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TITLE: New Recommendations submitted for approval by WTDC-14

The Conference is invited to **review** and **approve** the new Draft Recommendations included in this document.

Within the scope of the work on ITU-D Study Group 2 Question 10-3/2 (Telecommunications/ICTs for rural and remote areas) and Question 24/2 (ICT and climate change), ITU-D Study Group 2 at its final meeting for the 2010-2014 study period held in Geneva from 16 to 20 September 2013 agreed on the two draft Recommendations. These two Recommendations on "*Policy and regulatory initiatives for developing telecommunications/ICTs/broadband in rural and remote areas*" and "*ICT and climate change*" were further endorsed by TDAG during its 18th session held from 11 to 13 December 2013.

Approval of these two Recommendations by Member States is sought during the WTDC in accordance with the process described in § 19.4 in section 5 of Resolution 1 (Rev. Hyderabad, 2010).

The texts of the new Recommendations are available in **Annex 1** (Policy and regulatory initiatives for developing telecommunications/ICTs/broadband in rural and remote areas) and **Annex 2** (ICT and climate change) to this this document.

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Annex 1:
Recommendation ITU-D

Policy and regulatory initiatives for developing telecommunications/ICTs/broadband in rural and remote areas

ITU-D Study Group 2,

considering

- a) that the significant role of telecommunications/ICTs/broadband in providing services, particularly e-applications in rural and remote areas of developed, countries in transition, developing and least developed countries for the empowerment of its people, promotion of culture, improvement of the quality of life of the rural community, development of economy, etc.;
- b) that ITU-D Study Groups 1 and 2 continued their study activities to address the challenges faced by the rural and remote areas of the world in general and those areas of the LDCs and developing countries in particular on various issues including but not limited to the range of techniques and solutions to provide services and e-applications based on the inputs by the membership;
- c) that ITU-D Recommendation 19 (Hyderabad, 2010) compiled the past recommendations and consolidated into recommendation based on the result of the studies of the techniques and solutions for the development of telecommunications/ICTs/broadband for rural and remote areas since the establishment of the dedicated study Question during WTDC-94 (Buenos Aires);

recognizing

- a) that BDT, under the activities of the ITU-D Study Group 2 Question 10-3/2 conducted a survey to gather detailed information on policy and regulatory measures that have been taken by the governments around the world and economic and business models for telecommunications/ICTs/broadband growth in rural and remote areas;
- b) that the survey also sought to collect information on possible impact and analysis of such interventions and initiatives;
- c) that the inputs received through the survey were useful for the study of ITU-D Study Group 1 and 2 Questions for 2010-2014 study period to assist countries in strengthening the capacity to address challenges for the development of telecommunications/ICTs/broadband in rural and remote areas,

taking into account

- a) the results of analysis of the survey submitted by BDT to ITU-D Study Group 2;
- b) the analysis of case studies submitted to ITU-D Study Group 2 during 2010-2014 study period;
- c) the final report of ITU-D Study Group 2 Question 10-3/2 dedicated to "Telecommunications/ICTs for rural and remote areas" (2014);
- d) the report of Broadband Commission (2012) submitted to ITU-D Study Group 2;
- e) the report of ITU on measuring the information society (2012);
- f) the fact that in contrast to the large percentage of the global population that subscribe to basic mobile phone services, internet connectivity in developing and least developed countries is still limited, in particular in their rural and remote areas;
- g) that many governments have initiated the development of a specific National Broadband Network Plan that would also cater the needs of the rural and remote areas;

- h) that active and passive infrastructure sharing along with the sharing of spectrum resources are already included by some countries in their national telecommunication/ICT policy,
- i) that new licensees with the support of universal service fund and sharing of active, passive network elements based on reference offers along with spectrum resources can service rural and remote areas with incremental addition of their own network infrastructure elements, billing systems and customer services and independent tariff plans,

noting

- a) that the following major interventions/initiatives are observed in the analysis of survey input;
- b) that the definition of “rural and remote areas” is based on the sparse population and harsh geographical conditions and some countries have license obligations to cover a certain percentage of population in such areas;
- c) that the majority of the countries that responded to the survey have specific government policies in place for the development of telecommunications/ICTs/broadband in rural and remote areas, including the instruments, such as universal service provisions, universal access funds, license obligations, and targets of broadband coverage, penetration rate and data speed, defined in the telecommunication law and regulation;
- d) that funds are collected by the government ministry or telecommunication regulator of the country as a percent of annual gross revenue or other scheme in proportion with their income/annual net revenue/turnover and also managed and disbursed by the relevant ministry or regulator;
- e) that the development and adoption of appropriate economic model and business model is critical for the development and sustainability of telecommunications/ICTs/broadband networks and service provisioning in rural and remote areas. It has been found that various kinds of economic and business models have been adopted by Member States based on specific country situations and requirements;
- f) that sharing of backbone network infrastructure in rural and remote areas among operators, in contrast to building network infrastructure using government special budget and through USO fund, is one possible option;
- g) that special policy, legal and/or regulatory frameworks for infrastructure sharing in rural and remote areas, for example by using optical fiber cables and BTS/microwave towers and related support infrastructures, is an option worth considering in developing and least developed countries.

convinced

- a) that the development of telecommunications/ICTs/broadband services is essential for overall socio-economic and cultural development as well as for the promotion of other sectors;
- b) that the development of ICT infrastructure is an important measures to suppress the migration of population to urban areas;
- c) that telecommunication/ICT infrastructure is an important tool to measure factors related to the protection of the environment.

recommends

- 1) that governments and regulators around the world in general and in the developing and least developed countries in particular should take regulatory and policy measures to accelerate the development of telecommunications/ICTs/broadband in their rural and remote areas through

specific policy and regulatory interventions/initiatives and included in their national development plans;

- 2) that operators and service providers should implement universal service of telecommunication/ICTs in rural and remote areas;
- 3) that sector members, associates and academia should take actions to increase studies on economic, energy efficient and clean equipment suitable for ICT infrastructure development in rural and remote areas;
- 4) that the state of the art cost effective techniques and technologies for broadband infrastructure development most suited for the geographical and economic conditions of rural and remote areas are put in place to enable them to access various e-applications, specially those which integrate them into national streams like e-governance, e-health, e-education, e-agriculture, etc. for vitalizing rural community through policy and regulatory interventions/initiatives;
- 5) that country/area specific poverty indices published by United Nations/World Bank may be taken into due consideration in the implementation of universal service of telecommunication/ICT in rural and remote areas.

invites the Director of BDT

1. to continue organizing symposiums, seminars, workshops and related activities on the subject.
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Annex 2:
Recommendation ITU-D
ICT and climate change

ITU-D Study Group 2,
considering

- a) that climate change is now an undeniable reality, and global action to reduce greenhouse gas emissions is urgent in order to avoid devastating impacts on our societies;
- b) that the World Telecommunication Development Conference 2010 (WTDC-10) stated that Telecommunications/ICTs can make a substantial contribution to monitoring, mitigating and adapting to the adverse effects of climate change;
- c) that the World Radiocommunication Conference 2012 (WRC-12) revised Resolution 673 (Rev. Geneva, 2012) on the importance of earth observation radiocommunication applications;
- d) that the Plenipotentiary Conference 2010 (PP-10) adopted Resolution 182 on “The role of telecommunications/ information and communication technologies in regard to climate change and the protection of the environment”;
- e) that Resolution 66 (Hyderabad, 2010) of the World Telecommunication Development Conference, on information and communication technology and climate change, states that radio-based remote sensing applications on board satellites are the main global observation tools employed by the Global Climate Observation Systems for climate monitoring, disaster prediction, detection and mitigation of the negative effects of climate change;
- f) that the economic costs imposed by extreme climates and disasters on humans, societies, and ecosystems are growing;
- g) that climate modelling indicates that, in future, continued increases in greenhouse gas concentrations may drive more extreme weather events;
- h) that, according to Resolution 30 (Rev. Guadalajara) of the Plenipotentiary Conference, countries, particularly small island developing states, least developed countries (LDCs), landlocked developing countries (LLDCs) and low-lying coastal countries are vulnerable to global climate change and rising sea levels;
- i) that the process established by the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the on-going negotiations of its Intergovernmental Negotiating Committee are important international actions aimed at addressing the threat of climate change, mitigating its adverse impacts and assisting all ITU Member States, especially LDCs, in adapting to its adverse consequences.

noting

- a) that ICTs can facilitate faster development of various social and economic sectors in any country and that they lead to equal opportunities for all mankind, especially perceptible;
- b) improvement for the most vulnerable parts of society in rural and remote areas, contributing to their inclusive growth of society;
- c) that providing assistance to developing countries in formulating national and regional strategies and measures on the use of ICTs can help mitigate and respond to the devastating effects of climate change;
- d) that it is necessary to have an updated map of the potential upheavals that may occur in the long term due to the consequences of the warming of the climate;

- e) that mapping areas vulnerable to natural disasters and developing computer-based information systems covering the results of surveys, assessments and observations, as part of the development of adequate response strategies, adaptation policies and measures can minimize the impact of climate change and climate variability;
- f) that assisting developing countries in the use of data from active and passive satellite-based remote sensing systems for climate monitoring, disaster prediction, detection and mitigation of the negative effects of climate change is a key issue to understand the climate long term evolution ;
- g) that facilitating Member States' participation in bilateral, regional and global research, assessments, monitoring and mapping of climate impacts can help in the development of response strategies;
- h) that we can take benefit of the experience of some countries, suffering from extreme weather events, which have already integrated in their strategy against climate change a list of concrete principles and actions;
- i) that the world summit of information society decided to launch projects to promote ICTs in the fields of environment, natural resources, green ICT Sector and natural disasters.

recognizing

- a) that emissions of global warming gases continue to rise as the world burns ever more coal, oil and gas for energy;
- b) that the year 2012 was the 10th warmest year since records began in 1880. The annually averaged temperature across global land and ocean surfaces was 0.57°C above the 1950s average, and around 0.8°C above the 1880 estimated average;
- c) that there are changes in rainfall patterns and wetter regions of the world (mid to high latitudes in the northern hemisphere and tropical regions) are generally getting increasing rainfall, and drier regions less rainfall;
- d) that significant temperature increases have been observed over the last 50 years in the Atlantic, Pacific and Indian Ocean basins and that these increases cannot be attributed to changes in solar activity, volcanic eruptions or other natural variations;
- e) that due to the operation of ground instruments since 1880 and the operation of remote sensing satellites, the constant increase of the mean sea level is a scientific fact that cannot be challenged;
- f) that the increase of the mean sea level is threatening small islands and cities along the coast;

recognizing further

- a) that telecommunications/ICT are of critical importance to overall economic, social and cultural development;
- b) that countries believe it is essential to develop Internet access, to encourage training in ICT as part of adaptation to climate change, as insufficient data is gathered at local level and sent for analysis;
- c) that some countries want to learn more on the reduction of energy consumption and about greenhouse gas emissions, and also to learn about ICTs that could operate at lower energy consumption that would require less maintenance and what is the corresponding quantified benefit for climatic change;
- d) that some countries would like to learn more about the negative effects or impact of not using "green" ICT and how can they contribute to help reduce the global warming.

recommends

1. that countries elaborate guidelines, best practices, implement national policies and related measures to facilitate the use of ICT to combat climate change challenges;
2. that support is provided to help countries invest more in meteorology monitoring services in order to prevent extreme events that could be devastating as better prediction would costs relatively little and helps reduce the carnage caused by floods, droughts and tropical cyclones;
3. that in order to help countries invest in the technologies they need to know more about the climate change in general, and have better access to and understanding of meteorological data (satellite and terrestrial) that is supplied;
4. that countries elaborate training programs for a better usage of all the monitoring data;
5. that a program is developed based on real figures showing the effect of reduced energy consumption and the benefit of ICT;
6. that it is necessary to adopt innovative ICT-enabled strategies to tackle climate change adaptation and mitigation on the long-term;
7. that, as ICTs may need to operate in difficult meteorological conditions (hot weather, high humidity...), it becomes urgent to help countries develop more affordable green ICTs, as well as more robust and reliable;
8. that better cooperation between countries is to be established in areas related to the monitoring of meteorological data and for mitigating climate change using ICTs;

recommends further

1. that appropriate steps be taken for the creation of an enabling environment at the national, regional, and international levels to encourage development and investment in the ICT sector, in meteorology and in prediction of extreme events by ITU Members;
2. that work on further developing the field of ICTs and climate change is continued and treated by countries as a priority and urgent task;

invites the Director of BDT

1. to continue to actively contribute to enhancing activities related to climate change mitigation and adaptation;
 2. to continue jointly organizing events with other sectors of ITU in order to reduce duplication and to enhance sharing of information across the sectors and member states;
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