



KOBE REPORT draft
Report of Session 5.4, Thematic Cluster 5

**Telecommunications Saves Lives: role of
information and communication technologies**

1. Summary

Chair: Dr Cosmas L. Zavazava, Head, Unit for Least Developed Countries, International Telecommunication Union (ITU)

- 1st Presentation “Telecommunications Saves Lives: Role of Information and Communication Technologies in Disaster Reduction”
Dr Cosmas L. Zavazava (as above)
- 2nd Presentation “Keeping People Connected, Keeping People Safe”
Mr. Samer Halawi, Regional Director, Africa and Middle East Inmarsat Ltd
- 3rd Presentation “ICT in Disaster Reduction and the Japanese Challenge for Global Standards”
Ms Naoko Iwasaki, Associate Director, ITU-Waseda ICT Center
Professor Toshio Obi, Director ITU-Waseda ICT Center
- 4th Presentation “Disaster Communications and the Information Society”
Mr Gary Fowlie, Chief of Media Relations & Public Information, ITU

Recent experience shows that when disasters strike, telecommunications saves lives. The technology exists. Political will is needed to apply information and communication technologies (ICT) in innovative and cost effective ways for disaster reduction.

ICT applications to disaster reduction can play key roles in:

- *Environmental management* – for early warning of environmental hazards
- *Promoting economic continuity* – from disaster response to sustainable economic development
- *Infrastructure preservation* – communications platforms must be designed for resilience
- *Fostering local social and cultural dynamics* - crucial to the supply of locally-responsive knowledge

ICT applications are the cornerstone of early warning systems (eg. for tsunami risk) and the backbone of emergency responses to disasters (eg. satellite telecommunications). Recent tragedies, such the Indian Ocean tsunami of December 2004, have drawn popular attention to the life-saving role of now common technologies such as mobile telephony-based text messaging (SMS). There is also enhanced international will to aid peoples who fall victim to such disasters. This heightened consciousness and interest should be translated into greater *political will* to invest resources in fostering disaster *preparedness* through ICT applications.

To realize the ICT's promise in the area of disaster reduction the following is needed:

- 1.1 **Leadership** – by the international community, governments and international agencies
- 1.2 **Partnerships between multi-stakeholders** – agencies, business & civil society
- 1.3 **Capacity building** – ICT applications, infrastructure and human resource development
- 1.4 **Local responsiveness** – information and communications systems must strengthen local preparedness and responsiveness to threats
- 1.5 **Recognition of the need for resilience** - ICT's role in strengthening resilience against disasters in diverse communities and organizations

1.1 Leadership

The international community, inter-governmental agencies and forums, business, NGOs and other representatives of civil society need to show more leadership on realizing the global potential for ICT in disaster reduction. In particular through:

- Support for capacity building – ICT applications, infrastructure and human resource development
- Encouraging countries to join the 30 who have ratified *The Tempere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations* which removes barriers to cross-border deployment of ICT equipment, systems and expertise

The World Summit on the Information Society, the second global meeting of which will be held in Tunis in November 2005, offers an important window of opportunity to promote awareness and partnerships for more effective use of ICT in disaster reduction.

- WSIS brings together diverse stakeholders from governments, business, NGOs, and civil society
- Increased recognition amongst these stakeholders of the benefits ICT bring to disaster reduction can add impetus to the WSIS declared vision of full connectivity by 2015
- E-health initiatives, early warning systems for environmental disasters, and disaster relief support are some acknowledged areas of promise
- Participants at Tunis should be encouraged to develop concrete action plans for enhancing the role of ICT across the full range of disaster management issues

1.2 Partnerships

Smart partnerships are needed amongst international and national agencies, the private sector, academic institutions, NGOS and other stakeholders from civil society.

The International Telecommunication Union, in working with ICT sectoral partners and national regulatory agencies, have crucial roles to play in fostering both preparedness for disaster and response to them.

Preparedness for disasters is enhanced by the ITU's prioritization of emergency response capabilities in its

- Spectrum management role
- Promotion of international technical standards

And through the ITU's

- Fostering of inter-operability and global network security
- Encouraging the global development of ICT infrastructures
- Planning and implementation of projects related to disaster reduction measures

Disaster response capacities and support for sustainable recovery is provided by the ITU through:

- Coordinating satellite communications capacity between nations as an immediate response to crisis
- Evaluating the status of communications networks in affected areas
- Mobilizing resources, including expertise, for systems stabilization and rehabilitation
- Its work in the development of multipurpose community telecenters

Commercial enterprises hold much of the world's applied ICT expertise. The session considered several recent examples of the important corporate initiatives for disaster responses:

- Satellite telecommunications provider Inmarsat Ltd has, through 15-odd major deployments in the recent years, helped to save the lives of thousands of people and minimize the social costs of serious natural disasters.
- Inmarsat's partnership with the International Maritime Organization (IMO) and its emergency system is contributing significantly to the safety of ships at sea.
- Japanese telecommunications firms NTT DATA and NTT Docomo, working with other private and state actors, have implemented voice and mobile internet-based systems for those affected by disaster to access locally-relevant information and connect with loved ones.

Closer partnerships with NGOs are needed to promote ICT for disaster reduction capabilities in least and developing countries and local responsiveness in general.

1.3 Capacity-building

Capacity-building has several significant components:

- Development of ICT applications for disaster management
- ICT infrastructure development
- Information systems development
- Human resource development

The ITU and other international agencies, governments and the private sector all have important and complementary roles to play in capacity building. The particular needs of least and less developing economies, often particularly vulnerable to natural and other disasters, need to be addressed by the international community at large.

Information systems for disaster reduction need to be open and locally responsive while allowing effective information aggregation for coordinated responses to threats.

University linkages present enhanced human resource development opportunities as well as research capacities that complement and transcend the particular mission of agencies and other stakeholders.

1.4 Local Responsiveness

ICT applications for disaster reduction must be tailored to local economic, geographical and social-cultural contexts.

Localized e-governance initiatives are central to, and must engage with, policy responses to the social and economic imperatives for disaster reduction.

As disasters are ultimately local, strategies to build resilience to disasters must be founded on local knowledge, communities and institutions. At that same time they must be informed by, and coordinated with, international disaster preparedness systems.

Local preparedness for disasters ultimately comes at a lower social and economic cost than post-disaster amelioration but requires vision and leadership.

1.5 Recognizing the need for resilience

Greater recognition is required of the need for planned resilience for communications infrastructures and the information systems that they support.

ITU-Waseda ICT Center research revealed that even in Japan there was

- Limited uptake of rigorous business continuity planning
- Insufficient experience with threat assessment methodologies
- A paucity of managers in public and private organizations, such a Chief Information Officer (CIO), will explicit responsibility for information systems' security

For business everywhere, disaster preparedness should be seen as an integral component of effective corporate governance.

As well, convergence is a frequent theme in discussion of the information, communications and media industries. Yet the nature of this ongoing interaction between evolving technologies, changing regulatory environments, industry structures and business strategies are still imperfectly understood. Implications of this dynamic convergence process for the vital role of ICT in disaster reduction are even less so and need to be studied. This might be helped by convergence of another kind: growing recognition amongst diverse agencies and private sector organizations that evolving information and communication technologies present significant opportunities to attenuate the economic and social costs of disasters.

2. Primary issues

- Capacity building through enhanced ICT infrastructure and human resource development, regardless of levels of economic development
- Leadership, through multi-stakeholder partnerships, to apply existing and emerging technologies to disaster reduction in a cost effective fashion
- Information systems for disaster mitigation need to be predicated on the crucial role of local knowledge and responsiveness to local needs
- A balance must be achieved between open and decentralized information systems and information aggregation for coordinated responses to threats
- ICT applications have a vital role to play in strengthening community and organizational resilience against disasters but information and communications systems themselves must be designed for resilience

3. Suggested indicators to measure accomplishments

Ongoing measurement of enhanced capacities in utilize ICT for disaster preparedness, management and sustained recovery requires use of both existing and new indicators, including:

- ITU's key indicator, the Digital Access Index, measuring societies' performance in terms of infrastructure, literacy, quality and affordability.
- Complemented by measures of the resilience of ICT systems to various disasters and recovery capacities
- Continued ratification by member states of the *Tampere Convention*
- Measures of the dissemination of threat assessment methodologies, business continuity planning, and the designation of chief information officers (CIO) in critical organization
- Indicators of human resource development such as disaster management-specific ICT training and CIO training.

4. Existing indicators

- Existing indicators such as the Digital Access Index in the ICT policy community is yet to become part of mainstream conceptualizing of disaster reduction issues
- Performance measures relating to collaborative projects between the ITU and other stakeholders as pertaining to disaster reduction

5. Partnerships

As indicated above, discussion in the session centered on the importance of fostering more diverse and stronger stakeholder partnerships involving international and national agencies, private ICT sector actors, NGOs, academic institutions, research organizations and individuals with specialist expertise.

Current partnerships reflect recent recognition of the importance of such multi-stakeholder linkages and include:

- The World Summit on the Information Society, at Geneva in December 2003; a partnership that brought together 11000 participants representing government, intergovernmental agencies, civil society and the private sector. The Plan of Action agreed to by 175 countries stresses the need for new initiatives on ICT applications for disaster reduction
- The UN Working Group on Internet Governance brings together a multi-stakeholder, multi-region membership

The ITU is distinguished by its extensive, effective and long-established relationships with sector partners and telecommunications user groups such as that representing amateur radio users who provide an

important communications resource during disasters. The ITU's permanent dialogue with national regulatory bodies also allows it to play a further role in highlighting the importance of ICT in disaster reduction.

Closer partnerships with researchers and private sector ICT stakeholders is needed for development of more:

- a. Disaster-resilient information and communications systems
- b. Low cost ICT applications, vital for the many less developed nations that are also vulnerable to natural and other disasters
- c. Timely response capacities, which can build on the invaluable contribution made by bodies such as Telecoms Sans Frontieres

6. Additional sources of information

www.itu.int/wsis

www.itu.int/itu-d/ict/statistics

www.itu.int/itu-d/lcd/emergency

www.obi.giti.waseda.ac.jp/e_gov

www.inmarsat.com

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