

Buenos Aires Action Plan

STUDY GROUP 1

QUESTION 5/1

Telecommunications/information and communication technologies for rural and remote areas

1 Statement of the situation or problem

In order to continue to contribute to achieving the objectives set by the Geneva Plan of Action of the World Summit on the Information Society (WSIS), and to promote attainment of the Sustainable Development Goals (SDGs) defined in September 2015, it is necessary to address the challenge of infrastructure development in the rural and remote areas of developing countries¹, where more than half of the world's population live.

The installation of cost-effective and sustainable basic telecommunication infrastructure in rural and remote areas is an important aspect calling for further studies, and specific outcomes need to be available for the vendor community to develop a suitable solution to meet the challenges in rural and remote areas.

Most of the time, existing network systems are primarily designed for urban areas, where the necessary support infrastructure (adequate power, building/shelter, accessibility, skilled manpower to operate, etc.) for setting up a telecommunication network is assumed to exist. Hence, current systems need to be more adequately adapted to specific rural requirements in order to be widely deployed.

Shortage of power, difficult terrain, lack of skilled manpower, access and transportation, and installation and maintenance of networks are some of the known challenges that developing countries planning to extend information and communication technologies (ICTs) to rural and isolated areas must tackle.

More detailed studies addressing the challenges of deploying cost-effective and sustainable ICT infrastructure in rural and remote areas are expected to be undertaken within the study groups of the ITU Telecommunication Development Sector (ITU-D), taking into account the global perspective.

Therefore, the WSIS target, "Connect villages with telecommunications/ICT and establish community access points", should be promoted more intensively, by employing emerging broadband technologies for various e-application services to stimulate social and economic activities in rural and remote areas. Multipurpose community telecentres (MCT), public call offices (PCO), community access centres (CAC) and e-posts are still valid in terms of cost effectiveness for sharing of infrastructure and facilities by community residents, leading to the goal of provision of individual telecommunication access.

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

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2 Question or issue for study

There are still many challenges to spreading telecommunications/ICTs in rural and remote areas. Throughout the studies conducted in past study periods, it has been clear from the experience of many countries that technologies and strategies for rural and remote areas are various and diversified from country to country. Also, the social, economic and technological situation in rural and remote areas is changing rapidly. Therefore, it is important to update the study of telecommunications/ICTs for rural and remote areas and to provide best practices to other developing and developed countries, in respect of the following items:

- Techniques and sustainable solutions that can impact on the provision of telecommunications/ICTs in rural and remote areas, with emphasis on those that employ the latest technologies designed to lower infrastructure capital and operating costs, assist convergence between services and applications, and take into consideration the need to reduce greenhouse gas (GHG) emissions.
- Difficulties in creating or upgrading telecommunication infrastructure in rural areas.
- Difficulties facing fixed and mobile networks for rural deployments in developing and developed countries, and the requirements to be satisfied by such systems.
- Needs and policies, mechanisms and regulatory initiatives to reduce the digital divide by increasing broadband access.
- Quality of the services provided, and the cost effectiveness, degree of sustainability in different geographies and sustainability of the techniques and solutions.
- Business models for sustainable deployment of networks and services in rural and remote areas, taking into consideration priorities based on economic and social indicators.
- Increasing availability of telecommunications/ICTs that provide enhanced connectivity at progressively lower costs, lower energy consumption and lower levels of GHG emissions.
- Experience gained in previous ITU-D study cycles in many parts of the developing world in implementing and refining major rural telecommunication programmes, as more countries respond to particular situations and domestic demand using best practices as outlined in the work of ITU-D.
- The influence of cultural, social and other factors in producing differing and often creative responses to meeting the demand for multimedia services from residents of rural and remote areas of developing and least developed countries (LDCs).
- The steady progress being made on human resources development/management issues, which are fundamental to establishing sustainable telecommunication infrastructure.
- Identifying the rapid change of technologies which could be utilized in rural and remote areas should be taken into account. Here, coordination with Question 1/1 is needed to avoid duplication.
- Opportunities for and challenges to access to services in locally relevant languages.

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- Description of evolving system requirements for rural network systems specifically addressing the identified challenges of rural deployment.
- Analysis of case studies.

During the study carried out on each of these items, the following matters should also be studied and reflected in the outputs of the Question:

- environmental sustainability in deploying the infrastructure and necessary robustness of telecom infrastructure;
- maintenance and operational aspects to provide a quality and continuous service;
- demand-side factors and practices to generate and increase the usage of ICT devices and services;
- efforts to build ICT skill sets for the deployment of broadband services;
- relevant localization of content;
- affordability of services/devices for rural users to adopt so as to fulfil their development needs;
- strategies to maintain and encourage the training of technical staff in order to guarantee the reliability of the telecommunication infrastructure;
- strategies to promote small, non-profit community operators

In addressing the above studies, the work under way in response to other ITU-D Questions, and close coordination with relevant activities under those Questions, in particular Questions 1/1, 3/1 and 4/1 and Questions 2/2, 4/2 and 5/2, are highly relevant. Likewise, the studies shall take into account cases related to indigenous communities, isolated and poorly served areas, LDCs, small island developing states (SIDS) and landlocked developing countries (LLDCs), and highlight their specific needs and other particular situations which need to be considered in developing telecommunication/ICT facilities for these areas.

3 Expected output

The output will be a report on the results of the work conducted for each item studied, together with a handbook, case study analysis reports, and one or more Recommendations and other relevant materials at appropriate times, either during the course of or at the conclusion of the cycle.

Information shall be consolidated and disseminated to the membership to enable them to organize seminars and workshops for sharing best practices on the deployment of broadband infrastructure in rural and underserved areas.

4 Timing

The output will be generated on an annual basis. The output from the first year will be analysed and assessed in order to update the work plan for the next year, and so on.

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5 Proposers/sponsors

The Question was originally approved by WTDC-94, and subsequently revised by WTDC-98, WTDC-02, WTDC-06, WTDC-10, WTDC-14 and WTDC-17. Brazil, India, Mexico and Japan.

6 Sources of input

Contributions are expected from Member States, Sector Members and Associates, as well as inputs from relevant Telecommunication Development Bureau (BDT) programmes, particularly those that have successfully implemented telecommunication/ICT projects in rural and remote areas. These contributions will enable those responsible for work on this Question to develop the most appropriate conclusions, recommendations and outputs. The intensive use of correspondence and online exchange of information and experiences is encouraged for additional sources of inputs.

7 Target audience

Target audience	Developed countries	Developing countries
Relevant policy-makers	Yes	Yes
Telecom regulators	Yes	Yes
Rural authorities	Yes	Yes
Service providers/operators	Yes	Yes
Manufacturers, including software developers	Yes	Yes
Vendors	Yes	Yes

a) Target audience

Depending on the nature of the output, upper- to middle-level managers in operators and regulators in developing countries, including relevant rural authorities, are the predominant users of the output. The study outcomes will ensure adequate attention of vendors to focus on their development efforts to meet the needs of developing countries.

b) Proposed methods for implementation of the results

To be decided during the study period.

8 Proposed methods of handling the Question

Within ITU-D Study Group 1.

9 Coordination

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

- Focal points of the relevant Questions in BDT
- Coordinators of relevant project and programme activities in BDT

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- Regional and scientific organizations with mandates covering the subject matter of the Question
- Other relevant stakeholders (see Recommendation ITU-D 20).

As may become apparent within the life of the Question.

10 BDT programme link

WTDC Resolution 11 (Rev. Buenos Aires, 2017), Resolution 68 (Rev. Dubai, 2014) and Recommendation ITU-D 19.

Links to BDT programmes aimed at fostering the development of telecommunication/ICT networks as well as relevant applications and services, including bridging the standardization gap.

11 Other relevant information

As may become apparent within the life of the Question.
