TECHNICAL COOPERATION ABSTRACT

I. BACKGROUND

Country:	Nicaragua
TC Name:	Support to TELCOR in the update of the regulatory framework and the design of a roadmap for the implementation of applications on Health and Agriculture.
TC Number:	NI-T1212
Team Leader/Members:	Antonio García Zaballos (Team Leader, IFD/CMF); Inkyung Jeun (Alternate Team Leader, IFD/CMF); Enrique Iglesias (IFD/CMF); Lorena Cano (IFD/CMF); and Cecilia Bernedo (IFD/CMF).
TC Taxonomy:	Operational Support (OS)
Reference to request:	IDBDocs#39750357
Date of TC Abstract authorization:	August 3, 2015
Donors providing funding:	Knowledge Partnership Korea Fund for Technology and Innovation (KPK)
Beneficiary:	Nicaragua - *Instituto Nicaragüense de Telecomunicaciones y Correos* (TELCOR)
Executing agency and contact name:	Inter-American Development Bank (IDB), Capital Market and Finance (IFD/CMF)
IDB Funding Requested:	US$450,000
Local counterpart funding:	None
Disbursement period:	21 months (Execution period: 18 months)
Required start date:	October, 2015
Types of consultants:	Firm and individual consultants
Prepared by Unit:	Capital Market and Finance (IFD/CMF)
Unit of Disbursement Responsibility:	Institutions for Development Sector Department (IFD)
TC included in Country Strategy:	N/A **TC included in CPD:** N/A
GCI-9 sector priority:	Mentioned under current sector strategies: "Support Competitive Global and Regional Integration", and "Institutions for Growth and Social Welfare".

II. OBJECTIVES AND JUSTIFICATION OF THIS TC

2.1 Broadband is a lever for socio-economic growth. According to a study published by the Bank, it has been observed a 3.19% increase in the GDP and a 2.61% increase in productivity[1] where broadband penetration has increased 10% in the Latin American and Caribbean (LAC) Region. Besides this impact, broadband offers opportunities to increase life standards. For example: (i) broadband fosters the development of innovative education and health models[2] and brings public administration closer to the citizen[3]; and (ii) it has an important impact on the productive sector.[4]

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[1] García-Zaballos, A., and R. López-Rivas. 2012. "Socioeconomic Impact of Broadband in LAC Countries."
[2] Global Industry Analysts, Inc. 2010.
[3] http://www.parliamentandinternet.org.uk/uploads/Final_report.pdf.
[4] Internet Matters: The Net's sweeping impact on growth, jobs and prosperity. Mckensey & Company.2011.

2.2 The Government of Nicaragua (the government) has identified broadband as a key element to foster socio-economic development. The government has recently developed a draft of their National Broadband Plan (NBP) focused on: (i) deployment of infrastructure; (ii) fostering of Information and Communication Technologies (ICT) use; and (iii) strengthening of the regulatory framework. The government has begun implementing the NBP with a strategy to bridge the digital divide. The government is planning to expand the existing network of the National Electric Company (ENATREL) to provide nationwide wholesale backbone services under the principle of open and equal access and also to expand last mile coverage connecting public facilities and installing nodes so that other Internet Service Providers (ISP) can also provide Broadband Services (BBS). The government has requested the support of the Bank for its experience and value-added contribution in dealing with the complexity of the geographical areas covered under this program (low financial profitability, technical difficulties).

2.3 Nicaragua experiences low levels of broadband penetration[5]: (i) Fixed Broadband (FBB) penetration is 2.17%, below the averages in Central America (CA) (3.67%) and LAC (9.26%), and far below the Organisation for Economic Co-operation and Development (OECD) countries (26.15%)[6]; (ii) Mobile Broadband (MBB) penetration is 10% in the country, below the averages in CA (17.44%) and LAC (24.32%) and far below the OECD countries (64.58%); and (iii) 83% of the municipalities in Nicaragua have an aggregated (fixed plus mobile) penetration below 5%[7]. This issue is due to three main factors: (i) lack of infrastructure, that yields to low affordability and quality[7] of the BBS; (ii) regulatory weakness, which causes a competition problem because the ISPs are not able to use the networks in fair price and quality conditions; and (iii) low capacity levels among citizens and public officers to use ICT.

2.4 Nicaragua lacks adequate coverage of backbone and last mile networks[8] (see link: Current Status of the Infrastructure). The lack of infrastructure is explained by the fact that underserved areas of the country are not financially profitable for private investment. In addition, the country faces a competition problem as a consequence of the weak regulatory framework in terms of open and equal access. In fact, 132 municipalities already have backbone coverage from one private operator, but it only routes traffic from its own customers, not opening its network to other ISPs. This means that ISPs are not able to access the networks in fair price and quality conditions and, therefore, have difficulties in routing a possible last mile traffic, which clearly impacts the final price and quality of BBS.

2.5 Last but not least, the citizens and the public officers in Nicaragua lack the tools to develop capacities to effectively use ICT. This is caused by: (i) low ICT knowledge—the NBP's survey shows that 42% of the non-user population does not know how to use the computer or the Internet and 30% is not interested; (ii) access to devices—the survey shows that more than 30% of the population does not use Internet because they do not have a computer, nearly 50% indicate

[5] Broadband Penetration refers to the number of users using cable (Fixed) or Wireless (mobile) technologies divided by the total population.

[6] Source: IDBA, IDB (2013), International Telecommunications Union (ITU).

[7] These causal factors should be analyzed jointly as US$/Mbps. Otherwise, the problem may not be clear. An absolute price of US$10 might not seem high, but it is if the speed is only 256Kbps.

[8] National backbone networks are the principal data routes between large, interconnected networks and are important because they limit the total amount of information that can be exchanged. Last mile networks connect the network with the final users and are crucial because they determine the speed of the BBS.

they use it at an Internet Café; and only 7% of the schools have computers; and (iii) lack of skills to develop applications, especially for public services.

2.6 The Bank has supported Nicaragua with the following TCs: (i) ATN/KK-13802-NI, which financed the development of the NBP in Nicaragua; (ii) ATN/KK-13701-RG, which analyzed the needs in terms of Central American broadband infrastructure and also at a country level (regional project); and (iii) ATN/OC-14055-RG and ATN/KK-14056-RG, which have contributed to the creation of an ICT Training Center (CEABAD[9]) for the Central American officials (regional project), located in Managua. In addition, the operation Broadband Program (NI-L1090) is currently under preparation.

2.7 **Objectives of the project.** The goal of this Technical Cooperation (TC) is to provide support to the Nicaraguan Telecom Regulator (TELCOR) in the update the regulatory framework and provide a roadmap for the success implementation of pilot projects on health and agriculture.

III. DESCRIPTION OF ACTIVITIES

3.1 The activities proposed in this project are divided into three main components, which define its strategic approach. Component 1 will support the government in the development of the regulatory mechanisms that establish the open and equal access conditions and define the operational, quality and network availability indicators for both, backbone and last mile networks, so that ISPs can use the infrastructure in fair price and quality conditions. Component 2 will support the government in improving ICT use among citizens and public officers. To that end, it will finance the roadmap for the implementation of pilot projects on health and agriculture. Component 3 related to provide specific training to the different stakeholders involved and define the most appropriate governance model for the success of the implementation identified.

3.2 **Component 1: Strategic regulation.** The component will finance: (i) development of a market analysis to identify major competition problems and the ex-ante regulatory major to overcome these problems (costing models, reference interconnection offers, etc.); (ii) definition and development of the framework for a cost accounting model; (iii) review of the regulatory framework and the secondary legislation including an infrastructure maps for the critical infrastructure in Nicaragua; (iv) review and development of the framework on quality of services and supervision of the wholesale services provided; and (v) review and development of specific legislations and decrees to guarantee the open and the equal access. For each of the activities highlighted above there will be a specific training to the involved officials.

3.3 **Component 2: Applications and training.** Along with the roadmap for implementing successful projects on strategic sectors such as health and agriculture, the component will identify the centers that are more suitable to develop the pilot programs, the main topics, the equipment that will be needed as well as recommend training actions and a framework to assess the results and determine whether the pilot program has been successful.

[9] Center for Advanced Studies in Broadband for Development.

3.4 **Component 3: Training for the stakeholders and governance model.** The objective of this component is to identify specific actions to disseminate the results of the technical cooperation with the main stakeholders (TELCOR, ENATREL and the different Ministries involved) and a proposed governance model to facilitate the implementation of the identified recommendations.

3.5 **Expected outputs.** In particular, the project will provide technical assistance to:

(i) diagnostic of the existing regulatory framework and proposed update to increase competition and facilitate investment;

(ii) Identification of a roadmap for a successful implementation of pilot projects on key strategic sectors such as health and agriculture;

(iii) Identification of the centers and locations where the implementation of the pilots may be more reasonable;

(iv) Description of the specific training to be given to the different stakeholders involved (Ministries, TELCOR, ENATREL, final users);

(v) Identification of the most appropriate governance model to contribute to the success of the identified recommendations.

3.6 **Expected results.** As a result of this project, the Government of Nicaragua will have a better understanding of the current status of the regulatory framework in the country and the steps to be taken to implement pilot projects in key strategic sectors such as health and agriculture. Ultimately, the results of this TC will support the preparation and execution of the operation NI-L1090.

Table 3.1: Indicative matrix of the results

Suggested indicator	Measurement Unit	Base-line	Target at the end of the TC
Output Indicators:			
Component 1: Strategic Regulation • Review of the regulatory framework • Development of a costing model to set the prices for the different wholesale services	 No. of Documents No. of Models	 0 0	 1 1
Component 2: Applications and training. • Definition and Design of Pilot Programs: Proposal of pilot programs in health and agriculture	No. of Documents	0	2
Component 3: Training for the stakeholders and governance model. Training among the different stakeholders to contribute to the success in the implementation of the recommendations identified.	No. of training session	0	1
Outcome Indicators:			
Increased government awareness and understanding of the current status of the regulatory framework and identification of the roadmap, design and location for the success of pilot projects on health and agriculture.	No. of citations of the TC products in national government strategic documents	0	3

Table 3.2: Budget of reference

Activities	Description	IDB	Total
Component 1: Strategic Regulation	Consultancy: support the government in the development of the regulatory mechanisms that establish the open and equal access conditions and define the operational, quality and network availability indicators for both, backbone and last mile networks, so that ISPs can use the infrastructure in fair price and quality conditions	300,000	300,000
Component 2: Applications and training	Consultancy: support the government in improving ICT use among citizens and public officers. To that end, it will finance: (i) the roadmap for the implementation of pilot projects on health and agriculture; and; (ii) ICT training for citizens and public officers.	100,000	100,000
Component 3: Training to the different stakeholders involved and governance model	Consultancy: provide specific training to the different stakeholders involved and define the most appropriate governance model for the success of the implementation identified	50,000	50,000
Total		**450,000**	**450,000**

IV. EXECUTING AGENCY AND EXECUTING STRUCTURE

4.1 The executing agency will be the IFD/CMF Division due to the coordination and involvement of different stakeholders from the private and public sector as well as the academia.

V. PROJECT RISKS

5.1 This project presents two risks that could affect the impact, quality or sustainability of the expected results: (i) lack of institutional capacity in TELCOR; and (ii) that the results/recommendations of the project are not finally approved by the Government through specific modification or development of new existing legislation.

5.2 The first risk will be mitigated by the fact that the project will be executed by the IFD/CMF Division. In addition, the project will include a monitoring process throughout the implementation of the project to allow for the different Nicaraguan institutions to get involved from the beginning to the end of the project.

5.3 The second risk is mitigated by the fact that this project is a direct response to the interest presented by the government to the Bank for the preparation of the operation NI-L1090, therefore the Government is aware of the need to review the existing framework.

VI. EXCEPTIONS TO THE POLICY OF THE BANK

6.1 There are no exceptions to the policy of the Bank.

VII. ENVIRONMENTAL STRATEGY

7.1 Given the nature of this TC, there are no social or environmental risks associated with it. This operation is classified as a Category “C” according to the Environment and Safeguards Policy (OP-703) (see: Safeguard Policy Filter Report and Safeguard Screening Form).