

TECHNICAL COOPERATION ABSTRACT (TC-ABSTRACT)

REGIONAL

I. BASIC INFORMATION

Country/Region:	Regional
TC Name:	Roadmap for the Digital Switchover in the Andean Group (CAN)
TC Number:	RG-T2301
Team Leader/Members:	Agustina Calatayud (IFD/CTI), Team Leader; Nathalia Foditsch (IFD/CTI); Felix Gonzalez (IFD/CTI); Enrique Iglesias (IFD/CTI); and Cecilia Bernedo (IFD/CTI).
TC Taxonomy:	Research and Development (RD)
Date of TC Abstract authorization:	May 21, 2013
Donors providing funding:	To be determined (TBD)
Beneficiary	Andean Group –CAN (Bolivia, Colombia, Ecuador, Peru and Venezuela)
Executing Agency and contact name:	Competitiveness and Innovation Division (CTI/IFD)
IDB Funding Requested:	IDB: US\$500,000
Local Counterpart funding:	Local: <u>US\$</u> 0 Total: US\$500,000
Disbursement period:	18 months
Required start date:	July, 2013
Types of consultants:	Individual consultants
Prepared by Unit:	Competitiveness and Innovation Division (IFD/CTI)
Unit of Disbursement Responsibility:	IFD/CTI
TC Included in Country Strategy:	N/A. Regional project
TC included in CPD:	N/A. Regional project
GCI-9 Sector Priority:	The current Sector Strategy: “Institutions for Growth and Social Welfare” highlights the need to work towards strengthening institutions, and has specifically recognized the need to improve policies and governmental action in the ICT sector (5.21 of the referred Sector Strategy). Consistent with the Strategy, the Bank has designed and is currently working in the implementation of a Broadband Platform to accelerate the penetration rate and usage of broadband services in the Region. It is also worth noting that the current Sector Strategy: “Support Competitive Global and Regional Integration”, also identifies bridging the digital divide as one of the Bank’s priorities to promote integration, placing specific emphasis on promoting broadband infrastructure.

II. OBJECTIVE AND JUSTIFICATION

- 2.1 **Justification.** This Technical Cooperation (TC) seeks to guide countries throughout the transition from analog television to digital broadcasting, as well as to deepen the harmonization of spectrum planning and management policies and practices across the CAN region, especially in the 700MHz band.
- 2.2 The increasing demand for broadband services in the Andean Group (CAN) countries requires additional spectrum to be allocated to wireless/mobile broadband operators. Therefore, effective spectrum management and strategic regulation is needed if countries wish to succeed in providing universal access to broadband for their population. Efficient spectrum management¹ has proven to be challenging. In most CAN 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.
- 2.3 Efficient spectrum management depends to a large extent on following international standards. The International Telecommunication Union (ITU), the organization responsible for establishing the International Radio Regulations, divides the world into three different regions for the purpose of managing the global radio spectrum. All CAN countries belong to region 2, covering all the Americas. Thus, all countries in the Americas, either from the south, central or north should follow the same harmonization guidelines.
- 2.4 Additional spectrum is in the process of being released in CAN countries. The “digital switchover” corresponds to the transition from analog television to digital broadcasting. This new technology frees up large areas of frequencies, which could be re-allocated to mobile broadband operators. This is caused by the fact that digital transmissions can be packed into adjacent channels, while analog ones cannot; as a result, the band can be "compressed" into fewer channels, while still allowing for more transmissions. While the United States completed the switchover in 2009 and Europe ordered all countries to do the switch off of analog broadcasts by 2012, the rate in Latin America is quite different. All CAN countries, albeit at different stages, are going through the planning process for this transition. Bolivia, Peru and Venezuela plan to complete the transition in 2020, Colombia by the end of 2019 and Ecuador by the end of 2017.
- 2.5 The digital switchover poses both opportunities and challenges to governments in dealing with the transition from analog to digital broadcasting. The transition requires decisions to be made on a great number of political, economic, technological and regulatory issues. Therefore, it is necessary to develop a well-defined roadmap to guide countries throughout this important transition.

¹ 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/ROA0E0000010001PDFE.pdf

- 2.6 **Objectives.** The project aims at guiding CAN countries throughout the process of the “digital switchover”. The proposed roadmap for the CAN region attempts to capture the current situation, existing or future constraints and needs of the CAN Region. CAN countries have specific social and economic constraints, different institutional and legal frameworks and significantly different cultural patterns which would be taken into account in the analysis. The final deliverable will focus on policy instruments and recommendations whose implementation is feasible and realistic in the CAN region.

III. DESCRIPTION OF ACTIVITIES AND OUTPUTS

- 3.1 The aforementioned objectives will be achieved through the following components:

- (i) **Assessment of the spectrum *status quo* in CAN:**
 - a. An assessment of current spectrum use in CAN and in each beneficiary country.
 - b. An evaluation of the current spectrum use and the various radio technologies and frequency selection techniques currently in use.
 - c. An assessment of the market structure and an assessment of likely future demand for spectrum (TV; Radio; Satellite; etc).
- (ii) **National and regional 700MHz frequency band analyses and plan:** Evaluation of current segmentation scheme for the 700MHz band and development of a proposal for a Regional band plan. This component will comprise:
 - a. Evaluation of the current technology choices.
 - b. An assessment of the spectrum efficiency relative to the technologies and techniques in use and those that could possibly be implemented.
 - c. Evaluation of current DTTB networks.
 - d. Development of the National Frequency Allocation Table (NFAT) for each country.
 - e. Development of a Regional Frequency Allocation Table (RFAT) for the CAN Region.
- (iii) **Design and elaboration of a Digital Switchover Roadmap:** Development of a roadmap for the national regulators. This component will comprise:
 - a. Main principles of the implementation of digital transition: universal access and equitable provision of services.
 - b. Regulatory matters: assessment of the current regulatory framework and the changes necessary to promote the analogue switch-off.
 - c. Institutional framework: assessment of the current institutional framework and recommendations for possible changes.
 - d. Licensing models: assessment of current licensing model and recommendation for possible changes.

- e. Technical issues: Technology and standard application, design principles and network architecture, network planning, infrastructure and spectrum compatibility.
- f. Digital dividend: recommendations for the allocation of frequencies.

- (iv) **Disseminating the deliverables in the Region:** This will entail the creation of regional dialogues and the dissemination of the product developed through: (i) a publication and (ii) the organization of a workshop in order to present the result of the study to CAN countries.

Table 2.1: Indicative results matrix

	Results Statement	Indicator	Base-line	Yr1	Yr2
Intermediate outcome	Nationally 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	0	5
		Indicator 2: Anticipated increase in Internet access due to the use of frequencies freed up after the digital switchover.	0	0	10%
Immediate outcome	Prioritized national-level actions dealing with the regulation of the electromagnetic spectrum	Indicator 1: Number of countries endorsing the strategic and implementation plan for spectrum management and committing to follow-up actions.	0	5	5
		Indicator 2: Anticipated cost reductions to be realized from planned interventions.	0	0	5%
Output 1. Study on current spectrum use in CAN		Number of studies developed	0	1	0
Output 2 A National Frequency Allocation Table (NFAT) for each country and a Regional Frequency Allocation Table (RFAT) for CAN countries		Number of tables developed (national tables on the first year and regional table on the second year)	0	5	1
Output 3. Digital Switchover Roadmap developed		Number of the following frameworks developed:	0	0	1
Activity 1 Assessment of current spectrum use in CAN		See output 1	0	0	0
Activity 2 700MHz Frequency Band Analysis		Number of frequency bands analyzed (one per country) in the first year, and a regional one in the second year	0	5	1
Activity 3 Design and elaboration of a Digital Switchover Roadmap		See output 3	0	-	0
Activity 4 Disseminating the deliverables in the region		i) Number of publications; (ii) number of disseminating events held	0	1	1

Table 2.2: Indicative Budget

Activities	Cost US\$
Human resources	
Component I - Assessment of current spectrum use in CAN	70,000
Component II-700MHz Frequency Band Analysis	170,000
Component III- Design and elaboration of a Digital Switchover Roadmap	120,000
Component IV- Disseminating the deliverables in the region	80,000
Other administrative costs	60,000
Total	500,000

IV. EXECUTING AGENCY AND EXECUTION STRUCTURE

- 4.1 This Technical Cooperation will be executed by the Competitiveness and Innovation Division (IFD/CTI).

V. PROJECT RISKS AND ISSUES

- 5.1 The main risk relates to the fact that achieving the expected results depends on the actual adoption of the information and recommendations provided by the IDB. Common difficulties in approving specific modifications to the existing law, the publication of amendments in the existing decrees are examples of the risks associated to actual future implementation of the recommendations. This risk is mitigated by the fact that this TC is aligned with each country's telecommunication and spectrum policies.

VI. EXCEPTIONS TO BANK POLICY

- 6.1 No exceptions to Bank policy are foreseen.

VII. ENVIRONMENTAL AND SOCIAL CLASSIFICATION

- 7.1 No environmental or social risks associated to the implementation of this project are foreseen. Classification of this project is "C" according to the Classification Toolkit system of the Bank (please see link: [IDBDocs#37788805](#)). No environmental assessment studies or consultations are required for Category "C" operations.