes to focus not only on preparedness but also on mitigation. This involves re-

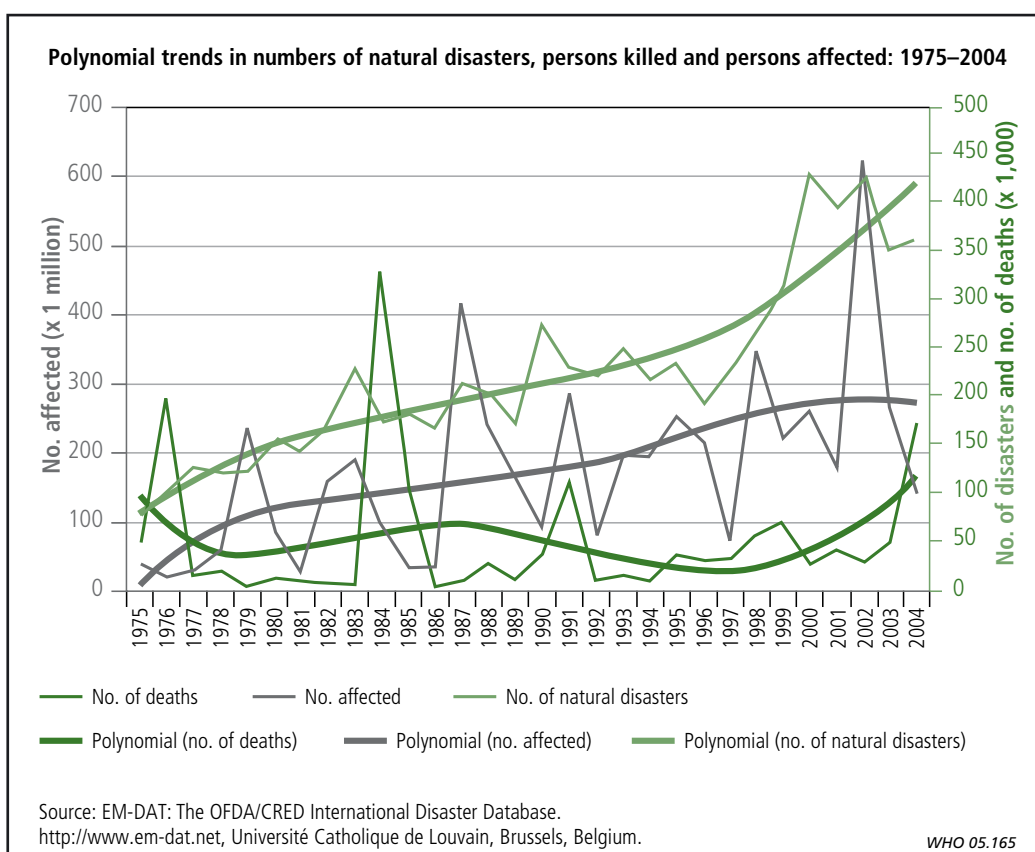
"We think it's much more important now to look at vulnerabilities, because you have factors you can control. You can work to lower vulnerability [to disasters]."

ducing secondary deaths and destruction that can occur in the aftermath of a disaster, and implementing building codes that require hospitals, schools, military bases other vital structures to be built to withstand such disasters.


Many countries say they can't afford more preparation, but some measures are simple and can be inexpensive, such as a tsunami warning system, Ugarte said. "But from there to Banda Aceh, that is another step," Ugarte said, referring to the capital of the Indonesian province that was worst hit by the earthquake and tsunami of December 2004. "And from Banda Aceh to all the little communities on the coast, that's another issue. That last link of the chain is not in place. And that is the system

that we need to build."

Disaster experts say early warning systems and education are essential to prevent and mitigate against the effects of natural disasters. In its World disasters report 2005, the International Federation of Red Cross and Red Crescent Societies notes that a simple phone call saved thousands of lives when the giant tsunami waves hit India in 2004. A fisherman's son named Vijayakumar Gunasekaran, who lives in Singapore, heard about the tsunami early on the radio and phoned relatives living on the east coast of India. Following his warning, all 3,630 residents evacuated their village there before the waves arrived. ■



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Local emphasis is the clue to prevention and mitigation

YOLANDA VILLAR GOMEZ (EL SALVADOR)

21/10/2005 [Open letter to the Delnet network a few days after hurricane Stan]

Dear Colleague/s:

A big thank you from El Salvador for your words of relief. I believe that what we actually need to do is take the lessons we have learned and use them in the future, you already gave us two keys [in the discussion set up in the Delnet mailinglist - Ed]:

- Environmental degradation
- Disaster prevention

But I wonder what we are doing wrong. For more than 7 years, particularly since hurricane Mitch, we have introduced very many disaster prevention and mitigation projects, it's the fashion. Prevention networks that bring together high numbers of Government Organizations and NGOs, a host of skilled technicians, millions and millions of plans and the setting up of local emergency committees, local councils with consciousnesses raised and plans at the ready.... in Bajo Lempa, now flooded, almost all the community leaders received disaster prevention and mitigation training. They had evacuation plans, perhaps this is the reason there were not more fatalities... but Bajo Lempa was still flooded.

I believe we must start to look at the reasons why, 7 years on, only a few things have improved, why the path we have been following for more than 5 years is no use. Is it that the training and coordination simply does not provide solutions, or is nature showing us again and again that we have really messed things up for the world?

What purpose was served by the containing walls on the roads that were strengthened after the 2001 earthquakes if they all fell down? What's the point of anything if the Modelo area continues to be flooded after every storm? What are we learning from all this?

Perhaps we should simply be content that there are no more fatalities and that the number of deaths is falling, but I believe that we should reflect seriously on what we understand by the concepts of "prevention" and "mitigation": prevention why, and mitigation of what?

I have been on thousands of courses and I have worked in disaster mitigation, but what can we do when faced with the type of bureaucratic systems that prevail in our countries?

Local emphasis is the basis for prevention and mitigation: it is bottom-up work. Projects have been managed on this basis and, thank goodness, many people have benefited. Now we also have to set our sights on other actors, find mechanisms to establish incidence and need, particularly in countries where, let's not deceive ourselves, centralisation prevails.

Environment. Prevention and mitigation. Let's find new ways of focusing on this problem....

Yolanda Villar Gomez, El Salvador

Dear Yolanda:

As you put it so aptly - why prevention and mitigation of what? - when the factors giving rise to the risk are structural and not random.

Delnet feels that the root of the problem lies in the fact that disaster risk reduction should focus on the causes and not only on the symptoms. The factors generating the risk are the product of a grasping and unfair development system and it is right for the system itself to change and include risk management in all development actions, promoting higher levels of social and economic justice to reduce vulnerability.

Though it is certain that the bottom-up work carried out in local environments is beneficial, this work must be an integral part of public policies with due decentralization, resource allocation, skills and power allocation to local actors. Delnet is about to launch an all-round training programme designed in an attempt to tackle the problems you speak of. The article "Disaster risk reduction: a call to action" in this issue of [@local.glob](https://local.glob) discusses some of the points you raised and that we will deal with in greater depth during the training course.

Sincere greetings.

Delnet Programme ITC/ILO

GUIDE FOR CONTRIBUTORS

Are you interested in publishing your opinions, articles and/or experiences? Please read these instructions carefully to ensure your contributions are sent correctly¹:

Languages

We accept copy and articles in Spanish, Portuguese, English, French and Italian.

Copy format and quantities

Readers' letters: up to 500 words (in Word format or e-mail)

Articles: 1500 to 2500 words (in Word format)

Book reviews: 500 to 1000 words (in Word format)

Reports on experiences: download the documentation form available on the [Delnet Website](https://delnet.itcilo.net) or request a form from local.glob@delnetitcilo.net.

Information on the author/s

Send in the following together with the article: author's name and surname, email address, professional qualifications and institutional affiliations. It is essential to specify whether the content reflects the viewpoint of the institution or the personal opinion of its author.

Evaluation criteria

The Editorial Board will assess articles received according to their content, topicality, innovatory focus, writing style and relationship with subjects covered in the magazine. The editorial team will contact the author to let him/her know whether his/her article will be published or not.

Topic areas

Two sections in each issue of [@local.glob](https://local.glob) will be devoted to a monographic area of special interest and topicality. The other pages will be open for all types of articles, reviews or reports about topics, theoretical concepts and/or the specific problems of local development.

Monographic topic planned for issue 4: Sustainable Tourism and Local Development

Sending of contributions

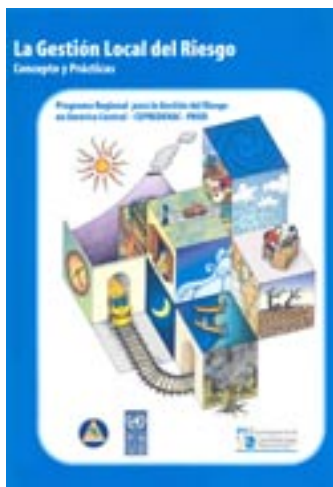
All contributions must be sent to: local.glob@delnetitcilo.net.

¹ Different viewpoints and open debate are welcome, naturally in a spirit of respect for others and healthy criticism with a view to stimulating freedom of expression. For this reason, the editorial team will periodically select opinions for publication with the aim of creating a constructive space allowing reflection and an exchange of views around the key concepts and problems that affect the world of local development.

Book reviews

Allan Lavell, Elisabeth Mansilla and David Smith Wiltshire
LOCAL LEVEL RISK MANAGEMENT: CONCEPT AND PRACTICE
CEPREDENAC/UNDP, Quito, Ecuador, 2005

Jared Diamond
COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED
Viking Press, New York, U.S.A., 2004



An author's introduction and review¹

Few would deny that risk, hazard and vulnerability are best represented at the local or micro level. Society's development and non development processes are worked out and expressed at such levels. And, there is

increasing agreement that it is at the local level that first responses to disaster best and conveniently occur and it is also at this level that the process of risk reduction (prevention, mitigation, risk free reconstruction etc.) should be stimulated and introduced. Because of this, increasing interest has arisen over the last ten years for local risk management initiatives and instruments.

This book, translated from the original Spanish into English and deriving from work in the CEPREDENAC-UNDP regional programme for risk management in Central America, attempts to go along this path and offer both a conceptual statement on the topic and a way of seeing and getting into successful local risk management practice.

The contents are based on many years of reflections and discussions by the authors and on the analysis of over 150 local initiatives in Central America carried out since Hurricane Mitch, 22 of which were subjected to in depth analysis and systematization in order to extract positive and negative lessons for sustainable local level

management. Although written in the Central American context the book attempts to pull together ideas and notions, parameters and practice that are relevant for a far wider audience, even accepting the need for cultural and context specificity in developing management schemes.

Beginning with arguments as to the growing importance of disasters and disaster risk seen as a development problem, the book develops a conceptual statement on these phenomena which is later used to articulate arguments as to needed intervention and local risk management principles.

Essential considerations include:

- the notion of a risk cycle or continuum as opposed to a disaster cycle;
- risk as process that cuts across the so called "disaster cycle";
- risk as a derivative of distorted development processes and environmental mismanagement;
- the local manifestation of risk and the wider spatial framework for understanding risk construction seen as a social process;
- risk as a subjective and objective process and connotation and the notions of social perception and social images of risk;
- risk management seen as a process and not just a series of instruments and practices;
- the notion of "local risk management" as opposed to "risk management at the local level", where participation and appropriation by local actors differentiates the former from the latter;
- the difficulties with, and solutions to the debate on

¹ This article has been written by Allan Lavell.

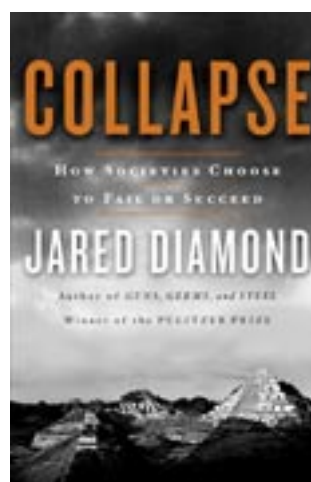
what is “local” and the inappropriateness (with advantages also) of reducing this to the “municipal” level;

- the diverse connotations and social, economic and political significance of the distinction between conservative and progressive, “corrective or compensatory” risk management, as opposed to the complimentary and increasingly important notion of “prospective risk management”.

In a second major section of this book, these conceptual aspects and statements are combined with analysis of 22 cases of local intervention in risk run by governmental, non governmental and civil society organizations throughout Central America and Panama since 1998 in order to derive or identify essential parameters and working bases for successful risk management processes and interventions at the local levels.

The major parameters identified and illustrated with both process and instrumental examples, include: risk management seen as a process and not a product; risk management seen as a derivative of global, sectoral and spatial development planning and environmental management; risk management as an integral approach to dealing with the risk and disaster problematic and which cuts across the phases of the so called “disaster cycle” but reinterpreting these as phases of a risk continuum; real participation by local actors in decisions along the risk management process; participation as a means to appropriation and sustainability.

The type of work done in the elaboration of this study and its conclusions was taken up on by UNDP in the Andean countries during the two years following the Central American study and publications from that work are now also available and of great complimentary and original interest for interested persons (ECHO, UNDP, LA RED, 2005, *Local Risk Management and Disaster Preparedness in the Andean Region: A Systematization of Good Practice and Leant Lessons*). Results of the Central American study may be found on the CEPRE-DEMAC and UNDP, Bureau for Crisis Prevention and Reconstruction web sites. Results of the Andean study may be found on the UNDP web site. Limited numbers of printed editions are also available from the UNDP office in Quito, Ecuador. ▲



Why did great ancient civilisations abandon their cities after building them with such great effort? Why did they eventually collapse? Why is it that some societies collapsed whereas others did not?

Societies do not die by accident - they commit ecological suicide. This could be the motto of *Collapse: How Societies Choose to Fail or Succeed* (2004) the latest book by the eclectic and prolific scientist and writer, Jared Diamond.

In sharp contrast to more conventional explanations for a society's collapse as the result of some kind of cataclysmic event and the idea that civilizations are destroyed by forces outside their control, the basic argument of this book is that the environment is only part of the story: what matters is the decisions made, in relation to it, by human beings.

A Professor of Geography at the University of California, Los Angeles, Diamond is renowned as the author of popular science works which combine archaeology, anthropology, biology, genetics and history. The value of his scientific research has been recognized by various awards and academic appointments.

Diamond is already well-known for his *Guns, Germs and Steel* (1997) which sold millions of copies and was awarded the Pulitzer Prize. In it, he examined how and why Western civilizations developed the technologies and immunities that allowed them to dominate much of the world. He paid particular attention to environmental and structural factors.

Collapse applies the same approach to (past and present) societies which failed or are on the brink of failing. The subtitle, *How Societies Choose to Fail or Succeed*, seems to be even more telling than the title itself. It indicates that failure, even under adverse conditions, is not inevitable: whether (or how well) a soci-

ety survives depends on its values, goals and collective and individual choices.

The author evaluates a number of the great civilizations that collapsed due to their inability to recognize the limits of their resources and the strength of the forces of nature. The failures of those ancient and modern societies stemmed from environmental disasters that were either natural or induced.

In trying to understand the collapses of ancient societies, the author realises that it is not enough to look at the unintentional impact of humans on their environment. Instead he has devised a checklist of five factors in the collapses of societies.

The first is *environmental cumulative damage*, through deforestation, soil erosion, salinisation, over-hunting etc.

The second is *climate change*, such as cooling or increased aridity. Climate change and human environmental impact interact, not surprisingly, as people can get away with it as long as the climate is benign, warm, wet, but not when the climate turns against them, getting colder or drier.

The third factor is *relations with hostile neighbours* – many societies have long-term hostile relations with neighbours, and they are most likely to fail to hold them off when the society itself gets weakened for environmental or other reasons.

The fourth is *friendly trade partners*. Almost all societies depend in part upon trade with friendly neighbouring societies, and if one of those societies itself runs into environmental problems and collapses for environmental reasons, that collapse may then drag down their trade partners. A current example is our dependency upon oil from countries that have a fragile environment.

The fifth item on the checklist is the *cultural response* to all the previous factors: Why is it that people failed to perceive the problems developing around them? If they perceived them, why did they fail to solve the problems that would eventually do them in? Why did some peo-

ples recognise their problems and others not?

Collapse is divided into four parts, starting with case studies from the past, shifting to the present and wrapping up with some lessons for the future.

The *Prologue* introduces the scope and aim of the book. By stating that “*The past offers us a rich database from which we can learn, in order that we may keep on succeeding*”, Diamond intends to look at past (and present) societies’ collapse, because even the richest and technologically most advanced modern societies are facing economic and environmental problems that can put their success at risk.

In Part One – “Modern Montana” – Diamonds starts his analysis on a familiar territory: the modern-day state of Montana, U.S.A. Although not many years ago, big-skied and mountain-river-and-valley-graced Montana was one of the wealthiest states in America, at present it is very poor. It underwent a dramatic transformation due to forest fires, salinisation, erosion, weeds and animal diseases, and population decline. What happened was that mining, forestry and agriculture which had earned so much wealth, became destructive; and if Montana were an isolated country, it would be in a state of collapse.

Part Two – “Past Societies” – presents and analyses past societies that have collapsed. Diamond looks at various examples throughout the world, ranging from Eastern Island, which provides the best historical example of a societal collapse in isolation; other Polynesian Islands; the Anasazi Indians of south-western U.S.A.; the Maya; to the Greenland Norse, a remarkable example of how all five identified factors can come at play.

Eastern Island fall, he argues, was caused largely by deforestation. Transporting and erecting the extraordinary stone statues that were found on the island required a lot of wood. In addition, the inhabitants used wood to cook and to build large canoes to go fishing. They cut down all trees, and as a consequence the soil was rendered infertile and left unprotected from strong winds. Moreover, they could no longer build up any seaworthy craft to sail and hunt porpoises (their source

of protein). They ate their land birds to extinction and then they starved. Wars erupted, in which the victors ate the beaten.

The Norse Greenland case study offers a more complex approach, closer to the actual situation we live in. When the first Norse, led by Erik the Red, settled along the south-western coast of Greenland, they found a favourable spot protected from the harsh winds and rich in forests and grassy slopes. The two flourishing colonies lasted for four hundred and fifty years—and then they vanished. The problem with the settlements, Diamond argues, was that the Norse thought that Greenland really was green. But Greenland's ecosystem was too fragile to withstand that kind of pressure and the Norse succumbed to fighting and starvation.

However these cases are counterbalanced with successful stories from the past. For example in 17th-century Japan deforestation was avoided by limiting the number of trees that could be cut down in a certain period and by encouraging commercial replanting.

Part Three – “Modern Societies” – examines modern societies, such as: Rwanda, Haiti, the Dominican Republic, China and Australia.

Diamond investigates the Rwandan genocide as a contemporary example of a society in collapse. It was not, he maintains, a simply racially motivated massacre, for it also occurred in areas where just one ethnic group (Hutu or Tutsi) was present. The real tension was over land. The homogeneous Hutu area that Diamond describes was especially congested and over-exploited. All farmland was occupied, and practically everyone was hungry. However he does not argue that overpopulation leads inevitably to genocide: Rwandan politicians bear most of the guilt. His point is merely that when people are starving because they do not have enough land, it is surely easier to persuade them

to kill their neighbours.

Diamond goes on to argue that although Australia might be the first developed state to collapse under environmental pressures, its people are forging a new relationship with their land, in the process discarding cultural baggage such as sheep-grazing that came from England and was once a source of great wealth. This Diamond sees as very positive, because “the values to which people cling most stubbornly under inappropriate conditions are those values that were previously the source of their greatest triumphs”.

Finally, Part Four – “Practical Lessons” – focuses on the relationship between the environment, business and globalization and on why some societies put themselves at risk by taking wrong and destructive decisions. Diamond points to the Netherlands as a model of society with a very high level of environmental awareness, and a sense that their survival depends on each other's survival.

Diamond declares himself “cautiously optimistic” and in his last chapter - entitled “The World as a Polder” (polders are reclaimed lands in the Netherlands) – he supports the idea that although the threat of ecological catastrophe seems to get greater by the year, we can raise our awareness of our interdependence and the need for unprecedented engagement to ensure a sustainable future.

The message is quite clear: in most circumstances people's fate was determined by the way they reacted to environmental challenges. Societies that can adapt to their resources last, whereas societies that abuse their resources ultimately commit suicide. In our present situation this notion is vital.

Collapse poses an urgent question: *How can our world best avoid committing ecological suicide?* And it is undeniable that it concerns us all. ■

Hyogo Framework for Action 2005-2015

Building the Resilience¹ of Nations and Communities to Disaster

Extract from the final report of the World Conference on Disaster Reduction (A/CONF.206/6)

Full version available at UN/ISDR Website: <http://www.unisdr.org>

In January 2005, 168 Governments adopted a 10-year plan to make the world safer from natural hazards at the World Conference on Disaster Reduction, held in Kobe, Hyogo, Japan.

This ambitious plan finds its origins in the unprecedented disasters occurred over the past few years, which have reminded us that natural hazards can affect anyone, anywhere. From the Indian Ocean tsunami to the South Asia earthquake, from the devastation caused by hurricanes and cyclones in the United States, the Caribbean and the Pacific, to heavy flooding across Europe and Asia, hundreds of thousands of people have lost their lives, and millions their livelihoods, to disasters caused by natural hazards.

Drawing on the conclusions of the review of the Yokohama Strategy², the Conference provided a unique opportunity to promote a strategic and systematic approach to reducing vulnerabilities and risks to hazards. It underscored the need for, and identified ways of, building the resilience of nations and communities to disasters by addressing disaster risks in the context of sustainable development and, therefore, by enhancing international, national and local capabilities to manage and reduce risk.

The **Hyogo Framework for Action** is a global blueprint for disaster risk reduction efforts during the next decade. Its goal is to substantially reduce disaster losses by 2015 - in lives, and in the social, economic, and environmental assets of communities and countries.

Strategic goals and priorities of actions

To attain this expected outcome by 2015, the Conference resolves to adopt the following **strategic goals**:

- The integration of disaster risk reduction into sustainable development policies and planning;
- Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards;
- The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes;

On the basis of deliberations at the Conference and according to the agreed expected outcome and strategic goals, **five priorities for action** have been adopted:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

In order to guide States, regional, local and international organizations and other actors concerned in their approach to disaster risk reduction, several key activities have been identified and listed under each of these five priorities. All actors concerned should contribute to

¹ Resilience: "The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures." UN/ISDR, Geneva, 2004.

implement them, as appropriate, to their own circumstances and capacities³.

Implementation and follow-up

The implementation of and follow-up to the strategic goals and priorities for action set out in this Framework for Action should be addressed by different stakeholders in a multi-sectoral approach, including the development sector. States and regional and international organiza-

tions, including the United Nations⁴ and international financial institutions, are called upon to integrate disaster risk reduction considerations into their sustainable development policy, planning and programming at all levels. Civil society, including volunteers and community-based organizations, the scientific community and the private sector are vital stakeholders in supporting the implementation of disaster risk reduction at all levels.

The following table is an indication of the variety and diversity of actors and their core responsibilities. ■

Who is responsible for implementing disaster risk reduction and the Hyogo Framework?

States are responsible for:

- Developing national coordination mechanisms;
- Conducting baseline assessments on the status of disaster risk reduction;
- Publishing and updating summaries of national programmes;
- Reviewing national progress towards achieving the objectives and priorities of the Hyogo Framework;
- Working to implement relevant international legal instruments;
- Integrating disaster risk reduction with climate change strategies.

Regional organizations are responsible for:

- Promoting regional programmes for disaster risk reduction;
- Undertaking and publishing regional and sub-regional baseline assessments;
- Coordinating reviews on progress toward implementing the Hyogo Framework in the region;
- Establishing regional collaborative centres;
- Supporting the development of regional early warning mechanisms.

International organizations are responsible for:

- Encouraging the integration of disaster risk reduction into humanitarian and sustainable development programmes and frameworks;
- Strengthening the capacity of the United Nations system to assist disaster-prone developing countries with disaster risk reduction initiatives;
- Supporting data collection and forecasting, information exchange, and early warning systems;
- Supporting States' own efforts with coordinated international assistance;
- Strengthening disaster management training and capacity building.

The ISDR system is responsible for:

- Developing a matrix of roles and initiatives related to the Hyogo Framework;
- Facilitating the coordination of actions at the international and regional levels;
- Developing indicators of progress to assist States in tracking their progress towards implementation of the Hyogo Framework;
- Supporting national platforms and coordination mechanisms;
- Stimulating the exchange of best practices and lessons learned;
- Preparing reviews on progress toward achieving the Hyogo Framework objectives.

Source: UN/ISDR

² The *Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action* ("Yokohama Strategy"), adopted in 1994, provides landmark guidance on reducing disaster risk and the impacts of disasters.

³ To see the detailed activities according to each priority, please refer to: <http://www.unisdr.org>.

⁴ The partners in the International Strategy for Disaster Reduction, in particular, the Inter-Agency Task Force on Disaster Reduction and its members, in collaboration with relevant national, regional, international and United Nations bodies and supported by the inter-agency secretariat for the International Strategy for Disaster Reduction.

The Delnet Programme of the International Training Centre of the ILO

DELNET, an acronym for local development network, was set up in 1998 as a local development support programme. It is run by the International Training Centre of the International Labour Organization, a specialized United Nations agency. In its seven years of activity it has created a network of over 1,500 institutions in 71 countries throughout the world.

Decentralization and the devolving of responsibilities from central authorities to local administrations have been constant trends in recent years, as a result of which local levels are increasingly assuming greater responsibility in developing the territory and improving the quality of life of its inhabitants. Carrying this out, however, requires both human and institutional capacities for effective management, taking account not only of economic but also of social issues. Delnet's objective is to facilitate access to global and local knowledge to help local actors offer more effective solutions for the ordinary problems that people have to face.

Delnet services are aimed at a broad range of technical staff, managers and leaders of public and private institutions involved in local development, such as municipalities, provincial and regional governments, business organizations, NGOs, research centres, universities, etc. Delnet offers four types of service in particular: distance training, up-to-date information and publications, technical consultancy, and the promotion of exchanges of experience at local, national and international level by networking.

Delnet Specialization

Disaster Risk Reduction and Sustainable Local Development

This specialization is aimed at strengthening local capacities for achieving more sustainable reconstruction and development processes that fully integrate risk reduction practices.

Launch: 2nd semester 2006

www.itcilo.org/delnet

All these services are geared towards supporting participants in their daily local development work, and offer both a theoretical framework and practical tools such as a virtual library, specialized technical publications, practical handbooks or direct lines of information.

This has been possible thanks to the use of Information and Communication Technologies (ICTs), which make it possible to reach, in real-time, places it was previously difficult if not impossible to transmit information to. It is crucial for people who operate at local levels to have access to knowledge and to be capable of using it so as to participate in, exploit and be creative in the new globalized environment. Promoting the use of ICTs, Delnet works in favour of digital inclusion and the overcoming of inequalities in access to their use and enjoyment.

This has rightly been one of Delnet's strong points since its foundation: the creation of networks of exchanges that make it possible to break the geographic isolation of various dispersed local communities. In this way participants simultaneously became receivers and providers of knowledge and useful experiences by pooling publications and good practices and continuously exchanging ideas with colleagues in other parts of the world.

The same spirit and philosophy of work has encouraged Delnet to create another working tool, a magazine that gives a voice to everyone who works on a day-to-day basis for local development, facilitating greater communication and promoting the democratization of information.

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