

Document WTDC14/29(Rev.1)-E
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SOURCE: Ministry of Post and ICTs, Algeria

TITLE: Revision of Resolution 34: The role of telecommunications/information and communication technology in disaster preparedness, early warning, rescue, mitigation, relief and response

ALG/29/1 Objective: 6

This contribution contains a proposal for revision of Resolution 34 to reflect the importance that should be accorded to the role of telecommunications and ICTs in disaster prevention and management, with the introduction of new technologies and new concepts of support and cooperation at the regional and international level.

Participants in the work of WTDC-14 are invited to consider this proposed revision of Resolution 34.

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Contact: Name/Organization/Entity: M. Mohamed Bait, Secretary-General, MPTIC, Algeria
Phone number: +213 21 733947
E-mail: m.bait@mptic.dz

RESOLUTION 34 (Rev. [Dubai, 2014](#))

The role of telecommunications/information and communication technology in disaster preparedness, early warning, rescue, mitigation, relief and response

The World Telecommunication Development Conference ([Dubai, 2014](#)),

recalling

- a) Resolution 34 (Rev. [Hyderabad, 2010](#)) and Recommendation 12 (Istanbul, 2002) of the World Telecommunication Development Conference (WTDC);
- b) Resolution 36 (Rev. [Guadalajara, 2010](#)) of the Plenipotentiary Conference, on telecommunications/information and communication technologies (ICTs) in the service of humanitarian assistance;
- c) Resolution 136 ([Guadalajara, 2010](#)) of the Plenipotentiary Conference, on the use of telecommunications/ICTs for monitoring and management in emergency and disaster situations, and for early warning, prevention, mitigation and relief;
- d) [Resolution 182 \(Guadalajara, 2010\) of the Plenipotentiary Conference, on the role of telecommunications/information and communication technologies in regard to climate change and the protection of the environment,](#)

considering

- a) that the Intergovernmental Conference on Emergency Telecommunications (Tampere, 1998) (ICET-98) adopted the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (Tampere Convention) and that this convention came into force in January 2005;
- b) that the second Tampere Conference on Disaster Communications (Tampere, 2001) (CDC-01) invited ITU to study the use of public mobile networks for early warning and the dissemination of emergency information and the operational aspects of emergency telecommunications such as call prioritization;
- c) that the World Radiocommunication Conference (Geneva, 2003), in its Resolution 646, encouraged administrations to satisfy temporary needs for frequencies in emergency and disaster relief situations, to utilize both existing and new technologies for public protection and disaster relief and to facilitate cross-border circulation of radiocommunication equipment intended for use in emergency and disaster-relief situations through mutual cooperation and consultation without hindering national legislation;
- d) that the World Radiocommunication Conference (Geneva, 2007), in its Resolution 644, resolved that the ITU Radiocommunication Sector (ITU-R) continue to study, as a matter of urgency, those aspects of radiocommunications/ICTs that are relevant to early warning, disaster mitigation and relief operations, such as decentralized means of telecommunications/ICTs that are appropriate and generally available, including amateur terrestrial and satellite radio facilities, mobile and portable satellite terminals, as well as the use of passive space-based sensing systems;
- e) that the World Radiocommunication Conference (Geneva, 2007), in its Resolution 647, resulted in the ITU-R assisting Member States with their emergency communication preparedness

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activities by establishing a database of currently available frequencies for use in emergency situations;

f) that the World Radiocommunication Conference (Geneva, 2007), in its Resolution 673, recognizes the importance of using radiocommunications for Earth observation applications, such as for prediction of disasters and monitoring of the effects of climate change;

g) the work of the ITU-R and ITU Telecommunication Standardization Sector (ITU-T) study groups in adopting Recommendations that have helped to provide technical information on satellite and terrestrial telecommunication systems and their role in disaster management, including important Recommendations pertaining to the use of satellite networks, particularly those networks which have signed partnership agreements with the Telecommunication Development Bureau (BDT) to be available in times of disasters;

h) that the Radiocommunication Assembly (Geneva, 2007) adopted Resolution ITU-R 53 on the use of radiocommunications in disaster response and relief and Resolution ITU-R 55 on ITU studies of disaster prediction, detection, mitigation and relief;

i) that modern telecommunication technologies are basic tools for disaster mitigation and relief;

j) the terrible disasters from which many countries suffer, and the disproportionate impact of disasters [and of climate change](#) on developing countries;

k) that least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing states (SIDS) are particularly vulnerable to the impact that disasters can have on their economies and infrastructures and lack the capacity to respond to disasters;

l) that the requirements of persons with special needs (e.g. children, older persons, the illiterate, displaced persons, persons with disabilities) should be taken into account with respect to disaster warning, response planning and recovery efforts;

m) that climate change may be considered to be a major contributing factor to emergencies and disasters affecting humankind;

n) the role of the private sector in providing telecommunication/ICT equipment and services, expertise and capacity-building assistance to support disaster-relief and recovery activities, particularly through the ITU Framework for International Cooperation in Emergencies (IFCE);

o) that the ITU Global Forum on Effective Use of Telecommunications/ICT for Disaster Management: Saving Lives (2007) outlined ways for ITU and its members to integrate ICTs into disaster-management plans;

[p\) that a disaster when it occurs may extend beyond the borders of a State and its management may involve the deployment of efforts by more than one country in order to prevent loss of human life and regional economic crisis;](#)

[q\) that coordination between international, regional and national organizations that specialize in disaster management increases the probability of saving human life when rescue operations are conducted and thereby mitigates the consequences of a disaster;](#)

[r\) that collaborative work and networking among disaster management experts is essential;](#)

[s\) that the use of ICTS for exchanging and transmitting reliable, accurate and useful information in the event of a disaster is a powerful decision-making tool for rescue services and operating entities.](#)

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noting

- a) § 51 of the Geneva Declaration of Principles adopted by the World Summit on the Information Society (WSIS), on the use of ICT applications for disaster prevention;
- b) § 20 (c) of the Geneva Plan of Action adopted by WSIS, on e-environment, which calls for the establishment of monitoring systems, using ICTs, to forecast and monitor the impact of natural and man-made disasters, particularly in developing countries, least developed countries and countries with small economies;
- c) § 30 of the Tunis Commitment adopted by WSIS, on disaster mitigation;
- d) § 91 of the Tunis Agenda for the Information Society adopted by WSIS, on disaster reduction;
- e) the continued pursuit by ITU and other relevant organizations of joint activities being undertaken at the international, regional and national levels to establish internationally agreed means to operate systems for public protection and disaster relief on a harmonized and coordinated basis, and the successful role of BDT through the activities of Programme 6 of the Doha Action Plan;
- f) that the capability and flexibility of all telecommunication facilities depend upon appropriate planning for the continuity of each phase of network development and implementation;
- g) the successful role of BDT with respect to rapid intervention in providing telecommunications/ICTs serving countries which have suffered disasters;
- h) that all phases of disaster operations can be greatly facilitated by national emergency communication plans that enable the rapid deployment and effective utilization of ICT equipment;
- [i\) that countries include in their land use and development plans provisions that can avert the risk of disasters and mitigate their effects,](#)

noting further

- a) the latest version of the ITU Telecommunication Development Sector (ITU-D) Handbook on Emergency Telecommunications ([2014](#)), the Compendium of the ITU's Work on Emergency Telecommunications (2007), the ITU Handbook on Best Practice on Emergency Telecommunications (2008), and the adoption of Recommendation ITU-D 13 (Rev.2005) on "Effective utilization of the amateur [radio](#) services in disaster mitigation and relief operations";
- b) that further guidance for ITU members on disaster communication management is provided by the successful conclusions of ITU-D Study Group 2 Question 22/1/2 and the ITU-D Study Group 2 Report on guidelines for using a content standard ([2014](#)) for alerts and notifications in disasters and emergency situations (2008) regarding the implementation of Recommendation ITU-T X.1303 on the Common Alerting Protocol (CAP);
- [c\) the draft Handbook on Outside Plant for Areas Frequently Exposed to Natural Disasters and an online toolkit which would enable those dealing with Question 22-1/2 and BDT to update its contents more regularly as technology evolves and new data become available, and to propose multimedia content in different languages and links to existing online resources and to the sites of specialist organizations;](#)

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d) that the [Report on use of remote sensing for disaster prediction, detection and mitigation \(2008\)](#), and [Guidelines for implementation of satellite telecommunications for disaster management in developing countries \(2009\)](#), provide Members of ITU with additional guidelines on the management of communications in the event of a disaster;

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e) that the ITU regional offices can be particularly helpful prior to and following emergencies, owing to their proximity to affected countries,

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recognizing

a) that the recent tragic events in the world and the experience of BDT in this area in the period between [WTDC-10](#) and [WTDC-14](#) have clearly demonstrated the need for high-quality communications services and reliable telecommunication infrastructure to ensure public safety and assist disaster-relief agencies in minimizing risk to human life and to provide the necessary general public information and communication needs in such situations;

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b) that at the global level there is a growing political awareness of the potentially serious consequences of climate change, which can affect entire populations and destabilize national economies,

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resolves to instruct the Director of the Telecommunication Development Bureau

1 to continue to ensure that proper consideration be given to emergency communications as an element of telecommunication development, including continued close coordination and collaboration with ITU-R and ITU-T, and other relevant international organizations;

2 to facilitate and encourage the use of decentralized means of communications that are appropriate and commonly available to BDT, including those provided by amateur radio, satellite and terrestrial network services/facilities;

3 to promote, in close collaboration with ITU-R and ITU-T, emergency information services for the general public operating through neighbourhood media and including audio and TV broadcasting, providing in particular information for disabled people;

4 to support administrations in their work towards the implementation of this resolution as well as the ratification and implementation of the Tampere Convention;

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5 to report to the next WTDC on the status of ratification and implementation of the Tampere Convention;

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6 to support administrations and regulators in those areas identified in this resolution by taking appropriate measures during the implementation of the [Dubai Action Plan](#);

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7 to continue to support administrations in preparing their national disaster-response plans, and in particular to define a national globally standardized number for access to emergency services;

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8 to strengthen the role of the ITU regional offices in assisting Member States and Sector Members in developing emergency-preparedness plans, in organizing workshops on emergency rescue and response, in providing equipment training and in helping deploy communication equipment during emergencies;

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9 in view of the success of the 2007 global forum, to consider following it with a new world forum on the optimal use of ICTs for disaster management, in collaboration with the General Secretariat and the Radiocommunication and Standardization Bureaux;

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10 to expedite the study of aspects of telecommunications/ICTs related to flexibility and continuity in the event of disasters, as part of national disaster plans, including promoting the use of broadband networks for emergency communications through the work of the ITU-D study groups and taking account of the activities of the other Sectors;

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11 to instruct Programme 5, in collaboration with the study groups concerned in the other two Sectors, to prepare a handbook/guidelines on the establishment of telecommunication outside plant in areas frequently suffering from natural disasters;

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12 to encourage regional coordination with the help of ITU bodies and regional and international specialized organizations in order to draw up regional intervention plans in the event of a disaster;

13 to promote partnerships through bilateral and multilateral agreements between States and the private sector, in order to have more reliable data free of charge from telecommunication/ICT services, on disaster-affected areas, for the purpose of assisting rescue operations;

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14 to include in the ITU Academy's training plans programmes on the use of ICTs for disaster management and mitigation;

15 with ITU-R, to revise Recommendation ITU-R BT.1774 (2007), on the use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief, within the framework of work on Question 22;

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16 to communicate, through the online toolkit, any updates to ITU Resolutions, Recommendations and reports on emergency telecommunications, including those listed in the annex,

requests the Secretary-General

1 to continue to work closely with the office of the United Nations Emergency Relief Coordinator and other relevant external organizations with a view to further increasing the Union's involvement in, and support to, emergency communications, and to report on the outcome of related international conferences, relief activities and meetings so that the Plenipotentiary Conference (Busan, 2014) may take any action that it deems necessary;

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2 to take the requisite measures to hold the second global forum on optimal use of ICT in disaster and emergency situations within the framework of Programme 5,

invites

1 the United Nations Emergency Relief Coordinator and the Working Group on Emergency Telecommunications and the other relevant external organizations or bodies to collaborate closely with ITU, specifically BDT, in working towards implementing this resolution and the Tampere Convention, and supporting administrations and international and regional telecommunication organizations in the implementation of the Convention;

2 administrations to deploy all necessary efforts to encourage telecommunication service providers to make available their infrastructure in the event of disasters, and to take steps to incorporate ICTs into national or regional disaster-management plans and frameworks, including addressing the specific needs of persons with disabilities, children, older persons, displaced persons and the illiterate in disaster preparedness, rescue, relief and recovery planning;

- 3 regulators to ensure that disaster mitigation and relief operations make provision for the necessary telecommunications/ICTs, through national regulations and national disaster plans;
- 4 ITU-D to take account of the particular telecommunication requirements of LDCs, LLDCs, SIDS and low-lying coastal countries in terms of disaster preparedness, rescue, relief and recovery;
- 5 administrations that have not yet ratified the Tampere Convention to take necessary action to do so as appropriate;
- 6 BDT to consider how space-based technologies can be used to help ITU Member States collect and disseminate data on the effects of climate change, having regard to the link between climate change and natural disasters;
- 7 ITU-D to take account of the work of ITU-R, to consider the increased use of mobile and portable communication devices which can be used by first responders to transmit and receive critical information, and to encourage administrations to facilitate, to the extent practicable, cross-border circulation of radiocommunication equipment intended for use in emergencies, rescue operations and disaster-relief situations, through mutual cooperation and consultation, without prejudice to national legislation, in accordance with Resolution 646 (WRC-07);
- 8 Member States and Sector Members to work together to consider standards and related technical issues for improving radio broadcasting systems for sending and receiving information concerning public warning, rescue, disaster mitigation and relief.

[Annex I : List of ITU Resolutions, Recommendations and reports on emergency telecommunications](#)

[Plenipotentiary Resolution 36 \(Guadalajara, 2010\) – Telecommunications/Information and communication technology in the service of humanitarian assistance](#)

[Plenipotentiary Resolution 136 \(Rev. Guadalajara, 2010\) – The use of telecommunications/information and communication technologies for monitoring and management in emergency and disaster situation for early warning, prediction, mitigation and relief](#)

[WTDC Resolution 34 \(Rev. Hyderabad, 2010\) – The role of telecommunications/information and communication technology in early warning and mitigation of disasters and humanitarian assistance](#)

[Hyderabad Action Plan Programme 5 \(Hyderabad, 2010\)](#)

[Resolution 646 \(Rev. WRC-12\) – Public protection and disaster relief](#)

[Resolution 647 \(Rev. WRC-12\) – Spectrum management guidelines for emergency and disaster relief radiocommunications](#)

[Resolution 644 \(Rev. WRC-07\) – Radiocommunication resources for early warning, disaster mitigation and relief operations](#)

[Resolution 673 \(WRC-07\) – Radiocommunications use for Earth observation applications](#)

[Resolution ITU-R 53-1 – The use of radiocommunications in disaster response and relief](#)

[Resolution ITU-R 55-1 – ITU studies of disaster prediction, detection, management and relief](#)

[Recommendation ITU-R S.1001-2 – Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations](#)

[Recommendation ITU-R BO.1774-1 – Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief](#)

[Recommendation ITU-R M.1854-1 – Use of the mobile-satellite service for disaster response and relief](#)

[Recommendation ITU-R M.1042-3 – Disaster communications in the amateur and amateur-satellite services](#)

[Recommendation ITU-R M.1043-2 – Use of the amateur and amateur-satellite services in the developing countries](#)

[Recommendation ITU-R M.1044-2 – Frequency sharing criteria in the amateur and amateur-satellite services](#)

[Recommendation ITU-R F.1105-2 – Fixed wireless systems for disaster mitigation and relief operations](#)

[Recommendation ITU-R M.2009 – Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646 \(Rev. WRC-12\)](#)

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[Recommendation ITU-R M.2015 – Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 \(Rev. WRC-12\)](#)

[Recommendation ITU-R M.1637 – “Global cross-border circulation of radio communication equipment in emergency and disaster relief situations”](#)

[Recommendation: ITU R RS.1859 – Use of remote sensing systems for data collection to be used in the event of natural disasters and similar emergencies](#)

[Recommendation ITU-T X.1303 – Common alerting protocol \(CAP1.1\)](#)

[Recommendation ITU-T L.92 – Disaster management for outside plant facilities](#)

[Recommendation ITU-T E.106 – “International Emergency Preference Scheme for disaster relief operations \(IEPS\)”](#)

[Recommendation ITU-T E.107 – “Emergency Telecommunications Service \(ETS\) and Interconnection Framework for National Implementations of ETS](#)

[Recommendation ITU-T E.161.1 – “Guidelines to select Emergency Number for public telecommunications networks”](#)

[Recommendation ITU-T Y.1271 – “Framework\(s\) on network requirements and capabilities to support emergency communications over evolving circuit-switched and packet-switched networks”](#)

[Recommendation ITU-T Y.2205 – “Next Generation Networks - Emergency Telecommunications - Technical Considerations”](#)

[Handbooks and Reports](#)

[Report ITU-R S.2151-1 – “Use and examples of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief”](#)

[Report ITU-R M.2149-1 – “Use and examples of mobile-satellite service systems for relief operation in the event of natural disasters and similar emergencies”](#)

[Report ITU-R M.2085-1 – “Role of the amateur and amateur-satellite services in support of disaster mitigation and relief”](#)

[Report ITU-R M.2014-2 – “Digital land mobile systems for dispatch traffic.”](#)

[Report ITU-R M.2085 – “Role of the amateur and amateur-satellite services in support of disaster mitigation and relief”](#)

[Report ITU-R M.2033 – “Radio communication objectives and requirements for Public Protection and Disaster Relief \(PPDR\)”](#)

[ITU-D Reports on use of remote sensing for disaster prediction, detection and mitigation \(2008-2014\)](#)

[ITU-D Report on Guidelines for using a content standard for alerts and notifications in disasters and emergency situations \(2008\)](#)

[ITU-D Report on Guidelines for Implementation of Satellite Telecommunications for Disaster Management in Developing Countries \(2009\)](#)

[Compendium on ITU’s Work on Emergency Telecommunications \(2007\)](#) [Best Practice on Emergency Telecommunications \(2007\)](#)

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