Question 22/2: **Utilization of ICT for disaster management, resources, and active and passive space-based sensing systems as they apply to disaster and emergency relief situations**

1 Statement of the situation

In light of the recent natural and man-made disasters that have occurred, great attention and effort has been directed towards the application of radiocommunications for the purpose of disaster prediction, detection and mitigation.

On 14 February 2005, the Director of the Radiocommunication Bureau issued a letter to the chairmen of the ITU-R study groups noting the important role of radiocommunications, including remote sensing, in addressing disasters, and inviting them to review the activities within their study groups that have a bearing on the topic.

The Tunis Agenda for the Information Society, in § 91, recognizes and identifies many important elements that need to be addressed in the application of communications in the area of disaster prediction, detection and mitigation.

ITU-D has developed two products in regard to the subject of disaster mitigation and relief. The first is Recommendation ITU-D 13-1[1], *Effective utilization of the amateur services in disaster mitigation and relief operations*. It recommends that administrations include the amateur services in their national disaster plans, reduce barriers to effective use of the amateur services for disaster communications, and develop memoranda of understanding (MoU) with amateur and disaster relief organizations.

The second is the *Handbook on Emergency Telecommunications* published in 2005. This handbook summarizes technical issues that characterize the current field of telecommunications. The handbook is intended to be comprehensive and compact, and to provide useful factual information that is concise and organized for easy access.

There is a need for the development of a conceptual ICT disaster-oriented framework that will be used in the ITU-D studies related to disaster management, and in addition provide information on the effective use of ICTs and the efficient dissemination of disaster-associated information. Also, ITU-D has not yet examined the comprehensive use of ICTs, including active and passive space-based sensing systems, for the purpose of disaster prediction, detection and mitigation, although their potential is recognized at the following URL:
http://www.itu.intITU-D/projects/environment/present.html.

Furthermore, developing countries and least developed countries are lacking in disaster management expertise. ICT development can be leveraged to assist in mitigation of disasters and to assist in relief operations. ITU-D can assist and guide the developing nations in building a comprehensive disaster mitigation plan and promote international cooperation in the time of disasters through a coordinated effort at international level.

2 Question for study

1   Identification of the activities in relevant organizations related to the use of active and passive sensing space-based systems for the purpose of disaster prediction, detection and mitigation. Identification and examination of active and passive sensing system applications for their potential

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[1] Latest version of the Recommendation.

effect in enhancing disaster mitigation. Examination of ICTs and current and foreseeable active and passive space-based sensing operations, for the purpose of assisting affected countries with integrating their relevant products into a disaster prediction, detection and mitigation telecommunication infrastructure.

2   Examination of the role that administrations and relevant disaster mitigation organizations have in addressing disasters management and their effective use of ICT.

3   Examination of how ICTs can be utilized to develop disaster management plans for use in disaster and/or emergency situations. Furthermore, coordinating with ITU-T study and provide proposed recommendations/guidelines for a "Content Standard" to be used for all alerts and notifications for disasters and emergency situations. Working with the Working Group on Emergency Telecommunications (WGET) develop propose suggestions/recommendations on implementation of Tampere Convention and maintaining minimum level of inventory related to telecommunications to be shared among the countries at the time of disasters.

3   Expected output

The output of the Question will provide administrations with information on the establishment or modernization of national or regional disaster management systems and plans. Collaborating with ITU-T, provide a report on guidelines for a "Content Standard". Working with the WGET, develop proposed suggestions/recommendations on implementation of the Tampere Convention. Annual progress reports indicating the status of the selected topics and, where completed, an indication of how the outputs can be obtained. A conceptual ICT disaster-oriented framework will be developed that will be used in the ITU-D studies related to disaster management and will provide information on the effective use of ICTs and the efficient dissemination of disaster-associated information. Also, a report will be developed, providing a survey of active and passive space-based sensing systems and applications that can be used for the purpose of disaster prediction, detection and mitigation. Later, this report will be supplemented with an annex providing a review of the sensor applications for their usefulness for the administrations of ITU-D members. Lastly, the report would be followed by an additional report, summarizing options for making relevant remote-sensing products available in the most appropriate manner to administrations that would benefit.

4   Timing

4.1   Annual progress reports should be submitted to Study Group 2.

4.2   Draft final reports and any proposed draft recommendations/guidelines should be submitted to Study Group 2 within four years.

4.3   The Rapporteur's Group will work in collaboration with BDT Programme 6 and ITU-T.

4.4   The activities of the Rapporteur's Group will come to an end within 4 years.

5   Proposers

RCC, CITEL, APT

6   Sources of input

1)   As identified in Question 9-1/2.

2) Examination of the activities of other relevant organizations such as, but not limited to, the World Meteorological Organization (WMO) and the Space Frequency Coordination Group (SFCG), with a view to monitoring those activities relevant to the use of active and passive space-based sensor systems for the purpose of disaster prediction, detection and mitigation.

3) International and regional organizations responsible for disaster and emergency communications.

4) Discussion in the relevant ITU-D study group.

7   Target audience

Due to the potentially far-reaching implications of the results of this Question, the entire audience matrix are targets.

Target audience	Developed countries	Developing countries	Least developed countries (LDCs)
Telecom policy-makers	Yes	Yes	Yes
Telecom regulators	Yes	Yes	Yes
Service providers/operators	Yes	Yes	Yes
Manufacturers	Yes	Yes	Yes

a)   Target audience

Depending on the nature of the output, upper- to middle-level managers in operators and regulators in developed, developing and least developed countries will be the predominant users of the output.

b)   Proposed methods for the implementation of the results

The results of the Question are to be distributed through ITU-D reports.

8   Proposed methods of handling the Question

9   Coordination

The ITU-D study group dealing with this Question will need to coordinate with:

– Relevant ITU-R and ITU-T study groups.

– Relevant focal points in BDT.

– Coordinators of relevant project activities in BDT.

– Working Group on Emergency Telecommunication (WGET).

– Regional and scientific organizations with mandates over the subject matter of the Question.

10   Other relevant information

As may become apparent within the life of this Question.

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