



NATIONAL INFORMATION FOR AFGHANISTAN

1. Political Commitment and Institutional Aspects

1.1. Are there national policy, strategy and legislation addressing disaster risk reduction?

Although the disaster preparedness law was developed three decades ago, remains relevant and required only minor fine-tuning.

The United Nations Assistance Mission in Afghanistan (UNAMA) and the Asia Development Bank have collaborated with the Government of Afghanistan and other partners to develop a National Plan for Disaster management as well and Strategy for Institutional Strengthening in Risk Management.

1.2. Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management, agriculture/land use and planning, health, environment, education, development planning and finance?

The Department for Disaster preparedness is the national body for multi-sectoral coordination and collaboration in Disaster Risk Reduction. The Department for Disaster Preparedness is a ministerial level department and it consists of three sub-departments: Policy and Coordination, De-mining and Administration and Finance Departments.

According to the new strategy and policy and the new structure, DDP is given the following responsibilities and functions:

- Identification of effective measures for disaster prevention, mitigation, preparedness activities;
- Timely mobilization and coordination for distribution of relief;
- Overall vulnerability reduction through prevention, mitigation and preparedness;
- Awareness raising for disaster prevention, mitigation and preparedness;
- Efficient use of financial and material resources for disaster;
- Training and public education in disaster reduction;
- Implementation of the decisions of the national commission for disaster preparedness, and the state government;
- Coordination of activities between various ministries, NGOs, communities in disaster reduction;
- Planning and organization of disaster preparedness and mitigation activities;
- Mobilization of national and international resources/assistance for disaster;
- Monitoring and supervision of disaster reduction in all concerned government bodies;
- Surveying and assessment of high risk areas, and preparation of national disaster risk management and contingency plans;
- Early warning and alert;
- Policy advice to the President and the National Commission for Disaster Preparedness,
- Monitoring and evaluation of provincial and district level activities;
- Deployment of technical and material resources in high risk areas;
- Emergency relief assistance to disaster victims;
- Preparation of, quarterly, and annual progress report.



1.3. Are there sartorial plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation climate change adoption, education and development planning)?

Based on the drafted national strategy regarding disaster preparedness and response, all the member ministries of the National Commission for disaster management are expected to prepare disaster management and preparedness plans at sector level. Some of the ministries (e.g., Ministry of Interior and Ministry of Health) have already prepared their plans.

1.4. Is disaster risk reduction incorporated in to your national plan for the implementation of the UN Millennium Development Goals (MDGs), Poverty reduction Strategy Paper (PRSP) National Adoption Plan of Action, National environmental action plans and WSSD (world summit on Sustainable Development) Johannesburg Plan of Implementation?

Yes, the recently approved national plan and strategy is in accordance with the Millennium Development Goals. DDP is the main focal point as it is the Governmental organization dealing DRM with national government, UN and international organization.

1.5. Does your country have building codes of practice and standards in place, which takes into account seismic risk?

Because of almost three decades of war no proper building codes are established, however there are building statements in Kabul municipally but hardly implemented. Ministry of Urban Development is considering the establishment of building codes as the priority and have started working and researching for proper practical building codes specified for different areas in Afghanistan.

1.6. Do you have an annual budget for disaster risk reduction?

Yes, 250 million Afghani has been allocated for disaster management from the national budget of Afghanistan.

1.7. Are there private sectors, civil society, NGOs, academia and media participating in disaster risk reduction efforts?

A number of international and national NGOS, CSOs and UN Agencies are currently working in the sector.

2. Risk Identification

2.1. Hazard Mapping

There has been a hazard mapping done in 2003 at the national scale, which ranked all provinces qualitatively in terms of hazards. The information collected was from local authorities based on historic events and not through any quantitative, empirical methods.

Organizations working at the community level such as the Afghan Red Crescent Society have provided training in hazard assessment and mapping to community volunteers in order to assist in the preparation of plans.

Other efforts are also underway, such as the updating of various databases on water, using the monitoring of water levels in wells in certain parts of the country.

2.2. Vulnerability and capacity assessments

In 2002 the United Nations conducted vulnerability assessments using 4 proxy indicators; access to food, access to health facilities, presence of Unexploded Ordinance (UXO), and accessibility of District Centres to provincial Centres.



A Vulnerability assessment – the National Risk and Vulnerability Assessment (NRVA) was carried out in 2003 and updated in 2004. The Government has led this process through the Vulnerability Analysis Unit of the Ministry of Rural Rehabilitation and Development. The NRVA, however, did not look at capacity – in so far as it relates to communities being able to manage the hazards themselves. It did, however, look at coping strategies that households use in managing or dealing with these risks/hazards. An understanding of shocks and coping strategies has been a centrepiece of the thinking of the NRVA and will be so for further assessments.

The Afghan Red Crescent Society launched a Vulnerability and Capacity Assessment process following several disasters in 2002.

2.3. Mechanisms for risk monitoring and risk

Provincial monitoring systems from Market prices, non-typical displacement of households, either food or water security related areas are currently being implemented. There is a regular monitoring system currently being developed under the direction of the VAU, which will use available baseline data, market prices, and remote sensing imagery amongst other data sets.

FEWSNET provides a great deal of information on climate and meteorological data, as does the Agromet unit in the Ministry of Agriculture and Animal Husbandry under the direction of FAO. All of these systems will ultimately be linked together into a single monitoring system for the country.

2.4. Socio-economic and environmental impact and loss analysis

Assessments are conducted after localized shocks/emergencies but the focus of these assessments are primarily on determining needs and responses for affected populations, and not so much on environmental impacts. However, the recent Government led provincial drought assessments in 26 provinces have begun looking at longer term environmental impacts/infrastructure losses as they relate to water sources.

2.5. Early Warning Systems

Famine Early Warning System Network (FEWSNET), in collaboration with USGS are working on the use of satellite imagery and provide regular weekly reports on climate changes that are used to monitor changes or to signal impending changes/projecting crises. FEWSNET also circulates a monthly food security report for the country that highlights areas of change and concern that allows partners to be focusing and following up on areas where changes are either being seen or are projected to occur.

Organizations working at the community level, such as the ARCS use progress reports produced by branches network, disaster preparedness committees and Emergency Mobile Clinics.

3. Knowledge management

3.1. Does your country have disaster risk information management systems (governmental and/or non-governmental)?

Afghanistan is reemerging to normality after more than two decades of war. The central government is reorganizing several departments and allocating responsibilities. The government offices responsible for disaster risk management systems are the Department for Disaster Preparedness (DDP) and the Ministry of Rural Rehabilitation and Development (MRRD).

DDP receives information from the provincial offices of MRRD (located in each district) on floods, earthquakes, landslides, avalanches, sand movements, storms, locust, epidemics, extreme temperatures (+/-) etc.

MRRD and DDP record the information received from the field in their databases. The Red Cross also collects information from their offices and shared them with the government responsible



authorities. InWent office (sponsored by German aid) also contributes to the capacity building on disaster awareness and mitigation of the National Government.

The health sector has its specific Health Management Information System (HMIS) and an early warning system. Based on that, community health workers and health officers are responsible to report disease outbreaks, soon after discovering the first case. In addition to this, provincial emergency taskforces have been established and are responsible for reporting any type of emergencies to Ministry of Health and WHO. WHO polio eradication focal point has valuable role in this regards.

In summary, each Government Dept with disaster/emergency management units collects its own data. Data is often about an emergency event; and consists mostly of number of people affected, area affected, crops and livestock affected, houses affected, and water sources affected also. Data exists within Departments in fragmented formats, not in any computerized format, and not shared amongst departments.

Community disaster management projects have already been designed to be included in integrated community based development programmes. The local experience of these projects can be transferred into national programmes.

With funds already approved by the Afghanistan Emergency Trust Fund, the Afghanistan Information Management Services (AIMS) (a UNDP administered project) in collaboration with the Department of Disaster Preparedness (DDP) will soon commence the development of a Disaster Management Information System (DMIS). This project will be piloted in 2 provinces, and it is expected that the project will commence in October and be completed by mid 2005. DMIS will range between local and middle level scale (1:5,000 to 1: 100,000). It will compose of data on hazards, vulnerability and risk assessments, & mapping through multi-hazards approach, historical data, elements at risks, inventory of hazards & their characteristics, and socio-economic data. Data will be collected through ground surveys, assessments, GPS, GIS, and Earth Observation Satellites. Data dissemination will take the form of maps, reports and statistics through networking amongst members of the National Commission for Emergency and Disaster Management, the Humanitarian agencies and local Authorities

3.2. Are there academic and research communities in the country linked to national institutions dealing with disaster reduction?

There are a number of academic organizations, coordinated and assisted by Inwent, researching on disasters and disaster management and preparedness in Afghanistan. Afghanistan academic system is under rehabilitation and receives support fro several universities around the World. The most active academic institutions are the Geosciences Department of Kabul University, Kabul Polytechnic e the Academy of Sciences. Seminars on disaster risk management have been held in Kabul in 2003 and 2004.

In addition to other efforts, AIMS conducted a workshop on use of space technology and disaster management in Afghanistan. The Workshop brought together Managers, Decision Makers, and Technical Experts from Government Ministries that are members of the National Commission for Emergency and Disaster Management, the UN (notably UNAMA, FAO, UNHCR, WFP, and WHO) Famine Early Warning System Network (FEWS-NET), Academic Institutions, ADPC, SEEDS and The National Risk & Vulnerability Assessment (NRVA) of MRRD.

The objectives of the workshop were;

- a) To increase awareness among managers and decision makers of the potential benefits and the cost-effectiveness of using space technologies,
- b) To enable Decision Makers and Technical Experts to discuss how Space Technology & Geographic Information Systems, can be effectively used to address natural disaster management in Afghanistan;
- c) To develop organizational networks that could lead to formation of user groups, enhance data sharing, and the development and implementation of viable projects that require a coordinated approach;

The workshop was very successful and lead to the formulation of concrete recommendations to promote the use of space technologies in Afghanistan.



3.3. Are there educational programmes related to disaster risk reduction in your public school system?

In Afghanistan, the education system has undergone several problems during the years of war. Schools lack infrastructures, teachers and updated teaching programmes. Therefore, a consistent disaster-preparedness teaching programme has not been yet introduced to the primary and secondary education system. Nevertheless, a new curriculum of study on disaster management has already started in the faculty of Geosciences of Kabul University.

3.4. Are there any training programmes available?

A comprehensive disaster risk management programme is on going at the faculty of geosciences of Kabul University. The aim of the course is to train national disaster managers who will transfer their knowledge to local disaster risk management teams, all over Afghanistan. MoH has conducted emergency preparedness and response workshops in 2003. Many agencies took part in the workshops. Some MoH staff has been trained by WHO through providing fellowships and study tours abroad.

3.5. What kind of traditional indigenous knowledge and wisdom is used in disaster-related practices or training programmes on disaster risk reduction in your country?

As in several communities that live in direct contact with the surrounding environment, upon which their livelihoods depend, local people have a strong traditional wisdom of weather forecasting and disaster warning. Landslides can be detected by the amount of fine sediment contained in the water of mountain streams. Storms and heavy precipitations can be forecast by animal behavior or common weather features. All this traditional wisdom can be used to build, upon local knowledge, scientifically founded disaster detection measures.

3.6. Do you have any national public awareness programme or campaign on disaster risk reduction?

A bi-monthly periodical, published by InWent, informs competent authorities and common people on disaster risk awareness and mitigation systems. Community based programmes of education and awareness on disaster risk management have been designed and approved by international donors. These should start running at pilot scale soon in several regions of the country.

4. Risk Management Applications/Instruments

For effective disaster risk reduction, synergies are needed between sustainable development and disaster risk management practices. Moving from analyzing of and knowing about risks to taking concrete actions to reduce their impacts is a demanding step. Ideas and practices coming from different disciplinary areas will complement what is already practiced in disaster risk management. For example, instruments for risk management have proliferated especially with the recognition of environmental management, poverty reduction and financial management.

Environmental and natural resource management is among the best-known applications to reduce flood risks, control landslides (through reforestation) and control droughts (through ecosystem conservation). Physical and technical measures, such as flood control techniques, soil conservation practices, retrofitting of buildings or land use planning, are effective in hazard control. Financial instruments in the form of insurance, calamity funds, catastrophe bonds are useful to lessen the impact of disasters.



- 4.1. Is there any good examples of linking environmental management and risk reduction practices in your country (key areas of environmental management may include coastal zone, wetland and watershed management, reforestation and agricultural practices, amongst others). If yes, please indicate in what areas. (Attach any relevant documentation ore references)**

There is a need to distinguish between slow-onset disasters (drought, desertification) and quick onset disasters such as floods and earthquakes. Assuming we are talking about both kinds of disasters, there are several agencies collaborating for the "greening"(reforestation) of Afghanistan. This can have long-term disaster mitigation impacts. A reforestation/environmental working group for drought mitigation has been established and is currently brining together Government, UN agencies and NGOs that have relevant interventions. For example, Afghan Conservation Corps is liasing with the Ministry of Rural Rehabilitation and Development to build check damns and adapt soil and water conservation schemes with hillside ditching and terracing and reforestation of native forests and plantations and managing restored public nurseries.

- 4.2. Are financial instruments utilised in your country as a measure to reduce the impact of disasters (e.g. insurance/reinsurance, calamity funds, catastrophe bonds, micro-credit finance, community funds, etc.)? If yes, please describe what these instruments are and when they were established, who manages them and who are eligible to them.**

Again, in the context of a slow onset disaster - drought in Afghanistan- cash for work as the predominant financial instrument is being used to address rural vulnerability through the creation of employment opportunities. The national Emergency Employment Programme is utilizing its local experience of emergency response and coordination to distribute cash in targeted areas. This is delivered through labor intensive infrastructure rehabilitation and watershed management schemes implemented within beneficiaries' home villages by UNOPS and local NGO implementing partners. These activities are implemented in close cooperation with WFP and FAO who have a separate focus on food distribution through food for work and other schemes and seed and fertilizer distribution.

A new programme being initiated by UNAMA and UN-Habitat will use community awareness raising activities will highlight disaster risk reduction/preparedness in order to help highly vulnerable communities prioritize risk reduction/preparedness activities for funding through the resources made available to each community for development initiatives through the National Solidarity Programme.

- 4.3. Please identify specific examples of technical measures or programmes on disaster risk reduction that have been carried out in your country (see below, case studies).**

Community asset creation and rural infrastructure development under WFP's food for work projects and road infrastructure being built under the National Emergency Employment Program (NEEP) of the Government of Afghanistan.

5. Preparedness and Contingency Planning

- 5.1. Do you have disaster contingency plans in place? Are they prepared for national and community levels?**

A Disaster Management Plan has been developed by DDP with support from UNAMA and ADB and has been approved by the Government. The plan is a first step toward organizing the national resources and capabilities for a coordinated and efficient disaster preparedness and response. Provincial and district management plans covering the entire country in detail and with locally appropriate specifications will be prepared. The Disaster Management Plan has been approved by TISA in early 2004. The plan is a beginning towards organizing the national resources and capabilities for a coordinated and efficient disaster preparedness and response.



However, this plan will need to be followed by more elaborate and long-term interventions, keeping up with the Country's growing capacity.

Based on the drafted national strategy regarding disaster preparedness and response, all the member ministries who have the membership of national council for disaster management, are expected to prepare disaster management and preparedness plans at sector level (health, agriculture, municipality and etc.). In case of large magnitude disaster the head of the government is responsible for announcement of disaster, activation and implementation of the plan. In case of occurrence of disaster with specific sectorial variety, the relevant minister will implement the disaster management plan (e.g. epidemics management by ministry of health) DDP is expected to have coordination role. Since MRRD has practical presence everywhere at each administrative level of the country and has the closest relation to the community has a good chance for the implementation of the disaster contingency plans at national, local and community level. Some of the ministries (e.g. interior, health) and international organization prepared their disaster management plans and allocated their resources (UNAMA, WHO, WFP, UNHCR)

5.2. *Has your government established emergency funds for disaster response and there are national or community storage facilities for emergency relief items- mainly food, medicine, tents/shelters?*

There is an emergency fund (25,000,000 Afs. = \$500,000) managed by MRRD and DDP, the money are allocated to the fund by the central government. The money comes from both the national government and international donors. Different ministries have allocated some part of their annual budget for emergency preparedness and response. Since the government resources are limited they are relying on the direct support of international organizations and foreign support. Some limited resources are available in some of the ministries (MRRD, MoH, MoI, MoD and etc) in terms of tents, ambulance, medicine (WHO pre-positioned some New Health Emergency Kits (NHEK) and other emergency H. supplies in regional sub offices. By one NHEK can cover the health needs of 10,000 patients for 3 months in disasters), helicopter, water tankers, fire fighting equipments and etc.

5.3. *Who is responsible for the coordination of disaster response preparedness and is the coordination body equipped with enough human and financial resources for the job?*

The Department of Disaster Preparedness is the main coordinating body and is responsible for coordination of all disaster response. Over the past two years UNAMA and ADB have worked closely with Government in building the capacity of DDP. Currently, DDP is undergoing a restructuring process as part of the Government's larger Civil Service Reform. Plans are underway to further strengthen DDP in order to ensure its capacity to act as the Government's leading disaster coordination unit.

6. Call for good practices in disaster risk management

A) Effective joint response to the Khamard flood¹

The affected communities were visibly impressed that government officials had come to them. Most remote areas of Khamard have never seen any government officials from Bamyan. They had their afghan flags out and their shura leaders ready with information about the damage caused by the flood.

The Bamyan head of the Department of Health had his stocks in order, he arranged to dispatch emergency supplies to the one clinic in the area, and went himself to oversee the procedure. He furthermore arranged to send three teams of doctors from various NGOs and his department to

¹ July 2004, information from Molly Little IDG Field Officer Central Highlands Field Office United Nations Assistance Mission in Afghanistan (UNAMA)



assess emergency health needs along side the regular government teams put together by the governor at very short notice.

The Community Development Councils (CDCs) worked! At the worst hit location, all key representatives from these CDCs were present, were expected to be the spokespersons for their villages, and were very responsible with their analysis of their village's needs - which isn't easy when you have the whole village peering down your back hoping you give the worst possible scenario so as to maximize aid delivery. These CDCs will be the backbone of any assessment of individual families in need of assistance - and unlike a traditional shurah, these CDCs have been elected by the people, and channel people requests.

UN agencies were able to tangibly facilitate logistical support, which allowed the government to do what it would otherwise not have been able to do. UN assistance to the provincial government has been physically tangible to them, helping them deal with an emergency through real logistical support, in the absence of anything else. The government teams were enthusiastic of the logistic support received and they made good use of it. UN agencies were able to give guidance on how to conduct the damage surveys, and what the outcomes of those surveys meant in relation to available emergency resources.

B) Response to the earthquakes in Nahrin:

On 25 March 2002 and 12 April 2002, an area by the town of Nahrin, located in the eastern part of Baghlan province was hit by two severe earthquakes (6 grade of Richter's Scale). Between 600 and 1800 people died during the events. Several thousands of people were directly affected. The hit area is very remote and access difficult as the road is unpaved and in bad conditions. There was not electricity and the few health facilities were severely damaged. The disaster was quickly communicated by NGOs present on site and government authorities. Only two hours lapsed between the receiving of information and action.

First action

Coordination of actors in Pul-i-Khumri
Information sharing and collection of additional information
Rough Assessment on Resources Available in Pul-i-Khumri
Sending of Assessment & First Aid Teams
Constructions and Rehabilitation

Decision-making

First 24h: Individually, Loosely coordinated
2nd day onwards: Improved coordination through MoH, WHO & UNOCHA, the coordination mechanisms used was "On Spot" coordination in Nahrin City, organized twice daily by MoH, UNOCHA and WHO.

As result of this coordination effort the following interventions were achieved:

Initial/emergency phase of 1st Earthquake (first 7 days),

Fixed facilities, treating 5760 patients

- 4 clinics with OPD + MCH + Minor surgery services
- 2 centers with Small Operations services (incl x-ray)

Mobiles, treating 1819 patients

- 10 mobiles with OPD

Total OPD first week: 7579 patients

Functional referral system

Total referred by clinics to Pul-i-Khumri: 130 patients, Mazar-i-Sharif: 3, Kabul: 3

Total admitted earthquake-related cases in Pul-i-Khumri hospitals: 400.

Post emergency Recovery initiatives took place:

- Nahrin recovery workshop (24-25th of April 2002)
- Establishment of health facility with surgical capacity (3 months)
- Enhanced capacity of pre-existing facilities
- Intensifying immunization (MMRC & EPI outreach)
- Training of Community Based First Aid volunteers (CBFA)



- Comprehensive Health Assessment Survey in May
- Water supply (90 new wells, Improvement and cleaning of Canals, piped water)
- Health education Campaign
- Provision of temporary pit latrines
- Provision of micro sand filter for existing facilities
- Construction of latrines included in shelter programs
- Construction of 10-bed district hospital

The coordination exercise gave good results, enabling prompt response to people needs. Such coordination mechanisms should be institutionalized and become effective for all emergency situation that may hit the Country.

7. Priorities Afghanistan wants addressed at World Conference on Disaster Reduction

- A priority for Afghanistan is national capacity building for disaster preparedness, prevention/mitigation and response. This capacity building should be in terms of staff training, provision of equipment and financial support.
- The Government of Afghanistan also requires support for the identification of adequate disaster response methodologies for its national context and peculiarities.
- Participatory mechanisms are important to respond locally and effectively to disasters occurring in very remote and hardly accessible locations.
- Up-to-date scientific and technical information about the effects of global phenomena on Afghanistan climate and disaster frequency and magnitude of impact are required to properly plan for, and protect against natural disasters.



NATIONAL INFORMATION FOR AFGHANISTAN	1
1. Political Commitment and Institutional Aspects	1
1.1. Are there national policy, strategy and legislation addressing disaster risk reduction? ...	1
1.2. Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management, agriculture/land use and planning, health, environment, education, development planning and finance?	1
1.3. Are there sectorial plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation climate change adoption, education and development planning)?	2
1.4. Is disaster risk reduction incorporated in to your national plan for the implementation of the UN Millennium Development Goals (MDGs), Poverty reduction Strategy Paper (PRSP) National Adoption Plan of Action, National environmental action plans and WSSD (world summit on Sustainable Development) Johannesburg Plan of Implementation?	2
1.5. Does your country have building codes of practice and standards in place, which takes into account seismic risk?	2
1.6. Do you have an annual budget for disaster risk reduction?	2
1.7. Are there private sectors, civil society, NGOs, academia and media participating in disaster risk reduction efforts?	2
2. Risk Identification	2
2.1. Hazard Mapping	2
2.2. Vulnerability and capacity assessments	2
2.3. Mechanisms for risk monitoring and risk	3
2.4. Socio-economic and environmental impact and loss analysis	3
2.5. Early Warning Systems	3
3. Knowledge management	3
3.1. Does your country have disaster risk information management systems (governmental and/or non-governmental)?	3
3.2. Are there academic and research communities in the country linked to national institutions dealing with disaster reduction?	4
3.3. Are there educational programmes related to disaster risk reduction in your public school system?	5
3.4. Are there any training programmes available?	5
3.5. What kind of traditional indigenous knowledge and wisdom is used in disaster-related practices or training programmes on disaster risk reduction in your country?	5
3.6. Do you have any national public awareness programme or campaign on disaster risk reduction?	5
4. Risk Management Applications/Instruments	5
4.1. Is there any good examples of linking environmental management and risk reduction practices in your country (key areas of environmental management may include coastal zone, wetland and watershed management, reforestation and agricultural practices, amongst others). If yes, please indicate in what areas. (Attach any relevant documentation ore references)	6
4.2. Are financial instruments utilised in your country as a measure to reduce the impact of disasters (e.g. insurance/reinsurance, calamity funds, catastrophe bonds, micro-credit finance, community funds, etc.)? If yes, please describe what these instruments are and when they were established, who manages them and who are eligible to them.	6
4.3. Please identify specific examples of technical measures or programmes on disaster risk reduction that have been carried out in your country (see below, case studies)	6
5. Preparedness and Contingency Planning	6
5.1. Do you have disaster contingency plans in place? Are they prepared for national and community levels?	6
5.2. Has your government established emergency funds for disaster response and there are national or community storage facilities for emergency relief items- mainly food, medicine, tents/shelters?	7
5.3. Who is responsible for the coordination of disaster response preparedness and is the coordination body equipped with enough human and financial resources for the job?	7

Country information



6. Call for good practices in disaster risk management..... 7
7. Priorities Afghanistan wants addressed at World Conference on Disaster Reduction 9