MOD QUESTION 1/1

Enabling policies and strategies for universal connectivity with a focus on underserved, remote and rural areas

1 Statement of the situation or problem

Despite significant progress in global Internet connectivity, approximately 30% of the world's population remains unconnected. This disproportionately affects people in rural and remote areas and in developing countries, including Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), and Small Island Developing States (SIDS). This persistent rural-urban digital divide hinders the achievement of the Geneva Plan of Action of the World Summit on the Information Society (WSIS) and the Sustainable Development Goals (SDGs), particularly those related to inclusive economic growth, education, and access to information. The lack of telecommunication/ICT infrastructure and affordable broadband services in these regions limits opportunities for digital transformation and meaningful participation through telecommunications/ICTs.

To bridge this divide, there is an urgent need for comprehensive strategies that leverage the wide range of telecommunications/ICTs, supported by enabling policies, regulatory frameworks, and multistakeholder collaboration.

Solutions that involve both terrestrial and non-terrestrial technologies that enable the use of common telecommunication/ICT services and applications required by citizens for digital transformation is now priority.

Promoting incentives and an enabling regulatory environment for the investments required to meet the growing demand for access to the Internet generally, and bandwidth and infrastructure requirements, for delivering affordable broadband services to meet development needs, including consideration of public, private and public-private partnerships for investment.

Holistic universal access and innovative financing mechanisms is required, including universal service funds, for both network expansion and connectivity for unserved and underserved populations.

Considering that the deployment of cost-effective and sustainable digital infrastructure, through the deployment of emerging technologies such as next-generation high-speed wired/wireless terrestrial and non-terrestrial networks suited for rural and remote areas, is an important aspect calling for further studies, and specific outcomes need to be available for the whole community to make available Internet connectivity to support up-to-date e-services for the quality of life of inhabitants.

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2 Question or issue for study

2.1 Continuing topics to consider from Question 1/1 and Question 5/1 of 2022-2025 study period

1) National digital policies, strategies and plans which seek to ensure that broadband is available to as wide a community of users as possible.

2) Techniques and sustainable solutions that can impact on the provision of telecommunications/ICTs and availability of broadband infrastructure in rural and remote areas, with emphasis on those that employ up-to-date suitable technologies to lower infrastructure and operating costs and support interoperability among telecommunication/ICT systems and services.

3) Challenges in building and deploying broadband infrastructure in rural and remote areas.

4) Needs and policies, mechanisms and regulatory initiatives to reduce digital divide between rural and urban areas by increasing connectivity, including broadband digital access, including 1) methods for planning and implementation of migration to broadband technologies, taking into account existing networks, as appropriate; and 2) national policies, strategies and plans that seek to ensure broadband is available to as wide a community of users as possible.

5) Improving the quality of the services in rural and remote areas and with increased bandwidth and reliable broadband infrastructure (in collaboration with Question 4/1 and Question 2/1).

6) Licensing approaches and viable business models for considered long term deployment of networks in rural and remote areas using new and emerging telecommunication/ICT technologies. This includes consideration of public, private and public-private partnerships for investment in broadband deployment at large, as well as initiatives for the effective integration of various telecommunication/ICT infrastructure technologies including terrestrial and non-terrestrial systems. (in collaboration with Question 4/1).

7) Policies and strategies to tap on the opportunities and address the challenges to access to services in locally relevant languages for indigenous people and for people with specific needs.

8) Affordability of services especially for users in rural and remote areas to adopt so as to fulfil their development needs (in collaboration with Question 4/1).

9) Strategies to promote small and medium enterprises (SMEs), and complementary access and village connectivity networks, in accordance with national regulations, for providing telecommunication/ICTs services in rural and remote areas, and for promoting innovation and achieving national economic growth, in order to reduce the digital divide between rural and urban areas.

10) Cross-border connectivity and challenges for SIDS and LLDCs.

11) The regulatory and market conditions necessary to promote deployment of and access to broadband networks and services, including, policies and strategies that support competitive markets and innovation.

12) Sharing experiences on reducing infrastructure cost by way of co-investment, co-location and co deployment. (in collaboration with Question 4/1).

2.2 New topics for this study period

13) Harnessing the complementarity of terrestrial and non-terrestrial networks.

14) Sharing and disseminating results of the studies towards promoting affordable access to satellite telecommunications, including broadband connectivity.

15) Sharing case studies on capacity-building activities on the use of broadband connectivity via satellite.

16) Inclusive National Broadband Policies and Regulatory Frameworks: Examine how national telecommunication/ICT strategies can be designed to promote competition, including by means of licensing, and prioritise universal meaningful connectivity, especially rural connectivity, including mechanisms for universal access and incentives for underserved areas.

17) Integrated National Telecommunication/ICT Strategies and Whole-of-Government Coordination: Examine how cross-sectoral collaboration (e.g., ICT, finance, energy, education, transport) can be institutionalized to align telecommunication/ICT infrastructure goals with national development priorities.

18) Public investment and blended financing mechanisms: Explore policy frameworks that enable the use of public funds, Universal Service Funds, public-private partnerships, and multilateral development financing to de-risk private investment in universal meaningful connectivity.

19) Monitoring, Evaluation, and Data-Driven Policy Design: Explore frameworks for collecting and using disaggregated policy related data to inform infrastructure investment decisions and track progress in rural and remote connectivity. (in collaboration with Question 4/1)

3 Expected output

Revision of the Final Reports on Question 1/1 and Q 5/1 for ITU-D study period 2022-2025, as appropriate.

a) Annual reports and deliverables to be presented for ITU-D Study Group 1 for information.

b) Guidelines on the topics of Question 1/1 to be presented for ITU-D Study Group 1 for approval, if any.

c) Possible workshop/ seminars on the topics of Question 1/1 to be presented for ITU-D Study Group 1 for approval, if any.

d) Final Reports on the topics of Question 1/1 to be presented for the last meeting of ITU-D Study Group 1 in 2026-2029 study period for approval:

e) ITU-D Recommendations series on the topics of Question 1/1 to be presented to WTDC-29 for approval, if any.

f) Joint deliverables with other ITU-D Study Questions, if any, to be presented for ITU-D Study Group 1 for approval.

g) Reports on participation in ITU events relevant to Q 1/1, if any, for information.

4 Timing

Annual progress reports will be presented to Study Group 1 in 2027, 2028 and 2029. Deliverables identified in § 3 could be sent to Study Group 1 for approval when ready without waiting for the end of study period.

5 Proposers/sponsors

ITU-D Study Group 1 proposed this Question as modified herein.

6 Sources of input

1) Results of related technical progress in relevant ITU-R and ITU-T study groups.

2) Contributions from Member States, Sector Members and Associates and from relevant ITU-R and ITU-T study groups, and other stakeholders.

3) Interviews, existing reports and surveys should also be used to gather data and information for the finalization of a comprehensive set of best-practice guidelines.

4) Material from regional telecommunication organizations, telecommunication research centres, manufacturers and working groups should also be used, in order to avoid duplication of work.

5) ITU publications, reports and Recommendations on broadband access technologies.

6) Relevant output and information from study Questions related to ICT applications.

7) Relevant inputs and information from BDT programmes related to broadband and the different broadband access technologies.

7 Target audience

Target audience	Developed countries	Developing countries
Telecom policy-makers	Yes	Yes
Telecom regulators	Yes	Yes
Service providers/operators	Yes	Yes
Manufacturers	Yes	Yes
Consumers/end users	Yes	Yes
Standards-development organizations, including consortia	Yes	Yes

a) Target audience

All national telecom policy-makers, regulators, service providers and operators, especially those in developing countries, as well as manufacturers of broadband technologies.

b) Proposed methods for implementation of the results

The results of the Question are to be distributed through ITU-D interim and final reports. This will provide a means for the audience to have periodic updates on the work carried out and to provide input and/or seek clarification/more information from ITU-D Study Group 1 should they need it.

8 Proposed methods of handling the Question or issue

Close coordination is essential with ITU-D programmes, and other relevant ITU-D study Questions, and with ITU-R and ITU-T study groups.

a) How?

1) Within a study group:

– Question (over a multi-year study period) ☑

2) Within regular BDT activity:

– Programmes ☑

– Projects ☑

– Expert consultants ☑

3) In other ways: To be defined in the work plan ☑

b) Why?

The 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 group. This will enable Member States and Sector Members to contribute their experiences and lessons learned with respect to policy, regulatory and technical aspects of the migration from existing networks to broadband networks.

9 Coordination and collaboration

The ITU-D study group dealing with this study Question will need to coordinate with: relevant ITU-R and ITU-T study groups; the relevant outputs from other ITU-D study Questions; relevant focal points in BDT and ITU regional offices; coordinators of relevant project activities in BDT; experts and experienced organizations in this field.

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.