MOD

<div align="center">QUESTION 3/1</div>

The use of telecommunications/ICTs for disaster risk reduction and management

1   Statement of the situation or problem

The importance of telecommunications and ICTs to support disaster mitigation, preparedness, response and recovery is well established. Over the study period from 2022 to 2025, under Question 3/1 ITU-D Study Group 1 examined the use of ICTs in disaster risk reduction with case studies, examples of technologies, applications and planning for ICT resilience for disaster management. Before that, during the study period 2018-2021, the focus had been on the utilization of telecommunications/ICTs for disaster preparedness, mitigation and response' with focus on drills and exercise.

Disasters—ranging from earthquakes and hurricanes to floods and droughts—claim approximately 40,000 to 50,000 lives each year, on average, over the last few decades. In 2023, the Emergency Events Database (EM-DAT) recorded 399 disasters related to natural hazards. These events resulted in over 86,000 fatalities and affected more than 93 million people with economic losses exceeding $200 billion.

While these figures represent a relatively small fraction of global deaths, disasters can have disproportionately large impacts on specific populations. Extreme events can kill tens to hundreds of thousands of people in a single instance. In the 20th century, it was not uncommon for disasters to claim over a million lives annually.

Beyond loss of life, disasters also lead to significant displacement, with millions of people left homeless each year. The economic costs of such events can be severe and difficult to recover from, particularly in lower-income countries.

However, peoples are not helpless in the face of disasters. The number of deaths from disasters has significantly decreased over the last century, thanks to early warning systems, better infrastructure, improved agricultural productivity, and more coordinated responses.

As climate change increases the frequency and severity of extreme events, strengthening resilience will be critical to prevent reversing our recent progress. To achieve this, ITU-D must continue working towards enhancing resilience in vulnerable countries, leveraging Information and Communication Technologies (ICTs) and other strategies to reduce the vulnerability of populations and ensure that no one at risk is left behind.

Most developed and developing[1] countries recognize emergency telecommunications as a priority and are taking steps to:

– build national emergency telecommunications plans;

– develop and implement early warning systems; and

– test that technologies and systems are in place and ready to use to ensure disaster-resilience.

Based on the past three years' experience, it is felt that during the next phase of study the focus should be on preparing: checklists; guidance on how to prepare standard operating procedures as well as best practices for countries to use new and emerging telecommunication/ICT services and technologies to create resiliency in disaster response and recovery.

In view of the above, the focus of the study Question for the year 2026-2029 should remain: "The use of Telecommunications/ICTs for disaster response and recovery".

2 Questions or issues for study

1) Utilizing terrestrial and space-based and integrated telecommunications/ICTs to assist affected area for disaster prediction, detection, monitoring, early warning, response, relief and recovery, including best practices/guidelines for an efficient regulatory environment to enable rapid deployment and implementation of adaptive strategies and information sharing based on specific needs.

2) Sharing national experiences and case studies on the use of telecommunications/ICTs for disaster preparedness, mitigation, response and recovery, including response to pandemics, and analysing lessons learned and common themes between them.

3) Review the role that administrations and Sector Members and other relevant organizations and stakeholders have in collaboratively addressing disaster management and the effective use of telecommunications/ICTs, particularly in the areas of planning for ICT resilience for disaster management, including:

– Ensuring proper infrastructure design to be resilient to any potential connectivity interruption (proactive design dimension);

– How to manage restoring connectivity due to any network malfunctioning or failure (reactive operational aspect);

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[1] These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

    – Developing measures for ensuring telecommunication/ICT infrastructure, services and devices remain resilient and available during emergencies.

4) Promote enablers for more resilient communication networks and for the deployment of emergency communication systems and the appropriate telecommunications/ICT services and technologies, for emergency preparedness, response and recovery.

5) Sharing case studies and best practices to ensure that persons with disabilities, among all people can use ICTs for disaster management and risk reduction.(in collaboration with Question 5/1).

6) Sharing national experiences, case studies, and best practices for the elaboration, implementation and refinement of national and regional disaster-management plans or frameworks for the use of telecommunications/ICTs in disaster and/or emergency situations, including pandemics, working in coordination with the relevant BDT programmes, regional offices and other partners. This would include a guide for countries to develop their National Emergency Telecommunication Plans, operating procedures and, early warning systems.

7) Study the use of AI, digital twins, and other relevant tools in new and emerging telecommunication/ICT services and technologies for disaster risk prediction, reduction, and management (in collaboration with Question 5/2).

3 Expected output

It is proposed that succinct outputs summarizing case studies and capturing lessons learned, best practices and tools/templates will be prepared and presented to the study Question for approval.

Additionally, throughout the study period, Question 3/1 welcomes contributions on new technologies, systems and applications for disaster communications and management for mitigation, preparedness, risk reduction, response and recovery, as well as considerations to support implementation. The focus will be on both technology examples and deployment case studies of new and emerging systems and applications for disaster communications and response.

a) Output reports reflecting the studies outlined the section above, and possible revisions to the Report of the previous study period, as appropriate.

b) Periodic dissemination of relevant data emanating from the organizations and groups listed in § 7 below. Periodic updates on studies taking place in the other ITU Sectors.

c) National experiences on topics as outlined in §2 above.

4 Timing

1) Annual progress reports should be submitted to ITU-D Study Group 1.

2) Succinct outputs/annual reports summarizing case studies and capturing lessons learned, best practices and tools/templates on the agreed themes discussed.

3) Draft final reports and any proposed draft Recommendations/guidelines should be submitted to ITU-D Study Group 1 within the study period.

4) The rapporteur group will work in close collaboration with relevant BDT programmes, regional offices, regional initiatives and relevant ITU-D study Questions, and ensure proper liaison with the ITU Radiocommunication (ITU-R) and Telecommunication Standardization (ITU-T) Sectors.

5) The activities of the rapporteur group will come to an end within the study period.

5 Proposers/sponsors

The new text for this revised Question stems from the final report of ITU-D Study Group 1 for the period 2022-2025.

6 Sources of input

Contributions are expected from Member States, Sector Members and Associates, as well as inputs from relevant BDT programmes and relevant ITU-R and ITU-T study groups, and any relevant ITU-D study Question. International and regional organizations responsible for the utilization of telecommunications/ICTs for disaster management are encouraged to provide contributions related to experiences and best practices. The intensive use of correspondence and online exchange of information is encouraged for additional sources of inputs.

7 Target audience

a) Target audience

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

Target audience	Developed countries	Developing countries
Telecom policy-makers	Yes	Yes
Telecom regulators	Yes	Yes
Service providers/operators	Yes	Yes
Manufacturers	Yes	Yes

b)   Proposed methods for implementation of the results

The results of the Question are to be distributed through ITU-D reports, or as agreed during the study period in addressing the study Question.

8   Proposed methods of handling the Question

The study Question will be addressed within a study group over a four-year study period (with submission of interim results),and will be managed by a rapporteur and vice-rapporteurs. This will enable Member States and Sector Members to contribute their experiences and lessons learned with respect to emergency communications.

9   Coordination and collaboration

The ITU-D study group dealing with this study Question will need to coordinate with:
–   Relevant ITU-D Question(s)
–   Relevant BDT programme(s)
–   Regional offices
–   Relevant ITU-R and ITU-T study groups
–   Working Group on Emergency Telecommunications (WGET)
–   Relevant international, regional and scientific organizations with mandates relevant to this Question.

10   BDT programme link

Links to the ITU-D priorities of the Baku Action Plan, specifically to "Affordable connectivity" and "Enabling policy and regulatory environment". Further information will be in the work plan.

11   Other relevant information

As may become apparent within the life of the Question.