

Annex 5A: Membership needs related to Resolution 9

Abstract:

This document is annex 5 to document TDAG-25/6(Rev.1). It presents the final compilation of membership needs of ITU-D SG1 Questions related to the implementation of WTDC-22 Resolution 9, on spectrum management for developing countries, namely Questions 1/1, 2/1, 3/1, 4/1 and 5/1, as an input to help identify synergies between developing countries needs stated in Resolution 9 (Rev. Kigali, 2022) and both the scope of the questions under ITU-D Study Groups and the needs as identified by members in their contributions.

The document was prepared by the SG1 coordinator for matters on Resolution 9, Mr Roberto Hirayama(vice-Chair, Brazil).

1. Introduction

This contribution presents the final compilation of membership needs of ITU-D SG1 Questions related to the implementation of WTDC-22 Resolution 9, on spectrum management for developing countries, namely Questions 1/1, 2/1, 3/1, 4/1 and 5/1, as an input to help identify synergies between developing countries needs stated in Resolution 9 (Rev. Kigali, 2022) and both the scope of the questions under ITU-D Study Groups and the needs as identified by members in their contributions, as discussed previously in **Contributions** [1/197](#) and [1/329](#).

This work was performed under the leadership of Mr Roberto Hirayama, Vice-Chair of ITU-D SG1 and Co-Rapporteur for Question 2/1, and Mr Sunil Singhal, Vice-Chair of ITU-D SG1.

- Mapping of the Questions Terms of Reference to the topics of assistance on spectrum management as per **annex 1** of WTDC-22 Resolution 9.
- Mapping of relevant contributions received by ITU-D SG1 Questions to the topics of assistance on spectrum management as per **annex 1** of WTDC-22 Resolution 9.
- Mapping of BDT work, undertaken by the Future Network Services Division led by Mr Walid Mathlouthi, to the topics of assistance on spectrum management as per **annex 1** of WTDC-22 Resolution 9.

Results are presented in the following sections.

2. Mapping of ITU-D Terms of Reference to topics of assistance on spectrum management

This section presents the evaluation of each question regarding the mapping of their activities and terms of reference to the work of assisting developing countries in spectrum management, as per WTDC-22 Resolution 9. The items of study Questions 1/1, 2/1, 3/1, 4/1 and 5/1 as pointed out by the Rapporteur team of the Questions, relate to spectrum management, as per the relationship with WTDC-22 Resolution 9:

ITU-D Question 1/1: Table 1 at annex 2 summarizes the relationship between the Q1/1 terms of reference, as reflected by the abovementioned topics, and the related to spectrum management work

ITU-D Question 2/1: Table 2 at annex 2 summarizes the relationship between the Q2/1 terms of reference and the related to spectrum management work, as pointed out by the Rapporteur team of the question and WTDC-22 Resolution 9

ITU-D Question 3/1: Table 3 at annex 2 summarizes the relationship between the Q.3/1 terms of reference and the related to spectrum management work, as pointed out by the Rapporteur team of the question and WTDC-22 Resolution 9

ITU-D Question 4/1: Table 4 at annex 2 summarizes the relationship between the Q.4/1 terms of reference and the related to spectrum management work, as pointed out by the Rapporteur team of the question and WTDC-22 Resolution 9

ITU-D Question 5/1: Table 5 at annex 2 summarizes the relationship between the Q.5/1 terms of reference and the related to spectrum management work, as pointed out by the Rapporteur team of the question and WTDC-22 Resolution 9

3. Mapping of possible topics of interest and related developing countries needs in the work of WTDC Resolution 9 (Rev. Kigali, 2022) based on contributions received by ITU-D SG1 Questions

This mapping exercise has been completed by all (co) rapporteurs of Questions 1/1, 2/1, 3/1, 4/1 and 5/1 using all contributions received in ITU-D Study Group 1 meetings and ITU-D Study Group1 Rapporteur Group meeting held since 2022 until May 2024. The resulting mapping table is available at **annex 3**.

4. Mapping of BDT work to the topics of assistance on spectrum management as per annex 1 of WTDC-22 Resolution 9

This mapping exercise was undertaken since the BDT provides assistance to developing countries on spectrum management as per Resolution 9. The exercise was undertaken by the Future Network Services Division led by Mr Walid Mathlouthi. The result is available **at annex 4**.

5. Conclusion

These are the updates on the mapping tables for contributions (Annex 3) as the result of the work after ITU-D Study Group 1 November 2024 meetings and shared at the April-May 2025 meetings.

Requests for assistance by developing countries as per Resolution 9, are to be submitted to the BDT FNS Division via email fns@itu.int

**Annex 1: Types of assistance related developing countries needs in the work of WTDC
Resolution 9 (Rev. Kigali, 2022)**

Type of assistance:

1. Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development
2. Training and dissemination of available ITU documentation
3. Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment
4. Assistance in setting up computerized frequency management and monitoring systems
5. Economic and financial aspects of spectrum management
6. Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions
7. Assistance with participation in the work of the relevant ITU-R study groups and their working parties
8. Transition to digital terrestrial television broadcasting
9. Assistance in identifying the most efficient ways to utilize the digital dividend
10. Emerging technologies and approaches in using spectrum
11. Innovative ways of spectrum licensing
12. Assistance with interference caused by devices in derogation of national spectrum allocations
13. Assistance in resolving seasonal interference caused by anomalous propagation of radio waves

Annex 2: Mapping of ToRs and Final Report Tables of Content of Questions to Resolution 9 types of assistance

Table 1

	Resolution 9 (Rev. Kigali, 2022)	Q.1/1 TOR and Final Report
1.	Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development	<p>i. Best practices in spectrum management in order to make broadband access more available and affordable to lower-income populations, especially to bridge the digital divide in developing countries.</p> <p>iii. Recommendation on possible policy and structural options, promoting the development, expansion and operation of telecommunication networks.</p> <p>v. Different tools for spectrum management that allow for greater flexibility, efficiency and both economic and social benefits.</p>
2.	Training and dissemination of available ITU documentation	N/A
3.	Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment	ii. Effective use of radio frequency spectrum and dissemination of best practice.
4.	Assistance in setting up computerized frequency management and monitoring systems	N/A
5.	Economic and financial aspects of spectrum management	N/A
6.	Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions	N/A
7.	Assistance with participation in the work of the relevant ITU-R study groups and their working parties	iv. Activities across multiple ITU-R study groups to address spectrum sharing, which may have implications for national spectrum management, and which may be of particular interest to developing countries.
8.	Transition to digital terrestrial television broadcasting	N/A
9.	Assistance in identifying the most efficient ways to utilize the digital dividend	N/A
10.	Emerging technologies and approaches in using spectrum	vi. Emerging technologies and approaches in using spectrum which are intended to improve spectrum efficiency and cost-effectiveness
11.	Innovative ways of spectrum licensing	N/A
12.	Assistance with interference caused by devices in derogation of national spectrum allocations	N/A

	Resolution 9 (Rev. Kigali, 2022)	Q.1/1 TOR and Final Report
13.	Assistance in resolving seasonal interference caused by anomalous propagation of radiowaves	N/A

Table 2

	Resolution 9 (Rev. Kigali, 2022)	Q2/1 TOR and Final Report
1.	Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development	2.5 Best practices and national experiences on spectrum-planning activities related to the implementation of video-centric converged service providers.
2.	Training and dissemination of available ITU documentation	N/A
3.	Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment	N/A
4.	Assistance in setting up computerized frequency management and monitoring systems	N/A
5.	Economic and financial aspects of spectrum management	N/A
6.	Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions	N/A
7.	Assistance with participation in the work of the relevant ITU-R study groups and their working parties	N/A
8.	Transition to digital terrestrial television broadcasting	<p>2.1 Analysis of methods and issues for the transition from traditional digital broadcasting (sound and television) to video-centric converged service provisioning, including the deployment of new services and applications, such as UHD TV, AR/VR, interactive applications, for consumers/viewers in various environments.</p> <p>2.2 Analysis of the effects for public broadcasting services in the developing countries of the rapid growth of traditional and online linear TV and video-on-demand subscription services.</p> <p>2.3 National experiences on strategies for the introduction of new broadcasting technologies, emerging services and capabilities, including regulatory, economic and technical aspects, reflecting the need for massive investments to cope with the ever-growing demand for video content.</p> <p>2.4 Analysis of the development of broadcasting systems using IP-based technologies throughout the broadcasting</p>

	Resolution 9 (Rev. Kigali, 2022)	Q2/1 TOR and Final Report
		<p>chain, including the production, contribution and transmission parts.</p> <p>2.8 Analysis of possible innovations for broadcasting in the UHF band, proposed by new systems for broadcasting, such as 5G Broadcast, ATSC3.0 and other next-generation systems.</p> <p>2.9 Costs of the transition from traditional digital broadcasting (sound and television) to video-centric converged service providers, including sharing best practices of new innovative business models, derived from this transition, for the various players: broadcasters, operators, technology providers, Internet enterprises, manufacturers and distributors of receivers, and consumers, among others.</p>
9.	Assistance in identifying the most efficient ways to utilize the digital dividend	2.10 The use of the digital-dividend frequency bands resulting from the transition to terrestrial digital broadcasting (sound and television), including technical, regulatory and economic aspects.
10.	Emerging technologies and approaches in using spectrum	2.7 Analysis of the gradual transition to digital sound broadcasting, study cases, sharing of experiences and strategies implemented, including the use of VHF Band III for DAB or DTT.
11.	Innovative ways of spectrum licensing	N/A
12.	Assistance with interference caused by devices in derogation of national spectrum allocations	N/A
13.	Assistance in resolving seasonal interference caused by anomalous propagation of radio waves	2.6 National experiences on interference mitigation measures in the context of the transition scenarios.

Table 3

	Resolution 9 (Rev. Kigali, 2022)	Q3/1 TOR and Final Report
1.	Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development	<p>ToR:</p> <p>a) Continue examination of terrestrial, space-based and integrated telecommunications/ICTs to assist affected countries in utilizing relevant applications for disaster prediction, detection, monitoring, early warning, response, relief and recovery, including consideration of best practices/guidelines for implementation, and in ensuring a favourable regulatory environment to enable rapid deployment and implementation.</p> <p>b) Continue gathering and examining national experiences and case studies in the use of telecommunications/ICTs for disaster preparedness, mitigation, response and recovery, including response to pandemics like COVID-19, and analysing lessons learned and common themes between them.</p>

	Resolution 9 (Rev. Kigali, 2022)	Q3/1 TOR and Final Report
		e) Gather national experiences and case studies and develop best practices for the elaboration, implementation and refinement of national and regional disaster-management plans or frameworks for the use of telecommunications/ICTs in natural and man-made disaster and/or emergency situations including pandemics, working in coordination with the relevant BDT programmes, regional offices and other partners.
2.	Training and dissemination of available ITU documentation	<p><u>ToR:</u></p> <p>f) Continue updating the online toolkit with relevant information and materials collected during the study period.</p> <p><u>Final Report:</u></p> <p>Chapter 3: summarizes the guidelines for preparing and conducting disaster communication exercises and drills.</p> <p>Chapter 7: discusses the best practices and lessons learned identified, together with the guidelines suggested during the study period.</p>
3.	Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment	N/A
4.	Assistance in setting up computerized frequency management and monitoring systems	N/A
5.	Economic and financial aspects of spectrum management	This theme is transversal to all questions: The free and availability of telecommunications/ICT tools must be promoted in the event of disasters.
6.	Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions	N/A
7.	Assistance with participation in the work of the relevant ITU-R study groups and their working parties	<p><u>ToR:</u></p> <p>c) Examine the role that administrations and Sector Members and other expert organizations and stakeholders share in collaboratively addressing disaster management and the effective use of telecommunications/ICTs, particularly in the areas of disaster response and recovery</p>
8.	Transition to digital terrestrial television broadcasting	<p><u>ToR:</u></p> <p>a) Continue examination of terrestrial, space-based and integrated telecommunications/ICTs to assist affected countries in utilizing relevant applications for disaster prediction, detection, monitoring, early warning, response, relief and recovery, including consideration of best practices/guidelines for implementation, and in ensuring a favourable regulatory environment to enable rapid deployment and implementation.</p> <p>d) Examine the enabling environment for more resilient communication networks and for the deployment of</p>

	Resolution 9 (Rev. Kigali, 2022)	Q3/1 TOR and Final Report
		emergency communication systems and the latest digital communication technologies, which includes, but is not limited to, emergency preparedness, response and recovery.
9.	Assistance in identifying the most efficient ways to utilize the digital dividend	N/A
10.	Emerging technologies and approaches in using spectrum	Final report: Chapter 5 discusses disaster communication technologies.
11.	Innovative ways of spectrum licensing	N/A
12.	Assistance with interference caused by devices in derogation of national spectrum allocations	N/A
13.	Assistance in resolving seasonal interference caused by anomalous propagation of radio waves	N/A

Table 4

	Resolution 9 (Rev. Kigali, 2022)	Q4/1 ToR
1.	Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development	Indirect to T8 Framework for establishing the contribution of telecommunications/ICTs to a country's GDP.
2.	Training and dissemination of available ITU documentation	this topic is broad, so every item on the ToR could be counted in or out here.
3.	Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment	N/A
4.	Assistance in setting up computerized frequency management and monitoring systems	N/A
5.	Economic and financial aspects of spectrum management	T1 New charging methods (or models, if applicable) for services provided over NGN networks, including Methods for determining the costs of wholesale services, T4 Trends in the development of virtual mobile operators and their regulatory framework, T9 Economic incentives and mechanisms for bridging the digital divide
6.	Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions	N/A
7.	Assistance with participation in the work of the relevant ITU-R study groups and their working parties	N/A

	Resolution 9 (Rev. Kigali, 2022)	Q4/1 ToR
8.	Transition to digital terrestrial television broadcasting	N/A
9.	Assistance in identifying the most efficient ways to utilize the digital dividend	T9 Economic incentives and mechanisms for bridging the digital divide
10.	Emerging technologies and approaches in using spectrum	N/A
11.	Innovative ways of spectrum licensing	T1 New charging methods (or models, if applicable) for services provided over NGN networks, including Methods for determining the costs of wholesale services, T9 Economic incentives and mechanisms for bridging the digital divide
12.	Assistance with interference caused by devices in derogation of national spectrum allocations	N/A
13.	Assistance in resolving seasonal interference caused by anomalous propagation of radio waves	N/A

Table 5

	Resolution 9 (Rev. Kigali, 2022)	Q5/1 TOR and Contributions to Q5/1
1.	Assistance in raising the awareness of national policymakers as to the importance of effective spectrum management for a country's economic and social development	TOR: strategies for rural and remote areas
2.	Training and dissemination of available ITU documentation	N/A
3.	Assistance in developing methodologies for establishing national tables of frequency allocations and spectrum redeployment	N/A
4.	Assistance in setting up computerized frequency management and monitoring systems	N/A
5.	Economic and financial aspects of spectrum management	N/A
6.	Assistance with preparations for world radiocommunication conferences (WRC) and with follow-up and implementation of WRC decisions	N/A
7.	Assistance with participation in the work of the relevant ITU-R study groups and their working parties	N/A
8.	Transition to digital terrestrial television broadcasting	N/A
9.	Assistance in identifying the most efficient ways to utilize the digital dividend	N/A

	Resolution 9 (Rev. Kigali, 2022)	Q5/1 TOR and Contributions to Q5/1
10.	Emerging technologies and approaches in using spectrum	TOR: Integration and implementation of ICT services in rural and remote areas, including new and emerging technologies A number of presentations were made regarding HAPS system and Satellite constellations during Joint Workshop “Transformative connectivity: Satellite Workshop” between Q1/1, Q3/1 and Q5/1.
11.	Innovative ways of spectrum licensing	N/A
12.	Assistance with interference caused by devices in derogation of national spectrum allocations	
13.	Assistance in resolving seasonal interference caused by anomalous propagation of radio waves	N/A

Annex 3: Mapping of possible topics of interest and related developing countries needs in the work of WTDC Resolution 9 (Rev. Kigali, 2022) based on contributions received by ITU-D SG1 Questions

ITU-D Question	Title	Source	Contribution	TYPE OF ASSISTANCE (see above explanation) ¹													Topic ² :
				1	2	3	4	5	6	7	8	9	10	11	12	13	
Q.1/1	NO INFORMATION AVAILABLE	-	-														
Q.2/1	Sharing experience from South Africa on the licensing process for the International Mobile Telecommunications (IMT) in respect of the provision of mobile broadband wireless access services for urban and rural areas using the complementary bands, IMT700, IMT800, IMT2600 AND IMT3500	South Africa (Republic of)	SG1RGQ/115											X			11. Innovative ways of spectrum licensing
Q.2/1	Introduction of Digital Terrestrial Television in Bosnia and Herzegovina	Bosnia and Herzegovina	SG1RGQ/87								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Advancements in the Digital Switchover in Brazil - Digital Television	Brazil (Federative Republic of)	SG1RGQ/38								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Brazilian Next-Generation Digital Terrestrial Television - TV 3.0 Project	Brazil (Federative Republic of)	SG1RGQ/37								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Advancements in the Digital Switchover in Brazil - Digital Radio	Brazil (Federative Republic of)	SG1RGQ/36										X				10. Emerging technologies and approaches in using spectrum
Q.2/1	Update on the process of migration from analogue to digital broadcasting and outlook	Cameroon (Republic of)	SG1RGQ/14 (Rev.1)								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Progress made in the digital switchover in Guinea - Digital broadcasting	Guinea (Republic of)	1/250								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	EU Regulatory approach to digital services - DSA and DMA	Bosnia and Herzegovina	1/232								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Analogue TV interference in the 700 MHz band	Bosnia and Herzegovina	1/201								X	X					8. Transition to digital terrestrial television broadcasting

¹ Select the topics from those of the Annex 1 of WTDC Resolution 9 that related to the contributions' themes.

² Theme in the contribution submitted that relates to the topics of Annex 1 of Resolution 9, to be considered as input for the work to be conducted in the implementation of the Resolution.

ITU-D Question	Title	Source	Contribution	TYPE OF ASSISTANCE (see above explanation) ¹													Topic ² :
				1	2	3	4	5	6	7	8	9	10	11	12	13	
																	9. Assistance in identifying the most efficient ways to utilize the digital dividend
Q.2/1	Case studies utilizing TV platform to enable inclusive communication	Korea (Republic of)	1/153 +Ann.1								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Satellite Broadcasting - Receiver distribution for low-income population	Brazil (Federative Republic of)	1/143								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Brazilian public policies on the Next-Generation Digital Terrestrial Television - TV 3.0	Brazil (Federative Republic of)	1/142								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Migration of Radio Stations from AM to FM - Brazilian case study	Brazil (Federative Republic of)	1/140										X				10. Emerging technologies and approaches in using spectrum
Q.2/1	Strategies: Deployment of broadband in Bhutan	Bhutan (Kingdom of)	1/48										X				10. Emerging technologies and approaches in using spectrum
Q.2/1	Focus on the migration to DTT in the case of Madagascar	Madagascar (Republic of)	1/40								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Digital Television Switchover in Brazil - updates on the current policies for the Analogue Switch-off in the remaining cities	Brazil (Federative Republic of)	SG1RGQ/240-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	App-based television paradigm - new perspectives for next generation TV in Brazil	Brazil (Federative Republic of)	SG1RGQ/239-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Regional activities in digital broadcasting and spectrum management	Brazil (Federative Republic of)	SG1RGQ/238-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Innovative technologies for new broadcasting services and applications: 5G and beyond	China Institute of Communications	SG1RGQ/229-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	5G Broadcast	Qualcomm, Inc.	SG1RGQ/219-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Introduction of Digital Audio Broadcasting (DAB)	Bosnia and Herzegovina	SG1RGQ/214-E										X				10. Emerging technologies and approaches in using spectrum
Q.2/1	A paper on digital development in Syria and the current reality	Syrian Arab Republic	SG1RGQ/199-E								X						8. Transition to digital terrestrial television broadcasting
Q.2/1	Extension of the use of FM from 76 MHz to 108 MHz, for African countries in general and Cameroon in particular	Cameroon (Republic of)	SG1RGQ/152-E										X				10. Emerging technologies and approaches in using spectrum

ITU-D Question	Title	Source	Contribution	TYPE OF ASSISTANCE (see above explanation) ¹													Topic ² :
				1	2	3	4	5	6	7	8	9	10	11	12	13	
Q.2/1	Update on the process of migration from analogue to digital broadcasting	Cameroon (Republic of)	SG1RGQ/151-E														
Q.3/1	NO CONTRIBUTIONS RELATED TO WTDC-22 RESOLUTION 9 IDENTIFIED	-	-														
Q.4/1	Spectrum Auctions with In-kind payment obligations, Cross-Country Digital Transformation Collaboration and Lesson Learned	Brazil	1/206-E					X									5. Economic and financial aspects of spectrum management
Q.4/1	Investment commitments to bridge the digital divide	Colombia and United States-	1/358-E					X									5. Economic and financial aspects of spectrum management
Q.5/1	Expanding rural connectivity through innovative technologies and regulatory frameworks	South Africa	SG1RGQ/249-E	X													1. Assistance in raising the awareness of national policy-makers as to the importance of effective spectrum management for a country's economic and social development
Q.5/1	Expanding rural connectivity through innovative technologies and regulatory frameworks	Saudi Arabia	SG1RGQ/224-E	X													1. Assistance in raising the awareness of national policy-makers as to the importance of effective spectrum management for a country's economic and social development
Q.5/1	Inclusive communication to support fishermen with non-SOLAS fishing vessel in remote areas ³	Indonesia	1/195-E													X	12. Assistance with interference caused by devices in derogation of national spectrum allocations.
Q.5/1	High Altitude Platform Station (HAPS) systems for bridging the digital divide and disaster recovery ⁴	Softbank Corporation, Japan	SG1RGQ/205-E										X				10. Emerging technologies and approaches in using spectrum

³ Indonesian fishermen's unauthorized usage of Aeronautical Mobile Service Frequencies from 2014 to 2021 which has also effected other nearby countries. Indonesian government has run an "Inclusive Communication for Fishermen" in 2019 to resolve this issue.

⁴ Contribution from Softbank Corporation (Japan) mentions High Altitude Platform Station (HAPS) systems for bridging the digital divide and disaster recovery that provides an overview of HAPS systems, emphasizing the stability, coverage capabilities, and spectrum expansion achieved through international agreements.

ITU-D Question	Title	Source	Contribution	TYPE OF ASSISTANCE (see above explanation) ¹													Topic ² :
				1	2	3	4	5	6	7	8	9	10	11	12	13	
Q.5/1	The case of the Rural Mobile Infrastructure Operator (RMIO) model in Peru -KISDI consultation on network infrastructure sharing policy in Peru ⁵ .	Korea (Republic of)	SG1RGQ/26-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	Updated information on the global status of 5G.	Intel	SG1RGQ/8-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	Using 3GPP technology for satellite communication.	Ericsson	1/238-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	The Ericsson Mobility Report Feb 2023.	Ericsson	SG1RGQ/114-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	Satellite Communications and their role in enabling 6G 6.	GSOA	SG1RGQ/109-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	Satellite Communications and the Future of Agriculture.	GSOA	SG1RGQ/111-E										X				10.Emerging technologies and approaches in using spectrum
Q.5/1	Impact of Satellite Communications.	GSOA	SG1RGQ/112-E										X				10.Emerging technologies and approaches in using spectrum

⁵ Rural Mobile Infrastructure Operator (RMIO) model of Peru also shows usage of different licensed spectrum (2G, 3G, 4G and satellite) in rural/remote Peru.

⁶ GSOA provided several contributions related to Satellite to rural/remote areas.

Annex 4: Mapping of BDT work to the topics of assistance on spectrum management as per annex 1 of WTDC-22 Resolution 9

No	Country of Assistance	Time of Assistance	Subject of Assistance	Status (done/ongoing/postponed)	Type of Assistance (according to Annex 1 of Resolution 9)
I. REGIONAL INITIATIVES					
1.	CEPT Member States	2022	ITU Regional Radiocommunication Seminar 2022 for Europe (RRS-22-Europe), Online meeting, 30 August - 8 September 2022	Done	Type 1, Type 10
2.	Arab Group Member States	2022	ITU Regional Radiocommunication Seminar 2022 for the Arab States (RRS-2022 Arab States), Online meeting, 13-24 March 2022	Done	Type 1, Type 10
3.	ASP Member States	2022	ITU Regional Radiocommunication Seminar 2022 for Asia-Pacific, Nadi, Fiji, 15-20 December 2022	Done	Type 1, Type 10
4.	ASP Member States	2024	ITU Regional Radiocommunication Seminar 2024 for Asia and the Pacific (RRS-24-Asia&Pacific), Apia, Samoa, 16-21 September 2024	Done	Type 1, Type 10
5.	ASP Member States	2024	ITU Workshop on National Tables of Frequency Allocation (NTFA) for Region 3 (RR), Shanghai, China, 28-31 May 2024	Done	Type 3 and Type 6
6.	ASP Member States	2024	The 10th Asia-Pacific Spectrum Management Conference, 23 – 24 April 2024	Done	Type 6
7.	ASP Member States	2023	ITU-NBTC Training on Emerging Technologies for Resilient Digital Transformation, 2 - 5 October 2023	Done	Type 10 and type 11
8.	Arab Group Member States	2023	ITU Regional Development Forum for the Arab States (RDF-ARB), 6-7 November 2023, Bahrain	Done	Type 1, Type 10
9.	CEPT Member States	2023	ITU Regional Development Forum for Europe (RDF-EUR), 22-23 May 2023, Timisoara, Romania	Done	Type 1, Type 10
10.	Americas Member States	2023	ITU Regional Development Forum for Americas (RDF-AMS), 16-18 August, San Salvador, El Salvador	Done	Type 1, Type 10
11.	African Member States	2023	ITU Regional Development Forum for Africa 2023, 3-5 October 2023, Addis Ababa, Ethiopia	Done	Type 1
12.	African Member States	2023	Workshop on Satellite Broadband and RLANS (Usage and Internet Services), 20-23 June 2023 Brazzaville, Congo	Done	Type 1
13.	ASP Member States	2024	Masterclass on inclusive and resilient broadcasting development, 1-2 September 2024, Malaysia	Done	Type 10 and 8
14.	ASP Member States	2023	ITU Pre-Summit Masterclass on Technologies defining the New Broadcast Media Approaches, 21-22 May 2023, Indonesia	Done	Type 10 and 8

No	Country of Assistance	Time of Assistance	Subject of Assistance	Status (done/ongoing/postponed)	Type of Assistance (according to Annex 1 of Resolution 9)
15.	ASP Member States	2024	Regional workshop on Satellite Services, National Regulatory Frameworks, and partnership, from 1 to 2 October 2024, Ulaanbaatar, Mongolia	Ongoing	Type 10 and type 6
16.	CIS Member States	2024	ITU Regional Radiocommunication Seminar 2024 for CIS Countries (RRS-24-CIS), 15-19 April 2024, Astana, Kazakhstan	Done	Type 1, Type 10
17.	African Member States	2023	PRIDA workshop on Spectrum Monitoring, Aeronautical and Maritime Communication Services for Africa, 25 to 27 April 2023 Zanzibar, Tanzania	Done	Type 4
18.	African Member States	2022	ITU/PRIDA workshop on Spectrum Monitoring, Cape Town, South Africa 1 - 2 November 2022	Done	Type 4
19.	African Member States	2023	ITU PRIDA capacity building workshop on the implementation of the HCM4A, 28 February - 04 March 2023, Nairobi, Kenya	Done	Type 4
20.	APT and CIS Member States	2023	The workshop of ITU and International Think Tank for Landlocked Developing Countries (ITLLDC) on the common challenges of the Landlocked Developing Countries from Asia and CIS for efficient policy making in the continuously growing Digital Sector	Done	Type 2, Type 10
21.	APT Member States	2024	Regional Policy and Regulatory Webinar Series on 5G Engagement and Experience in partnership with Member Administrations of APT Region	Ongoing	Type 1, Type 10
22.	APT Member States from Pacific SIDs	2024	SMS4DC Training for Pacific, 30 April - 02 May 2024, Vanuatu	Done	Type 4
23.	African Member States	2023	SMS4DC Training for African region, Livingstone, Zambia, 24- 26 July 2023	Done	Type 4
24.	Arab Group Member States	2022	SMS4DC Training for Arab states	Done	Type 4
25.	All Member States	2024	Guidance on creation of a National Spectrum Management System (NSMS) including the online toolkit on providing national Administrations with the required information.	Ongoing	Type 1, Type 3, Type 5
26.	Arab Group Member States	2024	ITU Regional Workshop on EMF Harmony: Balancing Connectivity, Safety and Tower Location Selection in the Arab Region, 13-16 May 2024 Muscat, Sultanate of Oman	Done	Type 4, Type 12
27.	Arab Group Member States	2023	Training of Trainers on Quality of Services Training Program (QoSTP) and Spectrum Management training program (SMTP), October 2023, Jordan	Done	Type 1, Type 3, Type 4, Type 10

No	Country of Assistance	Time of Assistance	Subject of Assistance	Status (done/ongoing/postponed)	Type of Assistance (according to Annex 1 of Resolution 9)
II. DIRECT ASSISTANCE TO THE COUNTRIES					
1.	The Gambia	2023-2024	<u>Assistance 1</u> Establishing the strategy of spectrum utilization and management. Recommendations on policy objectives in spectrum management.	Done	Type 1, Type 5
			<u>Assistance 2</u> Spectrum usage inventory and recommendations on spectrum regulatory frameworks (incl. NFTA and spectrum planning) to facilitate deployment of the advanced wireless technologies	Done	Type 1, Type 3, Type 10
2.	The Republic of Djibouti	2024-2025	<u>Assistance 1</u> Reviewing of legal and operational framework in the field of spectrum management, policy objectives, responsibilities of regulatory institutions, decision-making processes	Ongoing	Type 1, Type 5
			<u>Assistance 2</u> Recommendations on optimizing administrative practices in spectrum management, inclusion of new regulatory procedures, and development of an Action plan including activities, projects, programs, plans, and capacity building of the spectrum regulatory institutions of the Republic of Djibouti.	Ongoing	Type 1, Type 3
3.	The Union of the Comoros	2024-2025	Development of an Action Plan on the improvement of the national Spectrum Management and Radio Monitoring System, recommendations on legislative instruments, projects, programs, plans, as well as practices of their implementation in the Union of the Comoros .	Ongoing	Type 1, Type 5
4.	The Republic of Seychelles	2024	Development of the specifications of future radio monitoring equipment/network, taking into account the demands within the existing and future spectrum bands. Recommendations on improvement of national spectrum management regulatory frameworks stemming from the evolution of the radio monitoring system	Ongoing	Type 4
5.	Azerbaijan and South Caucasus	2024 - 2025	Development of new digital sound broadcasting frequency assignment plan in the band 174 – 230 MHz for the countries of the South Caucasus ensuring interference-free operation of the existing broadcasting services of the neighboring Administrations as well as to give due account of national strategies in future utilization of this band.	Ongoing	Type 8
6.	Sri Lanka	2023	Assistance in developing regulatory frameworks with regard to implementation of active infrastructure sharing including spectrum sharing	Done	Type 1, Type 11

No	Country of Assistance	Time of Assistance	Subject of Assistance	Status (done/ongoing/postponed)	Type of Assistance (according to Annex 1 of Resolution 9)
7.	Saudi Arabia	2022-2023	Advisory Services to Saudi Communications & Information Technology Commission (CITC) on spectrum management and digital broadcasting	Done	Type 1, Type 3, Type 5
8.	Arab states	2022 - 2024	Assistance in Telecommunication/ICT in Arab countries including spectrum management issues	Ongoing	Type 1, Type 3, Type 5
9.	India	2023	SMS4DC training for India	Done	Type 4
10.	Mongolia	2023	Assessment of market readiness for National Roaming	Done	Type 11
11.	Fiji	2023-24	Assessment of Digital Terrestrial Television Model in Fiji	Done	Type 8,9,10
12.	ASP – ASEAN subregional	2024	CONVERGED TELECOMMUNICATIONS POLICY AND REGULATIONS (CTPR) MASTER CLASS	Done	Type 10,11
13.	Cambodia	2022	National Radio Frequency Spectrum Charging Regime: Opportunities and Options for Reform	Done	Type 5
14.	Indonesia and ASEAN	2024	ITU as invited speaker in Workshop on Advanced Spectrum Monitoring Guidance on Mobile Broadband Technology for ASEAN Member States (Mon MBT)	ongoing	Type 12
17.	Malaysia	2024	ITU as invited speaker in Digital Outlook Series on WRC-27 satellite related issues	ongoing	Type 6