



**Global Platform
for
Disaster Risk
Reduction**

**First session
Geneva, Switzerland
5-7 June 2007**

25 May 2007



United Nations
International Strategy for Disaster Reduction

**REPORT ON IMPLEMENTATION
OF THE HYOGO FRAMEWORK
FOR ACTION:**

ASIA

ISDR/GP/2007/Inf.5

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**Progress towards meeting the Goals of the
Hyogo Framework for Action 2005 – 2015
May 2007**

Introduction

This progress describes significant achievements in disaster risk reduction made since the World Conference on Disaster Reduction (WCDR) in Kobe, January 2005 and in making progress towards implementing the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities (HFA). Also set out are identified challenges and proposed options for meeting and resolving those challenges.

This progress report also sets out examples of good practice to illustrate success and achievement. It must be emphasized that this is not a full-scale, critical review or assessment of progress, either by country or by the region as a whole.

The period of time that has elapsed since the WCDR has not permitted a definitive statement of progress in all its wide range of activities nor in all its detail. Nor does it allow a confident attribution of why, or why not, progress has been made. There are certain key issues that have played a considerable part in raising awareness and prompting action. These include:

- The World Conference on Disaster reduction itself
- The promulgation of the Hyogo Framework for Action 2005 2015
- The Indian Ocean Tsunami of December 2004
- The Pakistan Earthquake of October 2005, and
- The influence of longer standing programmes, initiatives and incentives that began prior to the WCDR.

Effective disaster risk reduction involves broad ranging, and long-term programmes and activities that are embedded in policy, the programmes of government, private sector, non-governmental organizations (NGOs) and civil society and which may run, individually or conjointly over extended periods, not just months, perhaps not even years, but over many years.

Having said this, progress is being made towards safer communities and this progress is observable even over a short period of two years. Further, this progress is being set into legislation, institutional arrangements and programmes at regional, national, sub-national and community levels. Much of this positive activity is derived from attitudes and programmes that were in place or planned before January 2005. Russia for example reports that its relevant legislation dates back as far as 1991 with its Law of the Russian Federation On Safety followed by Presidential Decree 794 in December 1992) on a “Single State System of Preventing and Eliminating Emergency Situations”. Since then there have been more than eight significant legislative and administrative formulations governing emergency management.

This does not deny, nonetheless, the value of the Hyogo Framework for action in highlighting the need to reduce risk and to make communities safer. A general conclusion is that the HFA has identified issues, highlighted concerns, needs and priorities and emphasized priorities and worked towards achieving a consensus and an agreement to practical action.

Methodology

This status report has applied a methodology appropriate to the nature of the subject, the data sources available in the time allowed for the project and the reporting requirements and the time available for reporting.

This method has been agreed by UNISDR, ADRC and ADPC. It has been informed also by the Proceedings: World Conference on Disaster Reduction: Building the Resilience of Nations and Communities to Disasters: 18-22 January 2005, Kobe, Hyogo, Japan. The approach recognizes that in the 2¼ years since the World Conference on Disaster Reduction (WCDR) measuring and evaluating

progress is difficult. Identifying and describing progress is easier and is more appropriate given that over such a short period, while individual activities and trends may be observable, explaining their origin is more difficult. In practice effective programmes derive their impetus and authority from multiple sources.

Attributing the cause of progress and activity is difficult. Many countries were already working in the field of disaster risk reduction (DRR) and to some extent new initiatives have been derived from, informed by or have followed on from existing programmes. Nonetheless the Kobe initiative and the HFA have stimulated interest and concern.

The Indian Ocean Tsunami of December 2004 and the Pakistan earthquake of October 2005 drew the Asia and Pacific region's attention to the issue of disaster reduction and certainly prompted a further assessment of the need for and the value of disaster risk reduction. But DRR was already on the agenda of national governments and others.

The available data have been read, reviewed and Disaster Risk Reduction (DRR) activities categorized by the 5 HFA priorities.

1. Ensure that DRR 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.

Within these a further sub-division has been made by key activities as described in the WCDR report. While activities and programmes have been categorized under one heading, many of them may fit into more than one category. The available information has been considered sympathetically. This report provides examples of good practice and of success and development, while identifying gaps and challenges. Emphasis is on success and positive learning and acknowledges that many projects are still in progress.

Information sources

A principal document for this report has been the **Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters**. This has provided the basis, as set out in the methodology, for the framework of categorizing activities and programmes which indicate progress since January 2005.

Data have been taken from a number of sources, including, but not limited to:

- Country responses to an questionnaire distributed by UNISDR requesting information from national governments on progress towards the HFA;
- Country reports to the Asian Disaster Reduction Center (ADRC);
- Material made available through the Asian Disaster Preparedness Center's (ADPC) regional consultative process;
- Country reports available from the United Nations Development Programme (UNDP);
- Expert knowledge of the staff of ADPC, UNISDR and ADRC.

To date specific reports on progress have been received from:

- Bhutan
- India
- Iran
- Korea
- Mongolia
- Nepal
- Pakistan

- Philippines
- Singapore
- Sri Lanka
- Thailand
- Vietnam
- South Asian Association for Regional Cooperation (SAARC)
- Pacific Islands Applied Geoscience Commission (SOPAC)
- Asian Disaster Reduction Center (ADRC)

Overview

The HFA reports varied in quality from country to country with different countries giving emphasis to different issues and priorities. However it can be said positively that no country reported that no progress was being made.

There are some “foundation” activities that provide the context, legislative basis and administrative framework for other more specific or more local activities to occur. These include:

- The creation of a legislative and administrative capacity to mitigate, plan for, prepare for and manage hazards and disasters.
- Undertaking hazard and risk assessments
- Developing institutional capacity
- Raising awareness in agencies and the community
- Developing education, training and information exchange programmes.
- The development of partnerships from the local to the global
- The utilization of cooperative and information sharing mechanisms and institutions across the region.

These themes recur often, appropriately, for they provide a basis for other activity. It is important to note some characteristics of this regional progress:

- Progress is strategic and is moving towards setting in place the foundations for further progress in legislative and institutional arrangements.
- Progress recognizes the necessity for long-term commitment to the HFA.
- Cooperation and partnerships are accepted as being central to making progress towards the HFA, these cooperative working relationships being from the local to national and national to cross regional and international.
- Progress is characterized by a generosity in information sharing which allows enhanced learning and exchange of best practice.

Significantly all countries have in place an administrative structure and supporting regulations for emergency management. Though the phrase “disaster risk reduction” may not be used specifically, national arrangements are generally broader than response and relief arrangements.

Mongolia: Disaster Risk Reduction Management Arrangements

Mongolia reports that its arrangements deal with:

- Natural hazards, radiation and chemical threats;
- Health protection;
- Food and agriculture;
- Fuel and energy;
- Roads and transportation;
- Construction and urban development service;
- Public awareness services;
- Information and communication service;
- Professional inspection services.

These are coordinated under the authority of a Minister for Emergency Management and through the National Emergency Management Agency; in turn this has devolved roles to lower administrative levels.

Mongolia's achievement recognises that management arrangements at the highest level need to be integrated, coordinated and comprehensive, to address all risks and to involve all stakeholders.

Progress and Achievements under the Priorities for Action of the Hyogo Framework for Action 2005 2015

Priority Action 1: Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

HFA comment: Countries that develop policy, legislative and institutional frameworks for disaster risk reduction and that are able to develop and track progress through specific and measurable indicators have greater capacity to manage risks and to achieve widespread consensus for, engagement in and compliance with disaster risk reduction measures across all sectors of society.

Considerable progress has been made under this priority and possibly more substantial progress than under any other.

Four areas stand out as being of particular note:

1. Processes across the region are in place for the establishment, where it does not already exist for a robust for national legislative frameworks that reflect policy commitments and suggest a "road map" for the continuing and sustainable development of DRR.
2. The development and maintenance of arrangements and mechanisms for effective disaster risk management and of coordination mechanisms that deal with the full range of disaster risk reduction, including mitigation, prevention and preparedness as well as response, relief and recovery. In addition these arrangements are often linked to broader national concerns of social, economic and environmental development.
3. Progress at national and regional levels to comprehensive and integrated multi-dimensional and multi-sectoral, risk management strategies.
4. Engaging local communities in education programmes and using local knowledge and local participation in identifying hazards and risks and developing risk reduction strategies. Many of these strategies are integrated from community and local levels to national levels and embrace a range of actors including communities, NGOs, private companies and government agencies.

Community Based Disaster Risk reduction – Lao PDR

Lao PDR, in conjunction with a number of international donors and NGOs, has several community based disaster risk reduction programmes in place across the country. Some of these are in remote areas addressing the special needs of remote populations. Others are in areas prone to recurrent natural hazards such as flooding and drought. These programmes address a range of risks such as pest infestation of crops, house fires, storms, drought and lack of access to water. The combined and coordinated efforts of local communities, NGOs and government address risk assessment and risk reduction holistically and develop long term programmes utilising a variety of measures including food security, integration of lessons about hazards into school curricula, hazard warning techniques and risk mapping. As part of the process of projects, and at the conclusion of projects, there is a determined effort to share information and to learn from project strengths and weaknesses to inform future activity.

Such an approach capitalises on local knowledge, local expertise and local interest. It provides communities with “ownership” of their own safety while accessing in a planned manner national expertise and resources.

Philippines – Multi Strategy approach to DRR

In the Philippines the implementation of the National Disaster Coordinating Council’s Four-Point Plan of Action for Disaster Preparedness is dealing with DRR in a variety of complementary ways, including:

- Upgrading the forecasting capability of the Philippine Atmospheric, Geophysical and Astronomical Services Administration and the Philippine Institute of Volcanology and Seismology through improvement of equipment, staff development, establishing links with foreign forecasting institutions covering the Pacific Rim and South China Sea and the installation of rainfall and water level gauges;
- Promoting an integrated and coherent strategic public information campaign on disaster preparedness through the conduct of nationwide drills on synchronized Building Emergency Evacuation Plan, tsunami, and earthquake warning; airing of “*Safe Ka Ba?*” Disaster Management School-on-Air; and production and distribution of posters and flyers on natural hazards;
- Enhancing capabilities of Local Chief Executives and their respective Disaster Coordinating Councils in identified vulnerable areas through the conduct of disaster management related trainings; and
- Strengthening mechanisms for government and private sector partnership in relief and rehabilitation through the organization of the Private Sector Disaster Management Network, developing ongoing arrangements with various entities on operational preparedness and capabilities including communications, technical skills and expertise, health, availability of heavy equipment for search and rescue operations, rehabilitation of internally displaced persons and communities, implementation of disease/trauma management, provision of houses in the communities ravaged by typhoons and harmonization of hazard mapping.
- A multi-themed approach to DRR reduces the risk of any one strategy not fully meeting its targets and involves a broader range of players and stakeholders.

Priority Action 2: Identify, assess and monitor disaster risks and enhance early warning

HFA comment: The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.

As the WCDR highlighted, disaster risk assessment is a fundamental part of disaster risk reduction and the enhancement of early warning to protect lives and property is a critical element if reducing exposure to hazards.

The countries of the region are active in risk assessment at all levels from community to national levels, although often risk assessment is undertaken on the basis of the individual hazard rather than of the community, area or sector that is exposed. There are gaps at regional levels in some countries, but these countries are aware of this gap.

Particularly areas of progress include:

- The establishing of partnerships in hazard mapping and risk assessments, these partnerships being most commonly between national governments, research institutions and local communities. Within the government sector more agencies are being brought into the ambit of disaster risk reduction and are contributing to the risk assessment process. NGOs and regional bodies such as the Asian Disaster Reduction Center (ADRC) and the Asian Disaster Preparedness Center (ADPC) are also contributing to the risk assessment process.
- Early warning systems are being developed and applied across the region using available technologies such as remote sensing but also using local knowledge where this is available.
- As a corollary to enhanced early warning systems there is a commitment to improving warning dissemination to public through the media and to exploring new technologies (such as mobile phones) for warning dissemination.

Singapore – Tsunami early warning

The National Tsunami Early Warning System aims to provide early warning of tsunami that may affect Singapore. It is expected to be ready in 2008. It will be a part of the Indian Ocean Tsunami Early Warning and Mitigation System that is being developed for Indian Ocean countries.

The development of the System comprises:

1. Upgrading its seismic processing system to enable exchange of data with other regional stations in real time (completed in March 2006);
2. Expanding its national network of seismic and tidal stations (expected completion in end 2007); and
3. Developing tsunami propagation and inundation models for risk assessment studies and prediction of tsunami impact (expected completion by mid 2008).

The National Tsunami Early Warning System is currently supported by advisories issued by the Pacific Tsunami Warning System (PTWC) in Hawaii (for Pacific Ocean and Indian Ocean) and the Northwest Pacific Tsunami Advisory Centre (NWPTAC) in Tokyo (for Indian Ocean and South China Sea).

Since the upgrading of the System in early 2006, the System is able to receive seismic data in real-time from more than 20 seismic stations in the region. This has resulted in more accurate and faster detection of earthquakes in the region.

Priority Action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels

HFA comment: Disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities.

Increasing the awareness of governments and decision makers, the media, the private sector, NGOs and civil society and the community is well established as a foundation component of effective DRR. As such many countries are working towards more knowledgeable and better informed agencies and populations. This reflects also the knowledge that first responders are often local people themselves and that DRR is best achieved when it is integrated into daily roles, responsibilities and activities.

There is recognition that knowledge dissemination and education needs to be developed strategically, applied consistently and managed for the long term, hence an emphasis in many countries on increasing capacity by developing staff capacity and by placing community safety and DRR in school curricula to teach students and by extension to inform their families and communities.

Three elements stand out:

- The integration of DRM into school curricula as a long term and structural process to ensure that knowledge about hazards, risks and appropriate safety behaviour is deeply seated in the community.
- Increasing public and consumer awareness about risks and safe environments. This involves not only knowledge about understanding and recognizing hazards but also about how risk is created and the variety of ways in which risks may be reduced, apart from the traditional methods on structural options.
- Implementing disaster risk management planning at community level is a particular strong point in this region. All countries acknowledge that local people, though their communities and local government, have the right to be involved in risk management and can contribute unique knowledge and resources. Community based disaster risk reduction is a central plank of many national strategies.

Regional Cooperation

The Asia and Pacific regions have a number of international bodies that share and information, provide training and assist in developing policy and practice. The Asian Disaster Preparedness Center has been in existence for 20 years and while the Asian Disaster Reduction Center, the South Asian Association for Regional Cooperation and the Pacific Islands Applied Geoscience Commission may be more recently founded they work with each other, national governments, international bodies and other stakeholders to promote DRR.

They hold regular meetings, training sessions, workshops and conferences and serve to link all the countries in the region. They are good examples of cross boundary cooperation.

Pakistan Educational and Curriculum Change

Pakistan has a programme to integrate disaster risk reduction into educational curricula and to support awareness-raising in educational institutions. The initiative is to develop a curriculum for schools, colleges and universities on disaster risk management particularly in hazard prone areas. The objectives are to raise the awareness of students and to promote overall preparedness in educational institutions through such activities as conducting drills and reducing institutional vulnerability. In addition orientation programmes will be run to raise awareness of educational authorities and teachers.

The National Disaster Management Authority has engaged the Ministry of Education to include elements of DRR in the education system, and has noted the need to mobilise all stakeholders, including government, communities and the private sector, to ensure that DRR is fully integrated into educational curricula in Pakistan. Emphasis is also placed on the need to build seismically safe school buildings or retrofit them to withstand natural hazards.

Curriculum resources (audio and video) prepared by various countries have been incorporated in school curricula and a set of guidelines on DRR in the educational system have been developed.

Priority Action 4: Reduce the underlying risk factors

HFA comment: Disaster risks related to changing social, economic, environmental conditions and land use, and the impact of hazards associated with geological events, weather, water, climate variability and climate change are addressed in sector development planning and programmes as well as in post- disaster situations.

Reducing the underlying factors and processes that generate risk is the fourth HFA priority and while being the most strategic, it is the priority which may take longest to achieve.

Nonetheless a number of countries have taken steps towards this priority.

- Disaster Risk reduction activities are being integrated with wider social and economic development programmes. Of particular relevance are poverty reduction, livelihood and community and social development programmes. These are long term activities in which local people, their communities and businesses have a particular vested interest. Progress towards success is difficult to assess given that a degree of social engineering is involved. However, all countries acknowledge the value of such activities and many have linked policy and practice in DRR and poverty reduction and access to basic social services (such as education and health).
- A number of countries have set up or maintained national centres for disaster risk management, which include research, policy analysis and advice, professional and community based training and human development programmes as well as assessment of risk reduction programmes.
- Development of risk reduction guidelines, codes and standards. In part flowing from national centres for DRR the availability of guidelines, codes and standards is improving. Noticeably through international bodies such as ADPC, ADRC and SAARC such standards are being tested and evaluated across the region and their utility is being assessed.
- Urban and land use planning for disaster risk reduction as well as building design and construction standards are improving and are increasingly taking into account the need for “disaster resistant” buildings, settlements and infrastructure. Governance, or the proper application and enforcement of regulations and codes, is also acknowledged as a necessary mitigation component.

Maldives: Managing vulnerability through strategic planning

It became painfully clear after the December 200 tsunami how vulnerable the Maldives are, facing risks that include low elevation above sea level, perennial beach erosion, and dispersal of population across very small islands, remoteness and inaccessibility of islands, concentration of economic activities on tourism, a high dependence on imports and high diseconomies of scale. Climate change and associated risks add to the growing exposure of the Maldives. The impact of the tsunami on Maldives reinforced the urgency of enhancing mitigation and redevelopment activities, and the development of the Safe Islands Program. The program focuses on the development of the larger islands with better economic opportunities, high environmental resilience, and incentives for voluntary migration to these islands. To mitigate future risk from disasters, land use plans of the safer islands have been developed incorporating features of high resilience: with a wider environmental protection zone, elevated areas for vertical evacuation in case of floods, establishment of alternative modes of communication and energy and detailed disaster management plans. Currently five islands have been identified for the program and development plans prepared in consultation with people. Challenges for the program include geographical population dispersion, difficulties of access to islands, logistical difficulties, a high unit cost of delivery of construction material, inadequate human resource to manage projects and above all unpredictable weather and rough seas.

But the Maldives are working to reduce the underlying risk and vulnerability factors that at the moment make them among the most “at risk” countries in the world.

Priority Action 5: Strengthen disaster preparedness for effective response at all levels

HFA comment: at times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management.

Disaster preparedness and response are the traditional areas of focus for disaster management. That policy and practice now embraces DRR, a much broader concept and framework is noteworthy. However, the focus is often still on short-term response that is not integrated with strategic DRR.

All countries that reported did commit to DRR and did so accepting that preparedness and response are now part of DRR, rather than as was the case previously, that preparedness and response were the central elements of DRR. Particular achievements included:

- Increased involvement of corporate sector in DRR will be a significant step forward and although progress in this area has not been comprehensive or consistent there is an acknowledgement of the parts of governments and a growing awareness in business circles of the social and economic benefits of greater corporate involvement. There are also steps in most countries to link DRR with development, in part to ensure that development activities do not exacerbate risk and to ensure that disasters do not retard development. The corporate sector has a direct benefit from such a linkage.
- Contingency planning and emergency fund allocations is an increasing priority of national governments in terms of financing DRR. In particular funds as “social safety nets” for recovery are increasing.
- Multilateral arrangements for emergency response are seen as a need; at the moment most such arrangements are between individual governments and INGOs, donors and UN agencies. In the fields of early warning and hazard monitoring there is evidence of increasing collaboration cross the region between individual countries on a multilateral basis.
- Operational capacity in terms of trained personnel, planned arrangements and information and communication systems are also shared by many countries.

Sri Lanka Establishment of Nation-wide Emergency Communication System

Sri Lanka is working towards a fail-safe disaster management communication system establishing a country-wide radio communication system, linking all stakeholders.

During a disaster fixed line and mobile communication facilities may be affected and cease to function, as was evident in the 2003 Flood and Landslide disaster as well as 2004 Tsunami disaster. Such a situation affects the quality of the emergency response due to lack of proper communication among the main actors. Therefore it is proposed to establish a radio communication system linking Disaster Management Centre with Provincial Councils, District Secretariats, Local Authorities, Divisional Secretariats and other stakeholders. This will cover 9 Provincial Councils, and 25 District Secretariats and priority Divisional Secretariats and local authorities. The requirements include base stations, hand-held radio sets and supporting equipment such as repeaters.

Communication will be an essential component of the disaster management activity as per the Disaster Management Act and therefore implementation will be the shared responsibility of national Disaster Management Centre and other national & sub-national level users. A robust, planned and tested communications system is essential to proper preparedness and to ensure effective response capability. Poor communications is a perennial issue in limiting response effectiveness.

Challenges and opportunities

A number of challenges or even impediments to progress have been recognised and these include:

- DRR is a new approach to managing hazards, disasters and risks and requires new institutional arrangements and policies which are still often oriented to hazard, not risk management.
- Managing DRR in economies that are progressively moving to open, market based economies and away from centralised control.
- Resources for DRR programmes need to be commensurate with the risk, relative to potential losses and impact on development and need to be built into national budgets.
- Resource support from donors and others may be required for small countries or least developed countries.
- Integrating DRR into sustainable development and particularly with the needs of growing populations, urbanisation and the need for economic development is an issue that still requires some reconsideration of national policies and priorities. A conceptual and implementation framework needs to be refined and to link DRR, social and economic development.
- Retrofitting of established buildings and infrastructure is an issue for which considerable resources and new laws may be required. The private sector and the general public need to be convinced on this issue. This is particularly an issue for tsunami and earthquake.
- Substantial progress has been made in widening stakeholder involvement, vertically from community to national level and horizontally across groups and organisations at local, sub-national and national levels. However, stakeholders need consistent and constant reinforcement of the need for DRR and the links between DRR, daily community safety and development.
- Stakeholder engagement at corporate level, including insurance, banking and construction industries needs to be improved.
- Post disaster assistance, both within countries and that received for outside national borders needs to be streamlined and rationalised with efficiency and effectiveness targets agreed to.
- Warning and forecasting systems need to be improved in the areas of technology and science and also of the use of local and traditional knowledge.
- Post disaster needs assessments need to be further developed, not so much in the techniques used but in the timeliness in which such assessments occur and the resource and logistic support that they receive.

Future directions

A number of countries have identified challenges and options for meeting those challenges. Not all countries gave the same priorities but there is some agreement on the following options for future activity. These future directions are also reflective of action already undertaken by national governments.

- Enhance awareness, motivation and involvement of various sectors and groups in DRR, especially those previously uninvolved such as the private sector
- Strengthen national legislation and structures, empower local governments, enhance coordination systems in line with the priorities of HFA and DRR.
- Improve operational coordination and efficiency and integrate all levels of administration and government
- Secure donor commitment and institutional support for integration of DRR in socio-economic development
- Review building codes and structural standards, land use planning and urban and coastal development regulations; ensure that proper enforcement occurs.
- Ensure that DRR is a part of the annual national budget cycle and allocation process
- Involve NGOs and civil society at all levels and engage INGOs in the timely provision, coordination of humanitarian aid and relief; encourage INGOs to link aid, recovery and development
- Promote collective activity stakeholder engagement while encouraging self protection, mutual aid and collective assistance
- Further develop and sustain cooperation and partnerships, especially in sharing information, knowledge and expertise
- Promote gender equity and equitable participation in DRR
- Promote awareness raising, education and training, especially for policy makers and practitioners at a senior level
- Sustain dialogue, networking and interactions through regular forums, meetings and exercises within and between nations.

Malaysia: Future directions – advancing on numerous fronts

Malaysia has identified a number of priorities for moving DRR forward and improving community safety. It is notable that most of these are not structural measures but incorporate vulnerability analysis and other areas based on an improved knowledge and understanding of the causes of disasters and risk. For Malaysia the priorities include:

Risk and Vulnerability Analysis should be mandatory in the appraisal of all development projects.

Non-Structural Mitigation Measures:

- The disaster management system should be strengthened and supported with sound administrative, financial arrangements and assets mobilization.
- Training activities should be supported with international support and cooperation from multilateral and bilateral organizations, NGO's and others. Also training programmes for core disasters management personnel should be provided.
- There is a need for more sustained public awareness programs directed at local communities in disaster prone areas through international cooperation and assistance.
- Forecasting and warning systems need to be improved especially for flood, landslides and forest fire.
- Hazard mapping needs to be improved at both macro and micro levels.

Structural mitigation measures still need their place and include both engineered and non-engineered structures, such as landslide control measures and river embankments. International cooperation in the transfer of knowledge and expertise in the structural measures could greatly improve disaster reduction system in the country.

Conclusion

A great deal of work is being undertaken and much has been achieved across the region. Given the size of the region, its population numbers, its areas of poverty and deprivation, much more needs to be done. But a good start has been made and progress is easily noticeable.

One of the overarching challenges is for DRR to take into account changes in nations, economies, societies and the environment. Rapid urbanisation, environmental exploitation, climate change and associated sea level rise, increased hazard occurrence, water shortages and other factors continue to grow apace in this region as everywhere else on the globe. DRR needs to take account of change.

In the Asia Pacific region there is commitment to developing DRR but this commitment and resource allocation itself should be open to evaluation and revision.

Annex 1. Priorities for Action

Key Activities	Significant progress across the region	Opportunities for Enhancement	Comments
Priority 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation			
National institutional and legislative frameworks	X		These are acknowledged as a high priority and are underway across the region. These form the basis for much else in effective DRR.
Resources		X	Dedicated resource commitment at an adequate level is recognised but faces competition from other national priorities and from already low resource capacity in the least developed countries.
Community Participation	X		This is established in the policy of many countries and in practical arrangements
Priority 2. Identify, assess and monitor disaster risks and enhance early warning			
National and local risk assessments	X		These are progressively occurring, but often on a hazard by hazard basis.
Early warning	X		This capacity is progressively being developed particularly for tsunami
Capacity building	X		Occurring at national institution level and local level.
Identifying regional and emerging risks		X	There is some dislocation between national and sub-national assessments. Still hazard centric
Priority 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels			
Information management and exchange	X		This is improving between nations but is already in place supported by ADPC, ADRC, SAARC and SOPAC and research institutions
Education and training	X		Increasingly a national priority
Research	X		Substantial research in universities and governments are sponsoring research also
Public awareness		X	Local communities may still be unaware of the full scale of risks they face. The media need encouragement to report success stories and not to dramatise impacts.

Priority 4. Reduce the underlying risk factors			
Environmental and natural resource management		X	A recognised DRR priority but one that conflicts often with economic development
Social and economic development practices	X		CDDRM and associated programmes such as food security, social safety needs and access to services are improving
Land-use planning and other technical measures		X	There is recognition of this issue to be given greater priority, but it conflicts at the moment with economic imperatives, established culture and laws and social issues such as inter migration.
Priority 5. Strengthen disaster preparedness for effective response at all levels			
Strengthen policy, technical and institutional capacities	X		Substantial progress is being made on national institutional capacity, laws and DRR arrangements
Promote and support dialogue, exchange of information and coordination among ... agencies and institutions at all levels... aim for a holistic approach towards disaster risk reduction	X		Cross national information opportunities exist through ADPC, ADRC, SAARC, SOPAC, INGOs and UN agencies
Prepare or review and periodically update disaster preparedness and contingency plans	X		This measure is consistent with established planning and management practice
Promote the establishment of emergency funds, where and as appropriate, to support response, recovery and preparedness measures		X	This issue is recognised and is being addressed
Develop specific mechanisms to engage the active participation and ownership of relevant stakeholders	X		Government agencies at all levels, NGOs, civil society bodies and communities are increasingly engaged in risk assessment and planning. The private sector requires further encouragement.

Annex 2. Priorities for Action Issues highlighted at the World Conference on Disaster Reduction

Key issues highlighted at WCDR	Progress across the region	Opportunities for Enhancement	Comments
Priority 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation			
Governmental responsibility (“good governance”) is essential to ensure the success of disaster risk reduction, generally encouraged by legal and regulatory frameworks or incentive mechanisms suited to the needs of a society.		X	Good and effective governance is a government wide issue and best addressed from a developmental perspective, but one informed by DRR.
Political commitment for disaster risk reduction is linked to both consistent advocacy and the allocation of clearly defined resources and related investment arrangements.	X		Political commitment exists across the region and is growing, but DRR is only one of numerous national priorities and needs to be properly mainstreamed and linked with other initiatives such as education and health
The horizontal as well as vertical integration of disaster risk reduction issues at regional, national and sub-national levels can be conveyed effectively through established platforms and institutionalised arrangements.	X		This is well underway and is a significant strong point of recent activity
The need to share international experiences and knowledge in good governance for disaster reduction, complemented by efforts to increase public participation and the involvement of all stakeholders at all levels, but especially in local communities	X		This occurs across the region and is robustly facilitated by ADPC and ADRC in particular.
Partnerships are essential, as those between Governments and civil society (public and private sectors), national and local authorities (officials and vulnerable communities), sectors and stakeholders (technical/academic and practitioners), multilateral and bilateral institutions and countries (donor interests and governments		X	Partnerships are being developed vertically within countries, between nations and between countries and the international community. More work needs to be done to bring the private sector into DRR arrangements with its unique set of skills, interests and resources. Banking and insurance initiatives can be used to link DRR and development

Key issues highlighted at WCDR	Progress across the region	Opportunities for Enhancement	Comments
Priority 2. Identify, assess and monitor disaster risks and enhance early warning			
Risk identification and assessment, effective “people-centred” or “actionable” early warning systems, and local preparedness and response capabilities necessarily must be associated with each other and cannot be viewed as distinct or unrelated functions.	X		Much effort is going into early warning, prompted by the Indian Ocean Tsunami of 2004. Other early warning plans tend to be, localised or hazard specific.
Climatic and other physical science data are frequently available (at least at central or national levels), but socioeconomic data necessary to assess relative degrees of vulnerability and therefore to evaluate risk are often absent, especially at local levels of exposure.		X	Emphasis is still given to “technical” knowledge when many problems in DRR derive from political dynamics and or social conditions. In this sense some countries still give emphasis to the hazard rather than the vulnerable populations and assets at risk.
Baseline data are frequently not available, or the coherent and systematic use of existing data for risk assessment can be very problematic. There are often difficulties in integrating both physical and social data, and there are often impediments in the consistent use of related information in risk awareness or assessment at national and local levels of need.		X	Baseline data from which progress can be identified and assessed is often not available in an accessible and user friendly format. Without this measuring success and therefore fine tuning DRR is problematic.
Community-based means of information collection and dissemination, even if accomplished with low or moderate levels of technology, can represent very significant contributions to effective and locally relevant early warning systems.		X	Information and communication are recognised as major issues and steps are being taken. But communication also involves receiving and acting upon information. More work needs to be done on how local people perceive risk.
Any early warning information needs to be complemented with the development and use of local information regarding both hazard awareness and necessary response capabilities in such subjects as evacuation, infrastructure and community level education.	X		Early warning, hazard data and infrastructure exposure are being developed, the latter two through risk assessments which inform the need and priority of early warning.

Key issues highlighted at WCDR	Progress across the region	Opportunities for Enhancement	Comments
Priority 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels			
Promote knowledge and behavioural change on disaster risks through both formal and informal education.	X		Strong emphasis across the region is given to this strategic issue, which is linked to improved education opportunities as a social development issue.
Strengthen information and public awareness with a concentration on the involvement of civil society and an expanded role of public media.	X		Advice, information and training to media and government officials occurs in many countries
Empower communities through capacity building; enhance community resilience by building knowledge bases.	X		Local knowledge is increasingly being valued and DRR managers are increasingly working with, not “talking down to” local communities through varieties of CBDRM programmes which involve local people, governments and international organizations.
Reinforce partnerships and encourage cooperation on disaster risk reduction policy and practice.	X		Local to national, nation to nation and national to international partnerships are being forged often through UN agency work, NGOs or cooperative bodies such as ADPC and ADRC
Recognize the value of traditional and indigenous knowledge systems, and utilize the wisdom and information they contain.	X		Local capacity and knowledge is more highly valued than it was and is complementing scientific and technical approaches.
Incorporate disaster research in science policy, with increased emphasis devoted to applied research and practice.		X	Linking DRR research with other research sectors is less clear, in particular social development, environmental and climate change research sectors needs to be linked to DRR
Combine appropriate uses of information technology with training in local communities to encourage wider opportunity for involvement and implementation.	X		In progress; see above.
Priority 4. Reduce the underlying risk factors			
Good governance was noted as being the foundation block of effective risk reduction. Two examples were cited of particular importance: the development and maintenance of a regulatory environment, and securing strong partnerships between stakeholders.		X	This has been addressed under PA 1 and is happening, but needs greater emphasis.

Key issues highlighted at WCDR	Progress across the region	Opportunities for Enhancement	Comments
Community-based disaster management contributes to effective community based disaster management, while noting too, that such 'bottom-up' systems of management need to be linked with 'top-down' frameworks in a fully integrated disaster management system.	X		Most DRR programmes now where relevant include a community based element.
Educational processes are essential at a number of critical levels: for preparing local communities to prepare and protect themselves; in building community-based disaster management abilities; for furthering public officials' knowledge and abilities to manage risk reduction; and in protecting schools and the education of children.	X		Education, knowledge of hazards, community safety and risk reduction is accepted as a priority.
Community health care needs to be delivered on a routine basis through good primary health systems that additionally address the immediate health needs associated with disasters. As such, disaster risk reduction at the community level can and should be a part of well-provided and effective primary health care programmes.		X	This is a social development issue as well as DRR and should perhaps be best addressed through social development programmes informed by DRR
Gender issues need to be included within any disaster plans, as women and children are more dependent on their immediate vicinity; they are more vulnerable to the consequences of hazards. Gender concerns must attract a far higher political priority than present levels for significant progress to be made.		X	Gender issues are recognised by many countries. Culture and religion mean this issue is often interpreted in different ways.
Professional circles know well how environmental protection within both natural and urban environments is linked to good environmental management and disaster mitigation. Wise and considered environment management is in itself risk reduction. By contrast, the urban environment presents very serious threats to people and property in otherwise disaster-prone areas.		X	Urban areas, including mega cities and driven by internal migration and rapidly growing demand on already strained infrastructure is recognised as an issue.

Key issues highlighted at WCDR	Progress across the region	Opportunities for Enhancement	Comments
Priority 5. Strengthen disaster preparedness for effective response at all levels			
Political will, and the commitment to develop risk-conscious and safer societies, are critical for the translation of available knowledge and expertise into tangible and well-functioning early warning and disaster preparedness systems.	X		Political commitment is high, but governments have to address many different and competitive needs. DRR may need to become more adept in promoting its importance.
Governance systems at local and national levels that are trusted, transparent, accountable, and enjoy the confidence of hazard-affected communities, are key to a productive and synergistic relationship between community and national-level early warning and preparedness systems.		X	See above
Adequate investment and appropriate allocation of resources for people-centred preparedness systems are fundamental to improved risk management and more resilient communities. As disaster risk reduction is, at core, a development concern, resources beyond those required for disaster relief (i.e. life-saving humanitarian needs) should be available in a more predictable and sustained manner in the future.		X	Investment for DRR pays high dividends. This message needs to be sold more effectively by all stakeholders.
With some exceptions, a general impression exists that much remains to be done in strengthening regional response and preparedness initiatives so neighbouring countries can respond with mutual support when needed.		X	Mutual aid is developing but simple issue such as logistics, equipment compatibility and operating protocols need addressing
There is a crucial and urgent requirement for organizations of the United Nations system and other actors at the international level to define a strategic framework and agreed division of labour, with adequately earmarked resources to support and maintain enhanced levels of preparedness.	X		This has been done as the HFA