Enhancing the Effectiveness of Information & Communication Technology Applications for Disaster Management

Summary

Information and communication technologies have always been recognized as an important dimension in disaster management in the Caribbean. Initially much of its use was centered on emergency communications technology. However, the rapid evolvement of information technologies and tools and the immediacy of information this has afforded has revealed the importance of ICT in providing a seamless link across the phases of the disaster cycle: preparedness, mitigation, relief, response and reconstruction.

The application of ICT tools such as Geographical Information Systems (GIS) and web data sources have improved prospects for the rapid acquisition of information on the impact of hazards at the community level. Unfortunately, the acquisition of such data remains a significant challenge in the region and not all Caribbean institutions involved in disaster management have been able to utilize these opportunities. The technologies are available but the challenge has been cost, reliability, latency and lack of research on the application and effectiveness of the alternative options available.

In recognition of this CDERA has secured funding of BDS $704,211 through the International Development Research Centre (IDRC) to implement a “Research Project” (September 2007- February 2009) which supports the cross-cutting theme of ICTs of the Enhanced Comprehensive Disaster Management Strategy and Framework 2007-2012 for the Caribbean.

The plethora of ICT options that have emerged over the last decade combined with the more longstanding ICT options of Amateur (HAM) radio, and fixed telephone, offer opportunities to enhance the effectiveness of early warning. Emerging technologies include internet, Geographic Information Systems (GIS), mobile telephones, cell broadcasting, addressable satellite radio and HAM PACTOR. The wide range of options available has not to a large extent been researched within our region to determine the most appropriate technologies to utilize for specific situations. More extensive research is therefore required to provide a robust basis for the specific choice of innovative ICT options within various disaster management scenarios including early warning systems for fast onset hazards. Such research must be relevant to current national and regional priorities and address hazards which are of greatest concern to the people of the region and by extension, the political directorate.

In the context of the above therefore, this project aims to enhance the effectiveness of Disaster Management practices in the Caribbean region through the identification and testing of innovative Information and Communication Technologies (ICTs) applications. Research will be conducted to ascertain the ICT capacity of CDERA Participating States
utilizing a number of methodologies and approaches. Based on the findings, Pilot States will be selected for training and testing of applications and tools recommended.

Collaborating partners will include research institutions such as the Disaster Risk Reduction Centre and the Seismic Research Unit of the University of the West Indies.

Specifically the project will:

- Identify and assess the effectiveness of innovative ICT tools in national notification protocols for fast onset hazards in the Caribbean, with a focus on e-messaging, amateur (Ham) radio and GIS (Geographic Information Systems) applications.
- Test and analyze the role of ICTs in strengthening community knowledge and support in the collection of post event information for earthquake in the Eastern Caribbean
- Develop a set of policy recommendations in the form of a strategic paper, aimed at enhancing regional strategies to respond to natural hazards.