4.2 Networking and partnerships

Comprehensive disaster risk reduction covers a wide range of disciplines, sectors and institutions, calling for diverse and expanded forms of partnerships. The achievements from networking and partnerships can be far more powerful than individual or specialist contributions.

Thanks to global communications, creating networks between government agencies, the public, the private sector and professional bodies is technically easy. However, these networks can only be successful if participants display the same commitment to share their information and experiences openly.

Networks and partnerships ranging from communication exchanges to fully fledged and funded partnerships have great potential. This section examines:

- *building links to reduce risk – extended partnerships and networking;*
- *networking support for community partnerships;*
- *cross sector coordination and collaboration; and*
- *commercial sector and partnership interests*

Building links to reduce risk – extended partnerships and networking

There is a very wide range of actors who deal with disaster risk management. An important challenge is to develop ways to link these actors.

Multidisciplinary research, multisector planning and multi-stakeholder participation are fundamental in addressing the many factors of risk reduction. Benefits that accrue from networking include improved efficiency and cost-effectiveness, a unified strategic framework for decision-making and an appropriate division of responsibilities. Additionally, cutting-edge knowledge from academic and research institutions can be linked with practical initiatives undertaken by other organizations. Examples of productive technical and research networks are reviewed in chapter 4.4.

Fostering the association of community groups with larger organizations will ensure that local needs, capacities, cultural perceptions and traditional knowledge become more integrated in national, regional and international initiatives.

The spectrum for collaboration varies from sharing information to undertaking joint strategic planning and programming. The latter is the more difficult to achieve but it is also more effective. Some collaborative examples include:

- communication networks, forums for dialogue;
- institutional partnerships, memorandums of understanding between agencies and organizations;
- integrated databases;
- formal joint mandates, legislation, policies and plans by public authorities;
- multisector advisory groups;
- multidisciplinary research projects; and
- research conferences.

Case: ProVention Consortium

The ProVention Consortium is a global coalition network of governments, international organizations, academic

ISDR and partnerships

One objective of ISDR is to stimulate multidisciplinary and multisectoral partnerships and expand operational networks by engaging public participation and professional interests throughout all aspects of disaster risk reduction.

institutions, the private sector and civil society organizations dedicated to increasing the safety of vulnerable communities and to reducing the impact of disasters in developing countries. It functions as a consortium to share knowledge and resources among members on disaster risk management, acting as a broker to forge links and partnerships so that practical efforts, and benefits, are shared.

Its goal is to support developing countries in reducing the risk and social, economic and environmental impacts of natural and technological disasters on the poor. Through such collaboration and related activities ProVention produces pioneering solutions to the challenges of disaster risk management in developing countries. This is achieved by:

- forging linkages, partnerships and fostering closer interaction between members of the consortium;
- developing and demonstrating innovative approaches to the practice of disaster risk management;
- advocating for disaster risk management among senior policy makers in international organizations, national governments and the private sector; and
- sharing knowledge and information about best practices, tools and resources for disaster risk management.

Since its launch by the World Bank in 2000, ProVention has produced a number of innovative tools for integrating disaster risk management into development efforts by working as a flexible network that is able to connect actors from different sectors and backgrounds. Approaches include improved documentation of the longer-term social and economic impacts of disasters; models that integrate disaster risk management into development planning; methodologies for better assessment of disaster impacts; and strategies for more effective management of disaster risks.

Projects are designed to encourage innovation, promote partnerships and influence decision makers through a variety of activities that include research studies, pilot projects, education and training activities, advocacy initiatives and policy development. Specific activities advance policy and practice in disaster risk management in the following three categories, with current initiatives indicated:

- Risk identification and analysis – assessing hazards, vulnerabilities and capacities
  - Methodology and standards for damage and needs assessments: Development and promotion of global standards and methodologies for collecting and processing data on building and infrastructure damage, household losses, community impacts and recovery requirements.
  - Identification and analysis of global disaster risk hotspots: Global scale prioritization of international risk identification and disaster reduction efforts through the identification of geographic areas of highest disaster risk potential.
  - Measuring risk management: Development of guidelines for assessing natural hazard risks and the net benefits of mitigation through cost/benefit analysis.
  - Vulnerability and capacity assessment tools: Development of standards and methodologies for social vulnerability and capacity analyses.

- Risk reduction – avoiding hazards and reducing vulnerability
  - Learning lessons from post-disaster recovery operations: Identifying lessons for ongoing and future efforts of the international community in providing assistance for post-disaster reconstruction and recovery, including strategies that avoid the re-creation of risk. Case studies conducted in Honduras, India, Mozambique and Turkey.
  - Reducing flood risk in Africa: Strengthening community flood resilience through local partnerships in Sudan.
  - Urbanization and disasters in Africa: Analysis of urban risks and reduction strategies.

- Risk sharing and transfer – protecting investments and sharing the costs
  - Innovations in managing catastrophic risks: Promoting innovative risk transfer and financing mechanisms such as insurance that can reduce vulnerability to disaster impacts and serve a key developmental role in the country.
  - Transferring risk through microfinance and microinsurance: Application of microfinance and microinsurance as resources for safer communities through pilot testing in India.

In order to sustain commitments in all of these categories, the consortium also supports applied research grants for disaster risk management. It encourages innovative research projects and promotes aspiring professionals in developing countries dedicated to reducing disaster risks.

A secretariat manages all ProVention activities. Members decided that by rotating the secretariat among designated participants every few years, participation could be enlarged, bringing fresh perspectives to ProVention efforts, thereby increasing wider ownership of the consortium's objectives.

Early in 2003, the ProVention secretariat was transferred from the World Bank's Disaster Management Facility in Washington, DC to the International Federation of Red Cross and Red Crescent Societies (IFRC) in Geneva. This transfer presents new opportunities for advancing disaster risk reduction through the global network of IFRC and other civil society organizations. <http://www.proventionconsortium.org>

Case: Africa Knowledge Networks Forum

The Africa Knowledge Networks Forum (AKNF) is an initiative led by the UN Economic Commission for Africa to facilitate the sharing of knowledge and to encourage research partnerships among professional networks. Target audiences include the end users of knowledge such as policy makers, educators, leaders of civil society organizations and representatives of the private sector. <http://www.un.org/depts/eca>

The challenge of attaining and sustaining higher levels of growth to reduce poverty in Africa remains overwhelming. Sustained growth in the future will depend on new capacity being created, focused particularly on institutional development, skills enhancement, knowledge production and application. All of these areas can be enhanced by modern information technology, and it is in such roles that African countries must make quantum leaps.

It is widely recognized that both increased knowledge and more local content are needed within Africa to solve the pressing problems of public policy, enrich teaching curricula, invigorate civil society, foster good governance, and to stimulate the private sector. These objectives all contribute to strengthening the integration of African societies and economies, especially in the context of the intensely competitive global environment. Success is dependent on linking the producers of knowledge to those institutions and skilled individuals engaged in using that knowledge.

The Africa Knowledge Networks Forum seeks to associate existing networks with the aim of strengthening indigenous policy-oriented research and analysis for more effective use by African decision makers. The forum seeks to provide a continual link between African research networks, policy makers and educational institutions. By serving as a portal it can support centres of African expertise, thereby pooling resources for more effective production and sharing of knowledge.

AKNF will be particularly important for providing technical support to the African Development Forum process, the UN Economic Commission for Africa (ECA) partnership launched in 1999 to promote consensus around primary challenges shared among Africa's development stakeholders. In this respect, it can contribute to setting agreed priorities for future development assistance. The forum will meet annually to review progress and to approve future work plans, with its initial strategy proceeding covering 2000-2003. <http://www.un.org/depts/eca/adf>

By increasing the dialogue between knowledge producers and users, AKNF can also strengthen applied research and advisory services to African policy makers, civil society organizations and private sector entities. The forum's comprehensive database of multidisciplinary expertise will be pivotal to linking the supply and demand for professional communication of experience across the continent.

AKNF will be supported by activities of ECA's new Information Technology Centre for Africa (ITCA), conceived as a central node in the networking landscape. It will focus initially on establishing various databases derived from data maintained by existing networks, and creating a web-based directory of African web sites that

promote networking activities. The creation and management of discussion lists will contribute to the further integration and expanded purpose of multiple information providers.
<http://www.un.org/depts/eca/tca>

Networking support for community partnerships

In 1992, a group of social scientists, NGOs and people interested in the social dimensions of risk reduction in Latin America came together to create the Latin American Network for the Social Study of Disaster Prevention (LA RED). It was initially conceived as a mechanism to facilitate comparative research of natural disasters from a social perspective. It has developed into the focal point for hundreds of individuals and institutions working in disaster and risk management across Latin America and the Caribbean, influencing thinking and action.
<http://www.desenredando.org/>

A similar network in South Asia was inspired by the ideas of LA RED, and has been organized by people committed to promoting alternative perspectives on disaster and vulnerability as a basis for disaster mitigation in their own region. Named Duryog Nivaran (disaster mitigation in Sanskrit), it aims to reduce the vulnerability of communities to disasters and conflicts by integrating alternative perspectives in the conceptual, policy and implementation levels of disaster mitigation and development programmes.
<http://www.duryognivaran.org>

Periperi – Partners Involved in Enhancing the Resilience of People Exposed to Risk in Africa, is another network. It was established in 1997 by the Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) at the University of Cape Town, with the support of OFDA/USAID and the UK Department for International Development (DFID). Originally composed of 16 organizations from five Southern African countries, Periperi provides opportunities for a variety of organizations to work together across disciplines and national borders. These share the benefits of experience, and facilitate communication about the organization's work to integrate risk reduction principles and technologies into ongoing sustainable development activities.

Periperi views risk as an all-inclusive field, involving hazard scientists, development practitioners, and policy makers among its collaborators. As such it serves as Southern Africa's network for risk reduction and sustainable development. Its publications include *Learning About Livelihoods: Insights from Southern Africa*, that is also available on video, and *Urban Vulnerability: Perspectives from Southern Africa.*
<http://www.egs.uct.ac.za/dimp>

Rising Tide UK is a network of small groups and individuals dedicated to taking local action on climate change and building a national movement against climate change. It reaches out to the wider public to empower them to take personal action, form their own campaigns, and participate in the activities of the groups in the network. Rising Tide UK prepares a monthly summary of extreme weather events that occur during the year.
<http://www.risingtide.org.uk>

In another context, the UN-HABITAT Programme for Best Practices and Local Leadership provides an excellent example of a partnership initiative that can guide and motivate local communities to utilize networks in ways that can advance hazard awareness and risk management practices. <http://www.unchs.org>

A Database of Best Practices for Human Settlements and a combined electronic search facility is maintained by UN-HABITAT in collaboration with The Together Foundation. The database is an excellent multidisciplinary compendium of experience drawn from around the world. Records can be grouped or selected by any of the following individual criteria, a combination of them or by sub-categories:

- scale – global, regional, national, provincial/state, metropolitan, city/town, neighbourhood or village;
- ecosystem – arid/semi-arid, high plateau, river basin, coastal, island, tropical/sub-tropical, continental or mountain;
- themes – poverty eradication, economic development, social services, environmental management, infrastructure communications and technology, housing, land use management, urban governance, civic engagement and cultural vitality, gender equity and equality, disaster and emergency, production and

consumption patterns, urban and regional planning, technology tools and methods, children and youth, architecture and urban design, older persons, use of information in decision-making;
- country – or when grouped, as a subregion or adjacent area; and
- selected text – or specific project activity title.

As each of these criteria has some bearing on social and economic vulnerability in a variety of habitats, the database displays a wealth of relevant experience about hazard awareness and disaster risk management practices. It is anticipated that because of this relationship, activities which exemplify best practices for creating resilient communities may be considered in the future as an explicit category. <http://www.bestpractices.org>

The information material contained in the database is supplemented by additional information contributed by nominations for the associated Dubai International Award for Best Practices to Improve the Living Environment. This biennial international competition is sponsored by the Dubai Municipality and ten awards of US$ 30,000 are made for outstanding practices. Additional information about the Dubai International Award can be obtained by e-mail <info@dm.gov.ae> or from the award web site. <http://dubai-award.dm.gov.ae>

Productive networks for disaster reduction can also be built around other social dimensions. The Gender and Disaster Network consists of women and men interested in gender relations in the context of disaster and risk management such as those related to earthquakes, floods, hazardous materials events, tornadoes, famine, cyclones and other hazardous events. The network's goals are to document and analyse gender experiences before, during and after disasters, and to conduct interdisciplinary and collaborative research projects.

Research and practice that reduce the loss of life, injuries or damage to property for women and girls can make a difference. The goal of the Gender and Disaster Network is to promote and encourage such activities. Members participate from many countries, including El Salvador, India, Japan, New Zealand, South Africa, Switzerland, the United Kingdom and the United States. <http://online.northumbria.ac.uk/geography_research/gdn/>

Box 4.10
The Mary Fran Myers Award

The Gender and Disaster Network invites nominations annually for an individual who should be recognized for efforts to advance women's careers in emergency management and academic endeavour for promoting gender disaster research.

The Mary Fran Myers Award was established in 2002 by the Gender and Disaster Network. It recognizes that vulnerability to disasters and mass emergencies is influenced by social, cultural, and economic structures that marginalize women and girls. The award has been named for Mary Fran Myers, the co-director of the Natural Hazards Center at the University of Colorado in the United States. She received the award in 2002 in recognition of her sustained efforts to launch a worldwide network among disaster professionals, for advancing women's careers and for promoting research on gender issues in disaster research in emergency management and higher education. <http://online.northumbria.ac.uk/geography_research/gdn/>

Case: Mozambique

A different form of partnership is required to address the vulnerabilities of rural environments. As is the case among many inhabitants of developing countries, most Mozambicans live in a precarious balance between subsistence and desperation. Very small fluctuations in climatic conditions, localized flooding, or the outbreak of disease in neighbouring villages can plunge a normally stable family economy into severe difficulty.

To identify particularly vulnerable populations the Vulnerability Analysis Group was formed in Mozambique. Chaired by the government's Department of Early Warning and Food Security, it also includes the Nutrition Division in the Ministry of Health and the UN World Food Programme (WFP).

The group works together with local communities to investigate the factors that contribute to chronic vulnerability. The joint initiative has analysed nutritional indicators as a basis for their evaluation and has then used this information to compile detailed profiles of food security conditions in almost all districts of the country.

A number of other partners have contributed to related initiatives. The UN Food and Agriculture Organization (FAO) provided support to monitor food stocks in the country. In a complementary initiative, an Agricultural Markets Information System, managed by Michigan State University in the United States, has been supported by USAID for nearly a decade. The system researches food security conditions, particularly in relation to rural markets and smallholder cash crops. This programme is currently developing provincial price information systems that can promote the commercialization of farm products.

The Famine Early Warning System Network (FEWSNET), also funded by USAID, works closely with these programmes. It has conducted several studies of local food economies, including in those areas most affected by flooding in recent years. The project operates in conjunction with the University of Eduardo Mondlane in Maputo and has produced the *Disaster Atlas for Mozambique*.

An earlier initiative, the Agence Européenne pour le Developpement et la Santé (AEDES), was an emergency information system created by MSF during the drought in 1992. It later evolved into a national vulnerability information system.

Case: India

The Sphere Project is an international inter-agency collaboration working to improve the quality of assistance to disaster victims, and enhance the accountability of humanitarian response agencies to their beneficiaries, members and donors. In India, the Disaster Mitigation Institute (DMI) has been associated with Sphere since 1998, as one of the 14 pilot agencies.

As an example of the beneficial opportunities provided by the network, DMI complemented its own efforts of promoting and using the Sphere handbook by many activities including national training courses, local capacity-building initiatives, in-house publications and development of training materials related to the specific needs of India and South Asia.

Additional partnerships were developed to further this Sphere in India campaign by working together with the support of Catholic Relief Services to involve 30 professionals from 18 local, national and international voluntary agencies, donors and government officials. These included such varied participants as UNICEF, IFRC, National Centre for Disaster Management (NCDM), the Self-Employed Women's Association, Developing Initiatives for Social Human Action, Oxfam, Concern Worldwide, the British Red Cross, Emergency Food Security Network, Sadvichar Parivar, Discipleship Centre, Hind Swaraj Mandal, Caritas India and Save the Children Fund.

Beyond discussions and meetings, many of these organizations committed themselves to furthering a process of institutionalizing Sphere standards in the region. NCDM proposed a partnership with DMI to conduct training in administrative training institutes across the country. Other organizations planned regional meetings on food security and the related Sphere standards. A pool of training resources and materials has been proposed. UNICEF proposed the development of a local chapter dedicated to the standards for emergency education of children. CRS initiated a process by which other interested organizations could contribute their experiences electronically to the revision process of the Sphere handbook. Finally, DMI documented these various collaborative initiatives and disseminated the experiences for expanded access.

Case: Central America

The Central American Mitigation Initiative (CAMI) is an umbrella programme launched in 2001 by OFDA/USAID. Over a three-year period, US$ 12 million will be distributed to NGOs to fund disaster reduction activities. IFRC, the Corporate Housing Foundation, CARE International, Catholic Relief Services and other agencies operating in the region concentrate on local involvement.

Working primarily through municipalities, the programme strives to create mechanisms to motivate greater commitment by national institutions at local levels. Risk reduction is the primary focus, and while preparedness and disaster response problems are also addressed, they are integrated into the overall perspectives of reducing risks.

One of the more innovative CAMI projects is conducted by CARE International with partners in Guatemala, El Salvador, Nicaragua and Honduras. With an overall budget of more than US$ 3.5 million and support from OFDA/USAID and the Canadian International Development Agency (CIDA), the project provides training and technical support to develop a range of risk reduction activities in core municipalities in high-risk zones of the four countries.

Benefiting from its association with LA RED, which provided technical and advisory support for the project, CARE expects to fashion its other development projects in the region with more attention given to risk reduction.

During a recent drought in El Salvador, small grants were provided for severely affected population groups to develop pilot Integral Sustainable Production (ISP) units. These ISP units promote crop diversification, foster improvements in commercial practices and create opportunities for improved food storage by utilizing crop techniques that are environmentally friendly.

Based on the initial experience with this project, CARE-France presented a proposal to the European Union to finance similar schemes in two other departments of the country, to improve the food security of 1,000 extremely poor families. The projects are based on the participation of the population working through collective schemes using common lands to minimize their risks. This approach represents an alternative to the reliance on emergency food relief.

Case: Guatemala

The Peten region in Guatemala contains one of the largest tropical forest reserves in Latin America. Uncontrolled forest fires during the annual dry season endanger the livelihoods of the local population and have lead to large-scale destruction of forest ecosystems and biodiversity in northern Guatemala.

The government of Guatemala has embarked on a major programme to promote fire prevention and more effective means to combat fires when they do occur. The programme is supervised by the executive secretary of the presidency and involves the participation of several other government institutions.

The Project for the Local Prevention and Control of Forest Fires (PRECLIF) is a complementary project which promotes improved prevention and control of forest fires at the local level, employing local techniques in risk management.

The project trains residents of local communities to implement measures that can reduce the risk of fires, working in conjunction with the municipal committees in charge of forest fires.

The project has also supported other activities to strengthen community organizations such as the establishment of a radio network that links six rural communities to the National Coordinating Agency for Disaster Reduction in Guatemala (CONRED).

PRECLIF has encouraged new and useful relationships between the Global Fire Monitoring Center at the Max Planck Institute of Chemistry in Freiburg, Germany and the Guatemalan institutions involved with forest fire prevention and control. Professional visits have been exchanged and a successful workshop was held in Peten to share experiences in forest fire prevention, management and control.

There are other disaster risk reduction programmes focused on the three active volcanoes in Guatemala. The slopes of two of them are home to local communities where Project PREVOL aims to strengthen the work of CONRED and the Centre for Disaster Research and Mitigation (CIMDEN) in reducing risks from volcanic hazards.

CONRED and CIMDEN have been implementing preparedness activities for possible eruptions of the Pacaya and Fuego volcanoes. With the support of the humanitarian office of the ministry of foreign affairs of Germany, PREVOL has sought to expand activities to improve disaster preparedness and risk reduction.

In addition to providing basic early warning equipment and training local emergency committees in 19 communities, PREVOL has

"Partnerships between central and local authorities, and public and private sectors are the most effective means to reduce the impact of hazards."

Source: US Federal Emergency Management Agency, Basic Principles, 1996.

been able to assist CIMDEN by improving its methods and abilities to conduct volcanic surveillance. This has included the supply of additional scientific instruments to complement efforts by the National Seismic, Volcanic, Meteorological and Hydrological Institute of Guatemala in monitoring volcanic activity at Pacaya.

The partnership has emphasized the crucial role of linking activities in disaster-prone areas with the interests of the national disaster reduction agency to encourage risk reduction. In this respect, all of the operations in PREVOL have been conducted by personnel from the risk management department of CONRED, ranging from the installation of equipment, local community organization and training and the design of risk reduction measures. Similarly, a priority has been placed on developing the capabilities of national institutions to ensure the sustainability of the project.

Cross-sector coordination and collaboration

Case: United States

Project Impact, promoted by the US Federal Emergency Management Agency (FEMA) in the late 1990s was a good example of a partnership approach that led to wider understanding and increased acceptance of the principles of disaster risk reduction. Project Impact was actually designed to change the way the United States dealt with risks before disasters occurred (see box 3.8).

In 2001, FEMA's Mitigation Bureau was merged with the national flood insurance programme to become the Federal Insurance and Mitigation Administration. Funding for Project Impact has since been reallocated and the United States has radically redefined its perceptions of public risk. In 2003 FEMA was merged into the newly created Department of Homeland Security.

Other professional partnerships remain to reinforce disaster risk reduction activities across the United States as every state has an office of emergency services. Both the Network of State Hazard Mitigation Officers and the National Emergency Management Association which serves as a professional association of state emergency management directors, link wide ranging professional interests and disseminate information across the country.

Subsequently, and in a more recent reflection of changing emphasis in the United States, in mid-2003, the Subcommittee on Disaster Reduction (SDR), part of the US National Science and Technology Council, published *Reducing Disaster Vulnerability through Science & Technology*. This interim report of SDR reviews the government's current efforts to increase the nation's disaster resiliency and identifies issues and opportunities for the future. The SDR report is a vital tool for understanding risk reduction for both natural and technological hazards.

Among other interests, the report identifies six broad areas that require continued energy and appropriate resources in order to achieve a disaster-resistant United States:

- leveraging existing knowledge of natural and technological hazards to address terrorism events;
- improving hazard information data collection and prediction capability;
- ensuring the development and widespread use of improved hazard and risk assessment models and their incorporation into decision-support tools and systems;
- speeding the transition from hazard research to hazard management application;
- increasing mitigation activities and incentives; and
- expanding risk communication capabilities, especially public warning systems and techniques.

The report reveals that SDR is now in the process of establishing a coordinated strategic national framework for science and technology research and application development for disaster risk reduction. *Reducing Disaster Vulnerability through Science & Technology* is available on the SDR web site. <http://www.sdr.gov>

The Global Alliance for Disaster Reduction (GADR) is another example of a civil society multidisciplinary network initiative. It has brought together the shared interests of more than 1,000 professionals in disaster reduction and the related aspects of sustainable development, representing regional, national and international organizations. The alliance is organized as an informal global network under the institutional leadership of the Global Institute for Energy and Environmental Systems at the University of North Carolina at Charlotte, in the United States.

GADR has several objectives. It seeks to mobilize intellectual and material resources to address issues which will enable businesses and public agencies to reduce the impacts of natural and technological hazards. Efforts of its members serve as catalysts for ongoing national and international projects. This is accomplished by providing opportunities for expanding technical and political capacities, building multinational networks, convening forums and conferences, and encouraging the implementation of programmes that can reduce the impacts of hazards.

By drawing on their varied experiences in different country settings, individual members have contributed to the preparation of almost 40 subject and regional blueprints consisting of proven practice and demonstrated expertise. Together with the compilation of a methodological toolbox, the blueprints are intended to motivate and guide policy makers and practitioners in the wider application of disaster risk management practices.

Through such activities, the overall intention of the network is to cause major shifts in disaster risk management outlooks and practice from ones that concentrate predominantly on the impact of hazards to ones that are more attentive to preventing disasters. This strategy can be advanced through the engagement of all relevant professional disciplines, national and regional planning activities and a variety of educational programmes. <http://www.gadr.giees.uncc.edu>

Case: India

Following the 2001 earthquake in the Indian state of Gujarat, effective partnerships emerged through the collaboration of NGOs, government authorities, representatives of industry and the affected communities. One example is the Gujarat Rehabilitation Project, a partnership between CARE-India, the Federation of Indian Chambers of Commerce and Industry (FICCI) and the government of Gujarat.

The reconstruction process in Gujarat did not conform to previous or traditional approaches for organizing large-scale public works. There was a need to foster collaboration between national and international interests as well as to promote joint economic, governmental and community approaches for efficient reconstruction implementation. There was a conscious effort to ensure that local communities would be involved in the process and that their needs would be represented at every stage in the rehabilitation process.

As a result, emphasis was given to address the acute shelter needs and to rehabilitate basic services including those related to health and essential livelihood activities. The partnership demonstrated an opportunity to bring a combination of highly skilled professional and technical resources to the project along with government, NGO and community inputs.

The initiative emphasized the values of community participation, developing additional livelihood opportunities and incorporating improved risk reduction measures to minimize the effects of future hazards. The primary motivation of forming such a partnership was the shared interests of the collaborators to motivate a high level of community participation immediately following the disaster and to be responsive to the requirements of sustaining livelihoods in a manner that would establish a safe community environment.

The fact that all plans for housing and community facilities were designed to meet construction standards for both earthquake and cyclone resistance, and that they were approved by both the communities and the appropriate government technical departments, illustrates practical measures that contribute to the future reduction of risks.

Additionally, by working during a transitional period between response and rehabilitation, the stakeholders could develop better opportunities for community mobilization, vocational training, the establishment of temporary community infrastructure, and in restarting essential community activities like schools and markets.

Commercial sector and partnership interests

It is impossible to ignore the increasing economic demand for businesses to become more efficient. Tight production schedules, just-in-time logistics and far-reaching international trading practices expose businesses to potential disruption or loss through natural disasters. There has been a growing commercial awareness of a correlation between disaster preparedness, risk reduction and business survival.

More than 60 per cent of the small retail businesses affected by the Northridge earthquake in California in 1994 were no longer in business six months later. Six years after the Great Hanshin earthquake in Kobe, Japan in 1995, the heavily damaged port of Kobe was still unable to regain its previous competitive standing as the third busiest Japanese port.

Motivated by a desire to protect their own assets or their competitive standing in markets, commercial enterprises have invested heavily in business continuity services designed to assess and mitigate physical or operational risks to their businesses. In recent years there have been important corporate initiatives to promote disaster reduction activities in the common interest. Examples include the Business and Industry Council for Emergency Planning and Preparedness (BICEPP), Disaster Recovery Business Alliance (DRBA), Public Private Partnership – 2000 (PPP 2000), Public Entity Risk Institute (PERI) and the Institute for Business and Home Safety (IBHS).
<http://www.bicepp.org>
<http://www.sustainable.doe.gov/freshstart>
<http://www.usgs.gov/ppp2000/>
<http://www.riskinstitute.org>
<http://www.ibhs.org>

A study was conducted for DFID by the Benfield Hazard Research Centre of the University College London in 2001 to review the extent and features of corporate social responsibility manifested in disaster risk reduction activities. It concluded that while the potential for public-private partnerships is promising, in almost all cases they are difficult to establish and sustain without a common understanding and commitment to risk reduction. This can be very difficult to achieve considering the different values and expectations of commercial, government, and public interest organizations <http://www.benfieldhrc.org>.

Following several serious technological accidents in the 1980s, and especially responding to the Bhopal disaster in India in 1984 that killed 2,500 people and affected 300,000 more, the chemical industry developed a partnership programme to enhance its emergency and safety plans, establishing closer relationships with nearby communities.

This initial idea of strategic and mutually beneficial relationships between corporations, leading industrial associations such as the International Council of Chemical Associations, and UNEP was transformed into an international programme in 1988. Named the Awareness and Preparedness for Emergencies at Local Level (APELL) programme, the initiative has become a landmark example of joint collaboration, managed since its founding by UNEP.

APELL's aim has been to prepare surrounding communities for the potential eventuality of an industrial accident by raising awareness, organizing training sessions and preparing emergency response plans through a participatory process. One of the primary means employed is to enhance communication and collaboration between local authorities, industries located within a community and the nearby inhabitants of the area.

APELL is both a process and a programme. As a process, it consists of the local application of several methodological tools to assist decision makers to develop risk awareness, training and response plans. The overall goal of the process is to give local people and emergency services the means to become aware of the risks and to be prepared to react so as to minimize losses in case of an accident.

When a risk is identified, the local authorities or industry officials create a coordinating group of all

relevant partners, including representatives of the community. Locally generated regional or national workshops and seminars are organized with experts to start the process.

The group then implements APELL in a ten step process:

1. Identification of stakeholders
2. Evaluation of hazards
3. Assessment of risks
4. Review of their own emergency plans by participants
5. Identification of gaps and tasks
6. Improvement and integration of existing plans into overall community plans
7. Obtaining approvals and endorsement from the community and local authorities
8. Education and training
9. Establishment of follow-up procedures
10. Dissemination of the plan for community education

Several specialist strategies have been documented to guide this process. Initially, an *APELL Handbook* was produced in 1988, which has since been translated into several languages. That has been followed by *APELL for Port Areas*, released in 1996; *TransAPELL, Guidance for Dangerous Goods Transport: Emergency Planning in a Local Community*, published in 2000; and *APELL for Mining*, released in 2001.

Networked relationships among national and international organizations have developed programmes to implement local APELL processes, motivated particularly by UNEP's Division of Technology, Industry and Economics. APELL is promoted through the collaboration and operational networks of many industrial interests, inter-governmental organizations and government institutions.

Together, working in their common interest, they provide a range of technical and human support, guidelines, publications and brochures to any interested local actor, thus helping to start local processes. Many national APELL centres have worked to integrate their principles in legislation and to encourage local action.

Since 1988, APELL programmes have been implemented in more than 30 countries and 75 industrialized communities, especially in Latin America, Asia and the Middle-East. Future plans call for more partnerships to be created, along with the development of an enhanced information system and increased operational support.
<http://www.uneptie.org/pc/apell/home.html>

Case: Brazil

Many industrial facilities are located very close to the inhabited and commercial areas of the Brazilian municipality of São Sebastião where more than 60,000 people live. APELL processes were implemented there raising considerable interest throughout the community. Multisectoral participation involved a big petrol company, municipality services, the state environmental agency, both national and local civil defence organizations, and members of the public from the local community.

A risk assessment was conducted, an emergency plan developed and distributed, and a municipal decree was promulgated establishing an emergency day. Four emergency simulations took place in 2001 and 2002, involving several thousand people. School evacuation exercises were organized, and drawing and writing contests were promoted to increase the awareness of children. Training was also provided for the environmental agencies.

Consolidated feedback on all the activities was evaluated and then used to draw the lessons and best practices for improving future capabilities. In December 2002, a regional meeting was organized in the municipality to expand local experience and methods of collaboration for more than 20 port areas in Brazil.

The International Labour Organization (ILO) emphasizes another form of multisectoral collaboration and partnership based on the joint and mutual interests of labour, business and governance collaborating in disaster contexts. In recent years, its response to flooding in Mozambique and massive earthquakes in India integrated gender concerns into a focus given to employment-intensive reconstruction. Women working as small traders, subsistence farmers, artisans, and home-based workers in the informal sector were engaged. These initiatives were developed proactively in collaboration with community groups, government offices and employers in the region.

Case: Mozambique

Evidence of productive network relationships involving business interests can also be found within countries. The national disaster management policy of Mozambique recognizes that the potential impact of disasters on commerce and agribusiness could threaten the national economy. As the resources available to state enterprises relative to the business community diminish, and as private businesses assume more responsibility for providing essential services to the society, the private sector must become a more crucial partner in all aspects of disaster risk management.

With this in mind, the National Office for the Management of Disasters (INGC) has made collaboration with the private sector a priority. Most significantly, the threat of serious industrial accidents has increased with the development of large-scale industrial projects such as refineries and pipeline construction.

The potential human and economic consequences of a severe cyclone damaging principal urban centres also need to be considered in collaboration with the private sector and its economic interests. Such calculations should factor heavily in national economic policies for assured growth and in measures that can protect essential public infrastructure.

With the growing economic impact of disasters, the private sector should be encouraged to become active in its own risk management practices and in the disaster risk reduction measures of society. By lending their important political and economic influence to advocate for national strategies that can protect critical infrastructure and property assets on which their own businesses depend, they will also advance their own strategic commercial interests.

Future challenges and priorities

Networking and partnerships

The major challenges are to stimulate networks of shared commitments and partnerships at local, national, regional and international levels across professional interests. A need for coherence in achieving these partnerships is a challenge to be addressed by ISDR. There are several areas where improvements can be made:

- Enhance relationships by linking risk reduction actors with those of ecological management, social development and economic growth in order to ensure sustainable development.
- Provide incentives to strengthen national, regional and international coordination and networks for information exchange. Promote collaboration that will increase multidisciplinary disaster reduction capacities.
- Encourage the establishment of national committees and related organizational platforms for disaster reduction with active community involvement and the participation of all relevant sectors. This should be encouraged to facilitate common approaches, the collection of information, undertaking risk assessments and support for the development of coherent strategies and action plans.
- In academic circles, stimulate cross-disciplinary efforts, networks and partnerships for integrated and applied research in all relevant areas of risk management. These include gender studies, cultural and social behaviour that increase resilience to hazards, early warning systems, hazards research and the multiple factors of vulnerability analysis.
- An overarching challenge is to pursue a common and widespread understanding of disaster risk and risk reduction practices among an expanding and increasingly diverse range of interests.