



KOBE REPORT (draft)

THEMATIC PANEL 3

**“KNOWLEDGE, INNOVATION AND EDUCATION: BUILDING
A CULTURE OF SAFETY AND RESILIENCE”**

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1. Summary of the Panel presentations and discussion

Education for creating a culture of disaster resilience is an interactive process of mutual learning among people and institutions. It encompasses far more than formal education at schools and universities, and affects all aspects of life through the concerted effort to overcome universal barriers of ignorance, apathy, disciplinary boundaries and lack of political will present in communities. Education also involves the enhancement and use of indigenous knowledge for protecting people, habitat, livelihoods, and cultural heritage from natural hazards. Educational practices can be conducted through direct learning, information technology, staff training, electronic and print media and other innovative actions to facilitate the management and transfer of knowledge and information to citizens, professionals, organizations, community stakeholders and policymakers. History teaches that *inadequate disaster reduction awareness and preparation* repeatedly leads to preventable loss of life and damage in all major natural disasters. Preparation through education is less costly than learning through tragedy.

Knowledge, innovation and education are inter-related issues that are at their most effective when linked to community needs. Knowledge and behavioural changes for implementing risk reduction activities at the individual, household, community and policy levels should be the ultimate target, keeping in mind that building a culture of safety and resilience requires time, effort, resources and continued cooperation and understanding amongst all actors. This calls for the application of the following four principles:

1. Promote knowledge and behavioural change on disaster risk;
2. Strengthen information and dissemination on disaster risk and safety actions;
3. Empower capacity building of at-risk and vulnerable communities; and
4. Reinforce partnerships and cooperation on disaster risk reduction policy and strategy.

These principles were addressed at the Thematic Cluster 3, focusing on four themes:

- Education: formal, informal education
- Increased Knowledge base: information management, multi-discipline, and cross sectoral cooperation, research and development
- Information and public awareness: media, civil society involvement for dissemination and implementation
- Community empowerment: capacity building, and community resilience by building knowledge bases

The interventions in the panel started by emphasizing the “Human Dimension of Education”, pointing out that the end product of education should benefit people. Education is considered as a process, be it in school, community, university or for individual. Three realms of education process are identified: 1) professional and institutional awareness, 2) traditional and indigenous knowledge, and 3) dynamic synthesis of professional knowledge and indigenous capacities. Cooperation at local, national and regional level is an essential element. Building of culture of resilient communities deserves a particular attention to the importance of women in education process, especially working through community groups and non-government organizations.

Experiences from Nepal showed that a grass-root level appeal and urge for disaster education has been able to make a significant change in the policy and operational interventions. Four specific lessons were learnt in the disaster education process:

- It is necessary to integrate vulnerability reduction into the concept of sustainable development
- Sound Knowledge is Necessary for Disaster Risk Management
- Education should empowering process, and
- Formal and Informal Education should complement each other

The role of IT (information technology) in education has been emphasized and demonstrated through global development learning network. The challenge is to bring the IT to the people and communities, and utilize the media as an educational, training and capacity building tools. Experiences from different countries show that IT media is an important tool, as long as it is linked to field educational experiences. Thus, there is a need to clearly link on-site testing and on-line learning process for disaster reduction.

The recent experiences of Indian Ocean Tsunami Disaster has posed a strong need for experience and knowledge sharing at different levels. IT media can play an important role in the experience sharing during reconstruction, which is considered as an educational process. Early warning is considered as an important aspect, however, its outreach to people, and awareness raising on people’s participation to respond to early warning system is also of utmost importance. Therefore, the combination of high-tech knowledge with low or no-tech disaster education will be required in most cases.

Recent experiences in both developed and developing countries show that disaster research should include field based knowledge sharing and implementation-oriented, multi-disciplinary cooperation among researchers and practitioners. A science policy on higher education should strongly incorporate disaster research. A world list on disaster reduction technologies (with specific relevance to implementation) might be a good database for field practitioners.

Media is considered as one of the powerful tools for outreaching the knowledge and know-how to the people and communities. While media has been found to be extremely effective in post-disaster reporting, it can also play an important role in pre-disaster mitigation initiatives, and serve a powerful educational tool. An appropriate communication strategy will be required for this purpose.

Community education and community participation in the educational process is of utmost importance, and a synergy of 'top-down' and 'bottom-up' approach will be required for this purpose. In many situations, it is found that civil societies and volunteers play an important role of 'Change Agent' in bringing knowledge to the communities, and effectively use those knowledge bases for implementing actions.

Children are considered as the most important targets in the educational process. On one side, children are considered as one of the most vulnerable groups, and thus needs knowledge and information. On other side, children can be the most effective agent for knowledge spreading to other parts of the communities through their friends and families. Thus, focusing on children in the early part of educational process is found to be extremely effective.

Among different challenges on education, the most important issue is to bring the knowledge to the most needy people. International Decade of Education for Sustainable Development provides the great opportunity to act together to enhance co-learning process, and thereby developing a culture of prevention and preparedness.

2. Primary Issues

- Formal education, targeting children is considered as the most important tool for knowledge development
- Identify, recognize the importance of traditional and indigenous knowledge bases, and utilize these bases effectively
- Disaster research needs to be incorporated in the science policy for implementation-oriented research and practice
- Community participation and awareness raising should be a synergy of top-down and bottom-up approach
- An appropriate use of information technology, combined with community level training can bring the education process close to implementation
- Media involvement with a communication strategy can be a very powerful tool for effective pre-disaster preparedness and mitigation activities

3. Lessons learned, Good Practices, Institutionalised Experiences

- 1) UNESCO's commitment in the last decade has initiated different innovative initiatives, including formal, non-formal education, higher education, and policy interventions. Tsunami warning system in the Pacific region is one of the best example of appropriate use of technology, which needs dissemination to other regions of the world. UNESCO is committed in the UN International Decade of Education for Sustainable Development.
- 2) IFRC, in the past decade has conducted several innovative community based initiatives, focusing on training and capacity building program in several vulnerable countries in the world. The cyclone alert system in Bangladesh is considered as one of best model of early warning, which is a combination of high-tech and low-tech facilities. Awareness raising initiatives in different parts of Asia, Africa and Latin America have been conducted.
- 3) UNICEF, in its capacity, has targeted the children as the key agent for formal and informal education. In different disaster-hit areas, UNICEF has taken grass-root initiatives to protect children, raising awareness among children and bring them in the educational process.
- 4) Experiences from Chile shows that a comprehensive approach to disaster management can achieve a lot in preparedness and mitigation. A tsunami alert system is found to be effective, when

it is linked to people's capacities and awareness. A combination of top-down and bottom-up approach has produced a sound preparedness.

- 5) Experiences of Nepal have shown the link of grass-root appeals and policy interventions for effective disaster education. Disaster education has been incorporated in the school curricula, awareness-raising programs have been conducted in different parts of the country, and training and capacity building initiatives are implemented.
- 6) Japanese experiences show a significant shift of disaster reduction from engineering-focused to multi-disciplinary approach. Disaster research has been incorporated in the science policy, and innovative projects have been conducted in the Asia-Pacific region to focus on implementation strategies.
- 7) Examples from Argentina shows development of a comprehensive communication strategy for the mass media, and important role of media in the pre-disaster mitigation and preparedness aspects.

In summary, key lessons learned from the experiences suggest:

- Education is a process for effective disaster reduction
- Knowledge, perception, comprehension and actions are the four important steps
- Schools and formal education plays an important role in knowledge development
- Family, community and self education are important for comprehension of knowledge and implementing risk reduction actions
- Holistic education includes actions at local level, as well as its policy integration.

4. Suggested indicators to measure accomplishments

- Incorporation of disaster risk reduction into curricula at all levels of education
- Incorporation of disaster research in the science policy
- Initiatives undertaken in the grass-root levels incorporating indigenous and traditional knowledge bases
- Civil society organizations conducting community education, training and capacity building activities
- Development of communication strategy for disaster reduction
- On-line and on-site disaster education curricula for practitioners and field workers

5. Partnerships

1) International Flood Initiative/Programme: UNESCO-Tsukuba Centre, WMO, UNU, ISDR:

An International Flood Initiative/Programme, aimed at promoting research, training and capacity building, information networking and technical assistance against flood-related disasters. An international centre for water hazard and risk management will be established under the auspices of UNESCO in Tsukuba, Japan in late 2005 to serve as a global facility for the initiative.

2) Global Open Learning Forum on Risk Education (GOLFRE): SEEDS, Kyoto University:

This is a forum of NGOs, universities and international organizations to bring the professional knowledge to the field practitioners in remote areas. It fosters open dialogue and exchange of information and knowledge, transferring academic knowledge to practitioners through updated analysis on field practices and interaction with people in the field. The forum will be up-scaled through conducting training programs, certified courses in the open-university model, and conducting regular meetings and workshops in different regions (Asia, Africa and Latin America.).

3) International disaster risk reduction education initiative: UNESCO, Kyoto University, GADR

The purpose is to review the experiences in the past decade in the field of education, sustainable development, disaster reduction and human security, exchange of experiences and good practices in order to enhance the implementation of education for disaster reduction; nurture networks of educational practitioners and information exchange among them, development of basic educational tools and support strategies for the next decade.

4) Transfer Live Lessons Network: Disaster Reduction Alliance

This will be a network to share the lessons from past disasters from different parts of the world. Several counterparts and institutes have been identified from the recent disaster-hit areas. This partnership is regarded as the educational opportunity to raise awareness among people and communities. A pre-

event was held in February 2004 in Kobe. Up-scaling activities will include: a web-page, web-based newsletter, meetings and workshops.

5) Case Stations and Field Campus: DPRI (Kyoto University), IIASA, JSNDS

For effective monitoring of disaster management practices on a continuing basis, it is proposed to establish a few Case Stations. The Case Stations will be connected through global networks, for its effective expansion, as well as in-country (or region) effectiveness. These Case Stations will act as knowledge resources, as well as examples of best practices in the country or region, with specific focus on Implementation. Young professionals and students will explore these Case Stations for their research and development studies (*learning by doing*), and thereby will form a Field Campus.

6) Science Policy Initiative for Implementation Strategies: MEXT (GOJ), NIED, DPRI, UNESCO, ISDR and Other agencies

The initiative will focus on policy enhancement and necessary actions to effectively utilize R&D results into disaster reduction practices. For this purpose, implementation strategies and stakeholder involvement will be incorporated in research planning and execution. Action plan will include development of a world list of implementation-oriented technologies for disaster reduction.

7) International cooperation for landslide-research: UNESCO, Kyoto University, Disaster Prevention Research Institute (DPRI) /KU, ISDR

The International Programme on Landslides (ICL) will aim to strengthen the research cooperation for earth system risk analysis and sustainable disaster management within the framework of ISDR as regards of landslides, guided by the International Consortium on Landslides, under the coordination of the Research Centre on Landslides at Kyoto University.

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