

Appendix

Role of the ICTs and ITU in CCA and DRR

The following is largely based on Bueti and Faulkner (2012) regarding potential contributions of ICTS and the International Telecommunications Union (ITU) in the context of devising cost-effective and result-oriented disaster management strategies that can contribute toward mitigation of disasters and constitute elements of compensation mechanisms for L and D.

The linkages between information and communications technologies (ICTs) and climate change adaptation are significant. ICTs help advance weather forecasting and climate monitoring, and also disseminate information to large sections of the society, for example via mobile phones or 'reverse calling' when local authorities as in some municipalities in the USA provide for such emergency alerts for the civic community. This can help address major adaptation risks such as food and water shortages through providing early warning systems and better monitoring of relevant focus features.

The ICTs including remote sensing and geographic information systems have expanded the possibilities for risk assessment of multiple hazards and enabled the development of various scenarios and contingency plans. Risk analysis includes: risk maps, hazard maps, and scenario maps, and ex post assessment based on GIS. Risk analysis is thus a key component in developing a DRR strategy by establishing the links between exposure to hazards, level of vulnerabilities and the capacity to address the hazards.

Over 7,000 natural disasters occurred during 1980 to 2005 worldwide in which millions of lives were lost. Ninety percent of these disasters were caused by weather and water related events such as floods, cyclones and droughts. Access to information and increasing knowledge among policymakers and the general population is part of 'capacity building'. In terms of the telecommunications networks 'capacity building' has an additional meaning which is the expansion of telecommunications networks to serve greater numbers of the population. Adequate telecommunication networks are essential in ensuring that communications reach people and the appropriate relief organizations.

An example of how ICTs can help in reaching people in remote areas is the 'Green Power for Mobiles' initiative which is pioneering alternative power sources such as solar and wind for mobile base stations to serve the one billion people without access to grid electricity. The benefits of such initiatives include reaching

more people with climate related information and alerts, and to improve coverage of environmental monitoring systems with greater reliability.

Complex emergencies need external intervention in resource-poor countries where data and communication facilities are scarce. Decision-making is often delayed due to lack of information. The effectiveness of humanitarian interventions and the ability to protect livelihoods from the impacts of hazards depends on the timeliness and appropriateness of responses. In order to minimize loss and damage it is important that infrastructure is upgraded with priority for ICTs.

The role of the ITU includes (Bueti and Faulkner 2012):

ITU provides assistance to governments to build appropriate institutions for disaster risk reduction; develops international standards; provides assistance to countries in incorporating resilient features in telecommunications infrastructure; helps countries to develop policy and legal frameworks by providing inputs into policy formulation, and legislative and regulatory drafting for countries; helps countries with regard to their vulnerability by providing assistance in reducing and eliminating vulnerabilities in telecommunications infrastructure; assists Member States in designing and incorporating telecommunications/ICT into national adaptation plans; implements early warning systems in countries where there is a high incidence of disasters; designs national emergency telecommunications plans that include Standard Operating Procedures that are now in use in many countries; produces guidelines, toolkits and other publications that are in use by countries for disaster risk reduction.

Reference

Bueti, C. and Faulkner, D. (2012). *ICTs as a Key Technology to Help Countries Adapt to the Effects of Climate Change*, Geneva: International Telecommunications Union.