

## TECHNICAL COOPERATION ABSTRACT (TC ABSTRACT)

### I. BASIC PROJECT DATA

**Country:** Regional - Caribbean  
**TC name:** Harmonized Caribbean Spectrum Planning and Management  
**TC number:** RG-T2272  
**Team Leader/Members:** Antonio García Zaballos (Team Leader, IFD/CTI); Mathew Stone Shearer (INT/INT); Jiyoun Son (IFD/CTI); Nathalia Foditsch (IFD/CTI); Claudia Salazar (IFD/CTI), Dale James (CCB/CTT); and Cecilia Bernedo (IFD/CTI).  
**Operation type:** Client Support  
**Reference to request:** [IDBDocs#37431905](#)  
**Beneficiary:** Barbados, Belize, Guyana, Jamaica, Suriname, Trinidad and Tobago, and Dominican Republic.  
**Executing Agency and contact name:** Caribbean Telecomunicaciones Union (CTU), Mrs. Bernadette Lewis ([Bernadette.Lewis@ctu.int](mailto:Bernadette.Lewis@ctu.int)) and Mr. Nigel Cassimire ([Nigel.Cassimire@CTU.int](mailto:Nigel.Cassimire@CTU.int)).  
**IDB funding:** TBD  
**Financing plan:**

IDB:	US\$1,000,000
Local:	<u>US\$ 88,000</u>
<b>Total:</b>	<b>US\$1,088,000</b>

  
**Required start date:** May 1, 2013  
**Execution period:** 18 months      **Disbursement period:** 24 months  
**Technical Unit:** IFD/CTI      **Disbursement Unit:** IFD/CTI  
**Type of consultancy:** Individual Consultants, Firm  
**Included in Country**      Yes [ ]  
**Strategy/included in CPD:**      No [X]<sup>1</sup>  
  
**GCI-9 Sector priority:** Strategic subtheme in the current Sector Strategies: “Support Competitive Global & Regional Integration” (GN-2565-4); and “Institutions for Growth and Social Welfare” (GN-2587-2).

### II. OBJECTIVE AND JUSTIFICATION

- 2.1 As the digital economy evolves and continues to impact all levels of society, individuals, governments and businesses increasingly rely on the efficient flow of information and services through the use of innovative Information and Communication Technologies (ICTs), particularly those available through high speed broadband Internet. However, the participation of Caribbean countries in the digital economy is hampered by the low levels of fixed and mobile broadband Internet penetration. According to recent statistics<sup>2</sup>, the penetration rate of fixed broadband services in the Caribbean Region is diverse, and ranges from less than

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<sup>1</sup> It is a regional project.

<sup>2</sup> ICT World Indicators 2011. International Telecommunication Union (ITU), 2012.

- 2% in Guyana and 11% in Trinidad and Tobago to 21% in Barbados. In terms of mobile broadband, although penetration is still low in the Caribbean and in most developing countries—with a penetration of 8% in developing countries versus 51.3% in developed countries—the fact that the cellular mobile penetration rate is above 60% throughout the region provides great potential to accelerate the penetration rate and usage of mobile broadband services in the Caribbean.
- 2.2 Yet, in order to effectively expand broadband through mobile services, special attention must be paid to efficient spectrum management<sup>3</sup>, which has proven to be challenging. In most Caribbean countries, the pace of policy development and legislative and regulatory reform have not kept pace with the rapid evolution in wireless technologies; as a result, the traditional methods for spectrum management have become impractical and inefficient and could become a barrier to entry for prospective investors<sup>4</sup>.
- 2.3 Caribbean countries have recognized this challenge and with the support of the Caribbean Telecommunications Union (CTU), implemented the first phase of the “Caribbean Spectrum Planning and Management Project” from 2006 to 2010, which among other outputs, produced the “Caribbean Spectrum Management Policy Framework” document through the establishment and the efforts of the “Caribbean Spectrum Management Task Force”. In January, 2013, Caribbean countries requested the support of the Bank to continue to work in this area through a second phase of this regional project.
- 2.4 In effect, as constraints in the Region for efficient spectrum management persist, and as innovations such as white spaces (allocated, but un-used frequency bands) and frequency reutilization<sup>5</sup> pose additional challenges, there is a need for Caribbean nations to continue to cooperate in this area. Moreover, furthering cooperation will not only promote regional synergy and integration in the telecommunications sector, but is also critical for operative reasons as the use of radio frequency spectrum transcends national boundaries.
- 2.5 In this context, the harmonization of spectrum planning and management policies and practices among the Caribbean region is expected to create enormous benefits in terms of social impact and increased productivity. Specifically, considering its potential to promote the penetration of mobile broadband services at lower costs, efficient and harmonized spectrum management will further the Region’s insertion in the digital economy.
- 2.6 This TC seeks to deepen the harmonization of spectrum planning and management policies and practices across the Caribbean region, including areas such as white spaces and frequency reutilization.

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<sup>3</sup> Spectrum management is the combination of administrative and technical procedures necessary to ensure the efficient utilization of the radio-frequency spectrum by all radio communication services, without causing harmful interference. ITU-R Study Group booklet. Radiocommunication Bureau of the International Telecommunication Union (ITU). June 2010: [http://www.itu.int/dms\\_pub/itu-r/oth/0A/0E/R0A0E0000010001PDFE.pdf](http://www.itu.int/dms_pub/itu-r/oth/0A/0E/R0A0E0000010001PDFE.pdf)

<sup>4</sup> Caribbean Spectrum Management Policy Framework. Caribbean Telecommunications Union (CTU). October, 2007: [http://www.ctu.int/attachments/033\\_Caribbean%20Spectrum%20Management%20Policy%20Framework.pdf](http://www.ctu.int/attachments/033_Caribbean%20Spectrum%20Management%20Policy%20Framework.pdf)

<sup>5</sup> The Bank is currently supporting the preparation of a knowledge product in this area “Regulatory implications of white spaces and the analogue switch over”. ESW, expected 2013.

- 2.7 The project is also timely considering that the analogue switch over has not materialized yet in the Caribbean, thus, there is a window of opportunity to promote the efficient use of the digital dividend<sup>6</sup> by supporting the spectrum harmonization process in the Region, especially in the 700 Mhz band. In particular, end users will benefit from lower costs as mobile operators are able to address larger markets, leading to economies of scale for service provision.

### III. DESCRIPTION OF ACTIVITIES

- 3.1 A Regional Framework to address the most important challenges related to spectrum management and planning and the establishment of a regional Spectrum Management Steering Committee and Task Force will bring important socioeconomic and efficiency benefits for the Caribbean.
- 3.2 **Activity 1:** Reconstitution of the Caribbean spectrum Management Steering Committee and Task Force comprised by representatives from governments (policy and law makers) and from the private sector (telecommunications providers, business associations, banks, etc.). The establishment of a funding mechanism will also be defined.
- 3.3 **Activity 2:** Coordinate Caribbean spectrum managers and develop a framework to minimize cross border interference between beneficiary countries. Specifically, facilitation meetings will be held convening Caribbean spectrum managers which operate according to the ITU's guidelines.
- 3.4 **Activities 3:** Develop regionally harmonized recommendations and an implementation plan for the digital switch over through research and use of multi-stakeholder consultations.
- 3.5 **Activity 4:** Development of a harmonized Regional Frequency Allocation Table (RFAT) through the undertaking of surveys and the collection and collation of frequency usage information. This information will lead to the development of the National Frequency Allocation Table (NFAT) for each country and then, to the definition of the harmonized RFAT for the Caribbean.
- 3.6 **Activity 5:** Development of a Strategic Plan to manage spectrum in the Caribbean including the development of common spectrum pricing principles. This activity will require the development of field audits and recommendations for improving the efficiency and effectiveness of national spectrum management procedures and pricing principles, including those associated with white spaces and reutilization of frequencies. The other reports and frameworks of the TC will provide information about the Strategic Plan, which will also include a cost-benefit analysis of implementing its recommendations.
- 3.7 **Expected results:** As a result of this project, beneficiary countries will have the necessary information and tools to deepen the harmonization of spectrum planning and management policies and practices across the Caribbean region. The regulatory

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<sup>6</sup> Digital dividend refers to the frequency bands that are liberalized as a result of the analogue switch over, which in turn refers to the transition of analogue to digital television, freeing up large areas of bands between 50 MHz and 700 MHz.

and procedural changes will eventually result in cost reductions for mobile broadband services, thereby promoting the population's adoption and usage of broadband and the region's insertion in the digital economy.

**Table 3.1: Indicative results matrix**

	Results Statement	Indicator	Base line	Target			Data Source
				Yr1	Yr2	Yr3	
Intermediate outcome	Improved and regionally harmonized regulatory and procedural frameworks.	Indicator 1: Number of countries which have transposed the recommendations of the agreed spectrum management plan into national regulations, procedures, or legislation.	0			3	Depending on the measure and country, legislative or presidential decree in some cases of regulatory amendments; organizational manual in more procedural amendments.
		Indicator 2: Estimated cost reductions resulting from regulatory and procedural changes.	0			5%	Project evaluations and baseline studies; project specific databases or portals.
Immediate outcome	Prioritized national-level actions to streamline, harmonize, and/or improve regulations and procedures in telecommunications, especially related to broadband.	Indicator 1: Number of countries endorsing the strategic and implementation plan for spectrum management and committing to follow-up actions.	0		8		Documentation from the Third Working Group Meeting.
		Anticipated cost reductions to be realized from planned interventions.	0			5%	Project evaluations and baseline studies; project specific databases or portals.
Output 1 Comprehensive harmonized strategic and implementation plan for spectrum planning, management and reutilization in the Caribbean.		Number of implementation plans developed.	0		1		Project files collected by IFD/CTI.
Output 2 Roadmaps prepared to ensure regional regulatory harmonization taking into account specific national circumstances and requirements.		Number of the following frameworks developed: i) Mitigation of interference problems; ii) implementation plan for the digital switchover; iii) Harmonized Regional Frequency Allocation Table; iv) Spectrum Pricing Policy.	0	1	3		Project files collected by IFD/CTI.
Activity 1 Establish: i) regional Management Steering Committee; and ii) Spectrum Management Task Force.		Number of said groups established.	0	2			Project files collected by IFD/CTI.
Activity 2 Coordinate Caribbean spectrum managers and develop framework to mitigate interference problems.		Number of facilitation meetings held.	0	1	2	0	Minutes of facilitation collected by IFD/CTI.
Activity 3 Develop regionally harmonized recommendations and an implementation plan for the digital switchover.		See Output 2 above.					
Activity 4 Undertake surveys, and collect frequency usage information to develop National Frequency Allocation Tables and a harmonized Regional Frequency Allocation Table.		Number of surveys taken.	0	8	1	0	Project files collected by IFD/CTI.
Activity 5 Development of a strategic plan to manage spectrum in the Caribbean including the development of common spectrum pricing principles.		See Output 1 above.					

**Table 4.2: Indicative Budget**

Activity/Component	Description	IDB/Fund Funding	Local Funding	Total Funding
Activity 1	Spectrum Steering Committee	100,000	10,000	100,000
Activity 2	Meetings to minimize cross border interference	100,000	10,000	100,000
Activity 3	Plan for the digital switch over	200,000	10,000	200,000
Activity 4	Harmonized RFAT for the Caribbean	160,000	16,000	160,000
Activity 5	Regional Spectrum Strategic Plan	200,000	20,000	200,000
Activities 1, 2, 3, 4 & 5	Travel (consultants)	30,000	-	30,000
Activities 1, 2, 3, 4 & 5	Regional workshops	110,000	10,000	110,000
Activities 3, 4 & 5	Editing and printing	10,000	2,000	10,000
Activities 1, 2, 3, 4 & 5	Administrative support & External Audit	90,000	10,000	90,000
<b>Activities 1, 2, 3, 4 &amp; 5</b>	<b>Total</b>	<b>1,000,000</b>	<b>88,000-</b>	<b>1,088,000</b>

#### **IV. EXECUTING AGENCY AND EXECUTION STRUCTURE**

- 4.1 The proposal for “Harmonized Caribbean Spectrum Planning and Management” draws on the experience and involvement in the region of Caribbean Telecommunication Union (CTU), who will be executing this operation with the support of the Bank. The roles of both organizations will be complementary, thus ensuring a successful implementation and completion of the project.
- 4.2 The CTU’s members include governments, operators, regulators, members of the academic fraternity, and other telecommunications stakeholders. The nature of the CTU’s work requires regional approaches which cause the Secretariat to visit and engage each member country in its work, so that all CTU members benefit from its programs. The CTU also facilitates remote participation in its activities and conducts on-line courses to ensure the widest possible participation by members and Stakeholders.
- 4.3 The CTU Secretariat possesses significant expertise in telecommunications and has a network of experts that contributes to the discussion and the work conducted in the CTU. In addition to the technical staff, the CTU Secretariat has an Administrative Officer, Contract Administrator and other available technical, administrative and event management support which enables work to be undertaken in any of the countries covered by this TC.

## **V. PROJECT RISKS AND ISSUES**

- 5.1 The major risk of this project is its regional nature, since some of the Caribbean countries decided not to take part in the proposed spectrum harmonization, the impact of the results will be more limited. In the same line, the Caribbean Spectrum Management Steering Committee and Task Force could be dismantled once the IDB funding disappears. To mitigate these risks, measures during the execution of the project, such as the definition of a funding mechanism and its operation, should be taken into account to consolidate the Regional Steering Committee and Task Force for the sustainability and efficient and harmonized use of the Caribbean Spectrum.

## **VI. ENVIRONMENTAL AND SOCIAL CLASSIFICATION**

Due to the nature of this TC, there are no expected environmental and social risks associated with with the implementation of the project. The operation was classified as Category “C”, according to the Bank’s classification toolkit (see link: [IDBDocs#37434558](#))